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ABSTRACT

Documents announced in the Volume 8, Number 2 issue of "Abstracts of Instructional and Research Materials in Vocational and Technical Education" (AIM/ARM) are included in this microfiche set. Microfiche availability for these documents is shown in the AIM/ARM resume as MF available in VT-ERIC SET. The microfiche set is arranged in the following sequence: (1) a VT number list of documents announced in AIM/ARM, V8, N2, and those found in the set, and (2) the full text of documents listed, in ascending VT-number order. The documents are filmed continuously. VT numbers for the documents in the set are, for the AIM section, VT 101 401 to VT 101 492, and for the ARM section VT 101 498 to VT 101 599. (Author)

AIM/ARM, VT-ERIC MICROFICHE SET

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INTRODUCTION

This set of microfiche consists of the documents which are announced in Abstracts of Instructional and Research Materials in Vocational and Technical Education (AIM/ARM), Volume 8, Number 2, 1975. The documents from this volume and issue of AIM/ARM are grouped in VT-number sequence and filmed continuously as a microfiche set (AIM/ARM, VT-ERIC SET).

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TITLE: SYLLABUS AND CURRICULUM DEVELOPMENT FOR MEDICAL TYPEWRITING, UTILIZING AN INDIVIDUALIZED INSTRUCTIONAL APPROACH. FINAL REPORT.

DESCRIPTOR: *CURRICULUM GUIDES; *TYPEWRITING; *INDIVIDUALIZED INSTRUCTION; *SECRETARIES; *MEDICAL RECORD TECHNICIANS; MEDICAL CASE HISTORIES; RECORDKEEPING; MEDICAL VOCABULARY

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DESCRIPTIVE NOTE: 122P.

ABSTRACT: THIS INDIVIDUALIZED INSTRUCTIONAL BOOKLET CONTAINS A COURSE SYLLABUS, ASSIGNMENT SHEETS, AND SLIDE TAPE PRESENTATIONS FOR A COURSE IN MEDICAL TYPING. THE MATERIALS IN THE BOOKLET ARE TO BE USED WITH MEDICAL TYPING BY ROOT AND BYERS. THE APPROXIMATE LENGTH OF TIME REQUIRED TO COMPLETE THE COURSE IS 45 HOURS. MEDICAL TYPEWRITING I CONTAINS A TOTAL OF 87 ASSIGNMENTS WHICH ARE DIVIDED INTO 16 MAIN SECTIONS. THE SECTIONS ARE: CARDIOLOGY; THORACIC MEDICINE; DERMATOLOGY; EYE, EAR, NOSE, THROAT; DIABETES; UROLOGY; ENDOCRINOLOGY; MENTAL HEALTH; GYNECOLOGY AND OBSTETRICS; PEDIATRICS; GASTROENTEROLOGY; CHEMOTHERAPY; ORTHOPEDICS; NEUROLOGY; GENERAL REVIEW TRACK I; AND GENERAL REVIEW TRACK II. THE OBJECTIVES OF THE MEDICAL TYPING I COURSE ARE: (1) FAMILIARITY WITH MEDICAL TERMS USED IN ARTICLES, REPORTS, CASE HISTORIES, AND CORRESPONDENCE; (2) TO TYPE 50 WORDS PER MINUTE WITH 1.5 ERRORS PER MINUTE ON STRAIGHT COPY TYPING MEDICAL ARTICLES, REPORTS, AND CASE HISTORIES IN CORRECT FORM, AND (3) TO TYPE MEDICAL CORRESPONDENCE AT A MINIMUM RATE OF 19 WORDS PER MINUTE WITH A HIGH DEGREE OF ACCURACY. GRADING SCALES, GRADING PERCENTAGES, AND INSTRUCTIONS ARE PROVIDED. (KB)

INSTITUTION NAME: NORTH CENTRAL TECHNICAL INST., WAUSAU, WIS.

SPONSORING AGENCY NAME: WISCONSIN STATE BOARD OF VOCATIONAL, TECHNICAL, AND ADULT EDUCATION, MADISON.; OFFICE OF EDUCATION (DHEW), WASHINGTON, D.C.

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FINAL REPORT

Project No. 15.055.151.223(d)

SYLLABUS AND CURRICULUM DEVELOPMENT FOR MEDICAL TYPEWRITING, UTILIZING AN INDIVIDUALIZED INSTRUCTIONAL APPROACH

August, 1973

NORTH CENTRAL TECHNICAL INSTITUTE
WAUSAU, WISCONSIN

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Final Report

Project No. 15.055.151.223(d)

SYLLABUS AND CURRICULUM DEVELOPMENT FOR MEDICAL TYPEWRITING, UTILIZING AN INDIVIDUALIZED INSTRUCTIONAL APPROACH

Betty Dickerson, Research Investigator

Russell Paulsen, Administrator, Research and Development

North Central Technical Institute

Wausau, Wisconsin

Lawrence B. Hoyt, District Director

August, 1973

The research reported herein was performed pursuant to a grant or contract with the Wisconsin Board of Vocational, Technical and Adult Education, partially reimbursed from an allocation of Federal funds from the U. S. Office of Education, U. S. Department of Health, Education and Welfare. Contractors undertaking such projects under Government sponsorship are encouraged to express freely their professional judgment in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent official North Central VTAE District, State Board or U. S. Office of Education position or policy.

The materials in this booklet were prepared for use in our AVT Lab at North Central Technical Institute in Wausau. The materials are to be used with Medical Typing by Root and Byers, 2nd Edition, McGraw-Hill Book Company, Gregg Division.

The book contains a course syllabus, assignment sheets, and slide-tape presentations. The answer key will be forwarded to anyone upon request.

Betty Dickerson

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ENROLLMENT CARD

Medical Typing I . 106–136

Name_____ Social Security No._____ Age_____

Local Address_____ Local Phone_____ Male _____ Female _____

NE'S ASSIGNMENTS

Section	Points	NE
25		
26		
27		
28		
29		

Average NE

Production Tests

Test	PRAM	NE
164C		
174C		
184C		
185D		
186C		
187C		

Average NE

COMMUNICATION AIDS

Number	NE
153B	
156B	
161B	
165E	
166B	
167B	
173B	
175D	
176C	
178B	
180B	
185C	

Average NE

SELF–TIMINGS

	WPM	EPM
151B		
154B		
155F		
164B		
174B		
PC9B		
184B		
187B		
PC10B		

Evaluation 1st 9 Weeks

	AVG NE
Assignments	
Productions	
Communication	
Self–Timings	
Final Grade	

Medical Typing
Area of Evaluation
2nd Nine Weeks
(Each 33 1/3% of Grade)

	AVG NE
Self–Timings	
Assignments	
Production	
Final Grade	

Area of Evaluation
Semester

	% Of Total	AVG NE
1st 9	50%	
2nd	50%	
Final	100%	

Date Enrolled_____ Date Completed _____ Instructor_____ Final Grade_____

Name_____ _____Year _____1st Sem. _____2nd Sem. _____Summer

MEDICAL TYPING I

COURSE SYLLABUS

MEDICAL TYPING I

COURSE SYLLABUS

BOOK PURCHASED BY STUDENT: Medical Typing by Root and Byers, 2nd edition, McGraw-Hill Book Company, Gregg Division, 1967.

SUPPLIES PURCHASED BY STUDENT: typing eraser, paper.

HOURS: The approximate length of time required to complete this course is 45 hours. (SEE BELOW.)

WEEK	DATE	MEDICAL SECRETARIAL Section
1	Oct. 22	Cardiology--Thoracic Medicine
2	Oct. 29	Dermatology--Ears. Eyes, Nose, Throat
3	Nov. 5	Diabetes--Urology
4	Nov. 12	Endocrinology--Mental Health
5	Nov. 19	Gynecology and Obstetrics--Pediatrics
6	Nov. 26	Gastroenterology--Chemotherapy
7	Dec. 3	Orthopedics--Neurology
8	Dec. 10	General Review, Track 1
9	Dec. 17	General Review, Track 2

CONTENTS OF THE MEDICAL TYPING I TYPING COURSE

Medical Typewriting I contains a total of 87 assignments, which are divided into 16 main sections. These sections are:

SECTION	CONTENTS
Cardiology	Case Histories (3) Correspondence (2)
Thoracic Medicine	Case History (1) Reports (2)
Dermatology	Case Histories (2) Correspondence (5)
Eye, Ear, Nose, Throat	Case Histories (3) Correspondence (4)
Diabetes	Case Histories (2) Article (1) Correspondence (3)
Urology	Case History (1)
Endocrinology	Case History (3) Article (1) Correspondence (3)

Mental Health	Articles (2) Case Histories (2) Correspondence (3)
Gynecology and Obstetrics	Case History (1)
Pediatrics	Case Histories (3) Correspondence (3)
Gastroenterology	Case History (1)
Chemotherapy	Articles (3) Correspondence (6)
Orthopedics	Case Histories (4) Correspondence (4)
Neurology	Articles (2) Case Histories (2) Correspondence (3)
General Review, Track 1	Articles (6)
General Review, Track 2	Articles (6)

OBJECTIVES OF THE MEDICAL TYPING I COURSE

Upon completion of this material, you will:

1. Be familiar with medical terms used in articles, reports, case histories, and correspondence.
2. Type a minimum of 50 wpm with 1.5 errors per minute on straight copy typing of medical articles, reports, and case histories.
3. Arrange medical articles, reports, and case histories in correct form.
4. Type medical correspondence at a minimum rate of 19 wpm with a high degree of accuracy.

GRADING SCALES

All grades have been converted to, and will be recorded, in numerical equivalents. Final grades will be determined by averaging numerical equivalents. The following table indicates the range of numerical equivalents for each letter grade.

NE RANGE	LETTER GRADE
4.0	A
3.0	B
2.0	C
Below 2.0	INCOMPLETE

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GRADING PERCENTAGES

Timed Writings	33 1/3%
Assignments	33 1/3%
Production	33 1/3%

INSTRUCTIONS

Timings. Articles, reports, and case histories will be used for timings. Type all self-timings using a 70-space line, double space, five space paragraph indentions. In order to be given credit for timings, it is the student's responsibility to:

1. Properly identify the page in the upper left-hand corner. This identification should include (a) your name, (b) the course name, (c) the date the timing was taken, and, (d) the exercise name as listed in the text. (EXAMPLE: Cardiology Case History 1)

2. Type the following in the upper right-hand corner of the test: time started _____, time finished _____ length of test _____, _____ words per minute, _____ errors per minute.

3. Proofread and circle errors on the timing.

4. Submit the timing to the lab instructor so she can mark the numerical equivalent on your Assignment Sheet and Grade Report. Two numerical equivalent grades will be given on self-timings--words per minute and errors per minute.

The following table will be used to grade self-timings:

LETTER GRADE	WORDS PER MINUTE	NUMERICAL EQUIVALENT	ERRORS PER MINUTE
	70	4.5	.0
	69	4.4	.1
	68	4.3	.2
A	67	4.2	.3
	66	4.1	.4
	65	4.0	.5
	64	3.4	.6
	63	3.2	.7
B	62	3.1	.8
	61	2.8	.9
	60	2.5	1.0
	59	2.4	1.1
	58	2.3	---
	57	2.2	---
	56	2.1	1.2
C	55	2.0	---
	54	1.9	1.3
	53	1.8	---
	52	1.7	1.4
	51	1.6	---
	50	1.5	1.5
	INCOMPLETE		

Typewritten assignments. In order to be given credit for completed case histories, reports, and articles, it is the student's responsibility to:

1. Properly identify each completed assignment in the upper right-hand corner. This identification should include (a) your name, (b) the course name, (c) the date the assignment was submitted for grading, and, (d) the assignment name as listed on the Assignment Sheet. (EXAMPLE: Cardiology--Case History 1)

2. Type the case history, report, or article in correct form as shown in the syllabus and slides.

3. Staple together assignments with two or more pages.

4. Request the grading key from the lab instructor and grade your assignment. Submit the assignment to the lab instructor so she can mark the Numerical Equivalent on your Assignment Sheet and Grade Report.

5. Pick up graded papers and retype if necessary.

Typewritten assignments will be graded by the following scale:

ERRORS	NUMERICAL EQUIVALENT	LETTER GRADE
0	4.0	A
1	3.0	B
2	2.0	C
3+	INCOMPLETE	

Production Measurement Tests. All correspondence (36 letters) will be used for the Production Measurement Tests. In order to be given credit for Production Measurement Tests, it is the student's responsibility to:

1. Properly identify the test in the upper right-hand corner of the test. This identification should include (a) your name, (b) the course name, (c) the date the test was taken, and, (d) the test name. (EXAMPLE: Cardiology--Correspondence 1)

2. Type the following in the upper left-hand corner of the test: time started _____, time finished _____, length of test _____, and, _____Production Rate Per Minute (PRAM).

3. Self-time all Production Measurement Tests and mark the time on your paper.

4. Submit the test to a lab instructor so she can mark the time finished. This will give you your Production Rate Per Minute Numerical Equivalent grade.

5. The lab instructor will grade the Production Measurement Tests, for mailability and a Numerical Equivalent grade will be given. The PRAM Numerical Equivalent and the Error Numerical Equivalent will be averaged for your Production Measurement grade and recorded on your Assignment Sheet and Grade Report.

6. Check with the lab instructor for test results and retype the test if necessary.

The grading scales for the Measurement Tests are as follows:

ERRORS	NUMERICAL EQUIVALENT	LETTER GRADE
0	4.0	A
1	3.0	B
2	2.0	C
3+	INCOMPLETE	

LETTER GRADE	PRAM	NUMERICAL EQUIVALENT
	35	4.0
	34	3.9
A	33	3.8
	32	3.7
	31	3.6
	30	3.5
	29	3.4
	28	3.2
	27	3.0
B	26	2.8
	25	2.5
	24	2.4
	23	2.2
C	22	2.0
	21	1.8
	20	1.7
	19	1.5
	INCOMPLETE	

PRAM Numerical Equivalent + Error Numerical Equivalent ÷ 2 = Production Measurement Numerical Equivalent.

1. Slide-Tape Presentations. Before typing see the Slide-Tape Presentation #1, How to Arrange Articles; Slide-Tape Presentation #2, How to Arrange Reports and Case Histories; and Slide-Tape Presentation #3, How to Arrange Letters.

2. Examples. An example of a Case History, Report, Article, and a Letter is also included at the end of this course syllabus for further reference.

3. Retyping assignments. Graded assignments on which the Numerical Equivalent grade received is less than a two (2), must be retyped in order to receive a letter grade for the typewritten assignments of a given section. An incomplete grade will be given if the student fails to retype these assignments.

4. Retention of graded problems. All graded problems should be retained by the student until successful completion of the course. This is your protection against inadvertent errors in recording grades by your instructor.

5. Completion of course. Issuance of a letter grade in this course is dependent upon the student completing all the required assignments.

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CASE HISTORY

A 62-year-old woman with paranoid schizophrenia was seen, owing to an abrupt onset of fever 48 hours previously. She had an increasing fever in spite of intramuscular administration of penicillin.

Physical examination showed a woman who appeared to be in acute respiratory distress. There was no evidence of pharyngitis, and late inspiratory rales were heard at both bases. The heart was normal except for tachycardia.

The pulse was 135 and regular, and the respiration, 38. The blood pressure was 178 over 78.

With the presumptive diagnosis of pneumonia, pencillin was continued. Streptomycin was added to the therapy, and the patient was transferred to the Medical Ward. Initial laboratory studies included a white blood cell count of 4,200, with 96 percent small lymphocytes and 4 percent neutrophils. X-ray study of the chest gave no evidence of pneumonia.

Fever and tachycardia persisted, and on the second hospital day severe ulceromembranous pharyngostomatitis was noted. The white blood cell count on that day was 900, and all these cells were small lymphocytes. A sternal-marrow aspiration performed on the third hospital day showed that all granulocytic forms more mature than myelocytes were absent. Combined meprobamate and promazine therapy had automatically been discontinued at the time of transfer to the Medical Ward. Therapy with penicillin and streptomycin was continued. On the fourth hospital day icterus and moderate hepatomegaly were noted for the first time, and the white blood cell count was 750. With no change in treatment from that point on, the patient gradually improved. The fever declined, granulocytes began to flood out into the peripheral blood, and the stomatitis, jaundice, and hepatomegaly gradually disappeared.

Respectfully submitted,

Marcus Welby, M.D.

April 25, 1973

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PATHOLOGY REPORT

TISSUE INVOLVED:

1. Node from left lung.

2. Two nodes from left lung.

3. Left lung.

4. Right mediastinal nodes.

5. Carina.

CLINICAL IMPRESSION:

Carcinoma, left main stem bronchus.

GROSS DESCRIPTION:

1. Received fresh is a small, soft, anthracotic lymph node measuring 1.4 centimeters by 9 millimeters. On cut surface this tissue is soft and markedly anthracotic. Entire specimen bisected and all submitted for section.

2. Received fresh are two soft lymph nodes, the larger measuring 1.4 by 1.0 centimeters. On the cut surface it is smooth, soft, and black. Entire specimen submitted for section.

3. Received fresh is an entire left lung. The most proximal portion of the left bronchus was separated and taken for rapid section. The remainder of the proximal portion of the bronchus was submitted entire for examination. The left lung specimen received measures 24 x 19 centimeters in diameter. The proximal portion of the main stem bronchus has been excised by us, and there is a firm, white, cauliflower-like lesion extending into the lumen of the main stem bronchus beginning 1.5 centimeters distal to the proximal line of resection and extending approximately 1.5 centimeters into both the upper-left and left-lower lobe bronchi. Immediately adjacent to the tumor in the upper lobe bronchus is a small, firm, anthracotic lymph node, which on section consists of a small segment of firm, white tissue. Four other smaller lymph nodes on section did not contain this white tissue, but were anthracotic. Section of the arterial vessels reveals no abnormalities, and section of the lung parenchyma revealed that the tumor did not appear to invade the parenchyma. Representative sections of the lesion involving the main stem bronchus in both upper and lower lobe bronchi were submitted, together with sections of the lymph nodes.

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4. Received are two pieces of grayish-black tissue, the larger measuring 1.6 by 1.0 centimeters. On cut surface it is also grayish-black and soft. This specimen is bisected and both pieces are submitted for section. The smaller specimen measuring 4 by 3 by 3 millimeters consists of soft, grayish-black tissue and is submitted entire for section.

5. Received is a mass of irregular black tissue measuring 8 by 8 centimeters, and on cut section there appear to be several small, soft lymph nodes. The entire specimen is submitted for section.

DIAGNOSIS:

Epidermoid carcinoma involving the bifurcation of the left main stem bronchus and essentially limited to infiltration of the bronchial wall. The bronchial mucosa very close to or at the proximal edge of resection shows marked squamous metaplasia, severe dysplasia, and carcinoma in situ. One transverse section adjacent to the resected edge shows carcinoma in the heavily inflamed submucosa. All lymph nodes are apparently free of metastasis.

Respectfully submitted,

Mary Jane Smith,
Lab Technician

April 25, 1973

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April 25, 1973

Dr. Helen J. Thomas
1131 Beacon Street
Newton, MA 01355

Dear Doctor Thomas:

At your request, we have examined Mrs. Frank King.

This 45-year-old woman stated that three years previously she had had dermatitis of both feet. The present eruption had started eleven months previously. On examination, the skin showed redness, crusting, and oozing of the dorsa of both hands and wrists. The forearms and arms were also red and blistered.

She was told to apply salt compresses and was started on a course of staphylococcal toxoid. Two weeks after her initial visit a red vesicular dermatitis appeared on the feet and legs, outlined to the female stocking area. While these eruptions were improving under treatment, she had a reoccurrence after the handling of a nylon jacket. A patch test to virgin nylon was positive, with redness and blisters at the site after 48 hours.

Mrs. King was advised to avoid contact with nylon. We asked her to return to this office after her vacation.

Sincerely yours,

Thomas A. Halter, M.D.

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CASE HISTORY

FIRST ADMISSION:

A 23-year-old man entered the hosptial because of edema, hypertension, and azotemia. Eight months previously, because of gradually increasing uremia that necessitated repeated peritoneal dialysis, he had undergone bilateral nephrectomy, with the insection of a renal transplant donated by his 57-year-old father. The examination of the kidneys confirmed the preoperative diagnosis of chronic glomerulonephritis. After an initial dose of 300 milligrams of azathioprine, the drug was administered in relatively small doses of 25 to 50 milligrams daily because of unusual sensitivity to its effects on the platelets and white cells. Prednisone was given in a daily dose of 100 milligrams beginning on the ninth postoperative day. There was no major rejection crisis, but the serum urea nitrogen and creatinine levels gradually rose. The patient was discharged six months after the operation. A low-sodium diet was prescribed.

SECOND ADMISSION:

One month later the patient's urea nitrogen ranged between 60 and 70 milligrams, and the creatinine between 1.3 and 1.7 milligrams per 100 milliliters; the creatinine clearance varied between 10 and 15 liters per 24 hours. The blood pressure was 140 systolic, 90 diastolic. During the next month peripheral edema developed, and the blood pressure rose to 230 systolic, 135 diastolic. The urea nitrogen ranged between 90 and 100 milligrams, and the creatinine was 7 milligrams per 100 milliliters.

Respectfully submitted,

Marcus Welby, M.D.

April 25, 1973

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MEDICAL TYPING I - PRODUCTION TYPING GRADE REPORT

DATE STARTED _____ NAME _____

DATE COMPLETED _____ TOTAL HOURS _____ FINAL GRADE _____

PROGRAM _____ ASSIGNMENT CARD YES _____ N

SELF-TIMED WRITINGS (51)

ASSIGNMENT	WPM NE	EPM NE
CARDIOLOGY		
Case History 1		
Case History 2		
Case History 3		
THORACIC MEDICINE		
Case History 1		
Report 1		
Report 2		
DERMATOLOGY		
Case History 1		
Case History 2		
EYE, EAR, NOSE, THROAT		
Case History 1		
Case History 2		
Case History 3		
DIABETES		
Case History 1		
Case History 2		
Article 1		
UROLOGY		
Case History 1		
ENDOCRINOLOGY		
Case History 1		
Case History 2		
Case History 3		
Article 1		
MENTAL HEALTH		
Article 1		
Article 2		
Case History 1		
Case History 2		
GYNECOLOGY AND OBSTETRICS		
Case History 1		
PEDIATRICS		
Case History 1		
Case History 2		
Case History 3		
GASTROENTEROLOGY		
Case History 1		
CHEMOTHERAPY		
Article 1		
Article 2		
Article 3		
ORTHOPEDICS		
Case History 1		
Case History 2		
Case History 3		
Case History 4		
NEUROLOGY		
Article 1		
[illegible]cle 2		
[illegible] History 1		
[illegible] History 2		

	WPM NE	EPM NE
GENERAL REVIEW I		
Article 1		
Article 2		
Article 3		
Article 4		
Article 5		
Article 6		
GENERAL REVIEW II		
Article 1		
Article 2		
Article 3		
Article 4		
Article 5		
Article 6		
AVERAGE NE =		

PRODUCTION ASSIGNMENTS (51)

CARDIOLOGY	NE	NE
Case History 1		
Case History 2		
Case History 3		
THORACIC MEDICINE		
Case History 1		
Report 1		
Report 2		
DERMATOLOGY		
Case History 1		
Case History 2		
EYE, EAR, NOSE, THROAT		
Case History 1		
Case History 2		
Case History 3		
DIABETES		
Case History 1		
Case History 2		
Article 1		
UROLOGY		
Case History 1		
ENDOCRINOLOGY		
Case History 1		
Case History 2		
Case History 3		
Article 1		
MENTAL HEALTH		
Article 1		
Article 2		
Case History 1		
Case History 2		
GYNECOLOGY AND OBSTETRICS		
Case History 1		

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PEDIATRICS	NE	NE
Case History 1		
Case History 2		
Case History 3		
GASTROENTEROLOGY		
Case History 1		
CHEMOTHERAPY		
Article 1		
Article 2		
Article 3		
ORTHOPEDICS		
Case History 1		
Case History 2		
Case History 3		
Case History 4		
NEUROLOGY		
Article 1		
Article 2		
Case History 1		
Case History 2		
GENERAL REVIEW I		
Article 1		
Article 2		
Article 3		
Article 4		
Article 5		
Article 6		
AVERAGE NE =		

PRODUCTION MEASUREMENT (36)

CARDIOLOGY	AVG NE	AVG NE
Correspondence 1		
Correspondence 2		
DERMATIOLOGY		
Correspondence 1		
Correspondence 2		
Correspondence 3		
Correspondence 4		
Correspondence 5		
EYE, EAR, NOSE, THROAT		
Correspondence 1		
Correspondence 2		
Correspondence 3		
Correspondence 4		
DIABETES		
Correspondence 1		
Correspondence 2		
Correspondence 3		
ENDOCRINOLOGY		
Correspondence 1		
Correspondence 2		
Correspondence 3		
MENTAL HEALTH		
Correspondence 1		
Correspondence 2		
Correspondence 3		
PEDIATRICS		
Correspondence 1		
Correspondence 2		
Correspondence 3		
CHEMOTHERAPY		
Correspondence 1		
Correspondence 2		
Correspondence 3		
Correspondence 4		
Correspondence 5		
Correspondence 6		
ORTHOPEDICS		
Correspondence 1		
Correspondence 2		
Correspondence 3		
Correspondence 4		
NEUROLOGY		
Correspondence 1		
Correspondence 2		
Correspondence 3		
AVERAGE NE =		

AREA OF EVALUATION	PER CENT OF TOTAL	AVERAGE NE
SELF-TIMINGS	33 1/3 %	
ASSIGNMENTS	33 1/3 %	
PRODUCTION TESTS	33 1/3 %	
TOTAL	100 %	
FINAL GRADE		

MEDICAL TYPING I

CARDIOLOGY

Cardiology--Preview	Look up definition and practice typing Preview words. Type each word several times.
Case History 1	Take a self-timed straight copy timing and record the length of timing, the WPM, and the errors per minute in the blank.
Case History 1	Copy two times the material that you typed in your first timed writing and submit to lab instructor for checking on this sheet.
Case History 1	Take two more self-timings and submit the better of the two to the lab instructor who will mark it on your Assignment Sheet and Grade Report.
Case History 1	Type the material in arranged form and submit to the lab instructor for grading and recording on your Assignment Sheet and Grade Report.
Case History 2	Take a self-timed straight copy timing and record the length of timing, the WPM, and the errors per minute in the blank.
Case History 2	Copy two times the material that you typed in your first timed writing and submit to lab instructor for checking on this sheet.
Case History 2	Take two more self-timings and submit the better of the two to the lab instructor who will mark it on your Assignment Sheet and Grade Report.
Case History 2	Type the material in arranged form and submit to the lab instructor for grading and recording on your Assignment and Grade Report.
Case History 3	Take a self-timed straight copy timing and record the length of timing, the WPM, and the errors per minute in the blank.

_____ Case History 3	Copy two times the material that you typed in your first timed writing and submit to lab instructor for checking on this sheet.
_____ Case History 3	Take two more self-timings and submit the better of the two to the lab instructor who will mark it on your Assignment Sheet and Grade Report.
_____ Case History 3	Type the material in arranged form and submit to the lab instructor for grading and recording on your Assignment Sheet and Grade Report.
_____ Correspondence 1	Self-time and type the material in correct form and submit to lab instructor for grading and recording on your Assignment Sheet and Grade Report.
_____ Correspondence 2	Self-time and type the material in correct form and submit to lab instructor for grading and recording on your Assignment Sheet and Grade Report.

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THORACIC MEDICINE

Thoracic Medicine--Preview	Look up definition and practice typing Preview words. Type each word several times.
Case History 1	Take a self-timed straight copy timing and record the length of timing the WPM, and the errors per minute in the blank.
Case History 1	Copy two times the material that you typed in your first timed writing and submit to lab instructor for checking on this sheet.
Case History 1	Take two more self-timings and submit the better of the two to the lab instructor who will mark it on your Assignment Sheet and Grade Report.
Case History 1	Type the material in arranged form and submit to the lab instructor for grading and recording on your Assignment Sheet and Grade Report.
Report 1	Take a self-timed straight copy timing and record the length of timing the WPM, and the errors per minute in the blank.
Report 1	Copy two times the material that you typed in your first timed writing and submit to lab instructor for checking on this sheet.
Report 1	Take two more self-timings ans submit the better of the two to the lab instructor who will mark it on your Assignment Sheet and Grade Report.
Report 1	Type the material in arranged form and submit to the ~~lab~~ instructor for grading and recording on your Assignment Sheet and Grade Report.
Report 2	Take a self-timed straight copy timing and record the length of timing, the WPM, and the errors per minute in the blank.
Report 2	Copy two times the material that you typed in your first timed writing and submit to lab instructor for checking on this sheet.

Report 2

Take two more self-timings and submit the better of the two to the lab instructor who will mark it on your Assignment Sheet and Grade Report.

Report 2

Type the material in arranged form and submit to the lab instructor for grading and recording on your Assignment Sheet and Grade Report.

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MEDICAL TYPING I

DERMATOLOGY

Dermatology--Preview	Look up definition and practice typing Preview words. Type each word several times.
Case History 1	Take a self-timed straight copy timing and record the length of timing, the WPM, and the errors per minute in the blank.
Case History 1	Copy two times the material that you typed in your first timed writing and submit to lab instructor for checking on this sheet.
Case History 1	Take two more self-timings and submit the better of the two to the lab instructor who will mark it on your Assignment Sheet and Grade Report.
Case History 1	Type the material in arranged form and submit to the lab instructor for grading and recording on your Assignment Sheet and Grade Report.
Case History 2	Take a self-timed straight copy timing and record the length of timing, the WPM, and the errors per minute in the blank.
Case History 2	Copy two times the material that you typed in your first timed writing and submit to lab instructor for checking on this sheet.
Case History 2	Take two more self-timings and submit the better of the two to the lab instructor for grading and recording on your Assignment Sheet and Grade Report.
Case History 2	Type the material in arranged form and submit to the lab instructor for grading and recording on your Assignment Sheet and Grade Report.
Correspondence 1	Self-time and type the material in correct form and submit to lab instructor for grading and recording on your Assignment Sheet and Grade Report.

_____ Correspondence 2	Self-time and type the material in correct form and submit to lab instructor for grading and recording on your Assignment Sheet and Grade Report.
_____ Correspondence 3	Self-time and type the material in correct form and submit to lab instructor for grading and recording on your Assignment Sheet and Grade Report.
_____ Correspondence 4	Self-time and type the material in correct form and submit to lab instructor for grading and recording on your Assignment Sheet and Grade Report.
_____ Correspondence 5	Self-time and type the material in correct form and submit to lab instructor for grading and recording on your Assignment Sheet and Grade Report.

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EYE, EAR, NOSE, THROAT

_____ Eye, Ear, Nose, Throat--Preview	Look up definition and practice typing Preview words. Type each word several times.
_____ Case History 1	Take a self-timed straight copy timing and record the length of timing, the WPM, and the errors per minute in the blank.
_____ Case History 1	Copy two times the material that you typed in your first timed writing and submit to lab instructor for checking on this sheet.
_____ Case History 1	Take two more self-timings and submit the better of the two to the lab instructor who will mark it on your Assignment Sheet and Grade Report.
_____ Case History 1	Type the material in arranged form and submit to the lab instructor for grading and recording on your Assignment Sheet and Grade Report.
_____ Case History 2	Take a self-timed straight copy timing and record the length of timing, the WPM, and the errors per minute in the blank.
_____ Case History 2	Copy two times the material that you typed in your first timed writing and submit to lab instructor for checking on this sheet.
_____ Case History 2	Take two more self-timings and submit the better of the two to the lab instructor who will mark it on your Assignment Sheet and Grade Report.
_____ Case History 2	Type the material in arranged form and submit to the lab instructor for grading and recording on your Assignment Sheet and Grade Report.
_____ Case History 3	Take a self-timed straight copy timing and record the length of timing, the WPM, and the errors per minute in the blank.
_____ Case History 3	Copy two times the material that you typed in your fist timed writing and submit to lab instructor for checking on this sheet.
_____ Case History 3	Take two more self-timings and submit the better of the two to the lab instructor who will mark it on your Assignment Sheet and Grade Report.

_____ Case History 3	Type the material in arranged form and submit to the lab instructor for grading and recording on your Assignment Sheet and Grade Report.
_____ Correspondence 1	Self-time and type the material in correct form and submit to lab instructor for grading and recording on your Assignment Sheet and Grade Report.
_____ Correspondence 2	Self-time and type the material in correct form and submit to lab instructor for grading and recording on your Assignment Sheet and Grade Report.
_____ Correspondence 3	Self-time and type the material in correct form and submit to lab instructor for grading and recording on your Assignment Sheet and Grade Report.
_____ Correspondence 4	Self-time and type the material in correct form and submit to lab instructor for grading and recording on your Assignment Sheet and Grade Report.

MEDICAL TYPING I

DIABETES

_____ Diabetes--Preview	Look up definition and practice typing Preview words. Type each word several times.
_____ Case History 1	Take a self-timed straight copy timing and record the length of timing, the WPM, and the errors per minute in the blank.
_____ Case History 1	Copy two times the material that you typed in your first timed writing and submit to lab instructor for checking on this sheet.
_____ Case History 1	Take two more self-timings and submit the better of the two to the lab instructor who will mark it on your Assignment Sheet and Grade Report.
_____ Case History 1	Type the material in arranged form and submit to the lab instructor for grading and recording on your Assignment Sheet and Grade Report.
_____ Case History 2	Take a self-timed straight copy timing and record the length of timing, the WPM, and the errors per minute in the blank.
_____ Case History 2	Copy two times the material that you typed in your first timed writing and submit to lab instructor for checking on this sheet.
_____ Case History 2	Take two more self-timings and submit the better of the two to the lab instructor who will mark it on your Assignment Sheet and Grade Report.
_____ Case History 2	Type the material in arranged form and submit to the lab instructor for grading and recording on your Assignment Sheet and Grade Report.
_____ Article 1	Take a self-timed straight copy timing and record the length of timing, the WPM, and the errors per minute in the blank.
_____ Article 1	Copy two times the material that you typed in your first timed writing and submit to lab instructor for checking on this sheet.
_____ Article 1	Take two more self-timings and submit the better of the two to the lab instructor who will mark it on your Assignment Sheet and Grade Report.

Article 1	Type the material in arranged form and submit to the lab instructor for grading and recording on your Assignment Sheet and Grade Report.
Correspondence 1	Self-time and type the material in correct form and submit to lab instructor for grading and recording on your Assignment Sheet and Grade Report.
Correspondence 2	Self-time and type the material in correct form and submit to lab instructor for grading and recording on your Assignment Sheet and Grade Report.
Correspondence 3	Self-time and type the material in correct form and submit to lab instructor for grading and recording on your Assignment Sheet and Grade Report.

MEDICAL TYPING I

UROLOGY

Urology--Preview	Look up definition and practice typing Preview words. Type each word several times.
Case History 1	Take a self-timed straight copy timing and record the length of timing, the WPM, and the errors per minute in the blank.
Case History 1	Copy two times the material that you typed in your first timed writing and submit to lab instructor for checking on this sheet.
Case History 1	Take two more self-timings and submit the better of the two to the lab instructor who will mark it on your Assignment Sheet and Grade Report.
Case History 1	Type the material in arranged form and submit to the lab instructor for grading and recording on your Assignment Sheet and Grade Report.

MEDICAL TYPING I

ORTHOPEDICS

_____ Orthopedics--Preview	Look up definition and practice typing Preview words. Type each word several times.
_____ Case History 1	Take a self-timed straight copy timing and record the length of timing, the WPM, and the errors per minute in the blank.
_____ Case History 1	Copy two times the material that you typed in your first timed writing and submit to lab instructor for checking on this sheet.
_____ Case History 1	Take two more self-timings and submit the better of the two to the lab instructor who will mark it on your Assignment Sheet and Grade Report.
_____ Case History 1	Type the material in arranged form and submit to the lab instructor for grading and recording on your Assignment Sheet and Grade Report.
_____ Case History 2	Take a self-timed straight copy timing and record the length of timing, the WPM, and the errors per minute in the blank.
_____ Case History 2	Copy two times the material that you typed in your first timed writing and submit to lab instructor for checking on this sheet.
_____ Case History 2	Take two more self-timings and submit the better of the two to the lab instructor who will mark it on your Assignment Sheet and Grade Report.
_____ Case History 2	Type the material in arranged form and submit to the lab instructor for grading and recording on your Assignment Sheet and Grade Report.
_____ Case History 3	Take a self-timed straight copy timing and record the length of timing, the WPM, and the errors per minute in the blank.
_____ Case History 3	Copy two times the material that you typed in your first timed writing and submit to lab instructor for checking on this sheet.
_____ Case History 3	Take two more self-timings and submit the better of the two to the lab instructor who will mark it on your Assignment Sheet and Grade Report.

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_____ Case History 3	Type the material in arranged form and submit to the lab instructor for grading and recording on your Assignment Sheet and Grade Report.
_____ Case History 4	Take a self-timed straight copy timing and record the length of timing, the WPM, and the errors per minute in the blank.
_____ Case History 4	Copy two times the material that you typed in your first timed writing and submit to lab instructor for checking on this sheet.
_____ Case History 4	Take two more self-timings and submit the better of the two to the lab instructor who will mark it on your Assignment Sheet and Grade Report.
_____ Case History 4	Type the material in arranged form and submit to the lab instructor for grading and recording on your Assignment Sheet and Grade Report.
_____ Correspondence 1	Self-time and type the material in correct form and submit to lab instructor for grading and recording on your Assignment Sheet and Grade Report.
_____ Correspondence 2	Self-time and type the material in correct form and submit to lab instructor for grading and recording on your Assignment Sheet and Grade Report.
_____ Correspondence 3	Self-time and type the material in correct form and submit to lab instructor for grading and recording on your Assignment Sheet and Grade Report.
_____ Correspondence 4	Self-time and type the material in correct form and submit to lab instructor for grading and recording on your Assignment Sheet and Grade Report.

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MEDICAL TYPING I

CHEMOTHERAPY

Chemotherapy--Preview	Look up definition and practice typing Preview words. Type each word several times.
Article 1	Take a self-timed straight copy timing and record the length of timing, the WPM, and the errors per minute in the blank.
Article 1	Copy two times the material that you typed in your first timed writing and submit to lab instructor for checking on this sheet.
Article 1	Take two more self-timings and submit the better of the two to the lab instructor who will mark it on your Assignment Sheet and Grade Report.
Article 1	Type the material in arranged form and submit to the lab instructor for grading and recording on your Assignment Sheet and Grade Report.
Article 2	Take a self-timed straight copy timing and record the length of timing, the WPM, and the errors per minute in the blank.
Article 2	Copy two times the material that you typed in your first timed writing and submit to lab instructor for checking on this sheet.
Article 2	Take two more self-timings and submit the better of the two to the lab instructor who will mark it on your Assignment Sheet and Grade Report.
Article 2	Type the material in arranged form and submit to lab instructor for grading and recording on your Assignment Sheet and Grade Report.
Article 3	Take a self-timed straight copy timing and record the length of timing, the WPM, and the errors per minute in the blank.
Article 3	Copy two times the material that you typed in your first timed writing and submit to lab instructor for checking on this sheet.
Article 3	Take two more self-timings and submit the better of the two to the lab instructor who will mark it on your Assignment Sheet and Grade Report.
Article 3	Type the material in arranged form and submit to the lab instructor for grading and recording on your Assignment Sheet and Grade Report.

_____ Correspondence 1	Self-time and type the material in correct form and submit to lab instructor for grading and recording on your Assignment Sheet and Grade Report.
_____ Correspondence 2	Self-time and type the material in correct form and submit to lab instructor for grading and recording on your Assignment Sheet and Grade Report.
_____ Correspondence 3	Self-time and type the material in correct form and submit to lab instructor for grading and recording on your Assignment Sheet and Grade Report.
_____ Correspondence 4	Self-time and type the material in correct form and submit to lab instructor for grading and recording on your Assignment Sheet and Grade Report.
_____ Correspondence 5	Self-time and type the material in correct form and submit to lab instructor for grading and recording on your Assignment Sheet and Grade Report.
_____ Correspondence 6	Self-time and type the material in correct form and submit to lab instructor for grading and recording on your Assignment Sheet and Grade Report.

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MEDICAL TYPING I

GASTROENTEROLOGY

_____ Gastroenterology--Preview	Look up definition and practice typing Preview words. Type each word several times.
_____ Case History 1	Take a self-timed straight copy timing and record the length of timing, the WPM, and the errors per minute in the blank.
_____ Case History 1	Copy two times the material that you typed in your first timed writing and submit to lab instructor for checking on this sheet.
_____ Case History 1	Take two more self-timings and submit the better of the two to the lab instructor who will mark it on your Assignment Sheet and Grade Report.
_____ Case History 1	Type the material in arranged form and submit to the lab instructor for grading and recording on your Assignment Sheet and Grade Report.

MEDICAL TYPING I

PEDIATRICS

_____ Pediatrics--Preview	Look up definition and practice typing Preview words. Type each word several times.
___/___/___ Case History 1	Take a self-timed straight copy timing and record the length of timing, the WPM, and the errors per minute in the blank.
_____ Case History 1	Copy two times the material that you typed in your first timed writing and submit to lab instructor for checking on this sheet.
___/___/___ Case History 1	Take two more self-timings and submit the better of the two to the lab instructor who will mark it on your Assignment Sheet and Grade Report.
_____ Case History 1	Type the material in arranged form and submit to the lab instructor for grading and recording on your Assignment Sheet and Grade Report.
___/___/___ Case History 2	Take a self-timed straight copy timing and record the length of timing, the WPM, and the errors per minute in the blank.
_____ Case History 2	Copy two times the material that you typed in your first timed writing and submit to lab instructor for checking on this sheet.
___/___/___ Case History 2	Take two more self-timings and submit the better of the two to the lab instructor who will mark it on your Assignment Sheet and Grade Report.
_____ Case History 2	Type the material in arranged form and submit to the lab instructor for grading and recording on your Assignment Sheet and Grade Report.
___/___/___ Case History 3	Take a self-timed straight copy timing and record the length of timing, the WPM, and the errors per minute in the blank.
_____ Case History 3	Copy two times the material that you typed in your first timed writing and submit to lab instructor for checking on this sheet.
___/___/___ Case History 3	Take two more self-timings and submit the better of the two to the lab instructor who will mark it on your Assignment Sheet and Grade Report.

_____ Case History 3	Type the material in arranged form and submit to the lab instructor for grading and recording on your Assignment Sheet and Grade Report.
_____ Correspondence 1	Self-time and type the material in correct form and submit to lab instructor for grading and recording on your Assignment Sheet and Grade Report.
_____ Correspondence 2	Self-time and type the material in correct form and submit to lab instructor for grading and recording on your Assignment Sheet and Grade Report.
_____ Correspondence 3	Self-time and type the material in correct form and submit to lab instructor for grading and recording on your Assignment Sheet and Grade Report.

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GYNECOLOGY AND OBSTETRICS

_____	Gynecology and Obstetrics--Preview. Look up definition and pracitce typing Preview words. Type each word several times.
_____	Case History 1 — Take a self-timed straight copy timing and record the length of timing, the WPM and the errors per minute in the blank.
_____	Case History 1 — Copy two times the material that you typed in your first timed writing and submit to lab instructor for checking on this sheet.
_____	Case History 1 — Take two more self-timings and submit the better of the two to the lab instructor who will mark it on your Assignment Sheet and Grade Report.
_____	Case History 1 — Type the material in arranged form and submit to the lab instructor for grading and recording on your Assignment Sheet and Grade Report.

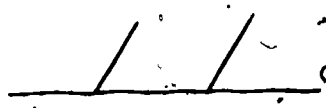
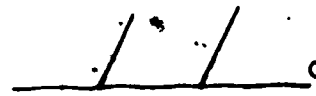
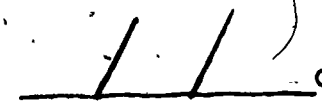
MENTAL HEALTH

_____	Mental Health--Preview Look up definition and practice typing Preview words. Type each word several times.
_____	Article 1 — Take a self-timed straight copy timing and record the length of timing, the WPM, and the errors per minute in the blank.
_____	Article 1 — Copy two times the material that you typed in your first timed writing and submit to lab instructor for checking on this sheet.
_____	Article 1 — Take two more self-timings and submit the better of the two to the lab instructor who will mark it on your Assignment Sheet and Grade Report.
_____	Article 1 — Type the material in arranged form and submit to the lab instructor for grading and recording on your Assignment Sheet and Grade Report.
_____	Article 2 — Take a self-timed straight copy timing and record the length of timing, the WPM, and the errors per minute in the blank.
_____	Article 2 — Copy two times the material that you typed in your first timed writing and submit to lab instructor for checking on this sheet.
_____	Article 2 — Take two more self-timings and submit the better of the two to the lab instructor who will mark it on your Assignment Sheet and Grade Report.
_____	Article 2 — Type the material in arranged form and submit to the lab instructor for grading and recording on your Assignment Sheet and Grade Report.
_____	Case History 1 — Take a self-timed straight copy timing and record the length of timing, the WPM, and the errors per minute in the blank.
_____	Case History 1 — Copy two times the material that you typed in your first timed writing and submit to lab instructor for checking on this sheet.
_____	Case History 1 — Take two more self-timings and submit the better of the two to the lab instructor who will mark it on your Assignment Sheet and Grade Report.

Case History 1	Type the material in arranged form and submit to the lab instructor for grading and recording on your Assignment Sheet and Grade Report.
Case History 2	Take a self-timed straight copy timing and record the length of timing, the WPM, and the errors per minute in the blank.
Case History 2	Copy two times the material that you typed in your first timed writing and submit to lab instructor for checking on this sheet.
Case History 2	Take two more self-timings and submit the better of the two to the lab instructor who will mark it on your Assignment Sheet and Grade Report.
Case History 2	Type the material in arranged form and submit to the lab instructor for grading and recording on your Assignment Sheet and Grade Report.
Correspondence 1	Self-time and type the material in correct form and submit to lab instructor for grading and recording on your Assignment Sheet and Grade Report.
Correspondence 2	Self-time and type the material in correct form and submit to lab instructor for grading and recording on your Assignment Sheet and Grade Report.
Correspondenc 3	Self-time and type the material in correct form and submit to lab instructor for grading and recording on your Assignment Sheet and Grade Report.

MEDICAL TYPING I

ENDOCRINOLOGY

_____ Endocrinology--Preview	Look up definition and practice typing Preview words. Type each word several times.
Case History 1	Take a self-timed straight copy timing and record the length of timing, the WPM, and the errors per minute in the blank.
_____ Case History 1	Copy two times the material that you typed in your first timed writing and submit to lab instructor for checking on this sheet.
Case History 1	Take two more self-timings and submit the better of the two to the lab instructor who will mark it on your Assignment Sheet and Grade Report.
_____ Case History 1	Type the material in arranged form and submit to the lab instructor for grading and recording on your Assignment Sheet and Grade Report.
 Case History 2	Take a self-timed straight copy timing and record the length of timing, the WPM, and the errors per minute in the blank.
_____ Case History 2	Copy two times the material that you typed in your first timed writing and submit to lab instructor for checking on this sheet.
Case History 2	Take two more self-timings and submit the better of the two to the lab instructor who will mark it on your Assignment Sheet and Grade Report.
_____ Case History 2	Type the material in arranged form and submit to the lab instructor for grading and recording on your Assignment Sheet and Grade Report.
 Case History 3	Take a self-timed straight copy timing and record the length of timing, the WPM, and the errors per minute in the blank.
_____ Case History 3	Copy two times the material that you typed in your first timed writing and submit to lab instructor for checking on this sheet.
 Case History 3	Take two more self-timings and submit the better of the two to the lab instructor who will mark it on your Assignment Sheet and Grade Report.

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Case History 3	Type the material in arranged form and submit to the lab instructor for grading and recording on your Assignment Sheet and Grade Report.
Article 1	Take a self-timed straight copy timing and record the length of timing, the WPM, and the errors per minute in the blank.
Article 1	Copy two times the material that you typed in your first timed writing and submit to the lab instructor for checking on this sheet.
Article 1	Take two more self-timings and submit the better of the two to the lab instructor who will mark it on your Assignment Sheet and Grade Report.
Article 1	Type the material in arranged form and submit to the lab instructor for grading and recording on your Assignment Sheet and Grade Report.
Correspondence 1	Self-time and type the material in correct form and submit to lab instructor for grading and recording on your Assignment Sheet and Grade Report.
Correspondence 2	Self-time and type the material in correct form and submit to lab instructor for grading and recording on your Assignment Sheet and Grade Report.
Correspondence 3	Self-time and type the material in correct form and recording on your Assignment Sheet and Grade Report.

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NEUROLOGY

Neurology—Preview	Look up definition and practice typing Preview words. Type each word several times.
Article 1	Take a self-timed straight copy timing and record the length of timing the WPM, and the errors per minute in the blank.
Article 1	Copy two times the material that you typed in your first timed writing and submit to lab instructor for checking on this sheet.
Article 1	Take two more self-timings and submit the better of the two to the lab instructor who will mark it on your Assignment Sheet and Grade Report.
Article 1	Type the material in arranged form and submit to the lab instructor for grading and recording on your Assignment Sheet and Grade Report.
Article 2	Take a self-timed straight copy timing and record the length of timing, the WPM, and the errors per minute in the blank.
Article 2	Copy two times the material that you typed in your first timed writing and submit to lab instructor for checking on this sheet.
Article 2	Take two more self-timings and submit the better of the two to the lab instructor who will mark it on your Assignment Sheet and Grade Report.
Article 2	Type the material in arranged form and submit to the lab instructor for grading and recording on your Assignment Sheet and Grade Report.
Case History 1	Take a self-timed straight copy timing and record the length of timing, the WPM, and the errors per minute in the blank.
Case History 1	Copy two times the material that you typed in your first timed writing and submit to lab instructor for checking on this sheet.
Case History 1	Take two more self-timings and submit the better of the two to the lab instructor who will mark it on your Assignment Sheet and Grade Report.

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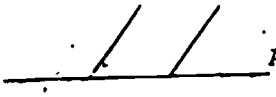
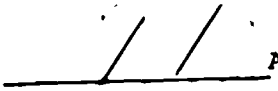
_____ Case History 1	Type the material in arranged form and submit to the lab instructor for grading and recording on your Assignment Sheet and Grade Report.
_____ Case History 2	Take a self-timed straight copy timing and record the length of timing, the WPM, and the errors per minute in the blank.
_____ Case History 2	Copy two times the material that you typed in your first timed writing and submit to lab instructor for checking on this sheet.
_____ Case History 2	Take two more self-timings and submit the better of the two to the lab instructor who will mark it on your Assignment Sheet and Grade Report.
_____ Case History 2	Type the material in arranged form and submit to the lab instructor for grading and recording on your Assignment Sheet and Grade Report.
_____ Correspondence 1	Self-time and type the material in correct form and submit to lab instructor for grading and recording on your Assignment Sheet and Grade Report.
_____ Correspondence 2	Self-time and type the material in correct form and submit to lab instructor for grading and recording on your Assignment Sheet and Grade Report.
_____ Correspondence 3	Self-time and type the material in correct form and submit to lab instructor for grading and recording on your Assignment Sheet and Grade Report.

MEDICAL TYPING I

GENERAL REVIEW, TRACK I

_____ General Review, Track 1	--Preview Look up definition and practice typing Preview words. Type each word several times.
___/___/___ Article 1	Take a self-timed straight copy timing and record the length of timing, the WPM, and the errors per minute in the blank.
_____ Article 1	Copy two times the material that you typed in your first timed writing and submit to lab instructor for checking on this sheet.
___/___/___ Article 1	Take two more self-timings and submit the better of the two to the lab instructor who will mark it on your Assignment Sheet and Grade Report.
_____ Article 1	Type the material in arranged form and submit to the lab instructor for grading and recording on your Assignment Sheet and Grade Report.
___/___/___ Article 2	Take a self-timed straight copy timing and record the length of timing, the WPM, and the errors per minute in the blank.
_____ Article 2	Copy two times the material that you typed in your first timed writing and submit to lab instructor for checking on this sheet.
___/___/___ Article 2	Take two more self-timings and submit the better of the two to the lab instructor who will mark it on your Assignment Sheet and Grade Report.
_____ Article 2	Type the material in arranged form and submit to the lab instructor for grading and recording on your Assignment Sheet and Grade Report.
___/___/___ Article 3	Take a self-timed straight copy timing and record the length of timing, the WPM, and the errors per minute in the blank.
_____ Article 3	Copy two times the material that you typed in your first timed writing and submit to lab instructor for checking on this sheet.
___/___/___ Article 3	Take two more self-timings and submit the better of the two to the lab instructor who will mark it on your Assignment Sheet and Grade Report.

_____ Article 3	Type the material in arranged form and submit to the lab instructor for grading and recording on your Assignment Sheet and Grade Report.
Article 4	Take a self-timed straight copy timing and record the length of timing, the WPM, and the errors per minute in the blank.
_____ Article 4	Copy two times the material that you typed in your first timed writing and submit to lab instructor for checking on this sheet.
Article 4	Take two more self-timings and submit the better of the two to the lab instructor who will mark it on your Assignment Sheet and Grade Report.
_____ Article 4	Type the material in arranged form and submit to the lab instructor for grading and recording on your Assignment Sheet and Grade Report.
 Article 5	Take a self-timed straight copy timing and record the length of timing, the WPM, and the errors per minute in the blank.
_____ Article 5	Copy two times the material that you typed in your first timed writing and submit to lab instructor for checking on this sheet.
 Article 5	Take two more self-timings and submit the better of the two to the lab instructor who will mark it on your Assignment Sheet and Grade Report.
_____ Article 5	Type the material in arranged form and submit to the lab instructor for grading and recording on your Assignment Sheet and Grade Report.
Article 6	Take a self-timed straight copy timing and record the length of timing, the WPM, and the errors per minute in the blank.
_____ Article 6	Copy two times the material that you typed in your first timed writing and submit to lab instructor for checking on this sheet.
Article 6	Take two more self-timings and submit the better of the two to the lab instructor who will mark it on your Assignment Sheet and Grade Report.
_____ Article 6	Type the material in arranged form and submit to the lab instructor for grading and recording on your Assignment Sheet and Grade Report.

MEDICAL TYPING I

GENERAL REVIEW, TRACK II

General Review, Track II--Preview	Look up definition and practice typing Preview words. Type each word several times.
Article 1	Take a self-timed straight copy timing and record the length of timing, the WPM, and the errors per minute in the blank.
Article 1	Copy two times the material that you typed in your first timed writing and submit to lab instructor for checking on this sheet.
Article 1	Take two more self-timings and submit the better of the two to the lab instructor who will mark it on your Assignment Sheet and Grade Report.
Article 1	Type the material in arranged form and submit to the lab instructor for grading and recording on your Assignment Sheet and Grade Report.
Article 2	Take a self-timed straight copy timing and record the length of timing, the WPM, and the errors per minute in the blank.
Article 2	Copy two times the material that you typed in your first timed writing and submit to lab instructor for checking on this sheet.
Article 2	Take two more self-timings and submit the better of the two to the lab instructor who will mark it on your Assignment Sheet and Grade Report.
Article 2	Type the material in arranged form and submit to the lab instructor for grading and recording on your Assignment Sheet and Grade Report.
Article 3	Take a self-timed straight copy timing and record the length of timing, the WPM, and the errors per minute in the blank.
Article 3	Copy two times the material that you typed in your first timed writing and submit to the lab instructor for checking on this sheet.
Article 3	Take two self-timings and submit the better of the two to the lab instructor who will mark it on your Assignment Sheet and Grade Report.

Article 3	Type the material in arranged form and submit to the lab instructor for grading and recording on your Assignment Sheet and Grade Report.
Article 4	Take a self-timed straight copy timing and record the length of timing, the WPM, and the errors per minute in the blank.
Article 4	Copy two times the material that you typed in your first timed writing and submit to lab instructor for checking on this sheet.
Article 4	Take two more self-timings and submit the better of the two to the lab instructor who will mark it on your Assignment Sheet and Grade Report.
Article 4	Type the material in arranged form and submit to the lab instructor for grading and recording on your Assignment Sheet and Grade Report.
Article 5	Take a self-timed straight copy timing and record the length of timing, the WPM, and the errors per minute in the blank.
Article 5	Copy two times the material that you typed in your first timed writing and submit to lab instructor for checking on this sheet.
Article 5	Take two more self-timings and submit the better of the two to the lab instructor who will mark it on your Assignment Sheet and Grade Report.
Article 5	Type the material in arranged form and submit to the lab instructor for grading and recording on your Assignment Sheet and Grade Report.
Article 6	Take a self-timed straight copy timing and record the length of timing, the WPM, and the errors per minute in the blank.
Article 6	Copy two times the material that you typed in your first timed writing and submit to lab instructor for checking on this sheet.
Article 6	Take two more self-timings and submit the better of the two to the lab instructor who will mark it on your Assignment Sheet and Grade Report.
Article 6	Type the material in arranged form and submit to the lab instructor for grading and recording on your Assignment Sheet and Grade Report.

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MEDICAL TYPING I

ARTICLES

Slide 2

BEST COPY AVAILABLE

Page 1 of an article has a 2-inch top margin and a 1 or 1½ inch bottom margin.

Slide 3

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BEST COPY AVAILABLE

2 INCHES

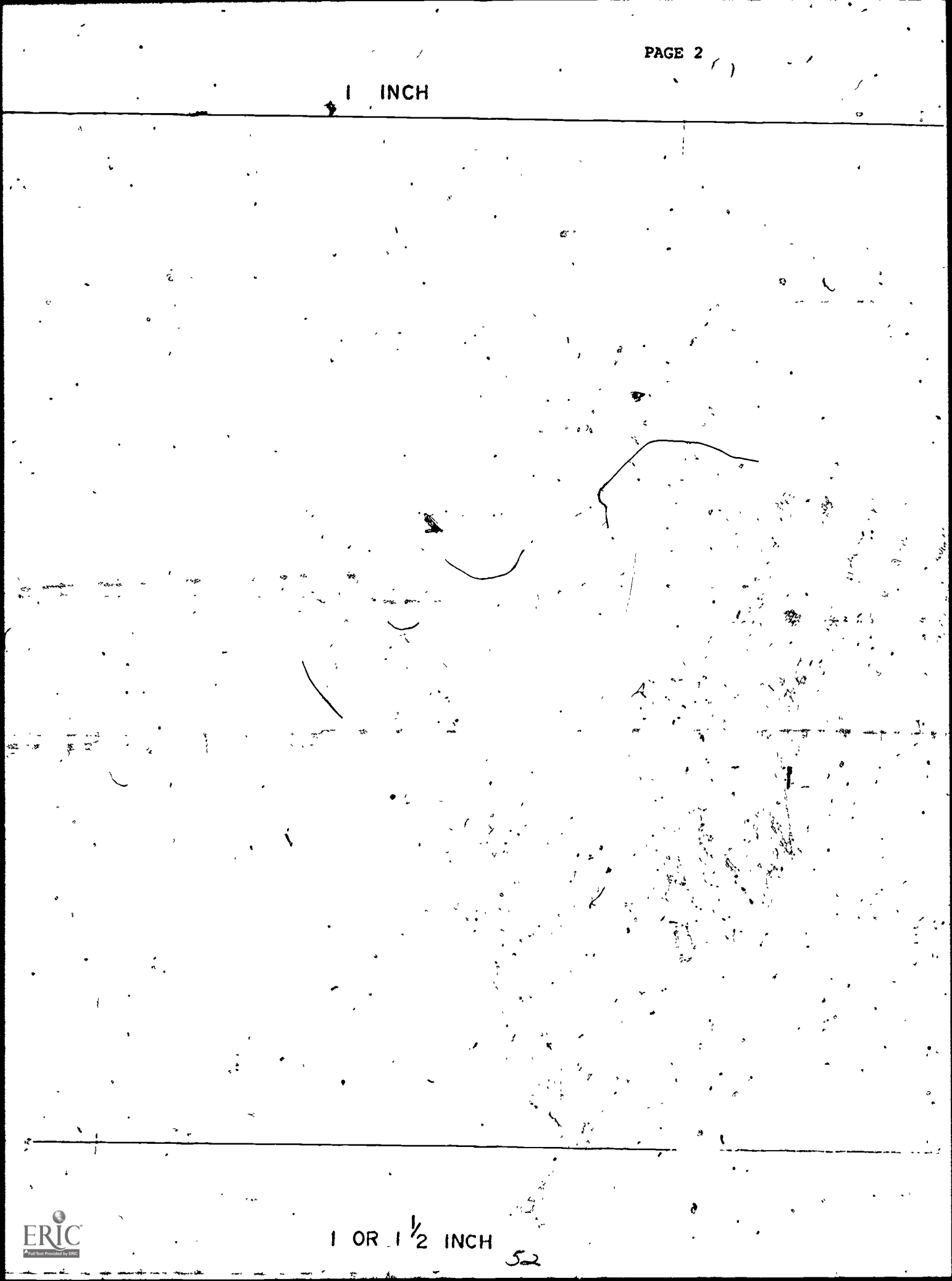
1 OR 1 1/2 INCH

BEST COPY AVAILABLE

Page 2 of an article has a 1-inch top margin and a 1- or 1½-inch bottom margin.

Slide 4

1 INCH



1 OR 1 1/2 INCH

BEST COPY AVAILABLE

Center the title in all caps on line 13.

Slide 5

BEST COPY AVAILABLE

SURGICAL LESIONS OF DIABETIC FEET LINE 13

BEST COPY AVAILABLE

A double-space below the title, type the writer's name and identification in two or three single-spaced lines.

Slide 6

BEST COPY AVAILABLE

SURGICAL LESIONS OF DIABETIC FEET

D. S.
Dr. John Howard Smith
Medical Arts Building
Washington, D. C.

BEST COPY AVAILABLE

Two or 3 blank lines below the identification start typing the article.

Slide 7

BEST COPY AVAILABLE

SURGICAL LESIONS OF DIABETIC FEET

Dr. John Howard Smith
Medical Arts Building
Washington, D. C.

TRIPLE SPACE

A study of the frequency and the cost, both financial and in terms of future disability, resulting from surgical lesions of the feet in dia-

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Double-space the body of the article, using a 6-inch (72-spaces) line of writing and a 5-space paragraph indention.

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SURGICAL LESIONS OF DIABETIC FEET

Dr. John Howard Smith
Medical Arts Building
Washington, D. C.

A study of the frequency and the cost, both financial and in terms of future disability, resulting from surgical lesions of the feet in diabetic patients was undertaken in the hope that the information obtained might stimulate interest in these lesions and implement measures to prevent them or reduce their cost. In the first six months, 264 patients, and in the second six months, 238 patients were studied.

Of the total 502 patients studied, 210 were males and 292 were females, ranging from childhood to old age. Although 3 patients were under twenty and 18 under forty years of age, 299 were between sixty and seventy years, and 22 between eighty and ninety years of age.

Forty-two patients, about 8 percent, were not aware of the existence of diabetes before the foot lesions appeared, or else the duration was estimated at less than six months. In 89 cases the diabetes had existed for six months to five years, and 190 patients had had the disease for five to fourteen years. One hundred and fifty-three patients had had diabetes for fifteen to thirty years.

The cases were classified according to primary and major factors, consisting of arterial insufficiency, infection, neuropathy, or a combination of two or more such causes. In 225 cases, with absence of pulsation in the popliteal fossa less frequently. Femoral pulsation was absent in relatively few gravely ill patients with gangrene. A long history of intermi-

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If the article contains internal listings or displays, single-space them.

Slide 9

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STREPTOCOCCAL INFECTIONS

Dr. John Howard Smith
Medical Arts Building
Washington, D. C.

It is now generally accepted practice to administer antibiotics continuously to patients with recent rheumatic fever to prevent streptococcal infections and subsequent reactivation of rheumatic fever. The duration for which such regimens should be maintained, however, is problematic. Current recommendations call for maintenance of continuous prophlaxis indefinitely, or until further data are available.

The rate of recurrences is believed to decline during late adolescence and to be low in adult life, particularly after many years of freedom from rheumatic fever. The risk of discontinuing prophylaxis is difficult to assess, however, because very little information is available concerning the frequency and effects of streptococcal infections in civilian adult populations in various geographic areas and socioeconomic circumstances. Furthermore, it is not known how long the rheumatic host retains his marked propensity to recurrences of rheumatic fever after a streptococcal infection. Because information pertinent to these questions has theoretical and practical importance, the present study was undertaken to determine the following points:

1. The effect of stopping continuous prophylaxis in rheumatic persons who were free of active rheumatic fever for at least five years.

2. The effect of substituting, in these patients, a modified form of prophlaxis--namely, the treatment of symptomatic streptococcal infections.

3. The frequency of symptomatic and asymptomatic streptococcal infections in such populations and the attack rate of subsequent rheumatic recurrences.

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If there are subheadings or sideheadings, type them in all capitals at the left margin, preceded by one extra blank line of space.

Slide 10

BEST COPY AVAILABLE

A NEED FOR PREPAID PSYCHIATRIC CARE

Dr. John Howard Smith
Medical Arts Building
Washington, D. C.

Health insurance programs protect more than 70 percent of all Americans and Canadians. Yet the one group of disorders that disables the largest number of people is excluded from these benefits.

TRIPLE SPACE

PERCENTAGES OF MENTAL ILLNESS. Mental illness fills 50 percent of all hospital beds. Most general practitioners say that a third of their office patients come because of emotional problems. Yet, an account for treating a disorder correctly labeled psychiatric will usually be turned down by the staff of a prepaid plan. So the man who thought he had purchased comprehensive coverage is very unhappy when he is charged extra for psychiatric service. Since his complaint lands on the physicians' doorstep, the physician now asks why he cannot cover psychiatric care

Why don't plans include psychiatry? What is wrong with the mental hospitals? What changes are taking place in psychiatric treafment? Finally, what can be done to adjust to these changes?

It has been shown conclusively that the three main groups--the Blues, the insurance companies, and the independents--differ greatly in policy on psychiatric disorder. Discontented with this, many plans do provide some psychiatric service and would like to give more.

SOME CONTEMPORARY PL[illegible] Few plans, however, attempt comprehensive [illegible]chiatric care. At [illegible] extreme, the most restrictive acknowledge no

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Continue the article on the next page; typing the writer's last name, a diagonal, and the page number at the right margin on line 7.

Slide 11

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Follow this with 2 or 3 blank lines.

7

Slide 12

BEST COPY AVAILABLE

TRIPLE SPACE

responsibility at all for mental illness. Some, like Medical Services, Incorporated or the Health Insurance Plan of Greater New York, provide for

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At the end of the article, about 1½ inches from the bottom of the last page, type the date. An example of an article is included in your syllabus.

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responsibility at all for mental illness. Some, like Medical Services, Incorporated or the Health Insurance Plan of Greater New York, provide for at least one diagnostic interview. Others, like many Blue Cross plans, limit hospital care to under 30 days. More pay for care in psychiatric units in general hospitals than in state institutions. Thus, as a rule, prepaid plans restrict psychiatric coverage, either by exclusion or by definite limitations to service provided.

Yet, most insurance groups realize that they cannot escape dealing with psychiatric disorders. Much psychoneurosis is camouflaged in physical illness so that even when the prepaid plans deliberately exclude it, the cost of a great deal of psychiatric treatment is paid for under another medical name.

Current date 1 1/2 INCHES

BEST COPY AVAILABLE

MEDICAL TYPING I

ARRANGING REPORTS

Slide 2

BEST COPY AVAILABLE

analyses and other reports is as follows: Center the title of the report in all caps, seven lines below the printed letterhead or report form.

Slide 3

BEST COPY AVAILABLE

Many supervisors of medical offices and physicians prefer that the typist use for case histories, clinical analyses, and similar organized reports the same form as suggested for articles: double spacing, generous display of sideheadings, and so on. But this takes up too much room in the files. Therefore, the most common form for arranging case histories, clinical

BEST COPY AVAILABLE

Allegheny General Hospital
100 EAST STREET, NORTH SIDE
PITTSBURGH, PENNSYLVANIA 15222

6 BLANK LINES

PATHOLOGY REPORT

BEST COPY AVAILABLE

Or on line 13 if plain paper is used.

Slide 4

BEST COPY AVAILABLE

PATHOLOGY REPORT LINE 13

BEST COPY AVAILABLE

A double space below the title center in 2 or 3 single-spaced lines any additional information needed to clarify the topic or origin of the report.

Slide 5

BEST COPY AVAILABLE

PATHOLOGY REPORT

Mary Howard Smith
Lab Technician
Wausau North Hospital

BEST COPY AVAILABLE

If there is no subtitle, follow the heading by one blank line and type the side heading.

Slide 6

BEST COPY AVAILABLE

PATHOLOGY REPORT

D S

TISSUE INVOLVED:

BEST COPY AVAILABLE

but by two blank lines if ordinary text matter follows the subtitle.

Slide 7

BEST COPY AVAILABLE

CASE HISTORY

TRIPLE SPACE

This was the first hospital admission for this 43-year-old Negro

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Single-space the body of the report on a 6-inch line of writing, with a 5-space paragraph indention and one blank line between the paragraphs.

Slide 8

BEST COPY AVAILABLE

CASE HISTORY

TRIPLE SPACE

This was the first hospital admission for this 43-year-old Negro male with the chief complaint of a chronic cough.

D. S.

The patient was essentially well until sixteen months prior to his admission, when he first noticed the development of a cough with production of green-yellow-white sputum unassociated with fever or malaise. On what he termed as "rare" occasions, he noted a small amount of blood streaking. He had sought medical advice repeatedly in the past, but had never been able to clear up the cough or sputum production on antitussive medication.

D. S.

He was seen for the first time in the Diagnostic Clinic two months ago, at that time a chest fluoroscopy, barium swallow, and regular chest films showed no definite lesion. The patient underwent a bronchoscopy one month ago, however; at that time a cytology specimen was obtained that was reported as Class V, consistent with bronchogenic epidermoid carcinoma.

6 INCHES = 72 SPACES ELITE

6 INCHES = 60 SPACES PICA

BEST COPY AVAILABLE

Type the sideheadings in all caps at the left margin, preceded and followed by one blank line.

Slide 9

BEST COPY AVAILABLE

PATHOLOGY REPORT

TISSUE INVOLVED:

D.S.

1. Node from left lung.

2. Two nodes from left lung.

3. Left lung.

4. Right mediastinal nodes.

5. Carina.

D.S.

CLINICAL IMPRESSION:

Carcinoma, left main stem bronchus.

D.S.

GROSS DESCRIPTION:

1. Received fresh is a small, soft, anthracotic lymph node measuring 1.5 centimeters by 9 millimeters. On cut surface this tissue is soft and markedly anthracotic. Entire specimen bisected and all submitted for section.

2. Received fresh are two soft lymph nodes, the larger measuring 1.4 by 1.0 centimeters. On the cut surface it is smooth, soft, and black. Entire specimen submitted for section.

3. Received fresh is an entire left lung. The most proximal portion of the left bronchus was separated and taken for rapid section. The remainder of the proximal portion of the bronchus was submitted entire for examination.

BEST COPY AVAILABLE

However, to conserve space some offices prefer the typist to leave no blank line under the sideheading. For the exercises in this book you will double space.

Slide 10

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PATHOLOGY REPORT

TISSUE INVOLVED:

1. Node from left lung.

2. Two nodes from left lung.

3. Left lung.

4. Right mediastinal nodes.

5. Carina.

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3. Received fresh is an entire left lung. The most proximal portion of the left bronchus was separated and taken for rapid section. The remainder of the proximal portion of the bronchus was submitted entire for examination.

BEST COPY AVAILABLE

Other offices prefer to indent the sideheading either in all capitals or underscored.

Slide 11

BEST COPY AVAILABLE

PATHOLOGY REPORT

Tissue Involved:

1. Node from left lung.
2. Two nodes from left lung.
3. Left lung.
4. Right mediastinal nodes..
5. Carina.

Clinical Impression: Carcinoma, left main stem bronchus.

Gross Description: 1. Received fresh is a small, soft, anthracotic lymph node measuring 1.5 centimeters by 9 millimeters. On cut surface this tissue is soft and mardedly anthracotic. Entire specimen bisected and all submitted for section.

BEST COPY AVAILABLE

Leave a bottom margin of ½ inch if doing so permits the report to be completed on the page--otherwise have a bottom margin of 1 or 1½ inches.

Slide 12

BEST COPY AVAILABLE

PATHOLOGY REPORT

TISSUE INVOLVED:

1. Node from left lung.
2. Two nodes from left lung.
3. Left lung.
4. Right mediastinal nodes.
5. Carina.

CLINICAL IMPRESSION:

Carcinoma, left main stem bronchus.

GROSS DESCRIPTION:

1. Received fresh is a small, soft, anthracotic lymph node measuring 1.5 centimeters by 9 millimeters. On cut surface this tissue is soft and markedly anthracotic. Entire specimen bisected and all submitted for section.

2. Received fresh are two soft lymph nodes, the larger measuring 1.4 by 1.0 centimeters. On the cut surface it is smooth, soft, and black. Entire specimen submitted for section.

3. Received fresh is an entire left lung. The most proximal portion of the left bronchus was separated and taken for rapid section. The remainder of the proximal portion of the bronchus was submitted entire for examination. The left lung specimen received measures 24 x 19 centimeters in diameter. The proximal portion of the main stem bronchus has been excised by us, and there is a firm, white, cauliflower-like lesion extending into the lumen of the main stem bronchus beginning 1.5 centimeters distal to the proximal line of resection and extending approximately 1.5 centimeters into both the upper-left and left-lower lobe bronchi. Immediately adjacent to the tumor in the upper lobe bronchus is a small, firm, anthracotic lymph node, which on section consists of a small segment of firm, white tissue. Four other smaller lymph nodes on section did not contain this white tissue. Section of the arterial vessels reveals no abnormalities, and section of the lung parenchyma revealed that the tumor did not appear to invade the parenchyma.

DIAGNOSIS:

Epidermoid carcinoma involving the bifurcation of the left main stem bronchus and essentially limited to infiltration of the bronchial wall. The bronchial mucosa very close to or at the proximal edge of resection shows marked squamous metaplasia, severe dysplasia, and carcinoma in situ. One transverse section adjacent to the resected edge shows carcinoma in the heavily inflamed submucosa. All lymph nodes are apparently free of metastasis.

ERIC

1 OR 1 1/2 INCH

BEST COPY AVAILABLE

Type a double heading on each continuation page. At the left margin, type the title of the report in all caps. You may shorten the title. At the right margin type the word "Page" and the page number. Type the heading on line 7 and follow it by 2 or 3 blank lines.

Slide 13

BEST COPY AVAILABLE

TRIPLE SPACE

4. Received are two pieces of grayish-black tissue, the larger measuring 1.6 by 1.0 centimeters. On cut surface. it is also grayish-black and soft.

BEST COPY AVAILABLE

Most reports require authentication signatures. So, reports are commonly concluded in the same way that letters are concluded, with a "respectfully submitted" kind of complimentary closing.

Slide 14

BEST COPY AVAILABLE

4. Received are two pieces of grayish-black tissue, the larger measuring 1.6 by 1.0 centimeters. On cut surface it is also grayish-black and soft. This specimen is bisected and both pieces are submitted for section. The smaller specimen measuring 4 by 3 by 3 millimeters consists of soft, grayish-black tissue and is submitted for entire for section.

5. Received is a mass of irregular black tissue measuring 8 by 8 entimeters, and on cut section there appear to be several small, soft lymph nodes. The entire specimen is submitted for section.

DIAGNOSIS:

Epidermoid carcinoma involving the bifurcation of the left main stem bronchus and essentially limited to infiltration of the bronchial wall. The bronchial mucosa very close to or at the proximal edge of resection shows marked squamous metaplasia, severe dysplasia, and carcinoma in situ. One transverse section adjacent to the resected edge shows carcinoma in the heavily inflamed submucosa. All lymph nodes are apparently free of metastasis.

Respectfully submitted,

BEST COPY AVAILABLE

Leave 3 or 4 blank lines for a pen-written signature and a one or two-line identification of the authenticator.

Slide 15

BEST COPY AVAILABLE

4. Received are two pieces of grayish-black tissue, the larger measuring 1.6 by 1.0 centimeters. On cut surface it is also grayish-black and soft. This specimen is bisected and both pieces are submitted for section. The smaller specimen measuring 4 by 3 by 3 millimeters consists of soft, grayish-black tissue and is submitted for entire for section.

5. Received is a mass of irregular black tissue measuring 8 by 8 centimeters, and on cut section there appear to be several small, soft lymph nodes. The entire specimen is submitted for section.

DIAGNOSIS:

Epidermoid carcinoma involving the bifurcation of the left main stem bronchus and essentially limited to infiltration of the bronchial wall. The bronchial mucosa very close to or at the proximal edge of resection shows marked squamous metaplasia, severe dysplasia, and carcinoma in situ. One transverse section adjacent to the resected edge shows carcinoma in the heavily inflamed submucosa. All lymph nodes are apparently free of metastasis.

Respectfully submitted,

3 OR 4 LINES

John Charles Smith, M.D.

BEST COPY AVAILABLE

At the bottom of the last page of the report, 1½ inches from the bottom edge, type the date. But note: some offices require the typist to include the date in the subtitle lines on the first page.

Slide 16

 BEST COPY AVAILABLE

4. Received are two pieces of grayish-black tissue, the larger measuring 1.6 by 1.0 centimeters. On cut surface it is also grayish-black and soft. This specimen is bisected and both pieces are submitted for section. The smaller specimen measuring 4 by 3 by 3 millimeters consists of soft, grayish-black tissue and is submitted for entire for section.

5. Received is a mass of irregular black tissue measuring 8 by 8 centimeters, and on cut section there appear to be several small, soft lymph nodes. The entire specimen is submitted for section.

DIAGNOSIS:

Epidermoid carcinoma involving the bifurcation of the left main stem bronchus and essentially limited to infiltration of the bronchial wall. The bronchial mucosa very close to ar at the proximal edge of resection shows marked squamous metaplasia, severe dysplasia, and carcinoma in situ. One transverse section adjacent to the resected edge shows carcinoma in the heavily inflamed submucosa. All lymph nodes are apparently free of metastasis.

Respectfully submitted,

John Charles Smith, M.D.

January 5, 1973

1 1/2 INCHES

100

BEST COPY AVAILABLE

Remember also that many short reports are embodied in letters instead of being given special display arrangement.

BEST COPY AVAILABLE

January 19, 1973

Dr. Allen Stone
442 Beacon Street
Boston, MA 02111

Dear Doctor Stone:

Mrs. Edith Johnson first came to me for examination with the symptoms of diabetes, including thirst and the frequent passing of urine. Glycosuria was subsequently discovered. She also developed the symptoms of thyrotoxicosis, and a loss of 50 pounds in weight was sustained until her weight reached a level of 80 pounds.

Her family history includes the facts that her mother had Graves disease, and her father had diabetes and died of apoplexy.

On the date of her examination here, Mrs. Johnson was taking 30 units of insulin daily. After the thyroid operation, treatment of her diabetes was more successful, and the insulin requirement reduced, as is so commonly the case. In fact, insulin at that time was finally reduced to only 15 units.

She spent a few days in the hospital at that time. Blood sugar values varied from 123 milligrams percent, fasting to a maximum of 256 milligrams percent at 11 a.m. The insulin dose was changed to 4 units regular and 24 units protamine zinc insulin.

On discharge, her urine was sugar-free, and the blood sugar was 158 milligrams percent.

Sincerely yours,

William S. O'Keefe, M.D.

smv

BEST COPY AVAILABLE

MEDICAL TYPING I

LETTERS

Slide 2

BEST COPY AVAILABLE

Letters are typed in semi-block form. Type the date on line 15 at the right margin.

Slide 3

BEST COPY AVAILABLE

BEST COPY AVAILABLE

Begin the inside address on line 20.

Slide 4

BEST COPY AVAILABLE

July 12, 1973

NE 20

Dr. Allen Stone
442 Beacon Street
Boston, MA [redacted]11

BEST COPY AVAILABLE

Double space before and after the salutation.

Slide 5

BEST COPY AVAILABLE

July 12, 1973

Dr. Allen Stone
442 Beacon Street
Boston, MA 02111

D S

Dear Doctor Stone:

D S

Mrs. Edith Johnson first came to me for examination with the symptoms

BEST COPY AVAILABLE

Center the subject line between the salutation and the body of the letter.

Slide 6

BEST COPY AVAILABLE

July 12, 1973

Dr. Allen Stone
442 Beacon Street
Boston, MA 02111

Dear Doctor Stone:

SUBJECT: Case History--Mrs. Edith Johnson

Mrs. Edith Johnson first came to me for examination with the symptoms

BEST COPY AVAILABLE

Single-space the body, using a 5- or 6-inch line of writing--(5 for average or short; 6 for long). Double space between paragraphs. Paragraphs may be blocked or indented 5 spaces.

Slide 7

BEST COPY AVAILABLE

Dr. Allen Stone
442 Beacon Stre
Boston, MA 0211

Dear Doctor St

Mrs. Edith Jo
symptom of d
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Her family
disease.

On the d
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of her
reduced
time w

She s
value
of 2
to 4

On
15

Dr. Robert Birmingham
Edinburgh Psychiatric Hospital
Edinburgh, Scotland

Dear Doctor Birmingham:

We are glad to send you the information we have o
dimensional Scale for rating psychiatric patients. Thi
that records an objective measurement of the opinions o
psychiatric nurses of the psychiatric condition of pati
well validated on large hospital populations, and its r
established. Pairs of psychiatrists independently rate
this scale at intervals of eight weeks. The ward behavi
was scored by pairs of psychiatric nurses working indepe
The total morbidity score obtained is considered a measu
of mental illness.

On a simple measure of change, the Lorr Psychiatric
tically significant, though not outstanding. There is s
that interaction-rate differences between two groups are
injections of pineal extract. The patients who received p
showed improvement in blood pictures.

Although the findings are not such as to determine th
the Lorr test in the treatment of psychiatric patients, the
to encourage and give direction to further studies with a la
and less chroncially ill population.

6 INCHES
INDENTED
PARAGRAPHS
INCHES
LOCKED
RAGRAPHS

BEST COPY AVAILABLE

Begin the closing line at the center (or left of center if any line begun at the center would project into the right margin).

Slide 8

BEST COPY AVAILABLE

July 12, 1973

Dr. Allen Stone
442 Beacon Street
Boston, MA 02111

Dear Doctor Stone:

Mrs. Edith Johnson first came to me for examination with the symptoms of diabetes, including thirst and the frequent passing of urine. Glycosuria was subsequently discovered. She also developed the symptoms of thyrotoxicosis, and a loss of 50 pounds in weight was sustained until her weight reached a level of 80 pounds.

Her family history includes the facts that her mother had Graves disease, and her father had diabetes and died of apoplexy.

On the date of her examination here, Mrs. Johnson was taking 30 units of insulin daily. After the thyroid operation, treatment of her diabetes was more successful, and the insulin requirement reduced, as is so commonly the case. In fact, insulin at that time was finally reduced to only 15 units.

She spent a few days in the hospital at that time. Blood sugar values varied from 123 milligrams percent, fasting to a maximum of 256 milligrams percent at 11 a.m. The insulin dose was changed to 4 units regular and 24 units protamine zinc insulin.

On discharge, her urine was sugar-free, and the blood sugar was 158 milligrams percent.

Sincerely yours,

BEST COPY AVAILABLE

Ordinarily, leave 3 blank lines for a penned signature, but this area can be as many as 6 blank lines or as few as 2 to improve placement.

Slide 9

BEST COPY AVAILABLE

July 12, 1973

Dr. Allen Stone
442 Beacon Street
Boston, MA 02111

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On discharge, her urine was sugar-free, and the blood sugar was 158 milligrams percent.

Sincerely yours,

3 BLANK LINES

William S. O'Keefe, M.D.

BEST COPY AVAILABLE

If the writer's name is typed under his signature, use only your initials in the reference position.

Slide 10

BEST COPY AVAILABLE

July 12, 1973

Dr. Allen Stone
442 Beacon Street
Boston, MA 02111

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On discharge, her urine was sugar-free, and the blood sugar was 158 milligrams percent.

Sincerely yours,

William S. O'Keefe, M.D.

smv

BEST COPY AVAILABLE

Otherwise, use his initials and then yours.

Slide 11

BEST COPY AVAILABLE

July 12, 1973

Dr. Allen Stone
442 Beacon Street
Boston, MA 02111

Dear Doctor Stone:

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On discharge, her urine was sugar-free, and the blood sugar was 158 milligrams percent.

Sincerely yours,

WSO/smv

BEST COPY AVAILABLE

If the letter is well-placed on the page, the bottom margin will equal or be just a little greater than the side margin. An example of a letter is found in your syllabus.

BEST COPY AVAILABLE

July 12, 1973

Dr. Allen Stone
442 Beacon Street
Boston, MA 02111

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Her family history includes the facts that her mother had Graves disease, and her father had diabetes and died of apoplexy.

On the date of her examination her, Mrs. Johnson was taking 30 units of insulin daily. After the thyroid operation, treatment of her diabetes was more successful, and the insulin requirement reduced, as is so commonly the case. In fact, insulin at that time was finally reduced to only 15 units.

She spent a few days in the hospital at that time. Blood sugar values varied from 123 milligrams percent, fasting to a maximum of 256 milligrams percent at 11 a.m. The insulin dose was changed to 4 units regular and 24 protamine zinc insulin.

On discharge, her urine was sugar-free, and the blood sugar was 158 milligrams percent.

Sincerely yours,

William S. O'Keefe, M.D.

smv

ACCESSION NUMBER: VT101402

PUBLICATION DATE: 30AUG73

TITLE: INDIVIDUALIZED LARGE TYPING CLASS INSTRUCTION. INTERIM EVALUATION REPORT.

DESCRIPTOR: *INDIVIDUALIZED INSTRUCTION; *TYPEWRITING; *HIGH SCHOOLS; *CURRICULUM EVALUATION; INFORMATION DISSEMINATION

IDENTIFIER: MISSOURI

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DESCRIPTIVE NOTE: 16P.

ABSTRACT: THIS INTERIM REPORT DETAILS EACH OF THE OBJECTIVES FOR INDIVIDUALIZED INSTRUCTION IN TYPING CLASSES IN THE BERKELEY (MISSOURI) SCHOOL DISTRICT ALONG WITH ACTIVITIES AND EVALUATION FOR EACH OBJECTIVE. THE OBJECTIVES INCLUDE REDUCING FAILURES IN TYPING CLASS TO SEVEN PERCENT, RAISING THE AVERAGE GRADE IN FIRST-YEAR TYPING CLASSES 10 PERCENT, AND INCREASING THE AMOUNT OF INSTRUCTION IN BUSINESS EDUCATION PER STUDENT BY 15 PERCENT. DISSEMINATION ACTIVITIES INCLUDE PUBLICATIONS, MEETINGS AND CONFERENCES, AND CLASSROOM OBSERVATIONS BY OTHER SCHOOLS. (LJ)

INSTITUTION NAME: BERKELEY SCHOOL DISTRICT, MO.

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BERKELEY SCHOOL DISTRICT
6001 BERKELEY DRIVE
Berkeley, MO 63134

INDIVIDUALIZED LARGE TYPING CLASS INSTRUCTION

August 30, 1973

Project Number: 35-72-01-0

INTERIM EVALUATION REPORT

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OBJECTIVES, ACTIVITIES AND EVALUATION PLANS

In most cases some or all objectives for the second and third budget periods will have changed from those of the preceding budget period. As a result there will also probably be changes in the related activities and evaluation precedures.

1. List the first objective, the related activities and plans for evaluation. Repeat this process for each project objective.

There were three large typing classes (60 students in each class) in Berkeley Senior High School who participated in the project this year. Due to a change in state requirements in graluation and in the Berkeley Junior High School enrollment in Typing I (fewer students are now enrolling at the junior high level), we anticipate our number of classes to grow and larger classes in the coming school years.

Four teacher assistants aided the regularly assigned typing teacher and two graders took care of all assignments, tests, and timed writings to be checked.

A stenographer prepared all minipaks and audio-visual materials with the project director.

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Objective #1

We stated that by the end of the 1972-73 school year, failures of all students in first-year typing class would be decreased to seven percent. Failure is defined as work not acceptable for credit. The enrollment for the first-year project was 180 students (three classes of 60 students each) in Grades 10 through 12. There were no failures at the end of the first semester. Teachers in the program project that there will be approximately two percent fail at the end of the second semester.

Activities

The large class group instruction method formerly used did not provide the typing student a choice of activities which would better train him for the demands made by his later needs. All students were forced to work toward the same goals and develop the same skills if they wanted to complete typing with a passing grade. By using the IPI method, all typewriting students have learned, with the aid of minipaks, filmstrips, slides and tapes, the fundamentals of typing defined as follows: (1) machine parts needed to operate the typewriter initially, (2) the typewriting keyboard, (3) how to set margin stops properly, (4) learning to type unarranged material, (5) learning to use the tabulator, (6) center copy horizontally, (7) center copy vertically, (8) word division at the end of lines, and (9) how to erase. Then they are given an opportunity to choose a goal toward which to work, such as:

(1) Personal Typing
(2) College-Bound Typing
(3) Clerical and Secretarial Typing

By the employment of more personnel, four teacher aids and two graders, and a stenographer, the students were given more individualized instructional help. The course track requirements for personal typing included twelve different minipaks. A minipak is defined as a small learning unit which

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usually includes a pre-test, a statement of objectives to be achieved in the unit, activities designed to help students meet those objectives (some self-check and some checked by graders), a self-check test, and a teacher-test (either objective, performance or production, whichever fits the objectives of the unit). With the aid of minipaks and the extensive use of audio-visual equipment and cassette tapes, we believe we have increased student interest in learning by enabling the student to pace his learning. Attitudinal surveys of students indicate only four percent of our students did not like to learn typing through this method. The cassette tapes have been designed to meet the various ability needs of individual students enrolled in typing class. If the student needs individual help or wishes to develop a particular skill, he is permitted to check out typing books, tape recorders, and cassette tapes to take home for extra study, or he may come in before or after school for help.

The twelve suggested minipak units for personal typing are:

1. Composing at the Typewriter
2. Postal Cards
3. Art Typing
4. Business Letters (part 1)
5. Business Letters (part 2) Size of Stationery
6. Business Letters (part 3) Government Correspondence
7. Business Forms (part 1) Invoices
8. Business Forms (part 2) Interoffice Memos
9. Business Forms (part 3) Credit Memos
10. Business Forms (part 4) Statement of Account
11. Business Forms (part 5) Financial Statements
12. Typing Outlines and Reports
13. Any other minipaks available the student desires to use

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Evaluation

Each student's work was evaluated in the units of study by the teacher's judgment if the student used correct form; and the typing was considered correct if all errors were neatly erased and corrected. Performance checks, objective tests, and timings were used to evaluate student progress in each unit. The student's minipak work was recorded in an individual folder for his teacher's reference as well as the teacher assistant.

As the student progressed through the course, his work was used to evaluate his progress and for discussion in teacher-student conferences about the work. It was also used as an aid to the teacher to help pinpoint any difficulty a student may have, and individualized help was given or a review of certain units were recommended.

Grades were not given first and third quarters. Student-teacher conferences were held and the student was given a personal evaluation by his teacher and his teacher assistant.

Teachers in the department expect approximately ninety-eight percent (98%) of those finishing the work on the personal-use track during the school year to pass the course. Using timed tests, production tests and performance checks, evaluation of the method of teaching has been made by comparing the amount and the quality of work completed by past yearly records of grades and the amount and quality of progress made during the project period.

Students were assigned grades this year according to his ability in comparison with the amount of work he actually accomplished.

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Objective #2

By the end of the 1972-73 school year, we projected that the average grade of the 180 students in first-year typing classes would improve ten percent (10%) over the three preceding years when the group method of instruction was used. However, the table below indicates that by using the individualized instruction method students improved their grades 10.64%.

The following comparison in percentage grades as stated in the last paragraph has been determined:

Grade	1969-70	1970-71	1971-72	% Grade Average for Past Three Years	End of Year 1972-73	Difference in Three Year Average & This Year
A	8	11	10	9.7	24	Up 14.3
B	25	25	30	26.7	39	Up 12.3
C	38	31	39	36.0	29	Down 7.0
D	21	23	10	18.0	6	Down 12.0
F	8	10	11	9.6	2	Down 7.6

Activities

Many students who made low grades have achieved better grades since the teacher has been able to give them more individual instruction. Certain techniques or wrong habits may have been established by the student before they were discovered ordinarily, but with the aid of teacher assistants most students have developed proper typing techniques and skills. In the group method, teachers did not have enough time to give individual help to students when they were in need of special help. All students were forced to work toward the same goals and to develop the same skills regardless of their reasons for taking typing.

With the increase of personnel, teacher aids, and graders, we have individualized the instruction to the point that the student is able to get help when he needs it. With the aid of our minipaks, tapes, slides, and filmstrips, we are taking care of the individual differences in the

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rate of learning by letting the student proceed at his own pace. The amount of work completed and the type or grade is easily checked by comparing it with standards stated in the units or minipaks.

The individual student is able to proceed at his own rate; therefore, a greater amount and better quality of work has been accomplished by all typing students.

Evaluation

The students have been evaluated in the units of study as designed for the track they choose. The students that work on the track for college-bound students are evaluated in each unit of study by performance checks and objective tests to evaluate their progress in the course. The units or minipaks included in this track are as follows:

1. Composing at the typewriter.
2. Type reports and outlines in correct form
3. Type manuscripts
   a. Title page
   b. Table of contents
   c. Footnotes
   d. Bibliography
   e. Appendixes
4. Type material for personal use
   a. Personal-business letters
5. Art typing
6. Independent study of personal choice.

We anticipated that approximately ten percent (10%) to fifteen percent (15%) would change their minds and decide later to pursue either the personal-use unit or the clerical and secretarial unit. However, none of our students working toward this goal have changed their minds.

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Nevertheless, we believe the program should be flexible enough to allow this change in tracks.

The objective tests and performance checks are used to evaluate student progress and knowledge of rules, placement, correct form of footnotes, title pages, table of contents, bibliography, and appendixes. A student self-check test and a teacher-test (either an objective, performance or production) are included in each minipak. The pupil's daily and unit work are handed back to the student but the tests are kept for reference by the teacher. As the student progresses through the course, the work is used to evaluate the student's progress, and for discussion in teacher-student conferences about his work.

We anticipated the student taking typing using the IPI method to improve the grade distribution over those grades made in 1969-72.

The average grades of typing students for the years 1969-72 when the traditional method of teaching was used contrasts greatly with the first grading period for 1972-73 with the use of the new IPI method of instruction.

Traditional Method Three School Years: 1969-72		IPI Method End of Year: 1973	
Grade	Percentage distribution	Grade	Percentage distribution
A	9.7	A	24
B	26.7	B	39
C	36	C	29
D	18	D	6
F	9.6	F	2

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Objective #3

By the end of the 1972-73 school year, the 180 students enrolled in second semester typing have completed at least fifteen percent (15%) more instruction in business education than the average student completed in the previous three years.

Activities

When using the large group instruction method of teaching typing, the ability and interest of the individual student could not be used to the greatest advantage in instruction. The instruction was organized and planned to reach the median of the class and it was hoped that the higher ability students would, by suggestions, be challenged. The students with less than average ability or those with degrees of slower learning rates were confused and dissatisfied by standards which they could not reach. In most cases, they worked only to receive a passing grade.

The individualizing of instruction has permitted each student to choose the standard he wishes to achieve, and let him work at the rate of speed which he can best achieve. Each student covers the course requirements at his own rate of learning and also receives help or more instruction on that part of the course which he has trouble mastering through our audio-visual aids and added teacher assistance.

The students that chose Typing II, in most cases, have the ability and desire to excell in the training provided in the track standard of his choice. The track standards are higher because the individual student is working at his own learning rate and is permitted to go further into those interest requirements of his choice providing him a broader field from which to pursue his training.

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1. With the employment of teacher aids and graders, more time has been given to individual students to help them with their respective learning difficulties.
2. The extensive use of audio-visual equipment, together with provisions for individual usage, has provided for the students' needs and desires.
3. The use of minipaks, which covers each unit segment of the course, provided for individual differences of the students. They permit each student to proceed at his own rate of learning and enables him to measure his own work by standards set up by track requirements rather than those of his classmates.

Evaluation

The students are evaluated in the clerical and secretarial track course by the use of minipaks as follows:

1. Composing at the Typewriter
2. Ruled Tables
3. Business Letters (part 1)
4. Business Letters (part 2) Size of Statignery
5. Business Letters (part 3) Government Correspondence
6. Telegrams and Mailgrams
7. Business Forms (part 1) Invoices
8. Business Forms (part 2) Interoffice Memos
9. Business Forms (part 3) Credit Memos
10. Business Forms (part 4) Statements of Account
11. Business Forms (part 5) Financial Statements
12. Fluid Duplicating
13. Stencil Duplicating
14. Justifying Right Margins
15. Filing

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16. Using the Electric Typewriter for Office Typing

17. Art Typing

18. Any other minipaks the student chooses

The students are evaluated by the use of objective tests, production or performance tests, as well as speed tests. These tests aid the teacher in evaluating the student's progress and knowledge of subject matter gained from the instruction as presented in each minipak. The student's daily work is handed back to him if it is to be checked. Self-check work is also kept by the student. Tests are kept in individual file folders for teacher reference. As the student proceeds through the course, the work is evaluated to determine progress being made and is used as an aid for the teacher to help pinpoint any difficulties a student may be having. Business teachers find that fifteen percent (15%) more work has been covered by the individualized instruction method than the average student completed in the previous three years in first-year typing.

2. Discuss in general the evaluation design which will permit you to assess the progress of the total project.

The evaluation for progress will be measured by making a comparison of the preceding three years' average grades of students taught by large group instruction, and those average grades of students taught typing by the individualized method.

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PERCENTAGE DISTRIBUTION

Grade	1969-70	1970-71	1971-72	First Semester 1972-73	Second Semester 1972-73	Amount of Increase and Decrease
A	8	11	10	16	24	+14
B	25	25	30	44	39	+9
C	38	31	39	39	29	-10
D	21	23	10	1	6	-4
F	8	10	11	0	2	-9

The grades of individual students are not recorded quarterly but rather at the end of each semester. Student-teacher conferences at the end of the first and third quarters are held. The amount of work completed and the quality of it is evaluated with each student by the classroom teachers and given to the department head. The department head and the evaluation committee process the reported grades and make an evaluation report to the (1) Administration, (2) Cooperative Study Committee, (3) Curriculum Committee, (4) Advisory Committee, (5) P.T.A. Council, and (6) State Department of Education, Title III.

The strengths and weaknesses of the instructional procedures of the project are assessed and evaluated at the end of each school quarter when possible. Any additions or deletions of instructional techniques are made as recommended by the Curriculum Committee.

An additudinal survey was made periodically of typing students to determine their interest in learning typing by using the individualized instruction method. Approximately 96% of our students indicated they preferred learning in this manner because they could work at their own pace. This survey reflected student opinions at the end of the first semester.

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At the end of the second semester, students were again given an attitudinal survey to determine if they still preferred learning with individualized instruction. The results of this survey were: Liked, 99.4% - Disliked, .6%.

Comparison of typing speeds this school year with those at the same class term in the past year indicated students are achieving higher typing rates earlier. Please refer to the following table.

INDIVIDUALIZED LARGE TYPING CLASS INSTRUCTION
3rd Quarter

Timing Speeds
(percentage)

WAM	Final Speeds 1971-72	First Semester 1972-73	Third Quarter 1972-73	End of Year 1972-73
70 - 79			.6	.6
60 - 69		1	1.1	1.8
50 - 59	1.7	3	5.2	13.0
40 - 49	22.1	5	25.9	39.0
30 - 39	40.0	37	43.7	33.0
20 - 29	29.4	44	21.2	12.0
10 - 19	5.5	5	.6	.6
0 - 9	1.3	5	1.7	.0

Approximately six (6) percent of our students are working far beyond the normal or average group of students and many of them were completing second-year typing work before the end of the school year.

The same number of students were doing second semester work four to six weeks before the end of the first semester.

The reduced number of student failures has already been illustrated in this report.

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DISSEMINATION

Publication

Publications to the following newspaper concerning our typing program funded by the Title III, ESEA Committee have been submitted regularly to: Northwest County Journal, Community News, St. Louis Post-Dispatch, St. Louis Globe-Democrat, Neighborhood Times, Berkeley School Bulletin, Delta Pi Epsilon--Beta Beta Newsletter (SIU), Berkeley Barker, Berkeley Troubadour, St. Louis County Star, and the Florissant Valley Reporter and OUTPUT (MSTA--BE publication). Letters were mailed to all parents of students in typing informing them about our program and inviting them to visit.

Observation

The following schools have arranged to observe our classes: McCluer Senior High, McCluer North Senior High, Wood River Senior High, Mehlville Senior High, Hazelwood Senior High, North and South County Technical Schools, and Affton Senior High. Ms. Shirley Breeze from Meramac Community College, Dr. Anthony Puricelli from the University of Missouri, St. Louis, and a Dr. Larson from the U. S. Office of Education have also observed our classes. Parent-teacher meetings were held at the end of the first and third quarters when parents had the opportunity to observe and discuss the program with our teachers. Parents were also invited to visit during American Education Week. A tour of our department was made by teachers belonging to the St. Louis Suburban Teachers Association during their annual spring meeting Friday, April 6. Teachers from nineteen school districts visited our project on that date.

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Meetings and Conferences

At the senior high teachers' meeting on September 1, Mr. Charles Humphrey, Curriculum Director and Assistant Superintendent, addressed the senior high school teachers and discussed the new typing study to be done by the business education teachers.

The new typing program was discussed at two meetings of the PTA on October 19, 1972 and January 25, 1973. Parents were invited to visit the classes at their convenience.

Mr. Leeory King, Principal of Berkeley Senior High School, discussed in detail, the individualized typing program at the regularly scheduled senior high teachers' meeting, Tuesday, January 13, 1973.

Two 30-minute presentations were given to approximately 60 members of Delta Pi Epsilon (SIU) at a dinner meeting on February 3, 1973.

A taped, slide presentation of the typing project was given to the teachers in the senior high school on January 25, 1973.

Plans are now being made to present this program to the business education teachers at the Missouri State meeting of ASCD during their annual convention to be held in St. Louis County October 7, 8, and 9, 1973. The theme of the MASCD Convention for departmental meeting workshops is "Individuality Throughout The Curriculum." The format for group interaction will be:

I. Statement of philosophy for individualization

II. Student needs in relation to present day life styles

III. Specific programs designed to meet student needs

A. Program implementation

B. Program evaluation

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This meeting will be announced to Missouri business educators at our state summer convention in July by Mr. Terry Marion, President of the Department of Business Education, M.S.T.A. The meeting is to be held at Missouri University, Columbia.

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The meeting will also be publicized in our state business education newspaper, OUTPUT.

I addressed local business teachers at our annual area meeting about our Title III, ESEA project in October, 1972, and invited them to visit our project at their convenience.

A slide-tape presentation of our individualized typing project will be given in two workshops sponsored by Central State College this summer. One workshop will be held at Warrensburg and one in Independence, Missouri.

Summary

Materials (minipaks) developed for individualized instruction have been provided upon request to professional personnel. They will continue to be made available in the future.

The project has been made available many times for on-site visits by interested personnel.

All materials developed will be used in our summer school program, our adult education program, and in the junior high school. They will also be used in our fifth and sixth grade enrichment program offered in typing.

Dissemination Expenditures

The cost of the dissemination of information concerning this project will be taken care of by the Berkeley School District. The dissemination of materials is explained in a booklet which will be forwarded under separate cover.

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ACCESSION NUMBER: VT101403

TITLE: ECONOMIC CONCEPTS. OCCUPATIONAL WORK ADJUSTMENT.

DESCRIPTOR: *JUNIOR HIGH SCHOOL STUDENTS; *ECONOMICS; *CURRICULUM DEVELOPMENT; DISTRIBUTIVE EDUCATION; VOCATIONAL ADJUSTMENT

EDRS PRICE: MF AVAILABLE IN VT-ERIC SET.

DESCRIPTIVE NOTE: 49P.

ABSTRACT: THIS MANUAL, DEVELOPED ESPECIALLY FOR JUNIOR HIGH STUDENTS, IS INTENDED AS AN AID TO THE DEVELOPMENT OF A UNIT OF STUDY INVOLVING BASIC ECONOMIC CONCEPTS. IT IS CONSTRUCTED IN A T FORMAT WITH BASIC ACADEMIC CONCEPTS AND DISCUSSIONS ON THE LEFT SIDE OF THE PAGE AND APPLICATIONS, REFERENCES, ACTIVITIES, ETC., ON THE RIGHT. A GENERAL PHILOSOPHY OF THIS MANUAL IS THAT ECONOMIC EDUCATION MUST OCCUR WITHIN THE FRAMEWORK OF THE STUDENT'S EXPERIENCE. THEREFORE, THE CONCEPTS PRESENTED HERE ARE ONES WHICH CAN BE IDENTIFIED AND EXPLORED IN THE EVERYDAY LIFE OF THE STUDENT. CHAPTERS COVER THE FOLLOWING TOPICS: I. RESOURCES AND PRODUCTION, II. ECONOMIC SYSTEMS, III. MONEY AND BANKING, IV. ECONOMIC GROWTH, V. TAXATION, AND VI. COMMUNITY ECONOMICS. LISTS OF REFERENCE BOOKS AND OF SOURCES OF FREE AND INEXPENSIVE MATERIALS ARE FURNISHED. (AUTHOR/LJ)

AVAILABILITY: DISTRIBUTIVE EDUCATION MATERIALS LAB., OHIO STATE UNIV., 1885 NEIL AVENUE, 115 TOWNSHEND HALL, COLUMBUS, OHIO 43210

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economic concepts

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INTRODUCTION

This manual is intended as an aid to the development of a unit of study involving basic economic concepts. It is constructed in a T format with basic academic concepts and discussions on the left and applications, references, activities, etc. on the right.

A general philosophy of this manual is that economic education must occur within the framework of the student's experience. Therefore, the concepts presented here are ones which can be identified and explored in the everyday life of the student.

It is intended that any suggestions presented here be considered in respect to the local situation and modified accordingly if used at all.

The needs of the student for whom this unit is intended were the primary factors in the determination of the final content of this manual. The initial theoritical content was derived from the work of The National Task Force on Economic Education of the Committee for economic development. The Task Force concluded there were seven major areas of modern economics of which every high school graduate should have some understanding.

Since being a high school graduate has become a social norm, it seems reasonable to interpret the Task Force conclusion as applying to all citizens. It is recognized here that some OWA students may choose not to finish high school. This could be a final exposure to economic concepts. On this

premise, the National Task Force report was utilized to define the elements of economic theory that should be incorporated into this unit.

The seven areas identified by the Task Force were as follows:

1. The general nature of economics and how one thinks about economic problems.
2. The persistent economic problem faced by all societies.
3. The market economy, or free enterprise system, employed in the United States today.
4. Economic growth and stability
5. The distribution of income
6. The United States in the world economy
7. Other economic systems

Number one is not included in this unit in consideration of the grade level of this unit and the abstract nature of the concept. A modification of number six to bring its focus to intra-community relationships has been effected in an attempt to embody the contral concepts while bringing the content within the frame of reference of the students. All five remaining areas are included in this unit.

PHILOSOPHY

If an effective curriculum is to be achieved, a philosophy must be established to prevent the contradiction of goals and methodology and to insure the consistency of content.

In an attempt to further clarify this outline, the basic philosophy used in its preparation is presented here.

Basic Assumptions

1. The students are at the junior high level.
2. The potential drop out rate is high.
3. This will be a terminal course in economics for some students.
4. Academic abilities and motivation carry special weight in the design of this program (OWA).
5. Social experiences outside the students' community are very limited.
6. Some of the students may be facing socio-economic or racial difficulties.

Basic Philosophy (essentially that of John Dewey)

1. A person's environment exerts a great influence on the learned behavior of the individual. This includes the classroom environment as well as the home environment.
2. A person cannot function without being aware of the activities and expectations of those around him. Certain behavior may be called

upon to fulfill the social expectations of the group.

3. School is a controlled environment.

4. The school should expand the social environment of the student. No student should be confined to the influence of his inherited social group. But, that group must be the starting point for social expansion. The progress must begin where the footholds exist.

5. Adequate control of the educational environment will lead to a directed behavior that not only successfully meets the immediate situation but also provides guidance for behavior which follows.

6. Education as an effective means of socialization is dependent upon the student's ability to understand things in terms of the use made of them.

7. The only way one person can modify the mind of another is by using physical conditions to evoke some answering activity from him.

8. Immaturity is not to be considered as a negative feature of the student but as a potential for fulfillment.

9. Individuals forming a social group are like minded. This is not be be confused with imitation. It is explained by the fact that all are acting or reacting to similar physical stimuli.

The sum consideration of these points indicates a general approach to this unit. The students must be accepted where they are; on their own terms,

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the content must be within their own framework of experience. (Initially that is defined by their past experiences. Eventually that definition is broadened by the classroom experience.)

All vocabulary and examples must be local, identifiable, and useful. Several alternative explanations and examples should be prepared.

In short, the curriculum is student centered but unobtrusively guided by the coordinator.

Chapter I RESOURCES AND PRODUCTION

1. The human desire for material products and services is unlimited. The fulfillment of one desire leads to the recognition or re-ordering of additional wants.

2. This technological economy has produced such a large number of goods (physical products) and such a high standard of living that a large proportion of modern man's wants are directed towards services. (Car wash, pool cleaning, lawn care, investment advice, etc.)

3. If man is to satisfy his desires for these economic goods he must find ways to produce them. To do this he will need:

   A. Land: All natural resources

   B. Labor: Human resources

1. The concept of unlimited wants can usually be discovered by the student through a directed discussion.

2. The growth of the service industry is significant in terms of employment opportunities. Local examples should be identified. (Use classified ads and statistics from local employment agencies.)

3. The concept of the factors of production should give particular emphasis to the necessity of human involvement. During this discussion it would be appropriate to bring in the concept of automation and its effects on labor requirements. A local expert from the business community could perhaps best put this development in its proper perspective.

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C. Capital: Tools, equipment, buildings. All man made aids to production.

D. Entrepreneur: Idea man, risk bearer, high level decision making.

4. Without these four "Factors of Production" no production can occur.

5. We have a certain degree of control over three of these factors. We have no real control over the quantity of resources available. We say that resources are scarce, i.e. they are limited; they have some end. This limit may be in terms of physical quantity, time, knowledge, cultural mores, etc. The total quantity of resources available is

4. The concept of limited resources must be kept as far out of the realm of the abstract as possible. To bring this concept to the personal level it would be useful to allow the definition of money as a personal resource.

5. A natural evolvement of this discussion should be discussion of personal resources, time, skills, money, etc., versus personal wants. As in the economic society, an individual must make choices that will allow him to use his personal resources to achieve the greatest fulfillment of his personal wants. The limits of personal resources may very well include consideration of racial, religious, or ethnic prejudice.

constantly changing because of depletion, discovery and new knowledge of how to use resources currently available.

6. The economic problem central to all societies is, then, unlimited wants vis-a-vis limited resources. This means that every society must choose what to produce (since all things cannot be), how to produce it, how much of it to produce, and for whom shall it be produced.

7. A definition of economics could be: How man or society chooses to use the productive resources available to him so as to best fulfill his unlimited economic wants.

6. The co-ordinator should make every attempt to keep this discussion as personal and practical as possible in terms of the students' current experiences and future expectations. The definition of economics should be put in terms of the individual.

7. Students might attempt to build a list of their personal resources including those which are presently in their command and those over which they could reasonably expect to become in control.

8. Ask a local businessman to discuss the criteria he uses in hiring. What personal resources does he look for? (Stressing skills)

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1. To answer the questions raised in Chapter I, an individual or a society must develope some pattern, some organization of actions allowing the conflict of wants and abilities to be resolved with the highest level of satisfaction. Through the ages societies have tried numerous systems to achieve this goal. Individual actions to achieve some optimum balance in daily life are at once both circumscribed by and independent of the larger society. The degree of independent action is determined by the general constructtion of the total society.

1. The concept of a system can be achieved, perhaps, through an analogy, e.g. a brake system, interconnected parts working together to stop a car, or any other similar examples from the student's everyday life or interests.
2. A guided discussion with the goal of identifying the structures and limitations placed on individuals by the society as a whole will aid the student in the acquisition of these concepts. The same applies to the student's indipendence from society.

2. The United States' economic system today has evolved from a European history of success and failure with various socio-politico economic systems.

Political philosophies and economic philosophies must be compatible. A Democratic government and a communist economic system are physically incompatible.

Both the political system are the economic system of a society are developed from the general philosophy of the controlling power of the society, be that a dictator or the people themselves. Thus, the political system and the economic system support each other, they embrace common values and goals.

3. It should not be expected that students will grasp the political relationships inherent in the economic system, but if related questions arise, these concepts can be discussed.

4. If the opportunity arises to tie in the student's history curriculum with this discussion it should be done. The utilization of content from the history study will not only benefit this discussion but provide useful application of a subject many students feel to be useless.

Any small contribution, or even an attempt to contribute, some historical or political reasons for the development of our particular economic system should be praised and encouraged.

3. In the United States' economy five basic goals can be identified.

   A. Economic freedom

      Freedom of vocation, consumption, business enterprise

   B. Full Employment

      Jobs for all who want to work. Maximum efficiency in the use of resources.

   C. Stable Growth

      An every increasing standard of living without inflation.

   D. Economic Security

      A system that provides for the fulfillment of basic economic needs and has a consistent predictable performance.

5. In the discussion of goals it should be pointed out that goals and achievements are not necessarily the same. Students in OWA might be critical of these goals. This criticism should be encouraged.

   Local examples of achievement and failure of the goals should be determined. Reasons for failure in the local community should be explored.

6. Profits, the free enterprise system, big business, etc., are likely to come under attack. This should be encouraged and explored. Again search out local examples where the attacked areas have failed the citizens of the student's community and where it has helped

E. Economic Justice

All memeber of the society should have the opportunity to share in the product of the system.

4. The current United States economy is a mixed economy involving both the public and private sectors of society in its operation. It is essentially a capitalistic system and is often identified by the terms market economy or free enterprise system. These terms come from its essential characteristics.

5. There are five primary characteristics of our free enterprise system.

A. Free Enterprise

A person may pursue whatever career he wishes.

their community. What can these aspects of our economic system offer the students? What hardships does it impose? These must be evaluated in terms of the actual student membership of the calss and discussed in real terms.

Possible solutions to the hardships should be explored.

7. Invite competent local officials into the class to discuss what laws are established to aid the individual in coping with the systems and assist society in achieving its economic goals.

8. Ask a representativw from a charitable organization to talk with the students about private organizations, their functions,

He is (in theory) only limited by his abilities.

The consumer participates freely in the market choosing among many products.

B. Private Property

Private property is that property not owned by the government. Private property may be freely bought, sold, or destroyed. The right of private property is established in the political system and is a necessity, by definition, of our capitalistic market system.

The concept of private property refers to all

their source of income, how the organization views our economic system.

9. Find out the distribution of income in your local community.

10. Set up an in-classroom production project (academic or physical production) and allow the class to determine how it shall be accomplished and let them do the work under their system. Follow this with a guided group evaluation that identifies their own goals and motivations and arrives at some measure of their success. Compare their system to that of the larger society.

11. All of the characteristics of the free enterprise system can

property but economically speaking it is most important in reference to the ownership of the means of production.

A corporation, though owned by the "public" is private property since it is not owned by the government.

C. Profit Motive

Our socio-economic philosophy revolves around our concept of individual freedom and individual rights. Our economic system, therefore, embraces the concept of the profit motive. An individual or group engaged in a business enterprise is entitled to a

be illustrated through simulation exercises or a discussion of the student's plans for the future. The coordinator should plan these activities or discussions within the perimeters set by the experiences, attitudes, interests and responses of the students.

profit for providing a product or service desired by consumers.

Profits may be used to finance business expansion, research on new products, hiring more workers.

The desire for profit leads to competition which ensures high quality, fairly priced products.

Profits may be used to support charities, scholarships, grants, etc.

Profits are taxed, therefore helping to pay for all government services.

Profits provide incentive for individuals to improve skills, enter business, invest money, etc.

D. Price and Wage Allocation of Resources.

The products or services for which the consumer is willing to pay the necessary price dictates what will be produced. In order to make a profit, the producers will devote their resources to those items demanded by the consumer.

High wages attract labor (human resources) into areas where demand is greatest. Unneeded skills will die for lack of a market and the acquisition of new and needed skills is encouraged by the offering of attractive wages.

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E. Competition

Competition, encouraged by the profit motive and protected by law, results in a constantly improved product offering and guards against undue profit taking.

Even legal monopolies face competition in the form of substitute products or services, e.g. telephone, telegraph, mail, two way radio, gas, coal, oil, electricity, etc.

Chapter III MONEY AND BANKING

1. Money is a medium of exchange that allows a society to avoid the inconvenience of the barter system.

2. Money is a standard of value; a means of describinh the relative worth of various items.

3. Money is a store of value. It can be easily saved and used at a later date.

4. Money in our economic system takes the form of coin, paper currency and checks. It is estimated that 90% of the total dollar transactions in this economy are carried out by the use of checks.

5. Our money is backed by "faith" in its value and universal acceptance. It is no

1. One of the most common economic fallacies held by the general public is that our money is "backed" by gold. This may present an abstract problem in the classroom. There is no easy way out of it; several discussion points can be brought out. e.g.:

   a. How many times have you tried to redeem dollars for gold? Why not?

   b. Are the new quarters worth as much as the old ones? Why? (There's 19 or 20 cents difference in their actual metal content.)

2. The American Banker's Association has excellent material on this topic including visuals.

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limited or backed by our gold reserves. Our gold now is used only for international trade. The government has declared the dollar to be legal tender, that is, a creditor must accept it in payment of a debt or forfeit any rights to charge interest or sue for repayment of the debt.

The amount of money in circulation must be controlled or the dollar will lose its value. The Federal Reserve Board make the decisions on the expansion of the money supply.

6. Our central bank is the Federal Reserve System. It is made up of twelve Federal Reserve Banks and twenty-four branch banks directly

Contact a local member for assistance in acquiring.

3. Use a simulation exercise to illustrate the necessity to control the size of the money supply. Use play money and create auction or other market situations that lend themselves to your classroom. The coordinator can act as the government and determine the quantity of money in circulation.

This situation could be illustrative or handled with an inquiry approach. Either way should illustrate the effects of quantity control (or the lack of it) on prices.

4. Have a banker talk with the class about banking functions.

under control of the Board of Governors.

The Board of Governors has seven members appointed by the President and confirmed by the senate. Terms are fourteen years long and staggered so that a member is replaced or reappointed every two years.

7. All local banks are chartered by either the state or the federal government. Those chartered by the federal government are called National Banks and must belong to the Federal Reserve System. State banks may belong if they choose to do so.

8. The Federal Reserve Banks do not serve the general public

Ask him to keep his discussion at a personal and practical level rather than theoretical. Be sure he talks about interest charges.

5. Take the class through a large bank. Be sure they become familiar with the process for opening accounts, applying for loans, etc. Many people do not use bank accounts because they are intimidated by its outward complexity.

6. Invite a small loan company official to talk about the services he offers. Be sure he discusses their charges and the reason for them.

7. Ask the police department to talk about loan sharks.

in a banking capacity. They are the banker for the government and all the member banks

9. Banks are providing more and more financial services for their customers. Included in these are the following:

   A. Checking Accounts
   B. Savings Accounts
   C. Credit Cards
   D. Financial Advice
   E. Loans

10. The most important service the bank performs in regards to the general economy is the loaning of money. This takes money which has been taken out of circulation by the act of saving and puts it back into active circulation.

8. Ask a local business man to talk with the class about charge account practices. Include a general discussion on the use of credit cards.

11. When a bank loans money it charges the borrower a fee called interest. Interest is stated as a percentage of the borrowed amount for one year's time.

12. The interest collected is used to pay the bank's operating expenses (including the interest it pays to savings account customers) and provide a profit for the enterprise.

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Chapter IV ECONOMIC GROWTH

1. Economic growth may be defined in two ways:
   - A. An increase in the Gross National Product (GNP) (GNP = the total dollar value of all goods and services produced in the economy in one calendar year.)
   - B. An increase in per-capita output recognizing that the standard of living of an economy can be better stated in terms of output per person than in total production.
2. There are four physical ingredients that make growth possible.
   - A. The quantity and quality of natural resources available.

1. There are many excellent films available on aspects of economic growth and its importance for the individual.
2. Have a local businessman discuss the economic growth in the community. Have him translate this into its meanings for the class, especially in terms of employment.
3. Find the unemployment figures for your community. Try to find who (by calegory) is unemployed and discover the factors that caused this unemployment. These figures should be available from various local agencies or state offices such as the Ohio Bureau of Employment Services. These figures should be espectally relevent to the OWA class.

B. The quantity and quality of the human resources available.

C. The stock of capital goods

D. Technology

3. Structural unemployment is becoming associated with economic growth. Rapid change in technology, shifts in consumer demands and the geographic relocation of industry call for shifts in occupation and geographic location if adversely affected workers are to find new employment.

4. The newly developing industries have not significantly helped the unemployment problem for two reasons:

4. Ask a representative from the Ohio State Employment service to discuss the functions of that agency.

5. Ask a union representative to speak on the unemployment problem.

6. Ask a representative from the National Alliance of Businessmen to discuss their employment program.

7. Ask a representative from a local office of Economic Opportunity Agency (Community Action, Job Corps, Neighborhood Youth Corps, Manpower Training, etc.) to talk with the class.

8. Have students chart food prices over a period of time. (Start

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A. They tend to locate outside the most affected areas.

B. Their skill requirements often can't be met by persons from distressed areas.

4. Goods producing industries provide about the same number of jobs now as they did at the end of World War I. The number of jobs in service industries has more than doubled. Many of these service jobs require skills not generally held by blue collar workers.

5. Many government and a few private programs are now attempting to aid the structurally unemployed citizens.

The Neighborhood Youth Corps and the Manpower

this before unit is started.) There will probably be a variation of prices. Ask the store manager to discuss the reasons for these changes with the class.

9. Use the circular flow of money diagram with local examples to illustrate the inflation or wage-price spiral.

10. The students could be referred back to the earlier discussion on money and banking. The classroom illustration of an oversupply of money applies here as well.

11. Interview some retired community residents in reference to inflation.

Training Centers are examples of the government programs.

The National Alliance of Businessmen's jobs program is one of the most successful private ventures.

6. Inflation is another problem associated with growth.

7. Inflation is defined as a general rise in prices.

8. This rise in prices is usually brought about by two conditions in our economy.

   A. Disposable income increase at a rate greater than the increase of production. This results in buying power exceeding producing ability and, in effect consumers bid

against each other by their decision to buy an item at a raised price. This results in an overall increase in prices, or inflation. This effect is called demand-pull inflation.

B. The second major cause of inflation is what's known as cost-push inflation. Rising production costs, including labor contracts, force producers to raise their prices to protect their profit margin. Since many of these costs are fixed over a period of time by contract. The seller's price does not easily respond to the laws of

supply and demand. Prices tend to stick at their established level and may even increase in the face of diminishing demand because of contracted increases in the cost of production.

9. The Bureau of Labor Statistics in the Department of Commerce keeps a monthly check on the movement of prices. The best known of its statistics is the Consumer's Price Index which is currently comparing the price of 300 items to a base price of the 1957-59 level. (e.g. A CPI figure of 134.1 means that prices for the month are 134.1% of the prices for the same items in 1957-59.)

10. The two methods of controlling inflation is to reduce spending, either public or private, and slow down the rate of wage increases so that wages and productivity are more nearly in balance.

    It should be taken note that in a free economy, both of these are difficult to achieve.

11. The greatest impact of inflation falls upon the fixed income individual.

Chapter V TAXATION

1. The governments (all levels) now account for 25% of our GNP.

2. Any expenditure by the government is in reality an expenditure by the people and therefore must be paid for the the people. The method of collecting this money is called taxation;

3. The Income Tax provides most of the money for the Federal Government. This is paid by individuals and corporations.

4. Most people have their Income Tax deducted from their pay before they take the money home.

5. The income tax rate is progressive, that is the more

1. Have the students prepare a list of all the local government services. Also find the local government budget, both income and expenditures.

   How do the students relate to these programs? Do they benefit? Does their community contribute revenue?

   What do taxes represent for the students?

2. Ask local political representatives to talk on government spending and taxing policies.

3. Ask someone from the county offices to discuss property taxes. It is particularly effective if the speaker can discuss taxes in relation to rents.

you make, the larger the percentage that you pay in taxes. An average family man pays about 20%.of his income to the Federal Government in the form of Income Tax.

6. Most state revenue in Ohio comes from the sales tax, liquor sales and the gasoline tax. Many states also have income taxes.

7. Most local revenue comes from property taxes. It is now possible for an Ohio county to collect a one-half of one percent sales tax and charge an additional five dollars for auto license plates to increase their income.

8. Taxes saved on ability to pay (such as the Federal Income Tax) are generally considered to be more equitable than those that are paid at the same rate by everyone (such as the sales tax).

9. Another principle of taxation is that of benefits received. In Ohio, the gasoline tax is an example. Only those people using gasoline have to pay the tax and the money is primarily devoted to the upkeep of highways. Thus, the people who use the highways pay for them through the gasoline tax. This principle is difficult to apply in other revenue demanding areas, however. (For example National Definse, education, etc.)

1. People make a community. People of all kinds with their way of life, their dreams, their knowledge and skills, their backgrounds.

2. No community can exist unless there is some way for its residents to pay for their food, housing and other necessities.

3. The economic conditions within a community (number of jobs, purchasing power, standard of living, etc.) are dependent upon how successful the various business activities may be. These activities are the primary source of community insome and, in addition, their profits are usually plowed back into the community in the form of new buildings, expanded operations, support

1. Have the students construct a large scale community map. Show the school district and the associated economic district if they are not the same area.

Identify various aspects of the community on the map. (Private housing, public housing, rental units, business district, inductrial areas, ethnic or racial areas, recreation or community centers, hospitals, schools, libraries, etc.)

2. Ask a community planner to discuss the problems of the local community.

of local projects and charities, etc.

Successful community business attract other business activities, increase the number of jobs available, increase family income and raise the general stardard of living. More money is available for homes and other real estate investments. Credit is much more available in a flourishing community. The various tax revenues generated by the business activity helps pay for improved community services.

4. If for some reason business activity in the community does not prosper, the reverse of the above will naturally occur and the community life will suffer.

The process of community decay has four phases.

A. Economic decline due to the loss of major industries.

B. Social breakdown, people leave the community.

C. Decline of the community tax base which means a reduction of community services.

D. Physical decay of the buildings, parks, etc.

5. Any community is made up of interrelated components. If any one of these is weak, the entire community suffers. The obvious example is that above the loss of business activity. Others are poor traffic access which induces businesses and consumers to move to newer,

easily accessible locations; high crime rate; poor schools; off street parking; recreational facilities, and so on.

6. The primary function of a community is to serve as a good place to live. There may be considerable disagreement, however, as to how this is to be achieved. Industrialization vs. ecology, for example.

7. No community is self-sufficient. It's relationship to other communities is vital to the circulation of money. Ideally, a community should be importing as much wealth as it is sending to other communities.

8. The specialization of labor allows a man to be much more productive in terms of his

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special skill but it also requires the loose association of other people who are specializing in those jobs given up by the individual. In that sense, a city or community is a natural outgrowth of the division of labor or specialization.

9. A community, while needing a mobile labor force capable of adapting to changing employment opportunities, suffers if the population is too mobile or transient. A community must have a stability that encourages community concern and competent public officials.

10. The establishment of a basic industrail base is essential to a community. The only alternative is to send the labor force to another community

and maintain residence in the community. This is typical of many suburban areas. It can be achieved only where the working force is sufficiently mobile to allow the commuting necessary. It implies a relatively high skill or education level as well as an acceptance of mobility as a fact of economic life.

11. The greatest impact to a community comes from the achievement of new jobs within the community. 100 new jobs will result in:

A. 74 other jobs in other lines of work.

B. 296 more people moving into the community (assuming average unemployment figures in the community)

C. 112 more familes

D. 51 more school children

E. $590,000 more income for workers per year.

F. $270,000 more deposited in the bank.

G. 107 more cars registered

H. $360,000 more spent locally buying consumer goods

I. Four more stores

12. In order for a community to induce new industries to locate there, it must have some "comparative advantage" over other locations." e.g. large, sufficiently skilled work force, good transportation system, proximity to resources, close to principal product market, favorable climate, adequate power supplies, land

for expansion; community social factors that are conducive to the well being of employees, acceptable tax rates.

Community leadership has a responsibility to attempt to provide these advantages within the community.

13. The community needs to establish an economic balance. Diversified products; avoid heavy reliance on seasonal operations; stable flow of raw materials; and the flexibility to change with market changes.

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SUGGESTED VISUAL DISPLAY

FOR THE CLASSROOM (following page)

The primary function of the display is to aid the student in transferring disucssion into community experience..

It is a circular fow of money diagram with the various components illustrated with local examples.

The coordinator or the students can take the pictures. (Instamatic cameras are very adequate for this job and can now be purchased for less than $10.

The counterflow of goods and services and labor and resources can be illustrated in the same manner.

The primary goal is to identify as many of the community elements as possible and to point up their interdependence. The display helps tie down abstract ideas and serve as a home base for discussion and review.

The coordinator may want to use the circular flow for establishing the sequence of content.

Community Money Flow

(Large enough to be easily seen by the entire class)

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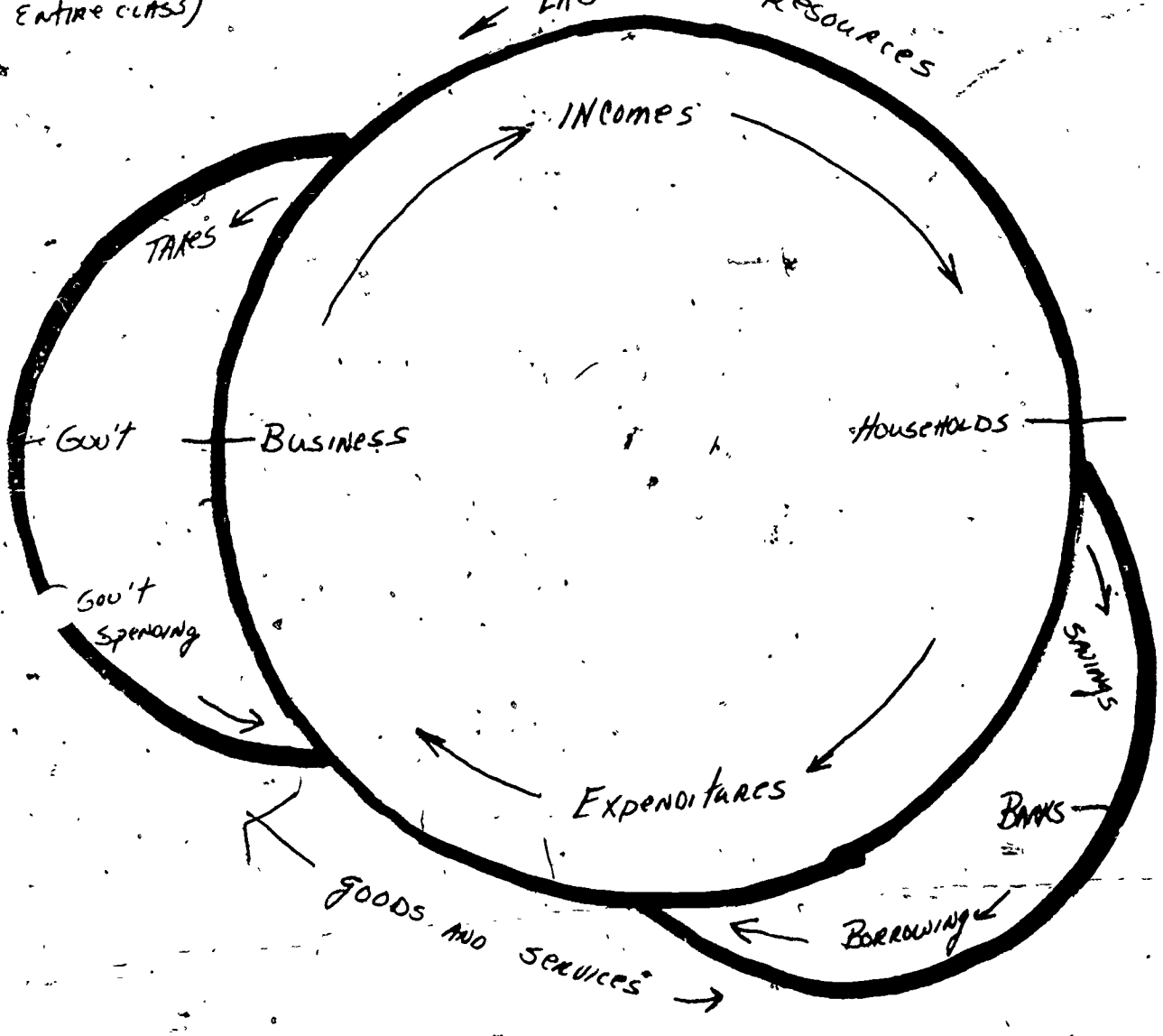

ILLUSTRATE THIS BOARD with pictures, DRAWINGS, AIDS, ETC. from the local community. These could be glued directly to the BOARD.

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REFERENCE BOOKS

The following is a selected set of reference books that can aid the coordinator in the development of this unit or increasing his own understanding of economic concepts.

1. Berstein, Peter C. and Heilbronen, Robert Z., A Primer on Government Spending, New York: Vintage Books, 1963, 120pp (paper)

2. Board of Governors, Federal Reserve System, The Federal Reserve System: Purpose and Functions, Chicago: Federal Reserve Bank of Chicago, Research Dept. 297 pp (Free)

3. Gill, Richard T., Economics and the Public Interest, Pacific Palisades, California: Goodyear Publishing Company, 1968, 306 pp.

4. Heilbroner, Robert Z., The Making of Economic Society, Englewood Cliffs, New Jersey: Prentice Hall, Inc., 1968, 225 pp (paper)

5. Heller, Walter W., New Dimensions of Political Economy, New York: Simon and Schuster, Inc., 1967, 187 pp. (paper)

6. Lovenstein, Meno, Capitalism, Communism, Socialism, Chicago: Scott Foresman and Co., 1962, 150pp. (paper)

7. McConnell, Campbell R., Economics: Principles, Problems, and Policies, New York: McGraw-Hill Book Co., 773 pp.

8. Robinson, Marshall A.; Morton, Herbert C., and Calderwood, James D., An Introduction to Economic Reasoning, Garden City, N.Y.: Anchor Books, Double Day and Co., Inc., 1962, 300 pp. (paper)

9. Samuelson, Paul A., Economics, N.Y.: McGraw-Hill Book Co., Inc., 837 pp.

10. .....Economic Report of the President, Washington D.C.: U.S. Government Printing Office, Superintendent of Documents, January each year. $1.25. This book is often given free of charge if requested from your congressman's office.

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SOURCES OF FREE AND INEXPENSIVE MATERIALS

The following represents a few of the myriad sources of free or inexpensive materials. The title offerings are not given here because the list is constantly changing. It is suggested that the coordinator write to these sources, telling them of his particular need and asking for a current list of available material. This should be done on school stationery and the return address should be that of the school for the best service on such requests.

The coordinator should also talk with clairman of the social science department and request that pertinent mailings be made available to him. A periodic scanning of various education magazines, especially those directed toward the area of the social sciences, will often yield new and useful sources of materials.

Bibliographies of Materials

"Educator's Guide to Free Films", $9.50

"Educator's Guide to Free Filmstrips", $7.00

"Educator's Guide to Free Tapes, Scripts, and Transcriptions", $6.75

All three are available from Educator's Progress Service, Randolph, Wisconsin 53956

"Visual Aids for Business and Economic Education", Southwestern Monographs, Southwestern Publishing Co., Cincinnati, Ohio 45227

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Printed Material

1. AFL-CIO Industrial Union Dept.
   815 Sixteenth Street, N.W.
   Washington, D.C. 20006

2. American Banker's Association
   Banking Education Committee
   90 Park Avenue
   New York, New York, 10016 (Also contact your local bank)

3. Automobile Manufacturers Association, Inc.
   Educational Services Director
   320 New Center Building
   Detroit, Michigan 48202

4. The Brookings Institute
   1775 Massachusetts Ave., N.W.
   Washington D.C. 20036

5. Chamber of Commerce of the United States
   1615 H. Street, N.W.
   Washington, D.C. 20006

6. The Chase Manhattan Bank Money System
   Rockefeller Center
   1254 Avenue of the Americas at 50th St.
   New York, New York 10020

7. Committee for Economic Development
   Publications Division
   477 Madison Avenue
   New York, New York 10022

8. Consumers League of Ohio
   940 Engineers Building
   Cleveland, Ohio 44114

9. Council on Consumer Information
   156 Gwynn Hall, University of Missouri
   Columbia, Missouri 65201

10. Curriculum Resources, Inc.
    1515 West Lake Street
    Minneapolis, Minnesota, 55408

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11. Dow Jones and Company, Inc.
Educational Service Bureau
P.O. Box 300
Princeton, New Jersey 08540

12. E. J. DuPont de Nemours and Co.
Public Relations Department
Wilmington, Delaware 19898

13. Federal Reserve Bank of

Atlanta
109 Marietta Street 30303

Chicago
P.O. Box 834 60690

Cleveland
East 6th Street and Superior Ave. 44101

Minneapolis
73 South Fifth Street 55440

New York
33 Liberty Street 10045

Philadelphia
925 Chestnut Street 19101

Richmond
9th and Franklin Streets 23213

St. Louis
P.O. Box 442 63166

These banks have varied offerings and periodical materials.

14. Federal Reserve System
Board of Governors
Washington D.C. 20551

15. Institute of Life Insurance
277 Park Avenue
New York, New York 10017

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16. Internal Revenue Service
Teaching Taxes Coordinator
P.O. Box 1818
Cincinnati, Ohio 45201

17. Joint Council on Economic Education
1212 Avenue of the Americas
New York, New York 10036

18. National Association of Manufacturers
Education Department
277 Park Avenue
New York, New York 10016

19. National Consumer Finance Association
1000 Sixteenth Street, N.W.
Washington D.C. 20036

20. National Foundation for Consumer Credit
1411 K Street, N.W.
Washington D.C.

21. National Industrial Conference Board, Inc.
845 Third Avenue
New Yor, New York 10022

22. Ohio AFL-CIO
271 East State Street
Columbus, Ohio 43215

23. Ohio Council on Economic Education
Ohio University
Athens, Ohio 45701

24. Public Affairs Pamphlets
381 Park Avenue, South
New York, New York, 10016

25. Republic Steel Corporation
Public Affairs Department
1025 Republic Building
P.O. Box 6778
Cleveland, Ohio 44101

26. Service Center for the Teachers of History
Department 470
60 Fifth Avenue
New York, New York 10011

27. Southwestern Monographs
Southwestern Publishing Co.
Cincinnati, Ohio 45227

28. Tax Foundation, Inc.
50 Rockefeller Plaza
New York, New York 10020

29. The Twentieth Century Fund
411 East 70th Street
New York, New York 10021

30. U.S. Government Printing Office
Superintendent of Documents
Washington D.C. 20402

31. The University of Chicago
Industrial Relations Center
1225 East 60th Street
Chicago, Illinois 60637

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Instructional Materials Laboratory
1885 Neil Avenue
115 Townshed Hall
Columbus, Ohio 43210

ACCESSION NUMBER: VT101404

TITLE: ECONOMICS FOR DISTRIBUTIVE EDUCATION. AN INTRODUCTION TO FUNDAMENTALS.

PERSONAL AUTHOR: STRIFTELMEIER, JACK

DESCRIPTOR: *ECONOMICS; *DISTRIBUTIVE EDUCATION; *TRANSPARENCIES

EDRS PRICE: MF AVAILABLE IN VT-ERIC SET.

DESCRIPTIVE NOTE: 59P.

ABSTRACT: THIS DOCUMENT PRESENTS AN INTRODUCTORY COURSE IN ECONOMICS THROUGH WHICH IT IS HOPED THAT THE DISTRIBUTIVE EDUCATION STUDENT WILL GAIN A DEEPER INSIGHT INTO THE INTRICATE WORKINGS OF OUR ECONOMIC SYSTEM, AND A DEEPER APPRECIATION FOR THE ACCOMPLISHMENTS OF THIS SYSTEM DURING THE HISTORY OF OUR NATION. BY COMPARING OUR SYSTEM WITH OTHER ECONOMIC SYSTEMS, THE THEORY THAT OURS, EVEN WITH ITS SHORTCOMINGS, IS THE BEST ECONOMIC SYSTEM IN OPERATION IN THE WORLD TODAY CAN BE SUPPORTED. THIS COURSE IS NOT MEANT TO BE A COMPLETE STUDY OF THE FIELD OF ECONOMICS, BUT RATHER A VERY BASIC INTRODUCTION TO THE SUBJECT. IT IS HOPED THAT THROUGH THIS INTRODUCTION, MANY STUDENTS WILL BECOME INTERESTED IN ECONOMICS AND PURSUE FURTHER STUDIES IN THIS AREA. CHAPTER TITLES INCLUDE THE FOLLOWING: I. SCARCITY: THE BASIC PROBLEM OF ECONOMICS, II. MEETING THE SCARCITY PROBLEM, III. THE IMPORTANCE OF PRODUCTION IN AN ECONOMY, IV. THE IMPORTANCE OF MARKETING IN AN ECONOMY, V. THE GROSS NATIONAL PRODUCT, VI. THE LAW OF SUPPLY AND DEMAND, VII. THE UNITED STATES AND THE SCARCITY PROBLEM, VIII. COMPARATIVE ECONOMIC SYSTEMS, AND IX. THE FUTURE AND ECONOMICS. TRANSPARENCY ORIGINALS FOR ECONOMICS ARE APPENDED. (AUTHOR/LJ)

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INSTITUTION NAME: UPPER ARLINGTON HIGH SCHOOL, COLUMBUS, OHIO.

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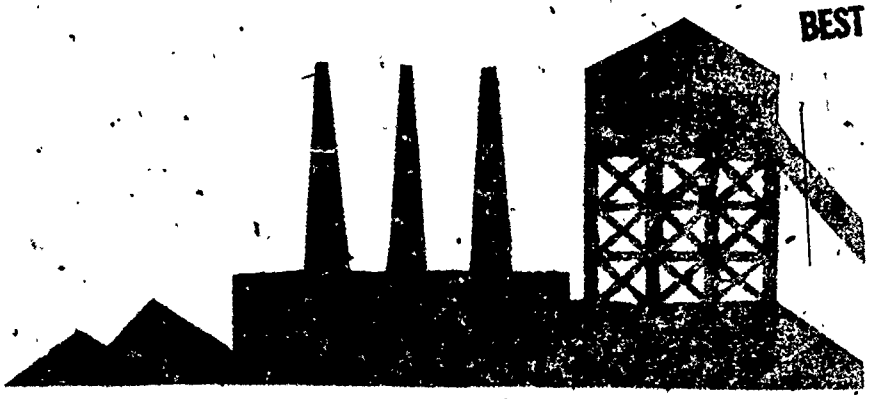
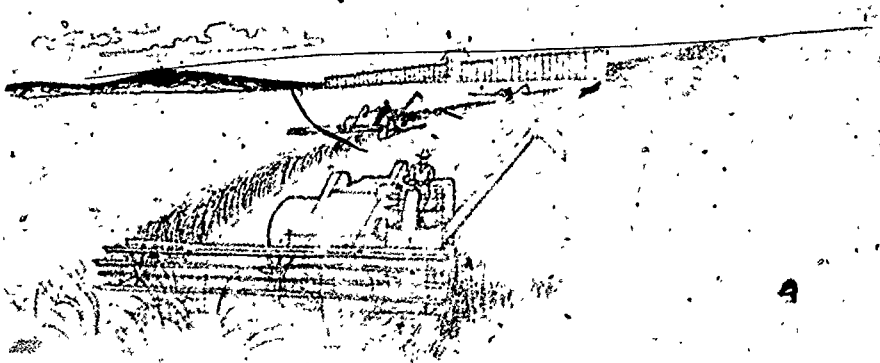


economics

MATERIALS

OHIO
distributive
education

ABORATORY



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ECONOMICS FOR

DISTRIBUTIVE EDUCATION

. . . an introduction to fundamentals

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INTRODUCTION

The role of distribution in the American economic system is a very important one. Very often, our economic system is referred to as a market system. So that the distributive education student can better understand the importance of distribution in our economic system, a basic introduction to the study of economics is of primary importance.

Through this introductory course, it is hoped that the distributive education student will gain a deeper insight into the intricate workings of our economic system, and a deeper appreciation for the accomplishments of this system during the history of our nation. By comparing our system with other economic systems, we can support the theory that ours, even with its shortcomings, is the best economic system in operation in the world today.

This course is not meant to be a complete study of the field of economics, but rather a very basic introduction to the subject. It is hoped that through this introduction, many students will become interested in economics and pursue further studies in this area.

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I. SCARCITY: THE BASIC PROBLEM OF ECONOMICS

Man's wants are unlimited, but there is a limit to the means available to satisfy these wants. This brings about the problem of scarcity. It must be decided which of these wants will be fulfilled, and which will be put aside, either temporarily or permanently.

Each of you deal with the economic problem of scarcity almost every day of your life. As an example, you may decide you want "mag wheels" for your car. However, when you consider the cost, you think of all of the other things you want -- that new sport coat you saw the other day in the store, money for a big date coming up next weekend, tickets for the homecoming dance, and probably many, many other things. It is up to you to decide where you will spend your money, or in other words, which of your wants you will fulfill and which will be put aside, at least for the time being. This, in a simplified form, is dealing with the economic problem of scarcity. This is basically what economics is all about.

Man's wants are based on necessity, comfort and pleasure. As an example, some form of shelter is necessary to all of us if we are going to stay alive.

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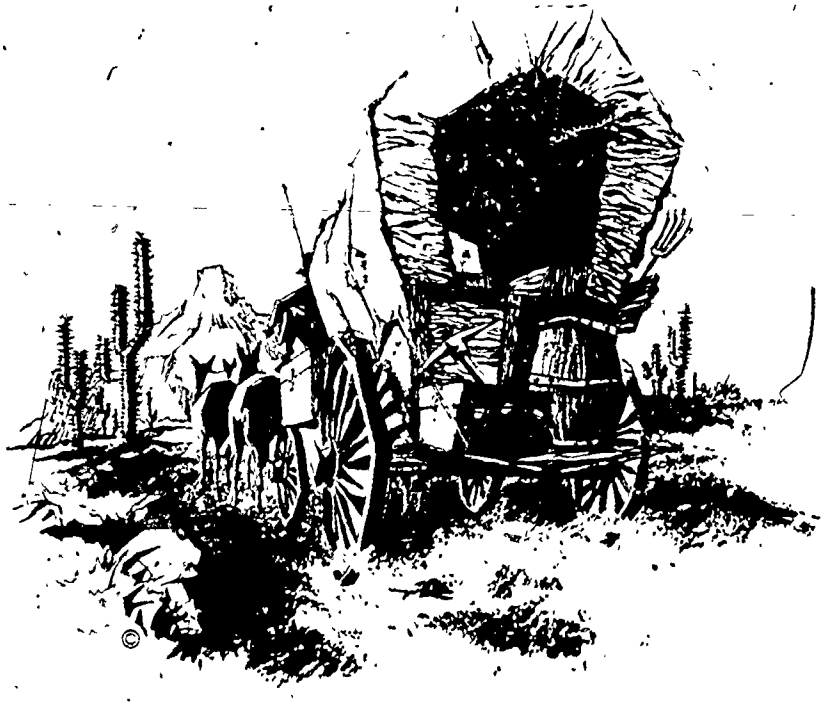
NECESSITY



A crude tent made of tree limbs and animal skins would probably provide enough shelter to keep us alive. However, it would probably do little more than that. Most of us certainly want more than this for a shelter. We want to go beyond the level of necessity.

COMFORT

Most of us today want a home that is comfortably made with electricity, heat, and furniture. We want a shelter that will not only keep us alive, but one that will be comfortable as well.

There are many people who are quite satisfied with a home similar to the one above. However, most people today want a shelter that provides more than basic comfort.

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PLEASURE

Within our comfortable shelter, most of us would like to have some of those things that give us pleasure! We have TV sets, stereos, paintings, pool tables, musical instruments, and beautiful furnishings. These are just a few of the items that may bring us pleasure.

These same three levels - necessity, comfort, and pleasure - apply to the other things we buy in our day-to-day living such as the food that we eat and the clothes that we wear.

HUMAN WANTS VARY

Not everyone wants exactly the same things in life. One family might like to travel extensively each year and live in a very modest home. Another family may choose to buy a new car every year, while their neighbors would rather drive a nine-year old car but have beautiful paintings in their home. Different people place different values on the items that are available in our economy.

Furthermore, an individual's wants change as he goes through life. Your wants five or ten years from now will undoubtedly be quite different from your wants today. Individuals change and the world changes. So, our wants are not only unlimited, but many of them are also constantly changing. There will always be a never-ending list of human wants. Thus, the problem of scarcity will always be with us.

SATISFYING HUMAN WANTS

Human wants, of a material nature, are satisfied with goods and services. In economics, anything that people buy falls into the category of either goods or **services**.

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GOODS

A man's shirt, a quart of milk, an oil painting, an automobile, a loaf of bread -- all of these items and thousands more are classified as goods. They are tangible items that we can observe with one or more of our five senses.

SERVICES

Services are intangible items that we buy to satisfy certain of our wants. A motor tune-up on your car, a vacation on a jet airliner, or a movie are all services that we may buy to satisfy certain of our human wants.

FOUR TYPES OF GOODS

All goods can be classified in four categories:

Free Goods - Anything that satisfies human wants and that can be gotten without any particular effort being made. Examples would include sunshine and air.

Economic Goods - Anything capable of satisfying human wants, but available only with human effort. Almost all goods are economic goods since they require some human effort, either in producing them or transporting them to the place where they will be used.

Consumer Goods - These are goods used directly by the consumer to satisfy his personal wants.

Capital Goods - Any goods that are used to produce other goods. This would include such things as machinery in a factory or a tractor on a farm.

ECONOMIC RESOURCES

Our economic resources, that is, our means of producing economic goods, are limited, as we pointed out earlier. These economic resources include:

Natural Resources - Things provided by nature such as land, minerals, forests, and water.

Human Resources - The skills and abilities of the people who make up the working force.

Capital Resources - Anything that is used by man to produce other goods such as machinery, tools, shopping centers, factories, and office buildings.

As we mentioned previously, while human wants have no limit, economic resources are definitely limited. No nation, including the United States, has enough economic resources to produce all of the goods and services wanted by the people. The problem of scarcity will always be with us.

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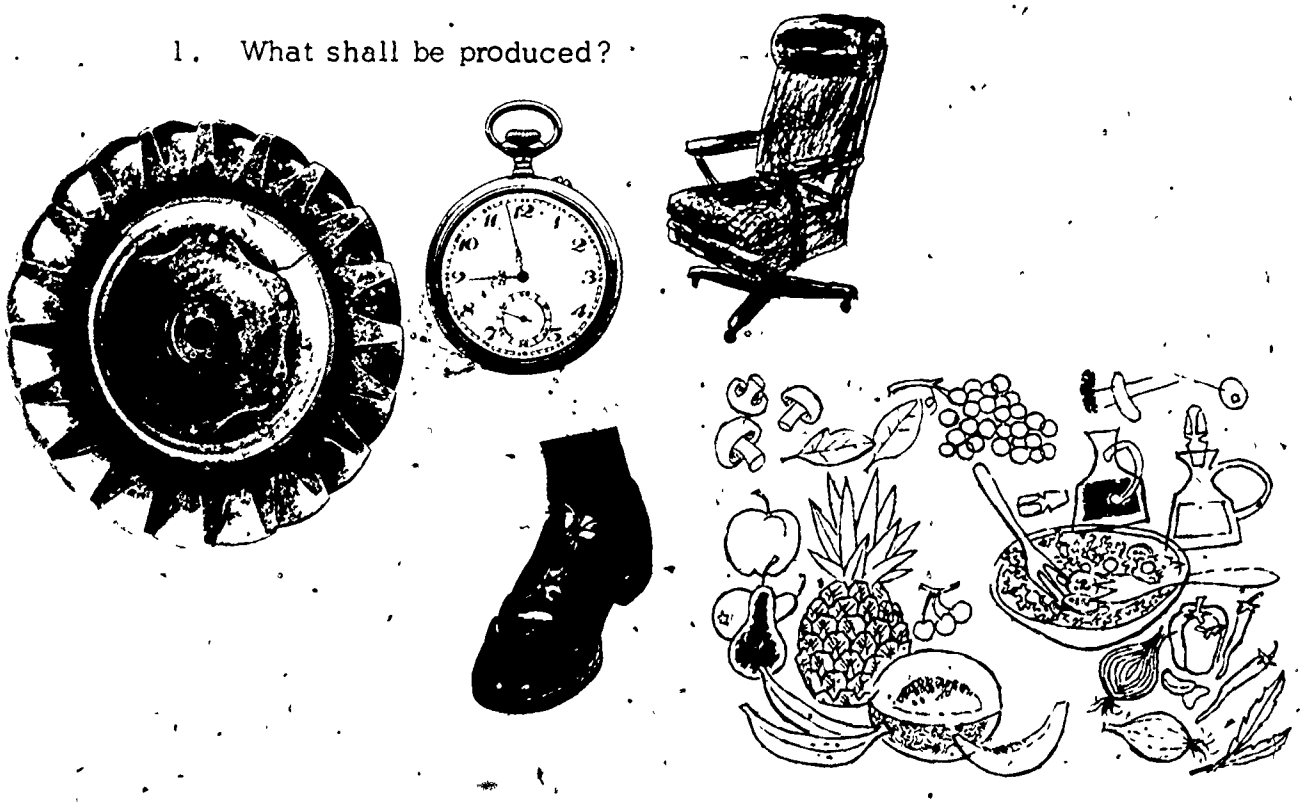
II. MEETING THE SCARCITY PROBLEM

There are four questions that must be answered by an economy in dealing with the scarcity problem.

1. What shall be produced?



When resources are used for one purpose, they obviously cannot be used for another. If land is used for farming it cannot be used as a building site for a factory. Machines used to manufacture tanks or fighter planes cannot be used at the same time to make refrigerators or dishwashers. In other words, the economy has to give up some items in order to produce other items. So the question must be answered: What items shall be produced?

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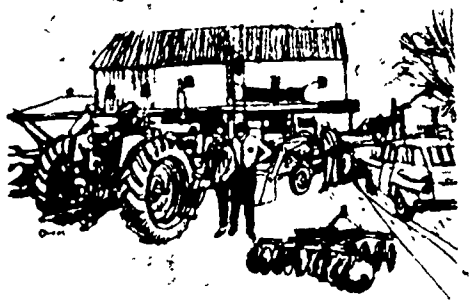
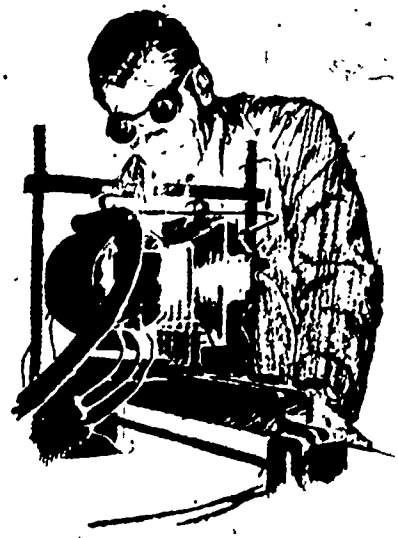
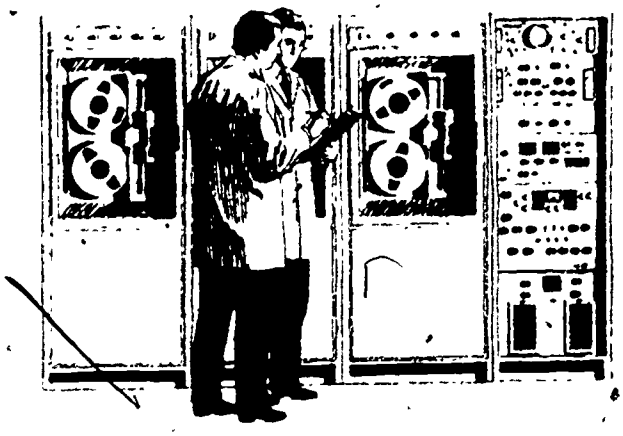
2. How shall the goods be produced?







Almost any product can be produced by using several different combinations of resources. As an example, furniture could be made by an individual using hand tools and making the individual piece of furniture by himself. Or, we could use several men using hand tools with each working on a particular part of the furniture in an assembly line operation. Another possibility would be to have the furniture made almost completely by machines with little hand work being done.

Such endless combinations of resources are available to produce practically every product you can think of. It is obviously very involved when the economy answers the question: How shall the goods be produced?

3. How much can be produced?

Since our economic resources are limited, there must be some planning as to how much of them we will use at a particular time.

There is a delicate balance that must be maintained in determining how much should be produced. If we do not produce enough, we are wasting valuable economic resources. On the other hand, if we produce too much, we over-expend our resources and soon find ourselves running out of particular items. An example of this can be found right here in the United States where, for so many years, we went on using our natural resources without any thought to the future. Now we realize that we are running out of many of our natural resources, and we are planning the use of those remaining much more carefully. It is obvious that an economy has to plan very carefully to answer the question: How much can be produced?

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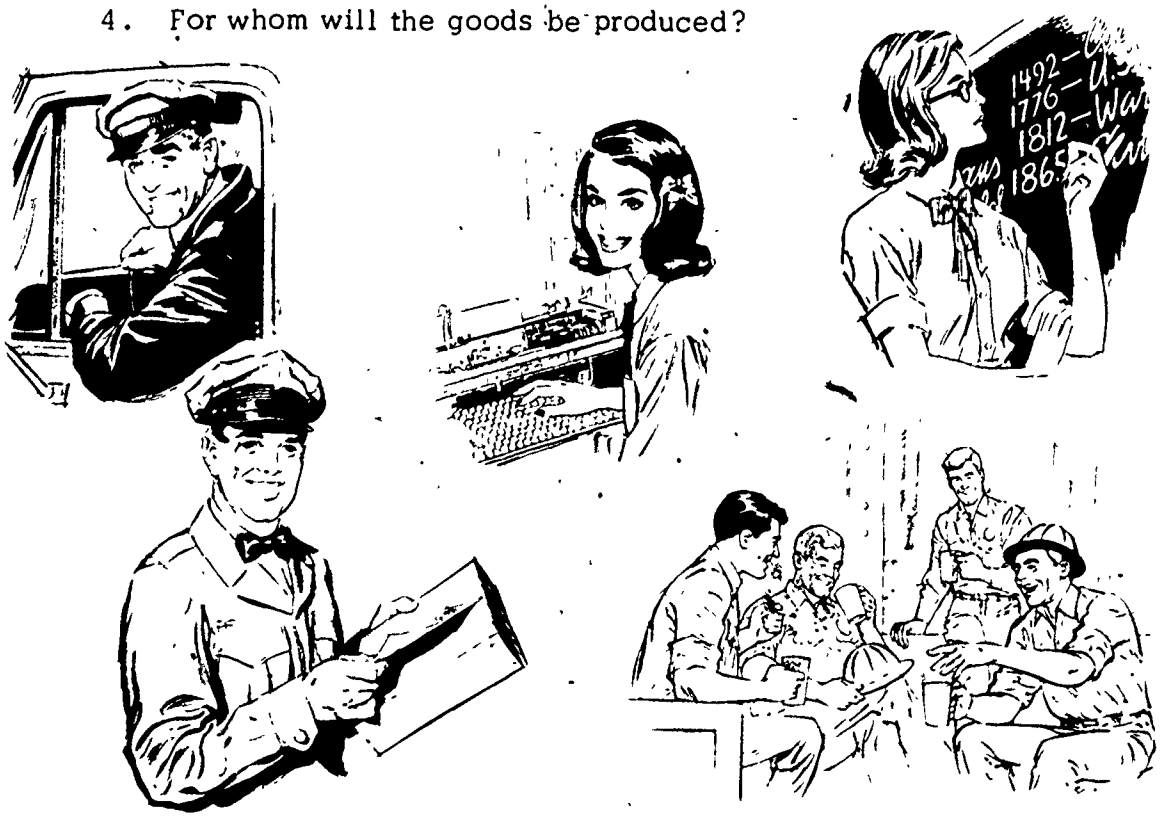
4. For whom will the goods be produced?



This is really a question of how the money income in an economy should be distributed, for it is the person who has the money to buy the goods who gets what he wants.

The skills and abilities a person possesses has a particular value in his civilization. If he has great ability, or many skills, and they are valued highly, he will receive a high income. If he has little ability or few skills, and they are not valued very highly, he will receive little income. The amount of income different groups of people can command in an economy determines for whom the goods will be produced.

Of course, in some cases, action by the government can bring about changes in the distribution of income. This will be discussed later.

III. THE IMPORTANCE OF PRODUCTION IN AN ECONOMY

Practically every item that we use in our daily lives to satisfy our economic wants is made for us by someone else. Think about the many different items you use every day. How many of them were made by you or members of your family? Your food? Your clothing? The furniture in your home? It is likely that most, if not all of these items were produced for you by someone else. Production is an important and necessary part of an economic system.

Our economic resources are called the factors of production. In discussing production, we break these economic resources down into four groups or factors. Each plays an important role in production. The four factors of production are:

1. Land
2. Labor
3. Capital
4. Entrepreneurship

Let's examine each of these factors in a little more detail.

LAND

When we talk about land as a factor of production we include not only land used for farming or for building sites for factories or shopping centers, but all of our natural resources. We also include rivers, lakes, oceans and all of our wildlife in the natural resources category.

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A great percentage of the items we use are made, either in whole or in part, from our natural resources. Paper is made from wood. Some clothing is made from cotton or wool. Consider all of the metal used in an automobile, not to mention the gasoline to run it. All of these things have their origin in natural resources.

Since "land" is used to designate all of the natural resources used in production, it is easy to see why it is such an important factor of production.

LABOR

The labor factor of production includes all human effort used in the production of goods. This includes mental as well as physical effort. Labor includes the man who designs the automobile, as well as the man working on the production line putting the car together. It includes the farmer who grows our food products as well as the woman who processes the food in preparation for shipment to our grocery stores. Labor is a very valuable factor of production.

CAPITAL

To the average person, the term "capital" refers to the money he has. However, when the economist is talking about "capital" in reference to production, he means something quite different. To him, the term "capital" refers to all man-made things that are used in the production of other goods and services. By this definition, a hoe, a punch press, a typewriter, a factory, and an electronic computer are all capital.

The economist further classifies capital in a variety of ways. Let's look at some of these classifications.

CLASSIFICATIONS OF CAPITAL

Fixed Capital - Some capital goods last for many years and can be used over and over again in the production of other goods. Such items are called fixed capital and include buildings, machinery, trucks, tools and office equipment.

Circulating Capital - Some capital goods are used up completely or changed during the production process. These are classified as circulating capital and include such things as office supplies, coal, gasoline, and most raw materials.

Private Capital - Another way of classifying capital is according to its ownership. Capital goods owned and controlled by business firms or individuals, and used by them for production, are called private capital.

Public Capital - Capital goods owned by a government but used for public purposes are called public capital. This would include highways, bridges, rivers, and public schools.

ENTREPRENEURSHIP

The fourth factor of production is entrepreneurship. This factor includes those people who initiate the whole production process and assume the financial risks involved. It is up to these people to combine economic resources into a production unit, make all of the major decisions as to how these resources can be most effectively used, and risk their money on the venture. The entrepreneur is the individual who gets the production process started, and keeps it operating effectively.

PRODUCTION IS THE CREATION OF UTILITY

Production takes raw materials and changes their form so that they become goods that will be useful to human beings. As an example, the wool on a sheep is of no use to human beings. It is only when the sheep is sheared, the wool is processed and made into cloth, and the cloth made into a coat that the wool has become useful to us. When this is done, we say that production has created utility.

One type of utility added by production is form utility. That is, the form of the raw material is changed into a form that is useful to us.

A second utility added by production is time utility. The product is produced by the manufacturer at a time when the product is demanded by the public.

We will discuss utility further in a later section.

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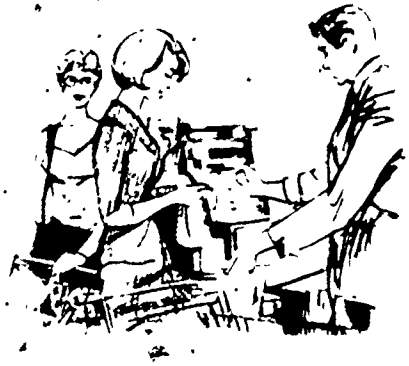
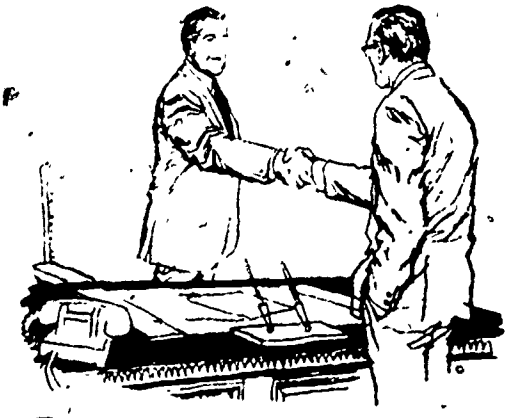
IV. THE IMPORTANCE OF MARKETING IN AN ECONOMY



Selling

Transporting

Financing



Buying

Marketing concerns itself with all of the activities involved in transporting, storing, and selling goods and services in an economy.

From the economist's point-of-view, there are seven basic functions of the marketing process. We will take a brief look at each of these functions.

SEVEN FUNCTIONS OF THE MARKETING PROCESS

1. Selling - This function includes all those activities that help create a demand for the product. Both personal and non-personal selling are included.

2. Buying - The wholesaler, retailer, and all other middlemen must buy goods that will sell to the ultimate consumer.

3. Assembling - Different goods are produced in different parts of the world. One of the functions of marketing is to bring all of these goods together in places where they may be sold.

4. Storing - Some goods are produced seasonally, but sold the year round. Others may be produced year round, but sell on a very seasonal basis. It is obvious that all of the different items purchased by a retailer cannot come in exactly as they are needed. Therefore, the goods must be stored until the consumer is ready to buy them.

5. Transporting - Another function of marketing is to transport the goods from the points of production to the points where they may be offered for sale to the consumer.

6. Packaging - The function of packaging can serve two purposes. The first, of course, is to provide the consumer with goods in a form that is safe, ecohomical, and convenient for him to handle. Secondly, in this day of self-service, packaging can play an important role in selling the product.

7. Risk-Taking - Throughout the entire marketing process, those involved take financial risks. Goods may be stolen or destroyed. Styles change

quickly and some goods lose their value. General price levels may also change quickly. There are many ways in which those involved in marketing may lose money.

DISTRIBUTION ADDS UTILITY TO GOODS

We mentioned earlier that production added form and time utility to goods. From the seven functions of marketing, it is easy to see that distribution also adds certain utilities to goods. These would include:

Place Utility - Those involved in distribution must see that goods are at a place where the consumer wants to buy them.

Time Utility - We said earlier that production adds time utility to goods by producing the goods in time to meet the consumer demand. Distribution also adds time utility by having them ready for sale at the time the consumer wants them.

Possession Utility - It is also up to those involved in distribution to see that the goods are sold to the consumer. Until the consumer possesses the goods, they are not satisfying human wants.

THE COST OF MARKETING

While the cost of marketing varies from one type of goods to another, it is usually figured that on the average distribution costs make up about one-half of the retail price of consumer goods. Considering all of the functions included in the marketing process this is not too great a cost.

Those involved in marketing are constantly seeking ways to reduce costs. Many new methods of distribution have been attempted and some of the functions of marketing have been shifted from one middleman to another. In the final analysis, however, it has been found that none of the functions of marketing can be completely eliminated, so the cost of the functions were merely shifted from one middleman to another. Thus, final costs have been reduced very little.

The basic way to reduce the cost of distribution is to find more efficient ways in which to perform the marketing functions. As examples, vending machines are being used to sell more goods, self-service is becoming increasingly popular, and grocery stores are selling more and more non-food items, thus increasing the size of their average sale.

CONSUMER DEMANDS AND MARKETING COSTS

While those involved in marketing are constantly seeking new ways to reduce the cost of distribution, the consumer may demand certain services that are less efficient and thus drive the marketing costs still higher. Grocery stores in several areas of our country have experienced this problem during the past several years.

It has become the custom for grocery stores to stay open longer and longer hours. In many instances, grocery stores are now open almost twice as many hours as they were fifteen years ago. It is obvious that it costs money to operate these extra hours. There are more employees needed, and extra pay for Sundays and holidays. The increase in grocery sales during this same period has not been enough to meet these increased costs. Merely because a grocery store is open twice as many hours as before does not mean that consumers will be induced to buy twice as many groceries, or even half again as much. People can eat just so much food, and no more.

Yet, the public demands these longer hours, so prices have been increased to cover the additional expense involved.

V. THE GROSS NATIONAL PRODUCT

The gross national product (GNP) is the output of all goods and services for a given year by an economy, and valued at current market prices. The GNP is probably the most important measure that can be used in judging the performance of an economy.

To give you some idea of how the GNP is used, let's use the United States as an example. In 1850, the population of our country was approximately 23 million, and our gross national product was twelve billion dollars. By 1955, our population had increased to 165 million, and our GNP to 320 billion dollars. Thus, while our population increased 700%, our GNP increased 2700%. By projecting such growth into the future, it is now estimated that by 1975, our population will reach 215 million, and our GNP will climb to 398 billion dollars.

Economists use the gross national product figure in many different ways. This very simplified explanation of a very complicated subject is meant only to give you a very basic idea of what the gross national product is, and one of the ways in which it is used by the economist.

VI. THE LAW OF SUPPLY AND DEMAND

There is probably no economic principle that is referred to more often by the general public than the law of supply and demand. If we are to understand the functioning of our own economic system, it is important that we become familiar with this principle.

In speaking of the law of supply and demand, the demand curve represents the varying amounts of a certain product that consumers will buy at various prices. The supply curve represents the amount of that product that will be produced and offered for sale at various prices. The point at which the two curves intersect indicates the price at which the product will be sold under normal conditions.

Perhaps the best way to understand this principle is to work through an example, so let's take a look at one.

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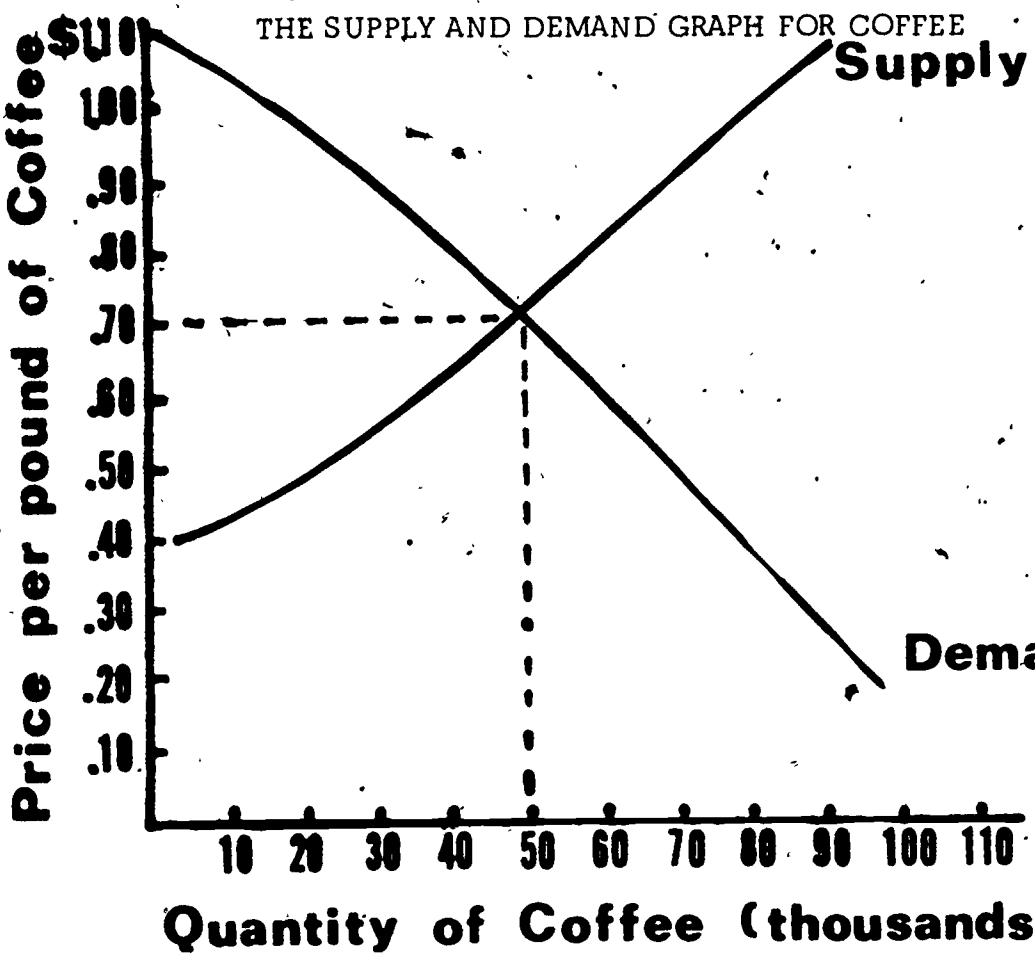
THE SUPPLY AND DEMAND GRAPH FOR COFFEE



1. The scale to the left of the graph indicates the various prices at which a pound of coffee might sell.

2. The scale at the bottom of the graph indicates the various amounts of coffee that might be offered for sale and purchased.

3. The supply curve slopes upward to the right, indicating that the higher the price, the more coffee that will be produced and offered for sale.

4. The demand curve slopes downward to the right, indicating that the lower the price, the more coffee that will be purchased.

5. The point at which the two lines intersect indicates the point at which supply and demand are equal. This is the point at which the price and the amount produced would normally be set.

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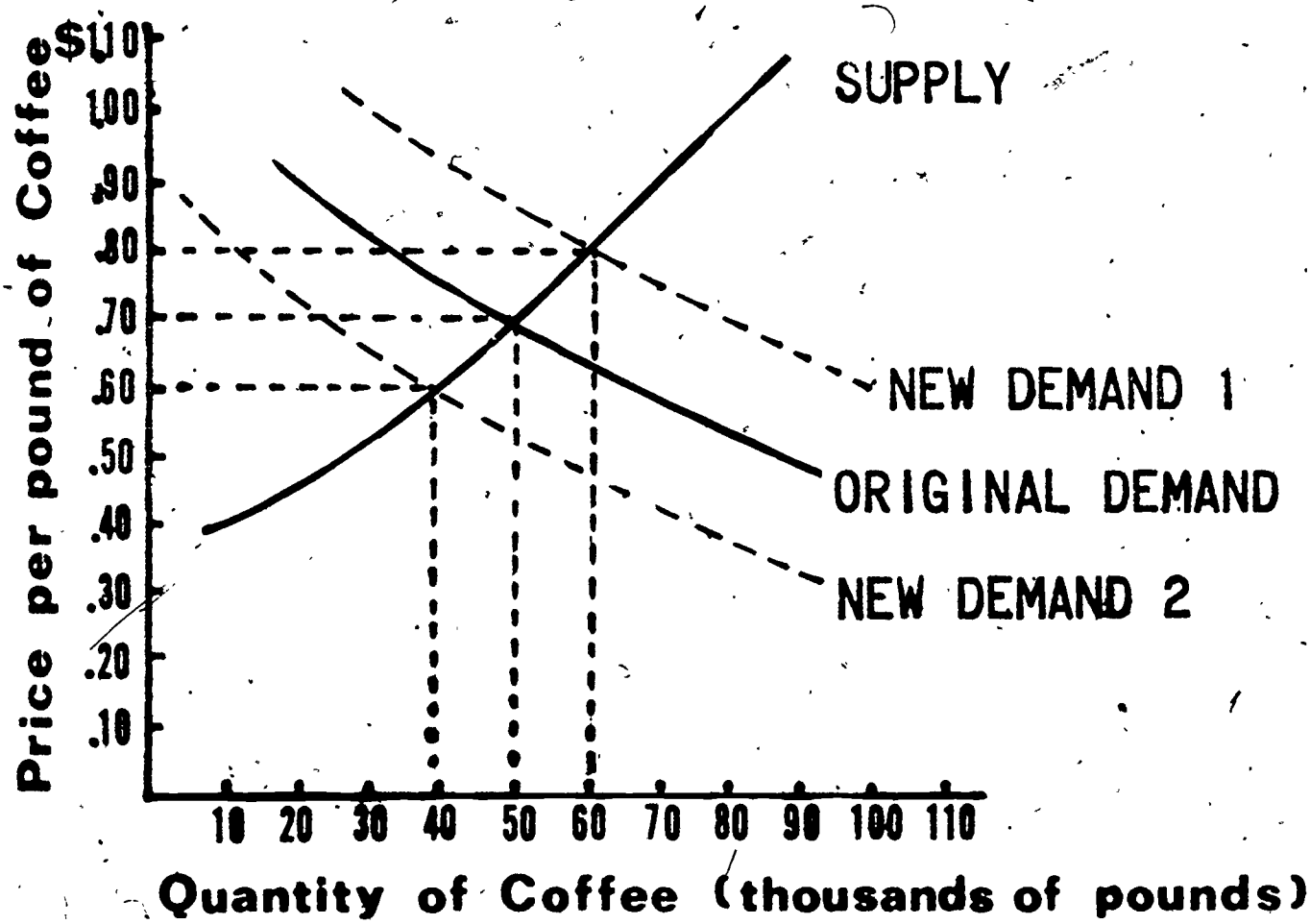
CHANGES IN DEMAND FOR A PRODUCT

Let's use our same chart now to see what happens when there is a change in demand without a change in supply.



1. The New Demand curve number 1 indicates an increase in the demand for coffee. Note that this causes the price of coffee to increase from $.70 to $.80 per pound and the quantity of coffee increases from 50 thousand to almost 60 thousand pounds.

2. New Demand curve number 2 indicates a decrease in the demand for coffee. This causes the price of coffee to decrease from $.70 to $.60 per pound, and the quantity of coffee decreases from 50 thousand to 40 thousand pounds.

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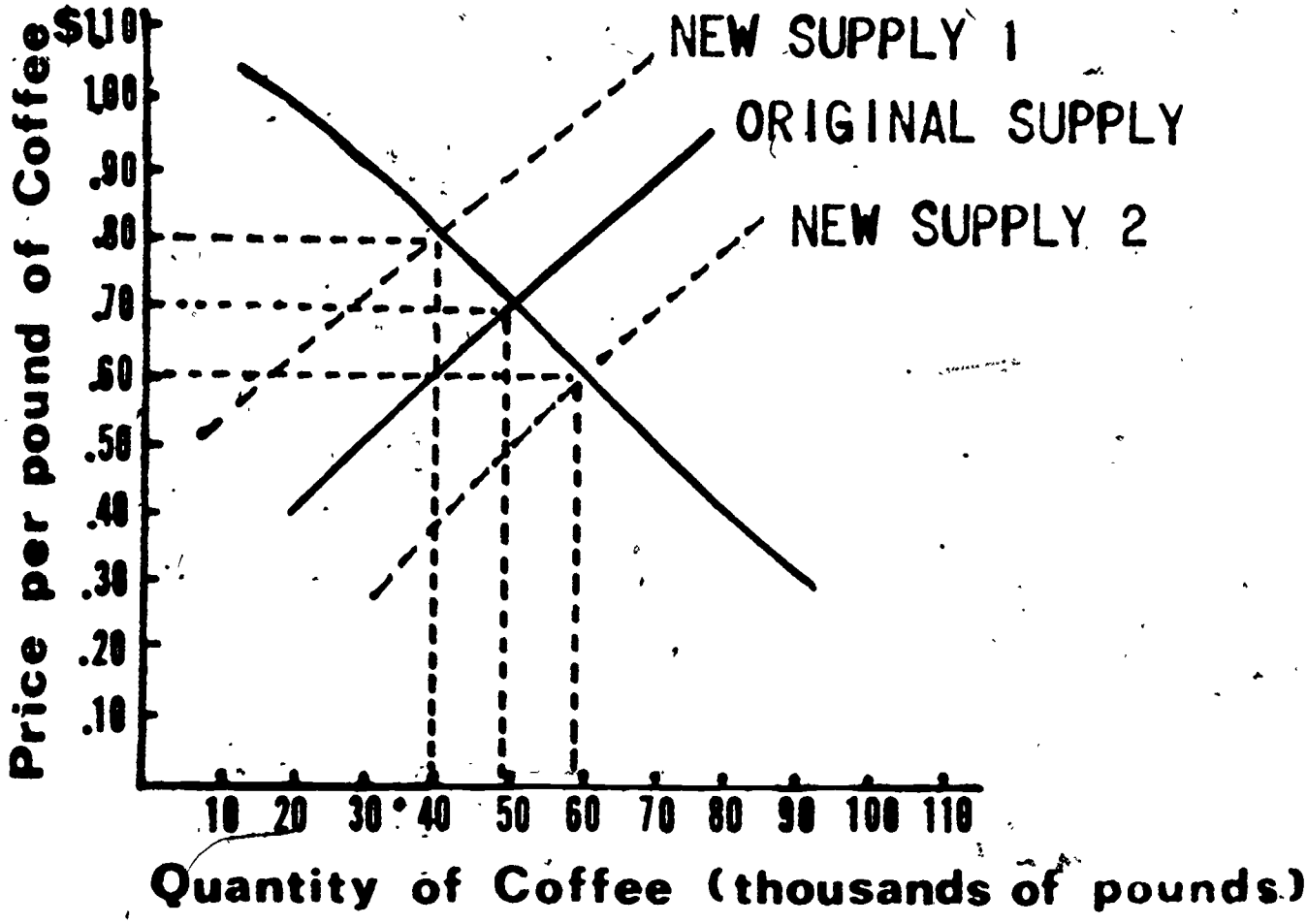
CHANGES IN THE SUPPLY OF A PRODUCT

We can use our same chart once more to see what happens when there is a change in the supply of a product.



1. The new supply curve number 1 indicates a decrease in the quantity of coffee offered for sale. This causes the price of coffee to increase from $.70 to $.80 per pound, and the quantity of coffee decreases from 50 thousand to less than 40 thousand pounds.

2. New supply curve number 2 indicates an increase in the quantity of coffee offered for sale. When this happens, the price of coffee decreases from $.70 to almost $.60 per pound and the quantity of coffee increases from 50 thousand to 60 thousand pounds.

MANIPULATING THE LAW OF SUPPLY AND DEMAND

Left to function by itself, the law of supply and demand will determine the price at which goods are sold. However, there are ways by which producers, consumers and the government can affect this principle.

We saw that when the supply of goods decreased, the price of the goods rose. Recently, many farmers have made an effort to limit the supply of certain farm products by withholding them from the market. In doing so, they hope to force the price of these items up.

Consumer groups have attempted to bring the price of certain items down by boycotting the purchase of these items. In this case, they are trying to reduce the demand for these items, and thus force the prices downward.

There are also times when the government feels that it is necessary to keep the price of particular goods at a higher lever than that which a normal supply and demand operation would produce. This is often the case with farm products. The following graph will best demonstrate how this works.

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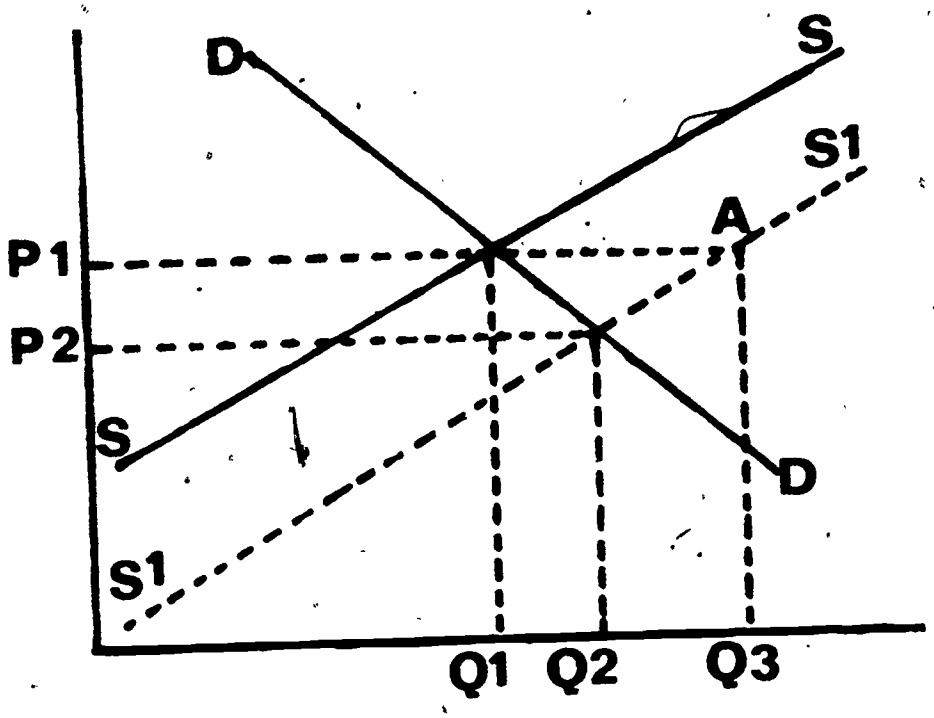
GOVERNMENT PRICE SUPPORTS



Line D represents the demand for this particular product. For the sake of this illustration, let's assume that it does not vary.

Line S represents the original supply of this product, and Line S1 represents an increase in the supply of the product. If the law of supply and demand was allowed to operate naturally, this increased supply would cause the price to drop from P1 to P2. The quantity pruchased would increase from Q1 to Q2. Thus the decrease in price is proportionately greater than the increase in quantity, and the producer loses.

We shall assume that the government wants to maintain the price for this product at P1. To do this, they would create an artificial demand for this product at point A. This increased quantity is represented by Line Q3. Real demand, however, remains at Q1. The difference in quantity between Q1 and Q3 represents the surplus of this particular item. This quantity is usually taken by the government and stockpiled.

VII. THE UNITED STATES AND THE PROBLEM OF SCARCITY

As was mentioned earlier, scarcity is the basic problem of all economics. A question that should be of interest to us then, is how our own country deals with the problem of scarcity.

While the market system is the basic method we use in the United States to deal with scarcity, tradition and government regulations also enter into the picture.

In discussing how the United States deals with the scarcity problem, we will actually be describing the economic system of our country, for the way in which a government meets the scarcity problem determines that country's economic system.

Let us first briefly discuss the roles of tradition and government regulation in our economy and then go on to the market system.

TRADITION AND THE UNITED STATES ECONOMY

Even though life in the United States today is much different than it was fifty or even twenty-five years ago, tradition still exerts its influence on our economic system.

The outstanding examples of this influence of tradition are the economic activities associated with the celebration of our holidays. Imagine the effect on the clothing industry if Americans decided that it was no longer important to buy new spring clothes for the Easter Parade. And what about the turkey producers if

Americans decided to stop serving turkey for their Thanksgiving feasts? And of course, all of the traditions of Christmas in our country exert tremendous influence on our economic system. If you doubt this, just look at a sales graph for the retail stores in your city and note the high peaks immediately preceding December 25th.

It is apparent that even in this jet-age tradition plays a small but important role in the operation of our economic system.

GOVERNMENT CONTROLS AND THE UNITED STATES ECONOMY

Through our elected representatives, we have brought about many governmental limits on our economic activities. Local, state, and national governments collect taxes from the public to pay for many public activities such as road building, school operations and the national defense.

There are many laws that give the federal government the power to control, to some extent, the agricultural activities of our economy. Price supports, stockpiling of certain items, and other such practices all exert an influence on our economy.

Many laws have been passed to protect the general public, or particular interests in our country. The Federal Pure Food and Drug Act sets basic minimum standards for foods and drugs offered for sale. Certain tariffs and import laws restrict freedom in trading with foreign countries in order to protect U. S. interests.

These, and many other government regulations, exert their influence on the operations of our economic system.

THE MARKET SYSTEM IN THE UNITED STATES

While tradition and governmental actions exert their influence on our economic system, the principle method used in the United States to meet the scarcity problem is our market system. Under the market system, the "what," "how," "how much," and "for whom," questions are answered by the buying and selling decisions made by the people themselves.

Our market system allows any person in the economy to offer for sale in the market anything he wishes, within the limits of the law. Further, the buyer is free to select anything he wishes from among the wide variety of goods offered for sale, within the limits of his ability to pay.

Sellers of goods and services in the United States may set their own prices, being constantly aware that buyers are free to buy or not to buy as they see fit. A producer of men's shirts could, for example, decide to price his shirts at twenty-five dollars. It would be up to the buyers then, to determine whether his shirts were worth twenty-five dollars to them. If they decided not to buy, the producer would have to reduce the price of his shirts to a point where enough buyers would purchase them that he could operate most profitably. Thus, in actuality, the law of supply and demand sets the prices in our economy.

In a free enterprise system such as ours, the producer uses the factors of production in any combination that he feels will be most effective. He may turn to a fully automated system of production, he may use an assembly line in his factory, or he may use a combination of these systems and others.

In our country, the seller is also free to use any legal marketing method that he feels will be most effective. He may decide that vending machines will

sell his product best. Or, he may decide that a self-service operation is the most efficient method for him. He decides how much he needs to spend on sales promotion, and what areas within sales promotion will do the job for him most effectively.

In the United States, the producer and seller are constantly seeking the most profitable system for producing and marketing their goods. Thus, the profit motive is the force that brings about constant improvements in production and marketing methods.

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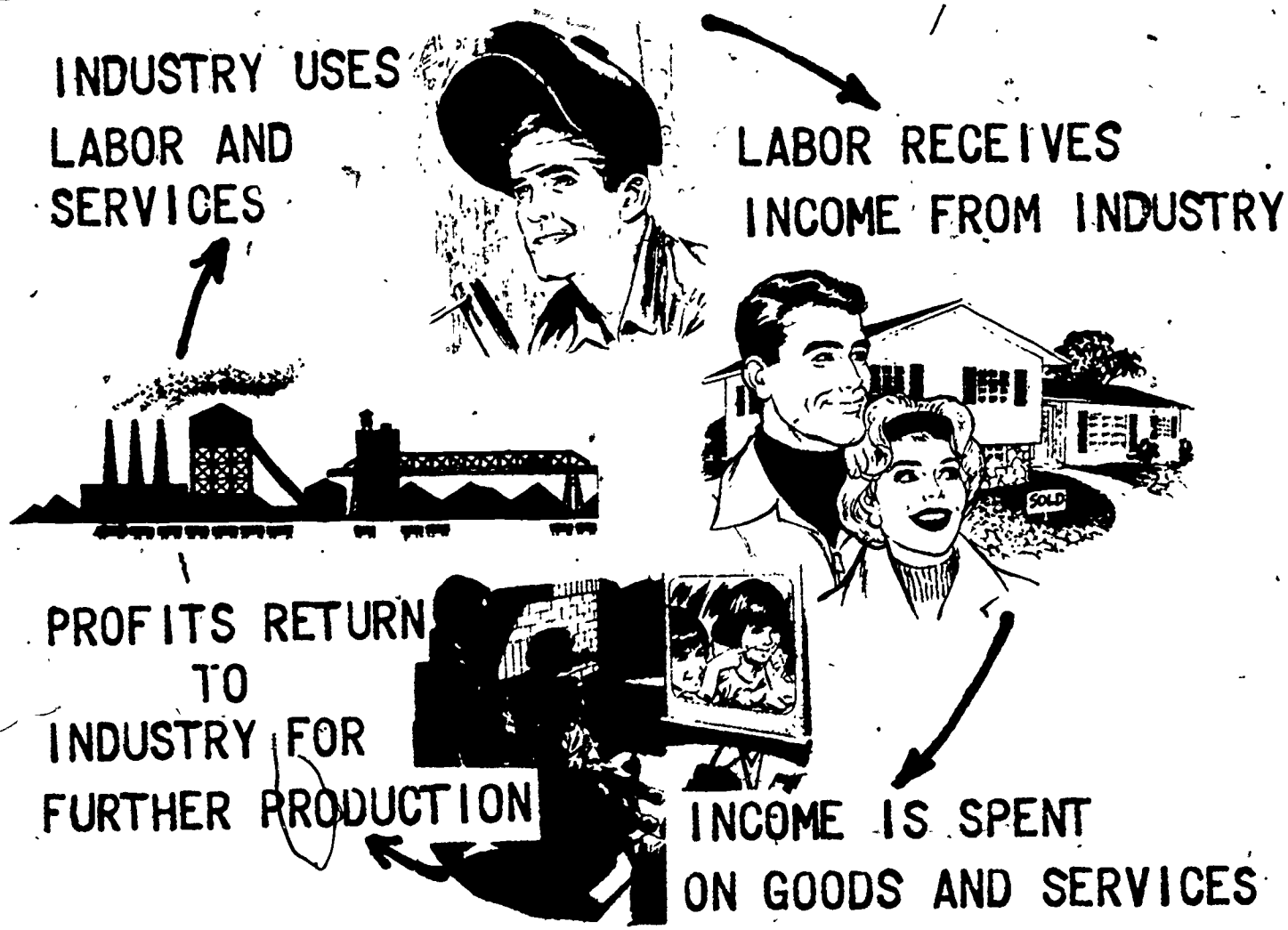
THE CIRCULAR FLOW OF INCOME



To produce goods and services, the businesses use the labor and services of the consumer. For this labor and services, the consumer receives money from the businesses in the form of salaries or wages. On the other hand, the consumer gives money to the businesses in return for the goods and services they receive from them.

Our money, then, continuously flows in a circular pattern and our economy continues to operate.

VIII. COMPARATIVE ECONOMIC SYSTEMS

Economists have defined various types of economic systems. It is important that we examine some of these in order to appreciate more fully the functioning of our own system.

In the following pages we will briefly examine Capitalism, Socialism, Communism, and a mixed economy. We will compare each of these systems on a variety of important points to help better understand the functioning of each.

CAPITALISM

The political system of a country that is under capitalism is democratic in nature. There are free elections in these countries and the majority always rules. Naturally, there are two or more active political parties.

Under capitalism, the individual is guaranteed freedom of religion, speech, assembly, etc. He is also free to make choices in his life, including that of how he will make his living. Further, there must be guaranteed protection of private property.

The government's role in business under pure capitalism is very limited. It is restricted to insuring competition, protecting private property, and preserving law and order.

One very important aspect of capitalism is that the individual is free to own capital, and to use this capital to make a profit.

Business management under capitalism is free to bargain for labor and to make its own decisions. By the same token, workers have a free choice of the place and kind of work they do, and they have the right to collective bargaining.

Competitive markets are guaranteed under capitalism, and prices are set by the law of supply and demand.

SOCIALISM

Under socialism, the political system and the role of the individual in the economy are very much the same as under capitalism

The government's role in business under socialism is very important, for the government owns and operates the major industries of the country. It takes whatever action it feels necessary to keep the economic system prosperous. A socialistic government also provides a very broad system of social security for the people.

Where privately owned business is allowed in a socialistic economy, the individual seeks to make a profit. Workers in government-owned businesses are encouraged to produce more for the economic stability of their countyr. The individual is paid for any of his property that is nationalized.

Under socialism, the government appoints the management for all of the nationalized businesses. In the small, privately-owned businesses, most of the control is by the individual owner.

For the most part, under socialism, prices are fixed by the government. There is very limited competition, except in the case of small, privately-owned businesses.

Labor in a socialistic state has a free choice of place and kind of work. Some collective bargaining is also permitted.

COMMUNISM

Under communism, the government is a dictatorship with only one part in complete control. There can be no free elections and all rule is vested in the communist party.

The individual in a communistic state has no guaranteed rights. To oppose the government usually brings either exile or death.

A communist government controls and operates the entire economy. It owns all capital goods and sets prices, wages, and economic goals. The government distributes rewards to those who are successful, and punishes those who are unsuccessful.

The basic incentive under communism is to avoid physical punishment or exile. There can be practically no individual ownership of private property, and almost all capital is nationalized.

Under communism, government agents plan economic production completely. The central government sets and maintains supply and demand, and controls all distribution.

Laborers in a communistic country are usually forced into particular jobs by economic necessity. The workers must maintain production quotas or be punished.

THE MIXED ECONOMY

It is extremely difficult today to find a pure economic system in operation. There have been many attempts to set up such pure systems, but circumstances have forced deviations from these systems. Wars, depressions, labor unrest, and other such circumstances force governments to deviate from pure economic systems.

In the United States today we operate under what might be called a liberal form of capitalism. Our government has found it necessary to borrow some of the features of socialism to maintain our economic growth and standard of living.

On the other hand, Russia may be said to be operating under a liberal form of communism. The Russian people have forced their government to adopt some socialistic and even capitalistic features.

The United States probably comes closest to being a pure capitalistic system, while Sweden, Denmark and England come closest to being purely socialistic systems. Mainland China is probably the closest to having a purely communistic system.

IX. THE FUTURE AND ECONOMICS

In the years ahead, it is apparent that marketing will continue to play a very important role in the economy of the United States. Our world is changing rapidly, and the marketing process must continue to meet these changes if our economic system is going to continue to function prosperously and survive.

We can no longer be concerned just with the economic system of our own country, but we must be constantly aware of the changing economic systems in countries throughout the world. Changes that affect the economic policies in London, Nairobi, Moscow, Buenos Aires or Stockholm also affect the economic policies in the United States.

There are many factors that will affect our futures and the futures of people throughout the world, and economics is certainly one of the most important of these factors.

TRANSPARENCY ORIGINALS
FOR
ECONOMICS

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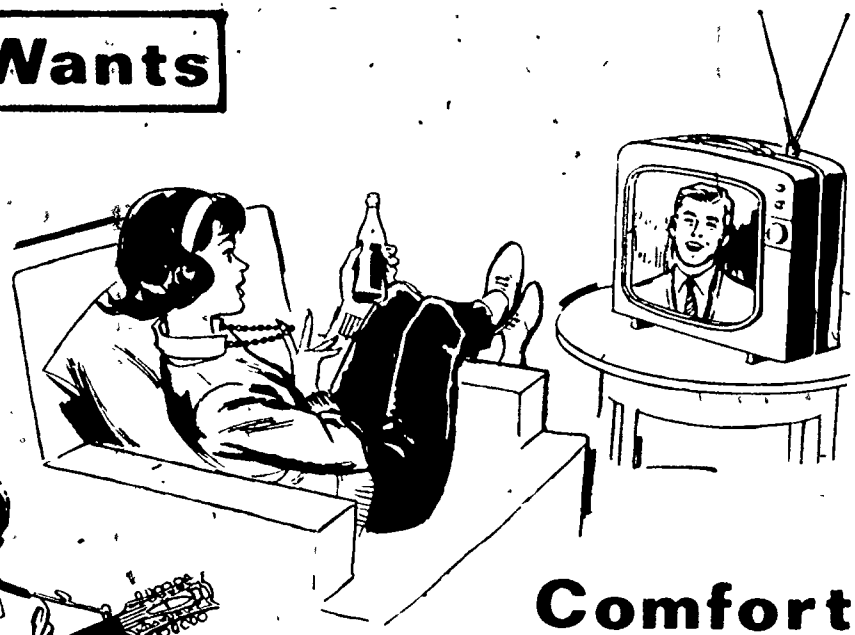
Man's Wants

Necessity



Comfort

Pleasure

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Human Wants Vary

What do you do with your money ?

ERIC

Human Wants Are Satisfied With:

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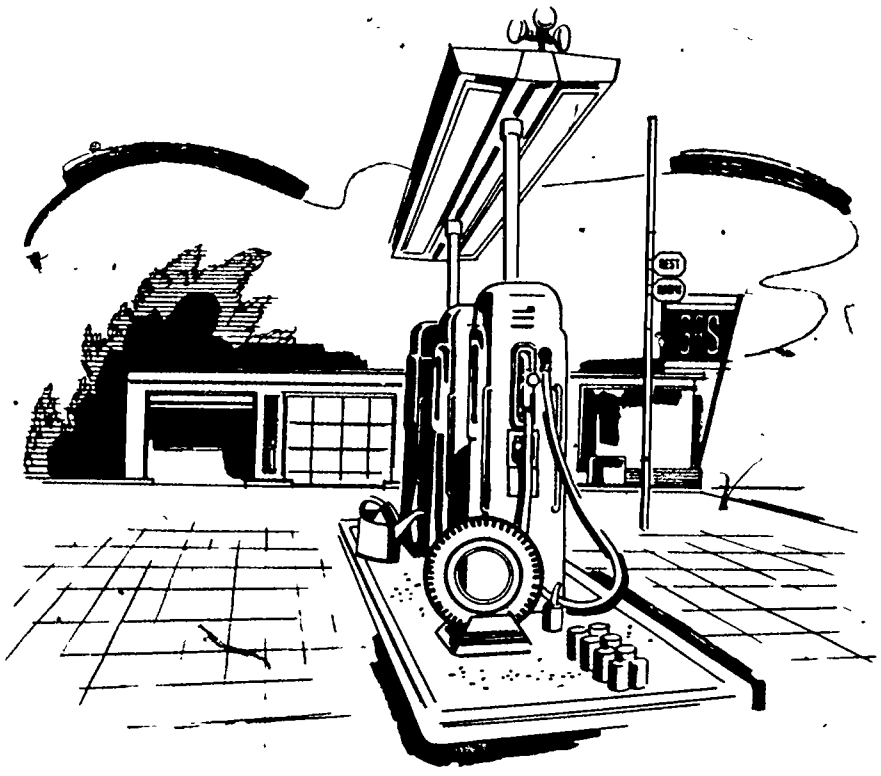
GOODS

SERVICES



4 TYPES OF GOODS:

FREE GOODS — ANY GOOD THAT CAN BE HAD WITHOUT HUMAN EFFORT, I. E. SUNSHINE, AIR

ECONOMIC GOODS — ANYTHING CAPABLE OF SATISFYING HUMAN WANTS BUT AVAILABLE ONLY WITH HUMAN EFFORT

CONSUMER GOODS — A GOOD USED BY THE CONSUMER TO SATISFY HIS PERSONAL WANTS

CAPITAL GOODS — ANY GOOD USED TO PRODUCE ANOTHER GOOD

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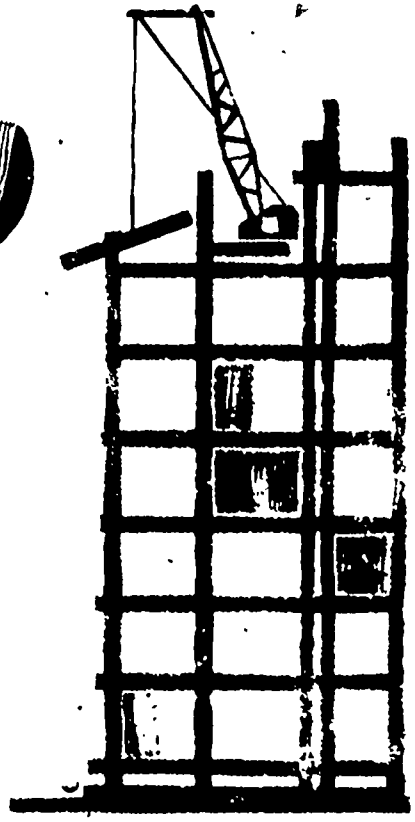
ECONOMIC RESOURCES

Natural Resources

Human Resources



Capital Resources

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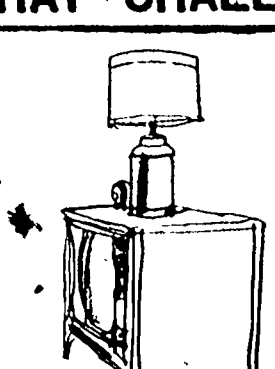
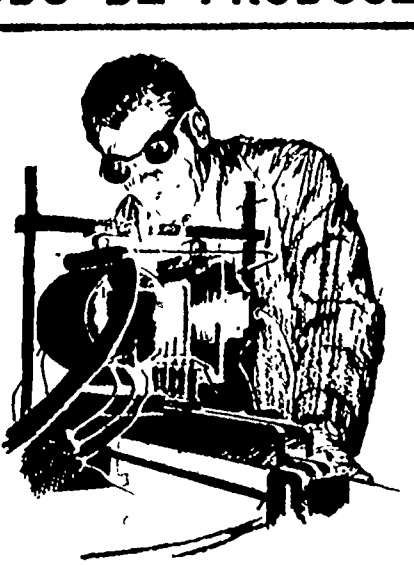
THE FOUR BASIC ECONOMIC QUESTIONS

WHAT SHALL BE PRODUCED ?



HOW SHALL GOODS BE PRODUCED ?



HOW MUCH SHALL BE PRODUCED ?

FOR WHOM WILL THE GOODS BE PRODUCED ?

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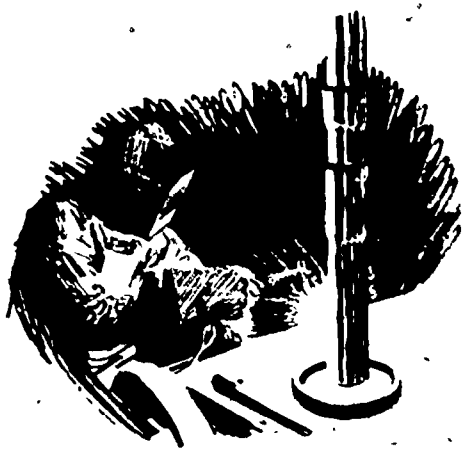
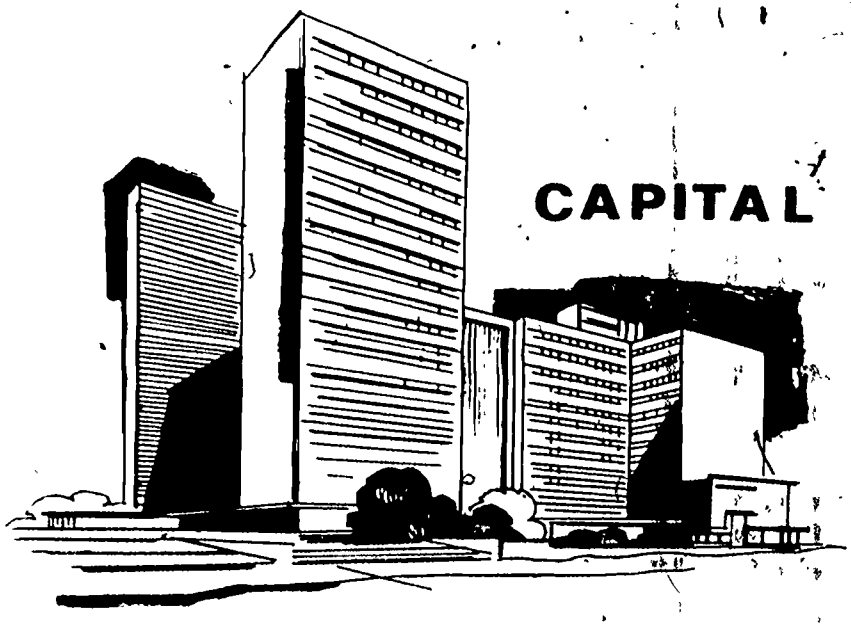
THE 4 FACTORS OF PRODUCTION



LABOR

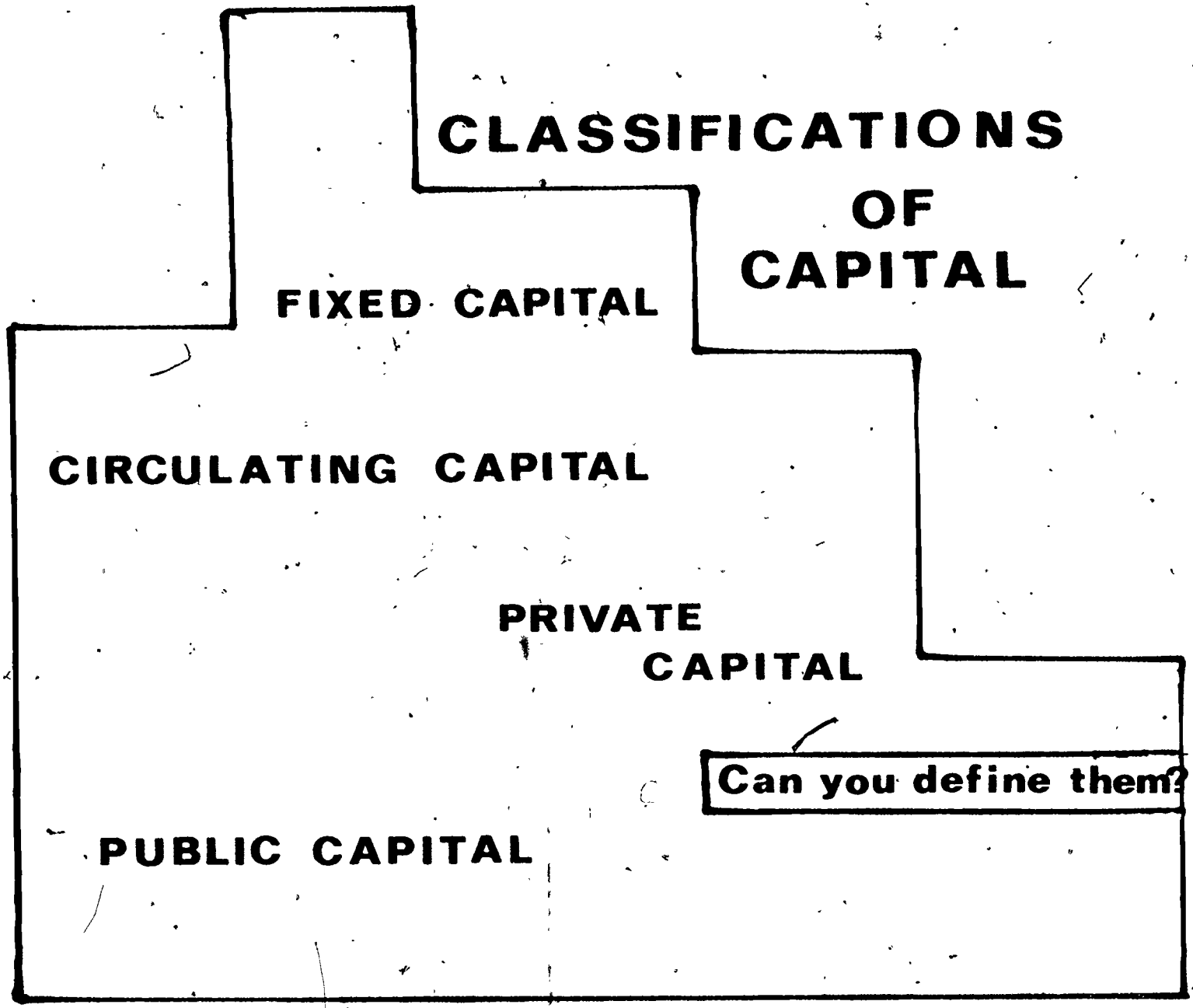
LAND



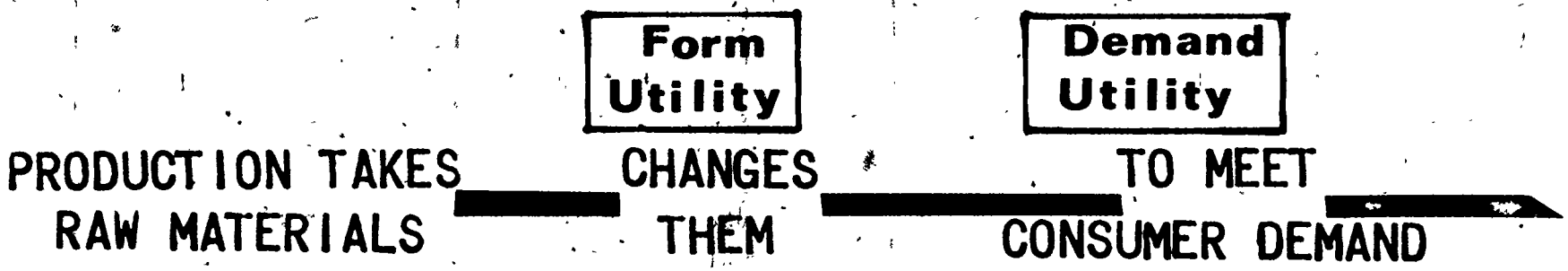
CAPITAL

ENTREPRENEURSHIP

50


CLASSIFICATIONS
OF
CAPITAL
FIXED CAPITAL
CIRCULATING CAPITAL
PRIVATE
CAPITAL
Can you define them?
PUBLIC CAPITAL

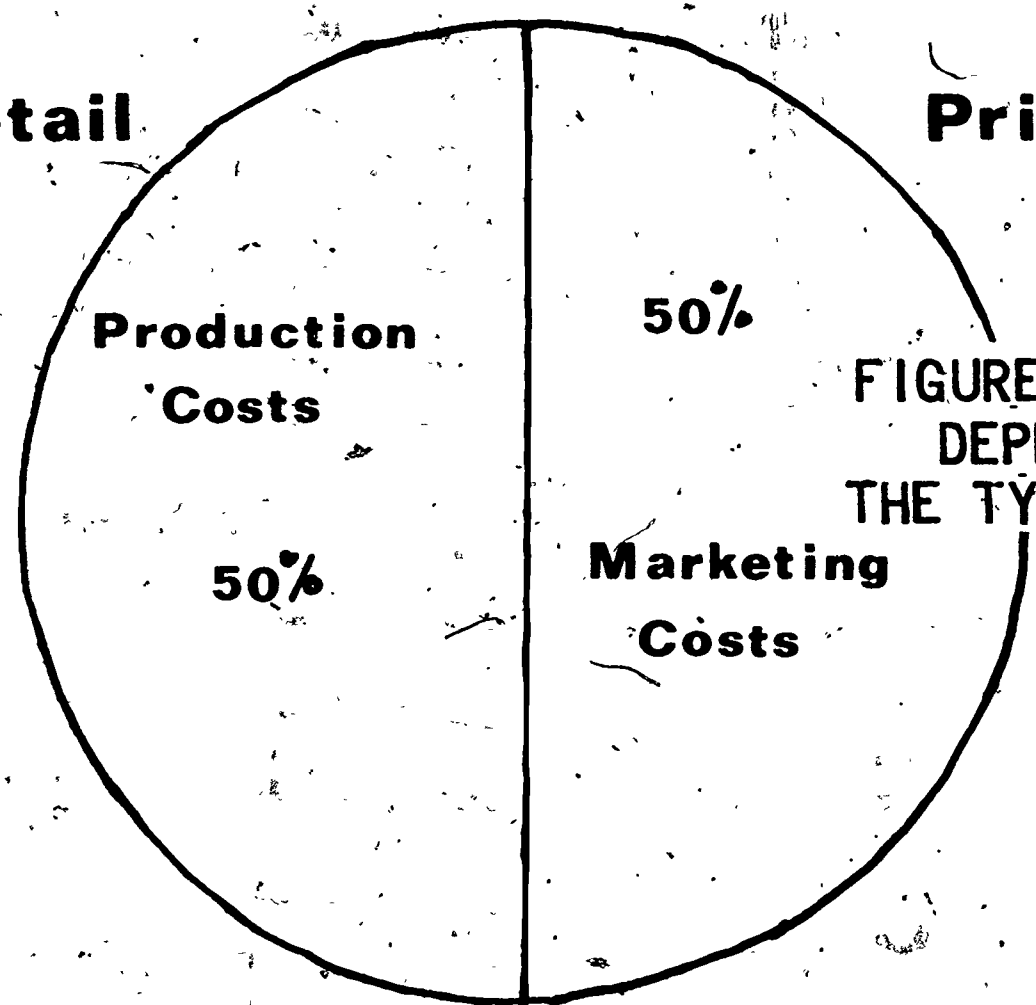
Production Creates Utilities



Distribution Creates Utilities

Place Utility	DISTRIBUTION SEES THAT THE GOODS ARE AT A PLACE WHERE THE CONSUMER CAN BUY THEM
Time Utility	DISTRIBUTION DELIVERS THE GOODS WHEN THE CONSUMER WANTS THEM
Possession Utility	DISTRIBUTION MUST SEE TO IT THAT THE GOODS ARE SOLD, I.E. THE CONSUMER POSSESSES THEM

COST OF DISTRIBUTION



FIGURES WILL VARY DEPENDING ON THE TYPE OF GOODS

MORE EFFICIENT MARKETING METHODS CAN RESULT IN LOWER MARKETING COSTS

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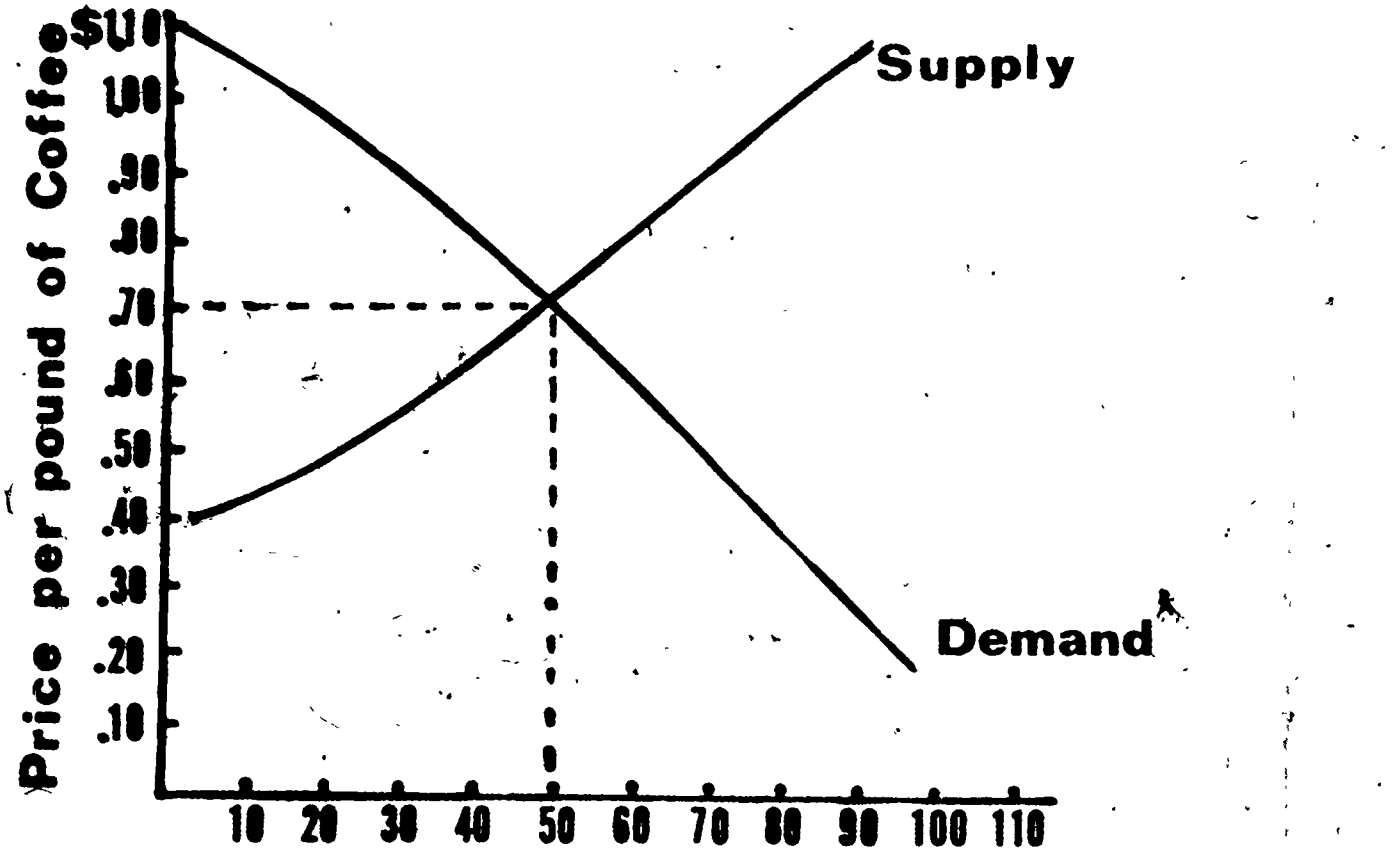
GNP

THE GROSS NATIONAL PRODUCT IS THE OUTPUT OF ALL GOODS AND SERVICES FOR A GIVEN YEAR BY AN ECONOMY AND VALUED AT CURRENT MARKET PRICES

THIS IS THE MOST IMPORTANT FACTOR IN JUDGING AN ECONOMY

The Supply And Demand Graph For Coffee



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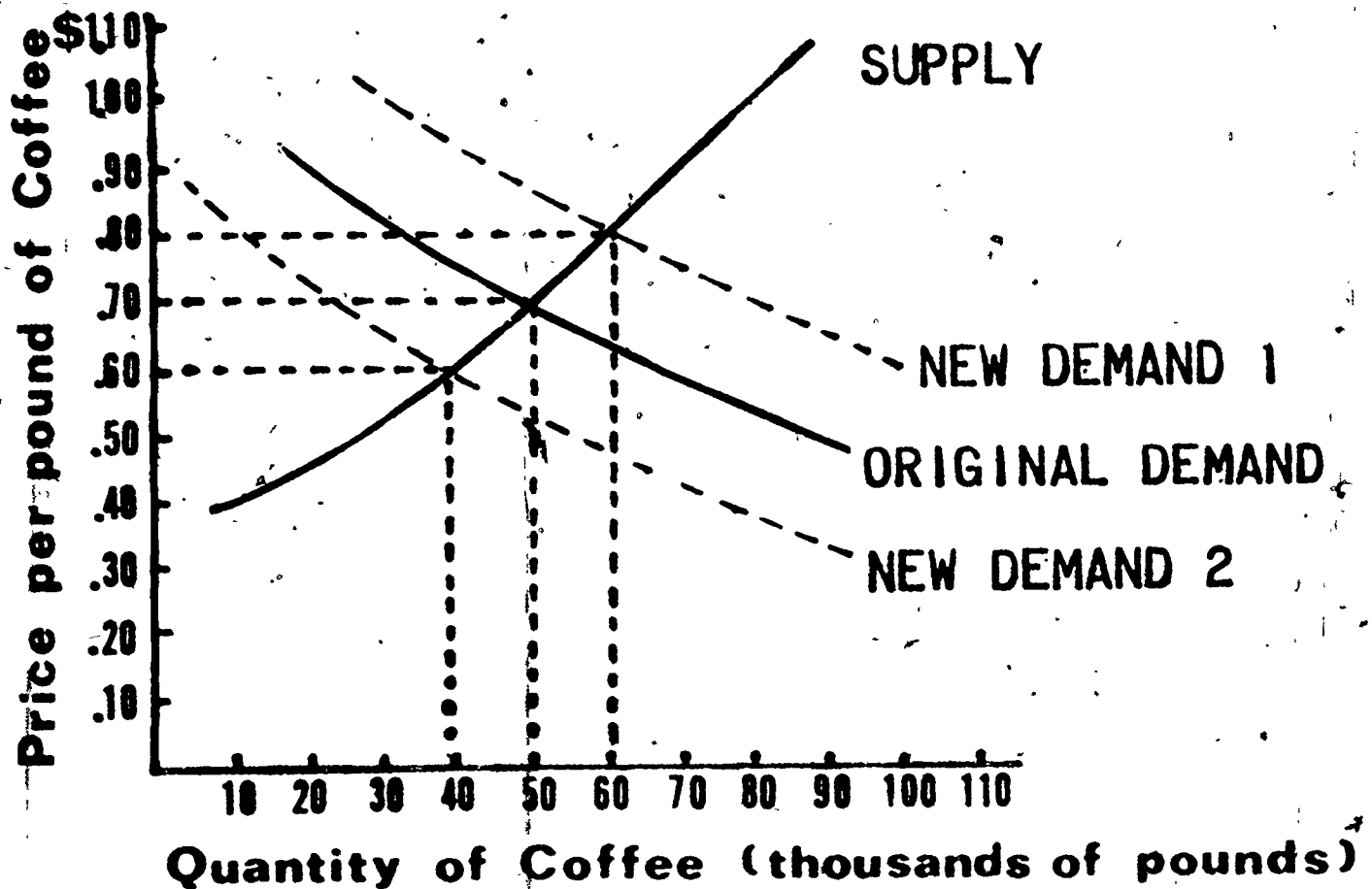
Changes In The Demand For A Product



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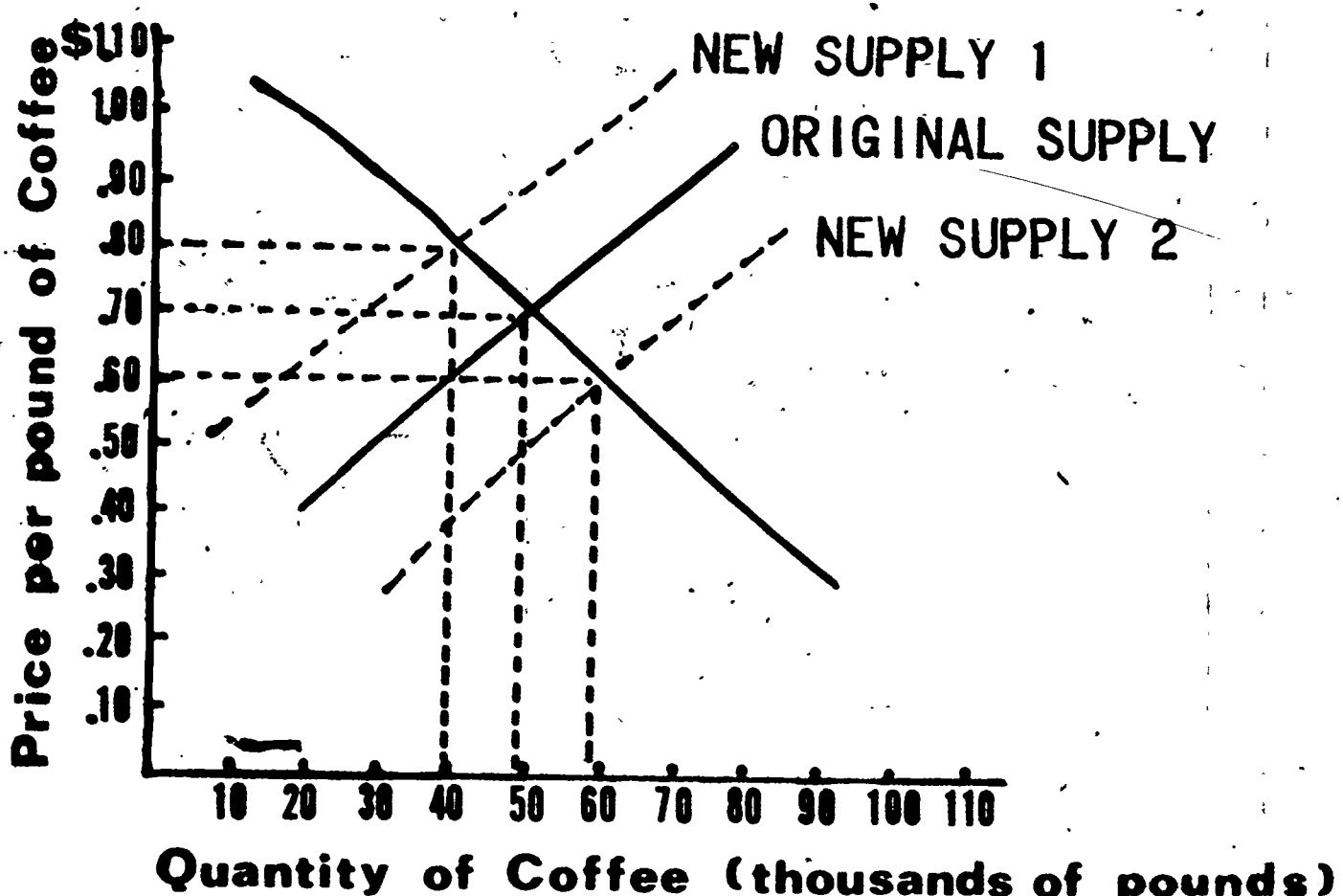
Changes In The Supply Of A Product



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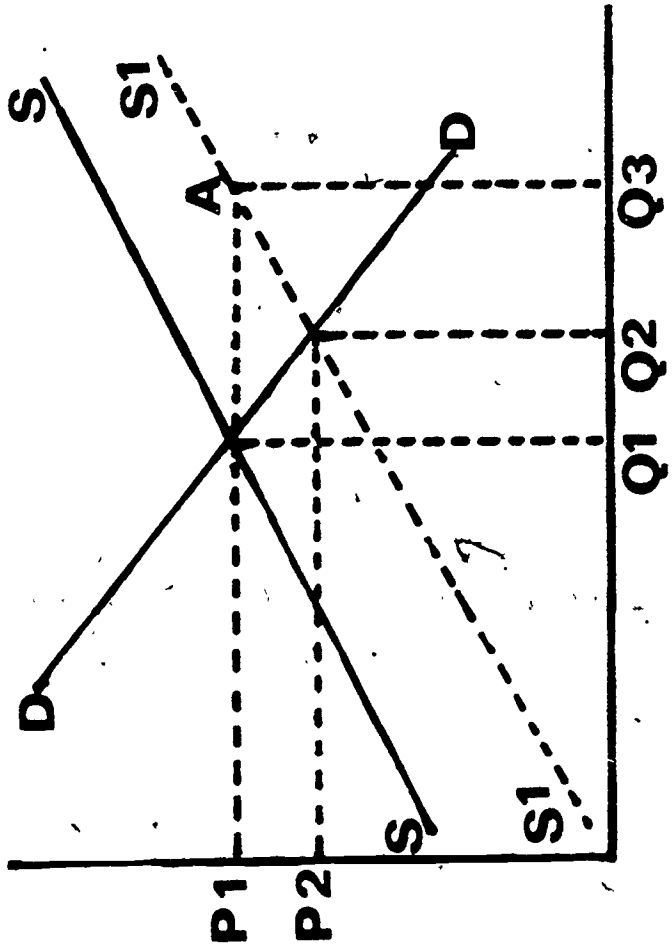
Government Price Supports



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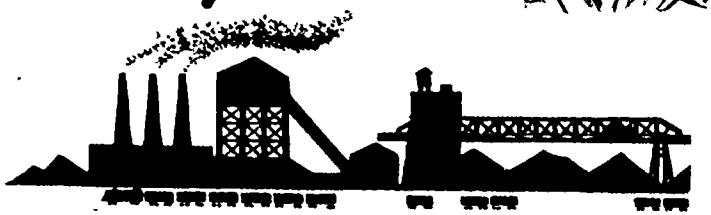
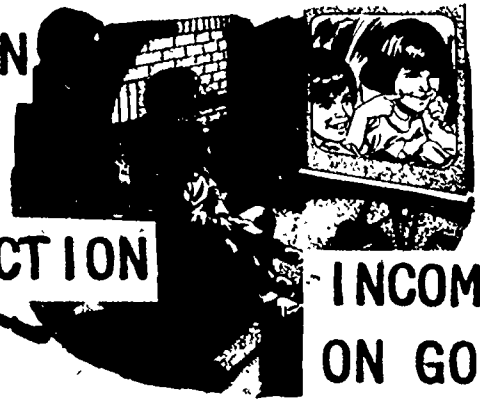
The Circular Flow Of Income

INDUSTRY USES LABOR AND SERVICES

LABOR RECEIVES INCOME FROM INDUSTRY



PROFITS RETURN TO INDUSTRY FOR FURTHER PRODUCTION



INCOME IS SPENT ON GOODS AND SERVICES

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ABSTRACT: THE PURPOSE OF THIS STUDY GUIDE IS TO PROVIDE TEACHERS WITH MATERIAL RELATING TO THE PROBLEM OF SHOPLIFTING AND THE EFFECT OF THIS PROBLEM ON THE BUSINESS COMMUNITY. SECTION I OF THE GUIDE IS COMPOSED OF FIVE LESSONS. THE FIRST EXPLAINS THE TERM SHOPLIFTING, DESCRIBES THE EXTENT OF THE PROBLEM AND WHY PEOPLE SHOPLIFT. LESSON II IS INTENDED AS A REVIEW. LESSON III DISCUSSES THE TYPES OF SHOPLIFTING, THE METHODS SHOPLIFTERS USE, AND THE "TOOLS OF THE TRADE." LESSON IV DEALS WITH THE FACTORS THAT INDUCE SHOPLIFTING AND PREVENTIVE MEASURES THAT MIGHT BE USED TO COMBAT THIS CRIME. LESSON V PRESENTS THE LEGAL RAMIFICATIONS OF SHOPLIFTING. SECTIONS II AND III OF THE GUIDE ARE DEVOTED TO AN ANTI-SHOPLIFTING CAMPAIGN AND PROJECT MATERIALS. SECTION IV LISTS RESOURCE MATERIALS. (LJ)

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A STUDY GUIDE

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SECTION I:

Instructional Outline

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INTRODUCTION

Shoplifting is no joke: it's a crime that costs everybody money! It is also the fastest growing form of larceny, according to F.B.I. Director J. Edgar Hoover. And the figures prove this fact--approximately $3.5 billion worth of retail merchandise is shoplifted annually ($200 million in New Jersey alone!).

Consequently, there has been a great need for New Jersey's Distributive Education Teacher-Coordinators to conduct short teaching units for both their in-school programs and adult classes in regard to shoplifting. This need stems from the increasing concern of both businessmen and law enforcement officials about the increasing store losses.

This teaching outline has been developed so that the Teacher-Coordinator can use flexibility in the presentation of the material. It can be taught in ten sessions of approximately fifty minutes each (two sessions to a lesson); or it can be taught in a shorter period of time by the use of handouts. Time constraints and the students' interest should be the end determinant of exactly how many sessions are allocated.

In addition to flexibility, the Teacher-Coordinator should attempt to make the unit as student-oriented as possible. Effort should also be made to bring in speakers, have the class attempt related project activities, utilize audio-visual aids, engage in role-playing and participate in the NJRMA/NJDECA Anti-Shoplifting Campaign.

One last, yet most significant, suggestion: Be somewhat familiar with the subject of shoplifting before beginning to teach it. Visit with store security managers or police detectives, and even browse through any of the reading materials suggested in this Guide's Listing of Resources. Also, contact the local Chamber of Commerce or Merchants Association (see page [illegible]) for additional information.

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* * * * *

Lesson I deals with the purposes and objectives of the course. It should help the students to think about the significance of the shoplifting problem, as well as to help them to start thinking about the psychology involved.

Lesson II will expand on ideas developed in the first session. The group should then be ready to view an excellent film on the subject, "Caught."

In Lesson III, shoplifters are categorized and grouped according to their methods. Tools of the trade are also examined.

Lesson IV deals with the facts that induce shoplifting and what is being done to combat it.

The fifth and final lesson is a wrap-up of the course. It presents the legal ramifications of shoplifting, and if a guest speaker can be arranged to handle this area--so much the better.

Overall, the unit has been designed to follow a specific pattern that will take the class through the basic and fundamental concerns of the public, businessmen and law enforcement agencies.

Teacher-Coordinators should now feel free to take this information and adapt it accordingly.

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LESSON I

Instructional Outline	Suggestions to Teachers
I. INTRODUCTION	Relate the basic areas to be covered.
A. Explain Unit Content	
1. For next week (or longer).	
2. Tell of any films or speakers that will supplement it.	
3. There will also be related projects.	See Anti-Shoplifting Projects, pages 19-25. NOTE: As soon as possible, utilize these to enliven the unit; to arouse students' interest; and to form basis for entry into NJRMA/NJDECA Anti-Shoplifting Campaign.
II. WHAT (EXACTLY) IS SHOPLIFTING?	
A. Definition of Terms	
1. Inventory Shrinkage	Be sure class understands the role that shoplifting plays in inventory shrinkage.
a. Difference between retail price of merchandise and the actual amount realized on the sale of the merchandise.	
b. Caused by theft, price markdowns, disappearance of money or merchandise.	
2. Shoplifting	Have students look up the definition of an unabridged dictionary. Also have them find the term's meaning, as determined by New Jersey Statute (which will be further analyzed in Lesson V). Might want to assig a group to research "History of Shopliftin --see Cameron or Edwards Texts--and report back on findings later in the week.
a. Larceny or theft in a retail store by people who pose as legitimate customers. Polite term for stealing.	
b. Comprises 30 per cent of all inventory shrinkage.	
c. Pilfering, heisting, boosting, ripping-off are synonyms.	
3. Retail Security	Everybody's job to combat shoplifting; not just that of the security force.
a. Protection of store properties.	
b. Protection of personnel and customers from loss or injury.	
III. WHY STUDY ISSUE?	Attempt to elicit these objectives from students. List them on chalkboard as they are brought out.
A. To determine affect shoplifting has on the business community.	
B. To learn how to identify shoplifters.	

Instructional Outline	Suggestions to Teachers
C. To get to know New Jersey's law on shoplifting.	
D. To learn the correct procedure in apprehending a shoplifter.	BEST COPY AVAILABLE
E. To determine effect that the proper or improper display of merchandise has on shoplifters.	
F. To help businessmen reduce inventory losses.	Again, through use of related projects. Also, by working closely with local Chambers of Commerce and Merchants Associations (page18 of this Guide) and/or working on the NJRMA/NJDECA Anti-shoplifting Campaign.
G. To make other employees aware of the problem.	
H. To help prevent people from getting into trouble.	
I. To know your rights as an employer or employee.	
J. To learn to understand the policeman's and lawmaker's problem.	
K. To find out what role age, sex, season of year, size of store and attitudes play in shoplifting.	For example, through surveys on shoplifting of students, problems faced by retailers, etc. These would also provide an excellent digression into the area of Market Research.
L. To recognize key items of merchandise that are frequently stolen.	
IV. ENORMITY OF PROBLEM	
A. Approximately $3.5 billion worth of retail merchandise is shoplifted annually in this country.	Have class figure out how much per day.
B. Annual shoplifting losses in New Jersey are estimated to be over $200 million.	" " " " " " " "
C. Shoplifting cases have increased 134% in last five years.	F.B.I. Director J. Edgar Hoover calls shoplifting the fastest growing form of larceny in the country. Have students research what else he and other law enforcement officials have said on the subject, as well as find out latest figures on amount of loss. Are any additional figures available from local stores and/or your particular area's Police Department?
D. At least 32% more people in the United States are shoplifting today than years ago.	
E. Macy's, New York City, has estimated loss of over $1 million per year in shoplifting.	
F. Average inventory loss due to customer and employee pilferage has reached 1.6% of total sales.	Cite this fact: Theft from an average retail store of an item costing $15 can be equivalent to losing the net profit on sales of $1,000. Average net profit per dollar of sales is 1.5¢, so that's what it takes to offset the loss!

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V. PSYCHOLOGY OF SHOPLIFTING

A. Why People Shoplift

1. Need.
2. For "fun" or "kicks."
3. On a dare or impulse.
4. Just to see if they can get away with it.
5. Part of an initiation.
6. Stores are too big and making too much money.
7. Can't pass up the chance.
8. Desire for attention.
9. Just a prank.
10. Store won't miss it.

Draw out from class examples of who they think might fit into the various categories. such as--fathers who do not have money to buy groceries; housewives with just enough money to buy necessities; and so forth.

This point could be the basis for a philisophical discourse.

B. Is shoplifting "Right?" or "Wrong?" and WHY?

Until when?
A mini-debate might be in order here. Hopefully, students will arrive at opinion that shoplifting is wrong...because it's stealing, indicative of a moral breakdown in our society, expensive to them as customers, etc. Yet some creedence should be paid to the justifications for shoplifting. And care must be exercised to avoid sounding dogmatic.

Now would be a good time to distribute the brochure, "Teenagers Beware! Shoplifting is Stealing," available from the National Retail Merchants Association (see Listing of Resources, page 32) and announce that it will be discussed tomorrow. In addition, Teacher-Coordinators--whether or not involved in the NJDECA/NJRMA Anti-Shoplifting Campaign--might well want to begin dividing class into groups, so as to utilize some of the related projects.

END OF LESSON I

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LESSON II

Instructional Outline	Suggestions to Teachers
I. REVIEW	
A. Brochure, if distributed.	Highlight significant points.
B. Yesterday's lesson.	Highlight significant points.
C. Any projects that are being undertaken.	
II. NEWS RELEASES	Refer to Appendix, page 38. Also, have students review existing literature on shoplifting as well as have them locate additional information.
III. FILM--"CAUGHT!"	
Note: 24 minutes--color--sound--16 MM.	This is an excellent film that should be shown not only to D.E. students, but if possible, to all students in the school at some sort of assembly program. See Listing of Resources, page 32, for its availability. Contained therein are several other excellent AV aids.
A. Preview first; then give class, before viewing, some idea of what they will be seeing.	
B. Afterwards, discuss film's message (as perceived by students).	Produced in cooperation with educators, security experts, law enforcement officials and retail stores, this "on location" motion picture emphatically makes the point: "Stores are fighting back...and that shoplifters are going to get caught!" Will serve as an effective tool for student AND community attitude shaping and decision-making.

END OF LESSON II

LESSON III

Instructional Outline	Suggestions to Teachers
I. TYPES OF SHOPLIFTERS	
A. Three Main Categories	Prepare an overhead transparency with the names of each classification listed separately. Information may be included with the classification. Turn the transparencies as you discuss each type.
1. Kleptomaniacs--have a persistent, neurotic impulse to steal, especially without economic motive.	
a. Minority group; account for not more than 1% of losses.	Have students do research on this.

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Instructional Outline	Suggestions to Teachers
b. Motivated by inner tensions.	What kinds of inner tensions?
c. Object stolen has symbolic meanings.	What kinds of symbolic meanings?
2. Amateurs--steal because temptation and opportunities present themselves.	
a. 90% of shoplifters who are caught.	Emphasize aspect of being caught; does this figure represent 90% of all shoplifters? (NO)
b. Success brings about irresistible urge to repeat.	
c. Usually self-conscious and nervous, as well as impulsive.	
3. Professionals	Refer to Alexander and Moolman's Stealin for additional insight.
a. Apply their entire working time and energy to larceny.	
b. Cause substantial losses; they steal on a large scale.	
c. Between 10 and 20 per cent of shoplifters.	
d. Migratory, elusive thieves.	
e. Often travel in pairs.	
f. Well-trained, observant, cautious.	

Persons wearing loose, baggy clothing.
Persons carrying loosely folded umbrellas, shopping bags and newspapers.
Women with open handbags dangling from one arm, while holding change purses in plain view.
Intoxicated customers.
Baby carriages wheeled through the store.
Customers who engage you in conversation to direct your interest (such people are often accompanied by partners who will steal while your attention is diverted).
Persons wearing unseasonable clothing, such as raincoats on sunny days or heavy coats on warm days.
Persons carrying unwrapped merchandise in unrelated areas.
People who hang around but make no attempt to buy anything.
People who act nervous.

These three categories can be separated and broken down further by listing on chalkboard in this manner: Professional Amateur Kleptomaniac. Then elicit from class examples of "Actions of Shoplifter that might fall under each category. Most of those that are listed on the le should be able to be picked--by students Or teacher may list them himself--before asking class to subdivide.

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Instructional Outline	Suggestions to Teachers
People who hang around the displays that are hidden from clerks. Teenagers grouped around a display. Customers pretending to be waiting for someone. A customer who always sends the clerk away on the pretense that he wants another size, color, etc. People who go into receiving or stock rooms who have no business there.	
B. Other Categories	Yes, these do tend to somewhat overlap! Emphasize their dangerous nature, which necessitates immediate notification of the police.
1. Drug Addicts	
a. Must steal in order to live.	
b. Take large quantities of expensive merchandise that can be sold illegally for ready cash.	
c. Will usually grab an item and attempt to make a quick get-away.	
2. Juveniles	Discuss Hoover's statement: "We solve no problems by putting children in jail when the real problem is that of delinquent parents and adults." (Modern Retail Security, page 151).
a. Between 70 and 80 per cent of all apprehended shoplifters are under 18.	
b. From middle and upper income families.	
c. Have "aiders" or "abettors" as lookouts.	
d. Girls outnumber boys.	In fact, two thirds of all shoplifters are women. What are some possible explanations? Here, again, a confidential survey of students might prove informative.
e. Not concerned with value of merchandise taken.	
3. Employees	
a. Extremely successful.	Find out what security experts have said recently about this category (in regard to "allowing" a certain, controlled amount of employee theft).
b. Steal because of availability of merchandise.	How?
c. Either by themselves or in conjunction with friends or relatives (not working in store).	
Anybody else?	Class might be able to think of some other examples not already mentioned; i.e., executives, vagrants, people who eat out and take the silverware, housewives who take shopping carts (What has

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Suggestions to Teachers

been done to prevent this? Answer--not allowing carts to be moved from store's immediate vicinity) and so forth. Hoffman's Steal This Book contains many more.

II. METHODS OF SHOPLIFTING

NOTE: Stress fact that observation is the important key to detection!

Relate these to "Actions of Shoplifters discussed earlier.

A. Blocking

1. Done by professionals usually in a time span of less than 30 seconds.

Role-playing enables students to better visualize these methods. Typical situations can be easily arranged in any classroom setting. Also, have students, themselves, explain to their peers what each method entails.

2. Usually involves three or more persons.
   a. Two will place themselves in a position where they are always between the sales person and the actual shoplifter.
   b. Actual shoplifter will take merchandise and bolt from store.

Happens frequently in jewelery stores; how can it be prevented?

B. Changing

1. Shoplifter will come out of a dressing room wearing more clothes than when he went in.
2. Easier in small stores.

What have department stores done to combat this?

C. Switching

1. Two shoplifters will enter a jewelery store at the same time.
2. While clerk is kept busy, cheap merchandise will be switched for something expensive--watches, rings or precious stones.
3. Also done easily with clothing.

The booklet, "Watch Out for the Thief," has pictures which would be very good for posters or the bulletin board. They illustrate these very same techniques.

D. Palming

1. Using glove, scarf or handkerchief to cover item while stealing it.
2. Requires much practice to perfect technique.

As do all of these techniques. Yet because of laxity on the part of retail employers and employees, shoplifters frequently get away with less than perfect performances.

E. Crotch Workers--conceal merchandise between legs or under armpits

F. Hit-and-Run

1. Take anything near an exit.
2. This shoplifter hopes not to be seen or to be able to run faster than those chasing him.

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Instructional Outline	Suggestions to Teachers
III. TOOLS OF THE SHOPLIFTER	Used by themselves or in conjunction with "Methods" described in previous section. Arrange with local Police Department to loan you a display of tools that they have confiscated from shoplifters. Have them on display, so that they can be shown one at a time and/or examined at the end of class. Or have students again role-play, utilizing these tools.
A. Large purses--types that open and close easily	
B. Boxes tied or wrapped like a regular suit box or other parcel box but with a hinged top, bottom or end.	
C. Shopping bag containing other merchandise or just plain paper.	
D. Belts or harnesses worn under coats.	
E. Pants or bloomers with full pockets.	
F. Large wristed gloves.	
G. Musical instrument cases or cases that look like those carried by doctors.	
H. Helper coats with large pockets.	
I. Newspapers or magazines that are folded to hold phonograph records.	
J. Umbrellas that are fitted with elastic bands attached to the ribs of the umbrella (good catch-all).	

END OF LESSON III

LESSON IV

Instructional Outline	Suggestions to Teachers
I. INCREASE IN SHOPLIFTING	
A. Review	
1. "Enormity of Problem"--discussed in second lesson.	As already suggested, better if students "dig-out" these facts; i.e. by personally contacting Police Department.
2. Any additional findings?	
B. Why? ("Factors That Induce Shoplifting")	Have this section duplicated and distribute to class to discuss. Go over each item and see if students can relate how it has a bearing on inducing people to shoplift; and if so, how?
1. Advent and expansion of self-service stores.	
2. High-operating costs have caused retailers to cut floor staffs to a minimum.	
3. Breakdown in nation's morals.	Is this true? (Discuss)
4. State shoplifting laws are inadequate.	
5. Leniency by judiciary in handing down sentences to shoplifters.	
6. Goods no longer in showcases or on shelves behind counters.	Does "opportunity make the thief"?
7. Carelessness or laxity in supervision.	
8. Advertising.	How? (Exposes items available and brings large crowds.) See if class can

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Instructional Outline	Suggestions to Teachers
9. Display techniques for impulse buying.	figure this out. Discuss what one chain store manager has said: "We try to tempt people into buying and we tempt them into stealing."
C. Time of highest risk	
1. Lunchtime.	
2. 63% are apprehended between 2 and 5 p.m.	Continually ask: WHY?
3. September-December are busiest holidays.	
4. During holiday seasons, special sales and Saturday rushes.	Have students watch papers for special events to determine when store will be crowded. NOTE: Wherever and whenever applicable brainstorm, in order to elicit students' thoughts.
II. PREVENTIVE MEASURES	
A. Role of Retail Personnel	
1. Well-informed employees are the strongest weapon against shoplifting.	
2. ALL personnel are responsible for shoplifting.	
3. Alert (prompt) and aggressive store personnel--utilizing fundamentals of good salesmanship--offer a deterrent to shoplifters, as customers want service; shoplifters don't.	Use "Rules for Employees" (Appendix, page 40) as an overhead or handout. Emphasize the fact that one of the most important methods of preventing loss is good service!
4. Retail executives must:	Stressed should be that management must provide continuous leadership in the area of prevention of shoplifting. It must also have active interest and enthusiasm, in order to spur the sales personnel's desire to be helpful.
a. Determine policies to be followed.	
b. Designate individuals to make arrests and be sure that the law is understood.	
c. Establish contacts with the local police.	
d. Keep employees well-informed through continuous training.	Remember this? Carelessness or laxity in supervision is cited as one of the "Factors That Induce Shoplifting."
e. Initiate and supplement employees in the development of retail security through...ask the class for its ideas.	Memos, bulletin boards, posters, movies, clinics, etc. In regard to the last suggestions, the D.E. program could perhaps volunteer to sponsor a shoplifting clinic (i.e., an Adult Education course offering) at which a similar unit to this one could be taught.
f. Cooperate in local merchant group campaigns against shoplifting.	NJRMA/NJDECA Anti-Shoplifting Campaign.

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Instructional Outline	Suggestions to Teachers
5. Floor Detectives	
a. Continuously study merchandise and store layout.	
b. Keep a current file of known area shoplifters.	Emphasize importance of analyzing and reanalyzing this information; helpful if done in conjunction with other stores and law enforcement officials.
c. Observe shoplifters in the act of committing thefts.	
d. Follow and apprehend suspects.	
e. Prepare case materials and represent the store in court.	
	Not all people should be store detectives. They must be carefully selected. (Ask class: With what qualities in mind?) What about possibility of hiring students on security forces? (Incidentally, more and more stores are, in fact, trying this out with so-called "Mod Squads.")
6. Guards	
a. Must be thorough and careful in checking all customer packages.	
b. Must scrutinize activities around public lockers.	Clarify difference between a Store Detective and Guard. A possible project might be to have any interested students research about the possibility of careers in the security field.
B. Control Systems	
1. Fitting rooms	If available, refer to the Assistant Manager's Training Guide No. 10, Chain Store Age, August, 1964, pages 72-76, for "How to Stop Apparel Pilferage."
a. Must be kept clean.	
b. Limit number of garments to be taken into room.	
c. Locate away from main selling floor and entrances.	
d. Doors should be made of cloth curtain material.	
2. Price Tags	
a. Sales clerks must know price of all merchandise within their jurisdiction.	Again, continually ask: WHY?
b. Uniform code system needed on markdowns.	
c. Re-marking done only by marking room personnel with same color ink.	
3. Refund Control	
a. Sales receipt requirements or proper identification.	
b. If necessary, mail a bank check to customer's home.	
c. Restrict number of people who can give refunds.	

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Instructional Outline	Suggestions to Teachers
d. What should refund forms require?	Answer: Signature of preparer, authorizer and upon receipt of cash, the customer. A good review at this time might be to hav another overhead, "Security Weaknesses and Failures," which can be found on page 41 of the Appendix.
C. Technical Equipment for Detection of Shoplifters	Stress point that stores must design pilferage prevention measures for their individual needs.
1. Radio Devices	
a. Inter-communication systems	
b. Wireless direct-voice selective paging systems	Have students research the differences between these three systems.
c. Two-way paging systems	
2. Recorders	
3. Closed-circuit television	If entire class couldn't take off to review and analyze a large store's security program (and technical devices), then assign a representative delegation to do so and report back with its findings
4. Mirrors	
a. Convex	Just like the spy movies.
b. Two-way	Discuss concept that sometimes safe-guards can encourage shoplifters. For instance, some professional shoplifters like stores with convex mirrors because they can see who is watching them..
c. Conventional	Television cameras and uniformed guards are sometimes a challenge to pilferers,-- it becomes a sport to "steal right under their noses."
D. Function of Store Layout in Theft Control	First ask class for its input. Also emphasize that larceny is a crime of opportunity; with the opportunity of theft removed, so too frequently is the temptation to steal.
1. Provide for good visibility throughout the store by keeping height of merchandise gondolas low.	
2. Have manager's office high and near the check-out counter, if it is on the selling floor.	
3. Have proper lighting.	
4. Display small, high cost merchandise near supervised check-out stands.	
5. Have mirrors placed in strategic areas in order to take the privacy away.	
6. Cash registers should be in full view of as many people as possible.	For what reason? (Answer:) To help foil the hit-and-run shoplifter, for one reason.

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Instructional Outline	Suggestions to Teachers
7. Controlled exits; wide aisles; low fixtures.	An excellent, related project would be to have members of class draw sketch of floor plan in store where they are employed and have them check for various security methods utilized (and suggest improvements that could be made).
Any other preventive measures?	

END OF LESSON IV

LESSON V

A speaker on "The Legal Aspects of Shoplifting" would be most appropriate at this time. Have him cover any of the topics listed below (and what he doesn't cover, the Teacher-Coordinator should in the remaining time allocated for this unit). Suggested speakers might be a local judge, police chief, store detective or retailing executive; for help in lining-up one, refer to your local Chamber of Commerce or Merchants Association. A listing of these can be found on page 18 of this Guide.

Instructional Outline	Suggestions to Teachers
I. LEGAL ASPECTS OF SHOPLIFTING	
A. Need for Effective Shoplifting Laws	Have students attempt to think up these reasons.
1. Fear of a particular law's consequences deters theft.	Discuss whether or not this is true.
2. Retailers complain about inadequate laws but often fail to prosecute offenders because:	
a. Fear of false arrest consequences.	The professional thief is almost always prosecuted and receives time in jail. But what about the amateur... should the stigma of a police record be placed on a citizen who has never previously had trouble with the law and whose reputation and livlihood may be permanently impaired by a record? On the other hand, what are the ramifications of letting him off with just a reprimand?
b. Reputation of being too strict.	
c. Cost and inconvenience of court trials.	
Any other reasons?	
B. Analysis of New Jersey's Shoplifting Laws	Take "time-out" to explain/review statute numbering system.
1. Definitions--all four	Have handout of New Jersey's Shop-

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Instructional Outline	Suggestions to Teachers
	lifting Laws (Appendix, page 42). Allow students only enough time to read each section, then discuss it--if speaker doesn't--point by point.
2. Concealment	What is prima facie evidence--and how does it relate to concealment?
3. Taking suspect into custody	
a. Person may be detained in a reasonable manner for not more than a reasonable time.	What is meant by term "reasonable" in both cases? (Answer--in latter instance, 60 minutes.) Is this fair?
b. Immunity from criminal or civil liability in any manner or extent whatsoever.	Has been subject of much heated debate.
4. Shoplifting is now punishable by up to seven years in prison and a $2,000 fine.	NOTE: This detention does not constitute an arrest; nor does it provide the right to search a person without the individual's willful consent.
C. Arrest Precautions	
1. Charges of false arrest, or wrongful detention and interrogation, frequently arise in dealing with shoplifters.	How? Might want to discuss "Recent Shoplifting Court Cases," which can be found on page44 of Appendix.
2. Property owner could be held liable for:	Have students research legal definitions of each term; emphasize, in discussing Malicious Prosecution, that the act of detention must NOT be based on suspicion of past record.
a. Slander.	
b. Assault and Battery.	
c. False Arrest.	
d. False Imprisonment.	
e. Malicious Prosecution.	
D. Training Employees in Procedures of Apprehension and Prosecution	For one last flipchart and/or overhead, and an extremely important one at that, refer to page 40 of the Appendix for a further breakdown of these categories. But an even better way of discussing each point, this time, would be to have class role-play the situation of an apprehension, search and interview.
1. Observation.	
2. Procedures for Apprehension.	
3. Searching Suspect.	
4. Questioning Suspect.	
5. Whether or Not to Prosecute.	
6. Evidence to Retain.	
7. Court Preparation.	
8. Search and Seizure of Stolen Property.	Many stores limit the persons allowed to make apprehensions to well-trained individuals to protect the store. It is extremely important that all employees know exactly what procedures to follow; i.e., who to contact and how. (Any code?--ask class why this is done.)

END OF LESSON V

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SECTION II:

NJRMA/NJDECA Anti-Shoplifting Campaign

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ANTI-SHOPLIFTING CAMPAIGN

Purposes: To develop in students an awareness of the shoplifting problem faced by retailers, to actively involve students in the campaign to reduce this problem, and to provide an opportunity for experienced retailers to help develop the marketing and distribution leaders of tomorrow.

The Anti-Shoplifting Campaign is sponsored by the New Jersey Retail Merchants Association, in conjunction with New Jersey DECA. It is designed to encourage both DECA members and chapters to analyze the ramifications of the problem, as well as to involve them in a wide-spread campaign to inform the public that "SHOPLIFTING IS NO JOKE; IT'S A CRIME...AND IT COSTS EVERYBODY MONEY!"

Chapters may involve themselves in any and/or all of the suggested projects listed in "Shoplifting: A Study Guide" (available at no cost from Distributive Education Club, Rider College, Trenton, N. J. 08602).

Chapters should also be encouraged to devise additional projects--and to utilize them in their anti-shoplifting campaigns.

In addition, since the New Jersey Retail Merchants Association is sponsoring the Anti-Shoplifting Campaign, it is highly desirable that it be conducted jointly with leaders in the security and retail fields acting as advisors and consultants. Chapters should therefore make every effort to work with their local Chamber of Commerce or Merchants Association (refer to list of these after Rating Sheet). Where this is impractical due to distance, or for any other reason, contact the Distributive Education Club of Rider College for assistance.

Specifications:

1. Entries must be submitted in the official blue DECA Scrapbook binder. The face of the binder must be unaltered in any way. It is available from the Balfour Supply Service, 8004 Norfolk Avenue, Washington, D. C. 20014.
2. The scrapbook must display the name of the chapter, school, city and year.
3. Entries should reflect, in an interesting and attractive form--using photographs, newspaper clippings, letters, etc.--most of the chapter's activities in this particular area (dealing specifically with an anti-shoplifting campaign) within the "judging year."
4. The judging year includes only those activities of the local chapter from the beginning of the school year, 1971-72, until mid-February.
5. Entries will be due at Rider College (Attention: Distributive Education Club), Trenton, New Jersey, 08602 on or before February 20, 1972.
6. Creative Entry Summary Sheets are NOT required for this entry.

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Awards: The New Jersey Retail Merchants Association will make the following awards during the State Leadership Conference:

$150 - State Winner
$ 50 - Second Place
$ 25 - Third Place

Furthermore, NJDECA will award trophies to State, Second and Third Place Winners, and NJRMA will present certificates of participation to every chapter which competes.

Judging: Judging will be done during the period between February 20 and the State Leadership Conference by representatives of NJRMA (encompassing leaders in the security and retailing fields) and Rider College DECA, whose background in the shoplifting problem and familiarity with NJDECA qualifies them to evaluate this important new event.

NOTE: Winning entries will be determined by the quality of their anti-shoplifting campaign, not by the number of suggested projects completed or artistic merits of their scrapbooks.

See below for rating criteria.

* * * * *

ANTI-SHOPLIFTING CAMPAIGN

Rating Sheet

ECONOMIC AND SOCIAL CONTRIBUTION (40 points)

Comparative Value (20 points)
Is the application practical? Does it benefit few or many? Ordinary or extraordinary benefit? To retailers and students?
Success of Campaign (20 points)
How effective was it? What criteria was used to judge this success?

PROJECTS UTILIZED (30 points)

Originality (15 points)
Any new projects utilized? Fresh approaches to existing ones?
Presentation (15 points)
Does it show creativity? Imagination? Language lively? Show an interest in project?

TECHNIQUE (30 points)

Documentation (10 points)
Enough? Well organized? Appropriate to topic? Accompanying letters of recognition?
Effort (10 points)
Involve adequate number of students? Reasonable number of hours? Evidence of planning?
Physical Requirements (10 points)
Is it neat? Spelling and grammar correct? Carefully presented?

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For assistance with your Anti-Shoplifting Campaign, contact the Chamber of Commerce or Merchants Association in your area:

Asbury Park CofC--628 Mattison Avenue
Atlantic City CofC--10 Central Pier
Atlantic City Merchants Association
Bayonne CofC--17 West 25th Street
Belleville CofC--302 Washington Avenue
Bergenfield CofC--2 North Washington Avenue
Bergen Mall Merchants Association

Bloomfield CofC--622 Bloomfield Avenue
Bordentown CofC--101 Farnsworth Avenue
Bridgeton CofC--10 North Pearl
Cape May CofC--Cape May Court House
Cherry Hill Mall Merchants Association
Clifton CofC--1184 Main Avenue
East Brunswick CofC--13 Melvin Avenue
East Orange CofC--536 East Main Street
East Paterson CofC--214 Market
East Union Co. CofC--Winfield Scott Hotel
Eatontown Mall Merchants Association
Echelon Mall Merchants Association
Edison CofC--204 A Main Street
Englewood CofC--49 North Dean Street
Fashion Center Mall Merchants Association
Flemington CofC--P. O. Box 438

Fort Lee CofC--225 Main Street
Garden State Mall Merchants Association
Garfield CofC--73 Spring Street
Glassboro CofC--206 West High Street
Hackensack CofC--140 Main Street
Hammonton CofC--300 12th Street
Hoboken CofC--20 Hudson Place
Irvington CofC--1007 Springfield Avenue
Jersey City CofC--911 Bergen Avenue
Kearny CofC--586 Kearny Avenue
Lakewood CofC--301 Madison Avenue
Matawan CofC--146 Main Street
Menlo Park Merchants Association
Metuchen CofC--495 Main Street

Millville CofC--2 North Highland
Montclair CofC--1 Clairidge Arcade
Moorestown Mall Merchants Association
Morristown CofC--10 Park Place
Newark CofC--1180 Raymond Boulevard
New Brunswick CofC--79 Paterson Street

New Jersey State CofC--54 Park Place, Newark
Nutley CofC--384 Franklin Avenue
Ocean City CofC--Somers Point Blvd.
Orange CofC--308 Main Street
Paramus CofC--P.O. Box 325
Passaic CofC--625 Main
Paterson CofC--253 Main Street
Perth Amboy CofC--313 State Street
Phillipsburg CofC--78 South Main Street
Plainfield CofC--205 Park Avenue
Pt. Pleasant CofC--517 Arnold Street
Princeton CofC--12 Nassau Street
Red Bank CofC--5 Broad Street
Rutherford CofC--106 Park Avenue
Salem CofC--224 East Broadway
Somerville CofC--31 South Bridge Street
South Jersey CofC--North Park Drive Pennsauken
Summit CofC--57 Union Place
Toms River CofC--54 Washington Street
Trenton CofC--104 North Broad Street
Union CofC--2165 Morris Avenue
Vineland CofC--818 Landis Avenue
Wayne CofC--P. O. 738
Westfield CofC--260 East Broad Street
West New York CofC--5911 Bergenline Ave
West Orange CofC--97 Northfield
Willingboro CofC--U. S. Highway #130
Willowbrook Mall Merchants Association
Woodbridge CofC--655 Amboy Avenue
Woodbridge Mall Merchants Association

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SECTION III:

Anti-Shoplifting Projects

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These, of course, can be utilized as part of the NJRMA/NJDECA Anti-shoplifting Campaign. Yet they should also be implemented to enhance the Instructional Outline; to give students a "hands-on" look at the shoplifting problem that they are studying.

In addition, it should be noted that these projects--which are suggestions only, meant to be modified and added to wherever and whenever applicable--involve a wide variety of skills. They include writing, reading, marketing research, public and community relations, to name just a few.

Lastly, a reminder: Forget NOT to contact the local Chamber of Commerce or Merchants Association for help. A list of these can be found on the preceding page.

* * * * *

1) Have students do posters on shoplifting, and then arrange for these posters to be displayed in the local malls and shopping centers. Perhaps have an in-school contest for D.E. and non-D.E. students, with prizes being awarded to the best in each competition (particularly try to involve the art students). Allow the students to do the judging themselves!

2) Enter other DECA competitions, in addition to this one. For example, this year's poster contest has as its theme, "Shoplifting Is A Crime!"

Last year DECA chapters (that studied shoplifting) entered and won in the following competitions:

Department Store Merchandising--"The Shoplifter & The Dishonest Employee," whereby a student from New Jersey's Bloomfield High School wrote material that will be included in a forthcoming book.

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Specialty Store Merchandising--"A Problem. Teenage Shoplifting" in which a student from Maryland's James M. Bennett High School surveyed 325 teenagers from the Salisbury area.

Variety Store Merchandising--"Shoplifting in Variety Stores in Wichita," whereby a student from Kansas' South High School discovered that employees were not sufficiently trained to combat shoplifting.

3) Devise anti-shoplifting advertisements. Select the best to be run in the school and local newspapers.

To accomplish this latter goal, work through the local Chamber of Commerce and Merchants Associations, as well as with regular press contacts.

Students might even want to try writing radio and television "spots."

4) Distribute, with appropriate publicity, a shoplifting brochure to the entire school. An excellent one is "Teenagers Beware! Shoplifting is Stealing," a copy of which can be found on page 34 of this Study Guide.

Make sure that the DECA Chapter receives proper recognition for this effort; e.g., by imprinting name on back of each booklet. Ask whichever group you are working with for financial assistance to purchase it.

Also try to have this brochure's message brought home to the parents (maybe working through the P.T.A.?).

Lastly, if the students feel creative, they could even attempt to devise a pamphlet of their own, being free to adopt whatever material they felt applicable.

5) Still on the subject of publicity, help the New Jersey Retail Merchants Association in its campaign to combat shoplifting--by arranging for billboards, newspaper space, getting on television, radio, etc.

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But again, to emphasize the point: This should only be done in conjunction with local anti-shoplifting campaigns, coordinated by either a Chamber of Commerce or Merchants Association.

6) When and if a brochure or pamphlet--Project #4--is distributed, get other subject teachers to conduct mini-sessions/discussions on shoplifting. Keep in mind that this needs to be done to "spread the gospel" to the entire school; otherwise, just D.E. students will be receiving the message.

Personal contact will probably be needed, and this could be arranged through a faculty meeting at the start of the effort. Or, at the least, a memo should be sent from the Teacher-Coordinator to the rest of the school's staff.

7) Conduct an essay contest for both D.E. and non-D.E. students (the rest of the school, in other words) perhaps through the cooperation of the English Department.

Possible topics might include:

History of Shoplifting

Why People Shoplift

Interviews--Project #13

Research--Projects #11 and #17

Editorials--with the best to be run in school and local papers.

8) Attempt to have D.E. students employed on local security forces. Several large retailing chains have already begun employing youths in so-called "Mod Squads."

9) Along with the Chamber of Commerce or Merchants Association, work with

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as many other groups as possible to spread the message.

For example, check-out the local Small Business Administration, Parent Teachers Association, Police Department and service clubs (Rotary, Kiwanis, etc.)

10) Read as much as possible about the subject.

In addition to this Guide's Listing of Resources, check-out newspapers and various periodical guides.

Rider College DECA and the NJRMA would both also be interested in an annotated, updated bibliography.

11) Even if not entered as a separate DECA competition, conduct confidential surveys...

in school--of the students to determine whether or not they shoplift, what kinds of items are shoplifted, the frequency of shoplifting.

in stores--When does the greatest amount of shoplifting take place? What are the primary factors that induce shoplifting? What measures are being undertaken to combat shoplifting? Has the campaign "helped"? (Compare shoplifting figures for one month this year against the same month last year.)

in the community--of local citizens to analyze the effectiveness of shoplifting legislation and whether or not this anti-shoplifting "message" is being effectively communicated. Ask: Does the average citizen take any action if a shoplifter is spotted; e.g., does he notify store personnel?

12) Sponsor, at school, in-service clinics on shoplifting for retail employees and/or community groups.

This Guide can also be utilized for such a purpose.

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13) Conduct taped interviews with police chiefs, security personnel, "known" shoplifters and store executives.

Play these back for the entire class. Then write them up for the benefit of others.

14) Everybody's always talking about shoplifting. Try to devise new, improved ways to reduce it; try these out.

IMPORTANT: Please immediately send any of these ideas to Rider DECA.

15) Also, kindly send to Rider DECA (as soon as attempted) any new ideas to publicize the message that "Shoplifting is no joke; it's a crime...and it costs everybody money!"

For example, attempt devising a film that deals with shoplifting, or a transparency, series, slides even tapes that could be put to use by other schools. These would all prove to be extremely valuable.

16) As suggested in the Instructional Outline, arrange for a class demonstration of ways and tools of the shoplifter, with the emphasis on the fact that someone is always watching.

Skits or dramatizations would prove helpful here. Using the local Police Department for advice and/or to conduct the role-playing, students might also want to show the rest of the school exactly what apprehension, questionning and a court appearance entail.

17) Research New Jersey shoplifting laws, and whether or not they are effective.

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Compare and contrast with other states.

Do they, in fact, act as a deterrent? Do "caught" shoplifters repeat?

Trace down local police records, if available. And evaluate--through newspaper accounts--the penalties that are given out.

18) Post warning decals or signs for local stores, informing the public that it can be prosecuted for shoplifting.

These attractive wall decals and signs are available from the New Jersey Retail Merchants Association.

Or they could also be run-off by D.E.--or Print Shop--students, after preliminary approval was received on the design and wording of same.

19) Arrange for a field trip to view a large store's security force.

Many students might be interested in going down to a local police station--which they probably have never seen--to see exactly what does happen to the shoplifter. (include the fingerprinting process).

Try to tie-in this shoplifting instruction with any other field trips that might be planned.

20) D.E. students; Get the message across to junior high and even elementary students.

Analyze ways to accomplish this goal (for instance, by distributing the aforementioned brochure); then proceed.

21) One of the best ways to accomplish Project #20 is to organize assembly programs--for the rest of the school, junior high and

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elementary groups, the local P.T.A. and any other organizations that might/should be concerned with the problem of shoplifting.

Show a film, such as "Caught," and bring in a speaker. The local Chamber of Commerce or Merchants Association will be able to help plan here as they should have several speakers available, including security personnel, store managers, police detectives, judges and prosecutors.

Role-playing (perhaps even by the school's drama students) often proves an effective way to convey the message.

Equally effective--if it can be arranged--is to bring in a local disc jockey to "host" the assembly program. This was done with great success in Milwaukee and what follows is a sample of the script that was followed.

This script, of course, should just serve as a guide for the kind of ideas that should be introduced. It should most definitely NOT be read verbatim, and it also needs some updating of facts and language.

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A DISC JOCKEY'S SPEECH TO TEENAGERS

Before I really get into what I'm going to talk to you about today, there's something else that I want to say. I say this with all sincerity and I hope you will take it that way, also. The subject I'm going to speak on today is very important to me and I want it to be very important to you because, believe me, it is a very important part of your life. Not only the present, but the future. In fact, maybe the future part of it is even more important. I know what alot of you are thinking, you're saying "Oh no, here we go again, another lecture, another adult telling me what's wrong with teenagers." And so, bang, it's tune out time. You push that little button in your brain and tune me out and start thinking about other things like what you're going to do tonight, the big date you've got coming up this weekend. You sit there and think, "I don't want him telling me what's wrong with teenagers, I'm sick of it." And believe me, according to the statistics I have here today, there is something wrong with alot of teenagers.

And so, today I challenge you for once to have the guts to sit up and dig what I'm saying because I don't want to stand up here and talk to alot of blank faces. I want to be able to talk to the mature young adults you say you are. Sometimes it's hard to put feelings into words, but I'm going to try. I'm going to try to say what I feel. And, believe me, it's even harder to write a speech, I'll admit it. I was a little up-tight about this whole thing. It's tough to write. I'm not a professional writer. Alot of blood, sweat and tears went into this. I have this speech here of--as you can see--with realms of notes, because I feel there are so many important things that I want to say--that I must say and I don't want to leave anything out.

And don't think I'm here just because I was told to be, please. I could have said no. I'm here because I want to be here. I'm here because I dig young people, and because, as corny as it may sound, because I have a great feeling inside of me for young people. That's why I work at WLIT. Because it gives me the chance to work with the people I love. I like the music, too, no doubt about it. And, you know, it's been said that the future belongs to the young. And I hope that by what I say here today, that it may help you just a little towards a good future. So, for the next half hour or so, we are just going to rap about something that concerns all of us--you and even me. The problem we are going to discuss is shoplifting. And we're going to tell you what shoplifting amounts to, whether you want to recognize it for yourself or not, is a theft punishable in this state by fines or imprisonment, or both. And it seems that the young people involved in these incidents today either are not fully aware of that or ignore that fact completely.

And today we're here to underline this, to underscore it, to bring it out into the foreground, remind you from this day on that the violation of the law in this community and in this state is something taken seriously by our city's merchants and the Police Department. In the research that we took in order to present this little talk to you today, we took a look at the entire realm of merchandise theft at the national

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level. We realize that in 1967, $2.1 billion in merchandise was taken from American stores. By 1970, the figure will have risen from $2.1 to $2.35 billion. That's a lot of loot. FBI Chief J. Edgar Hoover has designated it as the fastest growing larceny violation in the nation. You might say it's sort of a case of mass slight of hand. And it is to the point now where store managers are leery of every customer. When a person enters a store carrying a large package, large bulky coat, or maybe it's a girl with a large handbag, the chances are you're spotted immediately and that your picture will have been taken before you ever reach a counter of merchandise.

Now you're going to say, "Chuck, why are you here to talk to us about this problem?" Well, to be very blunt about it, to tell it like it is, I'm simply here because our information tells us that 50%--50% of that $2.1 billion worth of merchandise is taken by people between the ages of 14 and 19. And, you know, it really grieves me because, more and more, teenagers are saying, "We're not as bad as the adults think we are. We are bright and alert young people. We care about other people, about our communities, about our country, and the condition it is in." And then we look at the statistics. Fifty per cent between the ages of 14 and 19. You say, "Why don't they lower the voting age to 18 so we can have our say about who is going to lead our country." Yes, you say that as you slip a lipstick into your purse, or a record in among your school books, or slide an extra watch on your arm. Now I'm not here to accuse anyone in this room of shoplifting. It's quite possible that no one ever has. I am here to ask you not to steal. If you have, not to do it again. Because in the long run, it is you--and only you--that will be hurt. Shoplifting is stealing, whether it be a 5¢ pack of gum or a $1 record, or a $10 transistor radio. Shoplifting is stealing.

Now, think about this. You come to school in the morning, you're wearing a brand new watch that you just bought with part of your savings. Money that you worked hard for all summer long, pumping gas, working in a supermarket, babysitting, whatever. But, you worked hard for it. You decide to go into the washroom to wash your hands, and not wanting to get your new watch wet, you leave it in your locker. Knowing that you will only be gone a minute or two, you don't bother to lock your locker. After all, no one is going to steal it--or are they? You return from the washroom and it's gone, that brand new watch that you worked and saved for has been lifted. In effect, shoplifted. Now, you don't like it when someone takes something of yours, so why should you take something that belongs to someone else? After all, every item in a store was bought and paid for by the owners of that store and every piece of merchandise in that store belongs to them until someone buys it.

I'm now talking about why people shoplift. Police, store managers, psychologists have plenty of theories to explain the growth of shoplifting. Some see a general decay of moral standards. They say that some young people take the billard ball conception of themselves. That they are victims of a broken home, or their mothers rejected them, so why shouldn't they steal? Perhaps one motivation for shoplifting is a desire for

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the thrill of getting something for nothing. They get something alright--a quick trip to the police station. And do you realize that the average retail value of all shoplifted items is only $3.00? It seems that shoplifters get a certain satisfaction proving they are smarter than the people who run the store.

Let's talk more about the kind of people who shoplift. Less than 5% of all the thefts are committed by the mentally ill, or kleptomaniacs, even less out of financial need. In fact, the great majority--this may come as a shock--are white and come from middle income suburban families who don't even need it. Who don't even need it! Example: A lady wearing a $5,000 mink coat, her fingers studded with diamonds was picked up trying to walk off with a $2.98 candy dish. "Just for kicks," as she explained to the detective. Many children learn their shoplifting early. They pick up their techniques from their mothers. They are often used as decoys. Parents stuff goods into the kid's pockets so the kids can be blamed for misbehaving--then when the mothers are caught, it's "Naughty, naughty Johnny, shouldn't do that." So, it's quite true that not all shoplifters are teenagers, but remember, half of them are.

Here's another example. Two teenage boys, I would say, are the most brazen shoplifters I've ever heard of. Dressed in overalls, they confidently strolled into a sporting goods store, picked up a canoe and walked out. End of story--not quite. They were caught when they returned for the paddles. I tell you that story to show you that they did get away with one theft, but they were caught the second time. You may get away with it once, five times; ten times even. But, eventually, you will get caught, and why take a chance. You might be caught the first time. There's an old saying that your sins will always come back to haunt you, so why commit that sin in the first place?

Now, let's talk about why teenagers shoplift. The most common answers are--"I did it for kicks," and you should be kicked. "Oh, it was just a prank, it was an impulse, I did it on a dare. It was part of an initiation." In other words, they seem to think it's more sport than a crime. Some sport. A sport that could jeopardize your entire future. This is no sport. It's a character problem. And one of the most important parts of getting ahead in this world is your character. Believe me, you are judged more on that than you are on your talents or your brains. As you grow older and become more experienced in this big and wonderful world, you will find that the people who get the farthest ahead are those with a high character standing. Indeed, shoplifting is not a sport, it is a childish regression. But, I don't care what you say, kids steal to be in. In what, jail? Friends say "go ahead, I dare you to." With friends like this, you don't need enemies.

Now, let's imagine for a minute what it would be like to shoplift and be caught. You're in a store, any store, and maybe you're just out window shopping for the most part of that day. You don't have too much money with you. A couple of bucks or whatever. And all of a sudden you see something you want and you have wanted it for a long time. It could be one of a million things. A new shirt, a new dress, a new coat, a transistor radio, a record album, anything. You want

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it. You check your money supply. You're about $2 short. Now, wait a minute. There doesn't seem to anyone around. The thought hits you. It'll be easy to take it. It's small, it'll fit in my pocket or maybe it will go into your purse. Whatever this thing is that you want. And you say, "I can get away with it, I don't see anybody watching."

So, quickly confidently, you slip it into your pocket, and right then you find yourself getting scared. You pray that you're going to get out that door and that everything's fine. You've got it in your pocket, you figure that's most of it. Nobody's caught you yet. And you head for the door, shaking like a leaf, and you will be, believe me. All of a sudden you're out that door and you figure, "I'm home free." Then you feel that hand on your arm. You thought you were shaking before, you're going to be shaking even more now. Can you imagine that feeling when you look up and you see a policeman, or store manager, and they have their hand on your arm because they know you took something that did not belong to you? And you know you're caught. And right then you will have to face the fact that you are a thief and it can be a truly traumatic experience. Imagine that, young people. Imagine that hand on your arm, catching you and you're caught, you are a thief.

Alright, we've just imagined ourselves being caught. Now let's get right down to it. What happens when you are caught shoplifting? It's not very pleasant, believe me. You'll be taken to the police station, your parents will be called and they will be required to be at the police station with you. Juvenile reports will be made out and these reports pertain not only to you, but your family and everything about them. A full description of you, the name and place where your parents work, whether they own their home, the school and church that you attend, the names of all children in the family and their ages. The names of your three best friends, and whether they were implicated in the theft or not. A state form will then be made out and sent to Madison in duplicate. You'll be searched and a photograph will be taken. And that should be a pretty good deterent right there. Your photograph on file in this city and in Madison. A photograph that is available to certain people if needed.

So here you have your name on location in two locations and this is a record that will never be erased. You will carry this record with you wherever you go. This record is open to many people throughout the rest of your life, including the military government, schools of higher learning that you may attempt to enter, places of employment that have government contracts. And any time that the state, or county or federal government wants information about you, they can get it from this record. A job that requires bonding, even that of a stock boy, probably would be closed to a youth with a record. You may also be turned down for government, state, city or county jobs. With a police record, it can be difficult, in fact in some cases, impossible, to enter any business or profession where a special license is required, such as law, real estate or insurance. A criminal record can keep you out of the college or professional school of your choice. For example, a stolen carton of candy kept one boy out of West Point, and a girl was denied entry to law school because of a stolen swimsuit. Now, I think you realize that in this day and age a person just can't afford

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not to go to college. There was a time when they used to say you can't get anywhere with a high school education--now you can hardly get anywhere without a college education. In fact, you almost need a masters degree, even a Ph. D. in everything. Do you want that gone, that opportunity to go to the college of your choice, gone? I don't think you do. So you see these kicks can come back to haunt you. A minor record easily becomes a major problem. Now in Wisconsin, shoplifting is theft. Theft is a felony if the property is of a value exceeding $100 and is punishable by imprisonment in the state penitentiary in Waupun. So you say, "I only took little things, I don't have to worry." Alright, let's tell you about that.

If the value of the property does not exceed $100, you can receive a fine of not more than $200 or imprisonment up to six months, or both. Alright, for property values ranging between $1,000 to $10,000, it could be a fine anywhere from $200 to $10,000, or imprisonment anywhere from six months to 15 years. We're really not concerned with that. We're concerned actually with the smaller items. Things like records, lipstick, compacts, candy bars, nylons, clothing, etc. And another thing to think about, too, is that if you are over 18 you can be tried as an adult. So, alright, you're 17 1/2, you're picked up for shoplifting, and you figure, alright, well you know what might happen, they just might not do anything for six months. And when you reach the age of 18, then you'll be charged with theft and go into adult court. And that can be a very traumatic experience. Many young people, when arrested for shoplifting say, "Why didn't someone tell me that shoplifting was a crime." Look, ignorance of the law is no excuse and no defense against prosecution and conviction. Don't expect someone to tell you, you should know that. Another reason not to shoplift is, well, because it's getting harder and harder to get away with it.

Let's go into some of the deterents you find in stores. First of all, there are floor detectivea and these are not what you usually figure detectives to be. The guy in the white shirt, dark tie and dark suit, wandering around the floor, graying at the temples. He's likely to be dressed the same as you--levis, sneakers and a sweat shirt, long hair and a mustache. You can never tell. The guy standing next to you looking at merchandise might be a floor detective. There are two way mirrors. You are admiring something in a mirror and somebody's looking right back through it at you.

They use walkie-talkies, cloae-circuit television and also cameras, from most anywhere they can hear or see you. This information can be used for prosecution. If they've got your picture on record, they can uae that as evidence in court. There's a new system in use in some stores, the micro-wave transmitter, which is the size of a dot hidden on a sales item. You don't know just where it will be hidden, and the clerk is the only one who can neutralize that dot. If the dot is not neutralized, it sets off an alarm when carried through an exit. And bingo, you're done. Some kind of ultimate in anti-shoplifting techniques may be the loud speaker in one store out East that keeps repeating "put it back, put it back."

(Now, if I were going to use slides or a film in my speech, this is the spot where I would use them. If not, I'd continue this way.)

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We give you this information today for a series of reasons. We feel that each one of you in this room is mature enough to know and understand information like this and make a decision on your own. To become involved or not to become involved in these instances. Now this is where the solution to the problem lies. The decision is yours. Let us talk about the tragedy and heartbreak within your own family. When Mom and Dad come down to the police station and you have to face them. Face the tears in your Mother's eyes, and the tears will stream down your face. And your Father's hair gets grayer. And all because you took some silly little thing like a lipstick or a record or a transistor radio. Stop and think, who did it to them, who did it to you, and don't get involved with the law and end up with a record that cannot be erased.

Today I want to ask each of you here, each of you, to do me a favor. I want each one of you, individually, and on a personal level, to go somewhere where you can be alone. I want you to take a good hard look at yourself. I want you to take the time to make a self-evaluation and really think. Now, you know, thinking about yourself, objectively, is one of the hardest things for a person to do, because you always tend to look at the good points and ignore the bad points. I want you to think of yourself objectively. Consider the bad points as well as the good points. Consider the past, where you have been, and the future, where you are going. You know, growing up is a serious matter and it effects everyone in a different way. And that's why you must decide. Your friends can't tell you. Your teachers and parents can only guide you. You must make the final decision on what you are going to do with the rest of your life.

Now, it's a tough old world and more than once in this life, you are going to feel that you are being stepped on. Just pushed into the ground like a piece of dirt. More than once that's going to happen to you. And maybe your way of retaliation would be to pick something up, something that doesn't belong to you. Your way of showing that you can step back. So what have you accomplished. You just picked up a $4.00 record. Big deal. And once you've stolen it, it'll lose all its value. What does this mean to you, something that you've just picked up and carried out of a store. You haven't earned it, you haven't won it, and you haven't even bought it. It's just a record that you stole. What does it mean? Sure you can put it on your record player and play it. Sure, maybe it's Gary Puckett and the Union Gap, your favorite group. But, I really don't think it will really mean anything to you. Now, this may sound corny, but it's true, believe me. The things that I enjoy the most are the things that I have worked the hardest for. And I think you too will find that to be true also. And I think today is the case at point.

Now this speech has not been easy to prepare for me. Every night for a week I sat down and I thought and I wrote, and I wrote and I thought. I tried, as I said earlier in this speech, to put my feelings down on paper and it's not easy. I'm not a gifted writer. If I was, I'd probably be out writing comedy shows or something. But I sat down because I felt this was something that had to be said. It was something that I believed in and that I believe that you should know about. It's something that I worked hard for. I ignored my family every night for a week because I wanted to do this for you, because I believe in you. And this I know is something

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that I am going to enjoy to the upmost because it is something that I feel I've worked hard for. For this opportunity to be able to talk to each and every one of you today. And I know I will enjoy it even more if you follow the path that I am trying to put forth to you.

Talking about a path in conclusion today, I would like to talk a little about a poem that Robert Frost wrote called "The Road Not Taken." "The Road Not Taken" is a story of a man walking down a road on an autumn day and suddenly he comes to a fork in the road. One path goes off to the left, one to the right. The one to the right has been traveled by many because the ruts from the wheels are deep and the undergrowth has grown back quite a ways. It's obvious that many have gone that way. But Frost says, consider that path to the left. There the weeds are deep, there the undergrowth has grown so close it's obvious that few have gone that way. And you know that path took a turn not far from the man's sight to a destination unknown to the traveler. Frost said that he stood there for some time making a decision. And, finally, he writes these two lines to conclude his poem. "And I, I took the path less traveled by and that has made all the difference."

Now it seems to me that that poem is more than a path, than a poem, than leaves and trees. It is life, your life and mine. You can choose to become involved in any incident that we have described to you today. You can choose to go along with your friends and keep that 1/3 figure involved in juvenile crime. That's your choice.

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SECTION IV:

Listing of Resources

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AV AIDS

"Caught" Has accompanying discussion guide.
Color - 16 MM - 24 minutes - excellent
Available from: New Jersey Retail Merchants Association
P. O. Box 22
926 West State Street
Trenton, New Jersey 08601
609 393-8006

Also available from: New Jersey Occupational Research and Development Resource Center
Building 871, Room C
Plainfield Avenue
Edison, New Jersey 08817

"Burglery is Your Business" Color/sound - 15 minutes

"It Can Happen to You" Color/sound - 15 minutes

"They're Out to Get You" Color/sound - 12 1/2 minutes

"The Shoplifter" Color - 16 MM - 20 minutes
All available from any Small Business Administration office. NOTE: The SBA will also provide free assist in lining up speakers, locating resources, etc.

"The Shoplifter" is also available from: Highway Safety Foundation, P. O. Box 1563, Mansfield, Ohio, 44007.

"Shoplifting, The Plot Against You" Record & filmstrip - 20 minutes - excellent
Available from: Merchandser Film Products
419 Park Avenue South
New York City, N. Y. 10016

"The Million Dollar Customer" Film - 22 minutes
Available from: Ohio Council of Retail Merchants
71 East State Street
Columbus, Ohio 43215

"An Inside Job" Filmstrip/sound - order #DFSS20

"Billion Dollar Headache" 30 slides & narration - fairly informative
order # D55

Both available from: Materials Center
Vocational Education Division
P. O. Box 44064
Capitol Station
Baton Rouge, Louisiana 70804
(Also has copies of "The Shoplifter," order #DF24)

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"Billion Dollar Headache" Also available from: National Association of Retail Grocers
360 North MIchigan Avenue
Chicago, Illinois

"Mission: Loss Prevention" Color - 16 MM - 17 minutes - for retail use

"The Silent Crime" Color - 16 MM - 23 minutes - for retail use

Both available from: National Retail Merchants Association
Operations Division
100 West 31st Street
New York, New York 10001
(Also has copies of "Caught.")

BOOKLETS

"Watch Out For The Thief" 28 pages - excellent for D.E. students

"Teenage Shoplifting: A Case Study" 34 pages

"Teenagers Beware! Shoplifting is Stealing" (see following page) 7 pages
good for school-wide distribution

Stock Shortage Control Manual.

All available from: National Retail Merchants Association
Operations Division
100 West 31st Street
New York, New York 10001

The Small Business Administration has several publications that deal with shoplifting. Available free from any of their offices (Headquarters Address: Small Business Administration, Washington, D. C. 20416) are the following:

Small Marketers Aid #119, "Preventing Retail Theft" by Saul D. Astor

Small Marketers Aid #129, "Reducing Shoplifting Losses" by Addison H. Verrill

Small Marketers Aid #134, "Preventing Burglary and Robbery Losses" by S. J. (Bob) Curtis

Management Aids #209, "Preventing Employee Pilferage" by Saul D. Astor

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TEENAGERS BEWARE!

SHOPLIFTING IS STEALING

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PREPARED IN THE INTEREST
of
TODAY'S TEENAGERS
and
TOMORROW'S CITIZENS

Distributed by concerned parents,
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DID YOU KNOW.....?

Shoplifting is stealing, and stealing is a criminal act. So called high spirited "fun" and youthful "pranks" can cause young people a lifetime of trouble. Too many teenagers today are unaware of the serious harm that a police record, even for what might seem to be a petty violation, can do to their lives and futures.

Even if the punishment does not include a jail sentence, and the conviction is punished only by a fine and/or probation, the police record remains; and it says, **"Thief."**

WHY DO TEENAGERS SHOPLIFT?

Across the country young people, many from middle and upper income families are pilfering merchandise. Why do teenagers commit a criminal act that will probably result in arrest and jeopardize their futures? The common answers are:

"I did it for kicks"
"It was just a prank"
"It was an impulse"
"I did it on a dare"
"It was part of an initiation"

In other words they think it's more a sport than a crime. . . . But the law makes no provision for a "sport." **Shoplifting is stealing and stealing is a criminal act.** The shoplifter is a thief not a prankster.

Never break the law on a dare—It takes more courage to turn down a dare than to accept it, and your friends know this. In the long run they will respect you for sticking to your beliefs, don't fall for that "chicken" routine.

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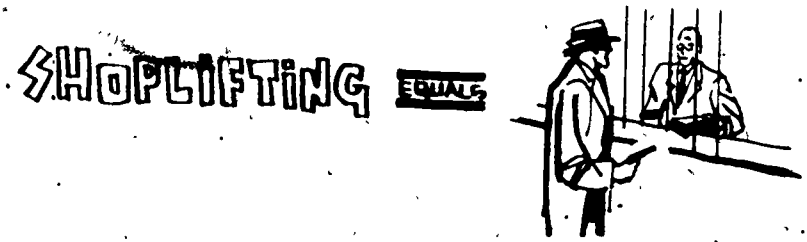
"WHY DIDN'T SOMEONE TELL ME?"

Many young people when arrested for shoplifting say. "Why didn't someone tell me that shoplifting was a crime." Ignorance of the law is no excuse and no defense against prosecution and conviction.

Shoplifting is stealing and stealing is a criminal act. Stealing a $2 pen is the same as stealing $2 from a cash register or from someone's pocket. . . . It's a crime.



"BUT THE STORE WON'T MISS IT!"

Some teenagers seem to think that stores make a lot of money and won't miss a book, or a record, or a blouse or a belt.

But the fact is that stores are losing more to shoplifting each year. They are losing merchandise that belongs to the store. It has been bought and paid for by the store and taking it is stealing. If something that belonged to you were stolen, it would be a great loss . . . so it is with a store.

STORES GETTING TOUGH

Because of this growing problem stores are getting tough with shoplifters and are taking measures to catch them in the act. Stores are no longer letting teenage shoplifters off with a lecture and a warning. They are turning them over to the authorities. Store managements are becoming convinced that the proper way to deal with young shoplifters and their parents is through the police and the courts.

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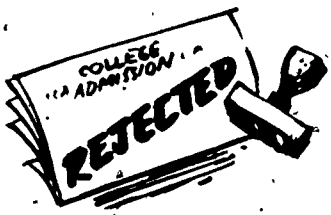
"BUT I'M A JUVENILE: NOTHING CAN HAPPEN TO ME!"

Don't you believe it! True, there are separate laws governing criminal acts by juveniles in most states, but an arrest is still an arrest, and a police record is still a police record. One shoplifting conviction can ruin your life.

Many young people feel they can keep a juvenile record for a minor offense a secret. Don't you believe it! Very often, juvenile police bureaus will answer an inquiry by reporting that a teenager has been declared a "delinquent." This description can include a serious crime.

Although youngsters may go "free," after an apprehension, once arrested, the charge will follow them demanding explanation and causing embarrassment whenever it reappears.



"BUT IT WAS JUST FOR KICKS"

Those "kicks" can come back and haunt you forever. A minor record easily becomes a major problem.

Most job applications ask "Were you ever arrested?" and most employers don't hire people with arrest or criminal records.

A job that requires bonding, even that of a stock boy, will probably be closed to the youth with a record. He may also be turned down for government, state, city or county jobs.

With a police record it can be difficult, in some cases impossible, to go into any business or profession where a special license is required, such as law, real estate, or insurance.

A criminal record can keep you out of the college or professional school of your choice. A stolen carton of candy kept one boy out of West Point—and a girl was denied entry to law school because of a stolen swimsuit.

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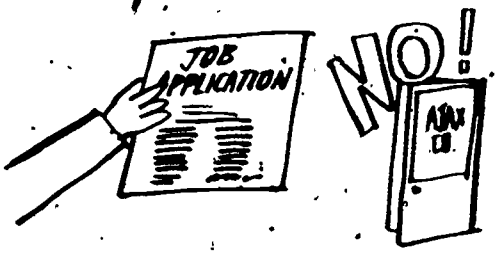

"WHAT CAN THE LAW DO ABOUT IT?"

You can be arrested if you steal any property from a store, no matter how little it costs. It is a crime if you steal even a lipstick or a candy bar.

Depending on the state in which you live, punishment for a first offense can be as much as a $2,000 fine and 5 years in jail or more, and after two or three offenses, as much as $10,000 and 10 years in jail. In some states after a first conviction a jail sentence is mandatory. No matter what your state calls it—grand larceny, petty larceny, felony, or misdemeanor—**shoplifting is stealing and stealing is a criminal act** and is punishable as such.

"SUPPOSE I DO GET ARRESTED?"

There are young people who foolishly plead guilty because they hope to hide the arrest from their parents. No teenager should ever enter a guilty plea without the advice of his parents and an attorney.

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"WHAT CAN PARENTS DO ABOUT IT?"

1. Be aware that "shoplifting" can be just the beginning of bigger trouble for their children
   A veteran police officer described a recent two page arrest record which was headed: "SHOPLIFTING (JUVENILE)."

2. Make sure their children understand that **shoplifting is stealing and stealing is a criminal act.**
3. Be certain that their children know what a police record can do to their chances for jobs, colleges, and professions.
4. Know how much money their children have and how they spend it.
5. Know what their son or daughter brings into the house. If it isn't his or hers, check on where it came from. Don't accept a pat answer.
6. Know when, where, and why their child is going shopping.
7. Find out what their community is doing about the problem, and lend their help.
8. Teach their child that it is more "chicken" to go along with the crowd than to refuse to do so.
9. Be alert to a daughter who repeatedly goes shopping with an extra large handbag or shopping bag. These are common tools of a shoplifter.
10. Supervise any "clothes" swapping.
11. Set the right example.

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In addition, students and/or the Teacher-Coordinator should refer to the Reader's Guide to Periodical Literature for latest articles in major publications, as well as to retailing publications and guides for the large daily newspapers.

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APPENDIX

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NEWS ITEM

HEAVY LIFTERS

AKRON, Ohio (AP) - Some shoplifters operate on a grand scale, Paul Brothers, an Akron store protection chief, says.

Brothers told Junior Chamber of Commerce members that one Akron store lost an 18-foot boat complete with equipment. And the store for which he works is "trying to locate" one of its concert grand pianos, he added.

NEWS ITEM

SHOPLIFTER'S TRICK INSURES GETAWAY

TOPEKA, Kan. (AP) - A shoplifter used a novel approach here to find if he were "in the clear" after a theft.

He entered a furniture store and went to the basement, pretending to be interested in buying a used refrigerator. Finding one, he asked the clerk to go upstairs and get the price for him.

While the employee was upstairs, he looked out the window and saw his "customer" walk out with a portable TV set, put it in his car and drive off.

In a few minutes a telephone caller laughingly said he had taken the set "to win a bet that he could walk out without being seen." He asked the clerk if anyone had taken his car license number. Upon being told that his license number was unknown, the man hung up--and has never been seen since.

NEWS ITEM

A BLOODY TALE

The off-duty Trenton patrolman fidgeted in line at the supermarket check-out counter waiting his turn in what seemed to be an endless line on a busy Saturday afternoon. Ahead of him stood a woman trying to control two squirming kids and she 1 of them stood a tall man, hat square on his head and wearing a checked jacket and jeans. The patrolman glanced idly at these people with the sort of bored curiousity that goes with waiting in line. Suddenly he looked again at the man, then reached around the woman and her kids to tap the man on his shoulder.

"Say, buddy," he said, "Do you know that your head is bleeding?"

Checked jacket put one hand to the side of his face and looked startled as it came away sticky with fresh blood. The other side of his face and hair were also wet with slim streams of red, wet liquid.

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"Take off your hat and let's see where you are hurt," commanded the officer.

Looking suddenly very frightened, the victim attempted to push his way through the aisle to flee. Deftly grabbing his arm with one hand the policeman quickly flashed his credentials with the other and then removed the man's hat. Under the hat and resting heavily on the man's matted hair was a fairly good cut of fresh, thick steak.

A novel method of shoplifting had been discovered because the meat that was stolen was just too juicy for the trip out of the store.

Trenton/March 1971

RULES FOR EMPLOYEES

1. Keep your eyes open.
2. Watch all your customers in a pleasant, courteous, interested manner.
3. Never leave your section unattended.
4. Do not turn your back on a customer if you can avoid doing so.
5. If you suspect a customer watch him openly, but courteously.
6. Be alert to customers carrying unwrapped merchandise.
7. Do not permit young children to loiter unattended.
8. Keep display stock in good condition.

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SECURITY WEAKNESSES AND FAILURES

Mr. Saul D. Astor, President, Management Safeguards, Inc., presents the following points in his article, "The Inventory Shortage--Enigma of the Discount Industry":

1. Fitting rooms are often uncontrolled and unchecked.
2. Men's and ladies' rooms in the stores are unlocked and uncontrolled.
3. Unused checkout aisles are open.
4. Personnel are badly scheduled so that sales floor is relatively uncovered during peak periods.
5. Customers' bags and packages are permitted inside the store.
6. Anti-shoplifting signs are not posted.
7. Plainclothes patrols are not used.
8. Personnel are poorly instructed as to the procedure to follow when they observe a shoplifter.
9. Apprehended shoplifters are not turned over to police or juvenile authorities.
10. High-unit value merchandise is unprotected by enclosures and/or personnel.
11. Price-ticketing methods are not adequate to minimize ticket switching.
12. Cashiers are free to accept handwritten prices without any validating marks.

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NEW JERSEY'S SHOPLIFTING LAW

2A:170-97. Definitions

For the purposes of this act, unless the context clearly requires a different meaning:

"Shoplifting" shall consist of any one or more of the following acts:

a. For any person willfully to take possession of any merchandise offered for sale by any store or other retail mercantile establishment with the intention of converting the same to the use of such person without paying to the owner the value thereof.

b. For any person willfully to conceal upon his person or otherwise any merchandise offered for sale by any store or other retail mercantile establishment with the intention of converting the same to the use of such person without paying to the owner the value thereof.

c. For any person willfully to alter any label, price tag or marking upon any merchandise offered for sale by any store or other retail mercantile establishment with the intention of depriving the owner of all or some part of the value thereof.

d. For any person willfully to transfer any merchandise offered for sale by any store or other retail mercantile establishment from the container in or on which same shall be displayed to any other container with intent to deprive the owner of all or some part of the value thereof.

"Store or other retail mercantile establishment" shall mean a place where merchandise is sold or offered to the public for sale.

"Merchandise" shall mean any goods, chattels, foodstuffs or wares of any type and description, regardless of the value thereof.

"Merchant" shall mean any owner or proprietor of any store or other retail mercantile establishment, or any agent, servant or employee of such owner or proprietor.

"Person" shall mean any individual or individuals, including an agent, servant or employee of a merchant where the facts of the situation so require L. 1962,c. 178:1.

Title of Act:

An Act concerning disorderly persons in relation to shoplifting; creating certain presumptions arising out of the concealment of unpurchased merchandise; and providing that the detaining for probable cause and

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for a reasonable time of persons under suspicion of shoplifting, by certain officers or merchants shall not render any such officer or merchant criminally or civilly liable in any manner or to any extent whatsoever and supplementing subtitle 12 or Title 2A of the New Jersey Statutes. L.1962,c.178.

2A:170-98. Shoplifter as disorderly person

Any person found guilty of shoplifting, as the same is defined in section 1 of this act,* is a disorderly person. L.1962,c.178:2

*Section 2A:170-97.

2A:170-99. Concealment of unpurchased merchandise; presumption

Any person willfully concealing unpurchased merchandise of any store or other retail mercantile establishment, either on the premises or outside of the premises of such store or other retail mercantile establishment, shall be prima facie presumed to have so concealed such merchandise with the intention of converting the same to his own use without paying the purchase price thereof within the meaning of section 1 of this act, and the finding of such merchandise concealed upon the person or among the belongings of such person shall be prima facie evidence of willful concealment; and if such person conceals, or causes to be concealed such merchandise upon the person or among the belongings of another, the finding of the same shall also be prima facie evidence of willful concealment on the part of the person so concealing such merchandise. L.1962, c.178:3.

2A:170-100. Taking suspect into custody; detention; arrest without warrant

A law enforcement officer, or a special officer, or a merchant who has probable cause for believing that a person has willfully concealed unpurchased merchandise and that he can recover such merchandise by taking the person into custody, may, for the purpose of attempting to effect such recovery, take the person into custody and detain him in a reasonable manner for not more than a reasonable time. Such taking into custody by a law enforcement officer or special officer or merchant shall not render such law enforcement officer, special officer or merchant criminally or civilly liable in any manner or to any extent whatsoever.

Any law enforcement officer may arrest without warrant any person he has probable cause for believing has committed the offense of shoplifting as defined in section 1 of this act.

A merchant who causes such arrest, as provided for in this section, of a person for shoplifting shall not be criminally or civilly liable in any manner or to any extent whatsoever where the merchant has probable cause for believing that the person arrested committed the offense of shoplifting. L.1962, c.178:4.

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RECENT SHOPLIFTING COURT CASES

There have been two recent cases in the field of shoplifting. These have to do with false arrest, or more properly wrongful detention and interrogation. Such charges are the chief hazard in energetic efforts to thwart shoplifting.

These cases, unfortunately, do not shed a clear light on how to proceed, as a merchant, to protect yourself from these charges. However, the following points can be discerned from these cases:

(a) The matter of "reasonable cause for believing" is a matter of law for the court to decide.

(b) The matter of detention and interrogation in "a reasonable manner and for a reasonable time" is a matter for the jury to decide as a matter of fact, should false arrest charges be pressed.

(c) The court will generally hold that the length of time that is reasonable is at least that period of time necessary to determine the suspect's name and address.

(d) Any person who attempts to detain and interrogate a person believed to be a shoplifter must identify himself.

(e) Detention may be made, under this statute, only for the purpose of investigating the purported crime and not for such purpose as to enforce payment or gain a confession.

(f) Where an employee relies on the statement of other employees as to the purported crime and has not, himself, seen the purported crime, he may not, as a question of fact have the necessary reasonable cause to believe a crime has been committed, and the defense would not be available.

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HOW TO APPREHEND A SHOPLIFTER

S. J. (Bob) Curtis, Security Consultants, Inc., Dayton, Ohio, recommends the method below as the best for apprehending shoplifters:

1. Remember that the shoplifter is nervous.
2. As he leaves the store, follow him.
3. Attract his attention by talking to him.
4. Ask him, conversationally, "Is this the first time you've done this?"
5. Continue to walk. Recover the stolen merchandise and grasp the shoplifter firmly, but gently, by the arm.
6. Walk him out of the store, around to another entrance. Keep talking. Try to learn his name, and call him by his first name.
7. Remember that he is probably a disturbed person. Be sympathetic, reassuring, friendly.
8. Walk him back into the store into the manager's office.
9. Keep him quiet once he is inside and give him a choice of having you notify his parents, turning him over to the police, or consulting a psychologist of his own choosing.
10. Take down his statement or have a standard form ready. Do not use the word "steal" in it. Have him sign the statement.

Mr. Curtis said that it took seventeen years to perfect this method which was used at Lord and Taylor in New York. He presented it to the National Association of College Stores Convenetion in April, 1966, in Chicago.

--Publisher's Weekly, Volume 189, No. 20, May 16, 1966, page 69.

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ABSTRACT: THIS HANDBOOK WILL AID PUPILS IN ELEMENTARY SCHOOL TO BECOME AWARE OF THE OCCUPATIONAL CLUSTERS THAT THEY WILL BE STUDYING IN GREATER DEPTH DURING JUNIOR AND SENIOR HIGH SCHOOL. THIS PUBLICATION SHOULD BE USED TO FOCUS ATTENTION ON AWARENESS OF OCCUPATIONS RATHER THAN CHOICE, TO GENERATE EXCITEMENT RATHER THAN PRODUCTION, AND TO EXPOSE PUPILS TO DIFFERENT LIFE STYLES, CAREER PATTERNS, AND EDUCATIONAL EXPERIENCES THAT ENHANCE THE INDIVIDUAL. THE HANDBOOK IS INTENDED FOR USE WITH THE CAREER AWARENESS GUIDE "I CAN BE ME FROM A TO Z." THIS DOCUMENT IS ORGANIZED AROUND THE FOLLOWING 15 MAJOR OCCUPATIONS: AGRI-BUSINESS AND NATURAL RESOURCES, BUSINESS AND OFFICE, COMMUNICATIONS AND MEDIA, CONSTRUCTION, CONSUMER AND HOMEMAKING EDUCATION, ENVIRONMENTAL CONTROL, FINE ARTS AND HUMANITIES, HEALTH, HOSPITALITY AND RECREATION, MANUFACTURING, MARINE SCIENCE, MARKETING AND DISTRIBUTION, PERSONAL SERVICE, PUBLIC SERVICE, AND TRANSPORTATION. (AUTHOR/LJ)

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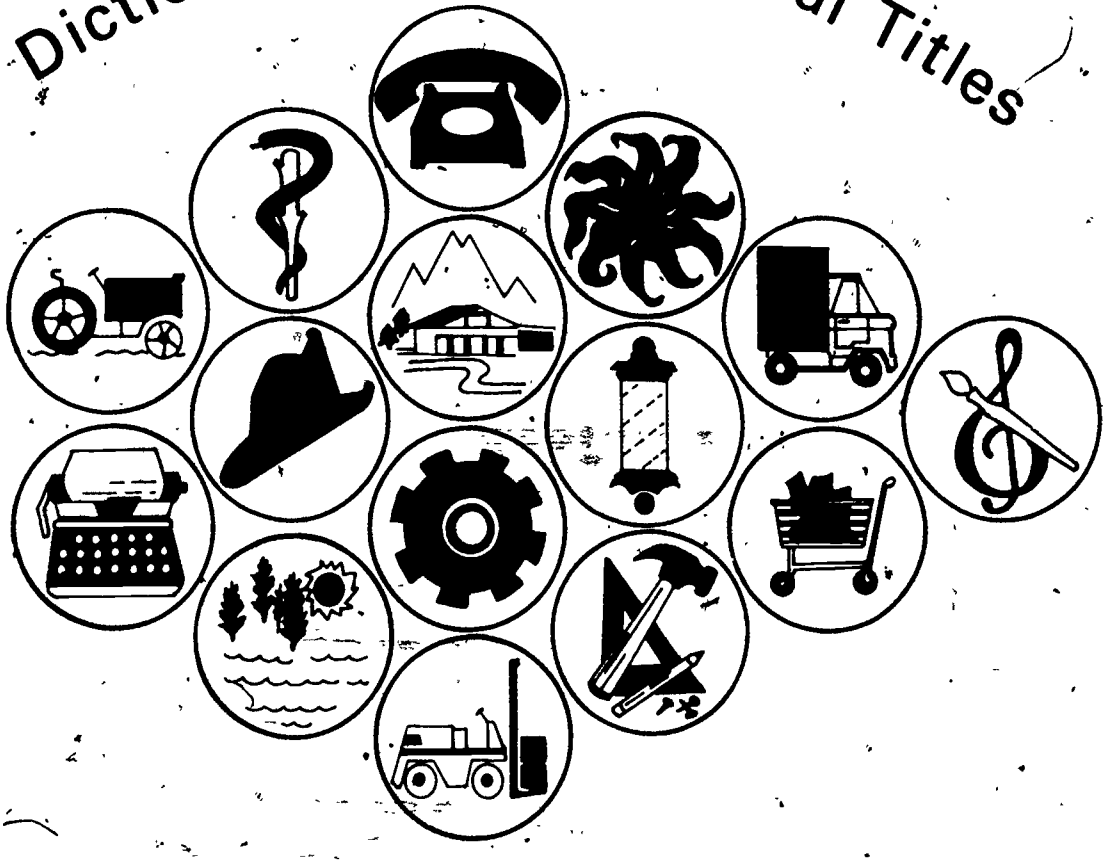
ELEMENTARY

Dictionary Of Occupational Titles



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CAREER AWARENESS
K-6
DICTIONARY OF OCCUPATIONAL TITLES

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3. Sheet Metal Worker

C. Masonry Construction

1. Soft Tile Setter

2. Plasterer

3. Marble Setter

D. Electrical Construction

1. Electrician
2. Lineman
3. Construction Checker

E. Finishing

1. Carpet Layer
2. Painter
3. Cabinetmaker

F. Equipment Operator

1. Blaster
2. Bulldozer Operator

G. Engineering and Support Occupations

1. Surveyor
2. Clearing Foreman
3. Construction Engineer

V. Consumer and Homemaking Education Related Occupations

A. Food

1. Food Service Management
2. Food Preparation Worker
3. Food Processing Technician

B. Housing and Household Equipment

1. Interior Designer and Decorator
2. Custom Dressmaker

C. Textile and Clothing

1. Fashion Designer
2. Cutting Room Occupations
   a. Spreader
   b. Cutter

c. Marker

d. Assembler

3. Administrative Occupations

D. Family Economics and Home Management

1. Home Economist

2. Dietitian

3. Executive Housekeeper

E. Family Relations and Child Development

1. Pre-School Teacher

2. Child Day-Care Worker

F. Extension Service

1. Extension Home Economist

2. Extension Youth Agent

VI. Environmental Control Related Occupations

A. Pollution Prevention and Control

1. Environmentalist

2. Environmental Health Technician

3. Safety Engineer

B. Disease Prevention

1. Industrial Hygienist

2. Bacteriologist

3. Pest Control Operator

C. Environmental Planning

1. Park and Recreational Management Technician

2. Park Naturalist

3. Urban and Regional Planner

D. Resource Control

1. Tree Expert
2. Range Manager
3. Recreation Worker

VII. Fine Arts and Humanities Related Occupations

A. Visual Arts

1. Fine Artists
2. Commercial Artists
3. Artist's Model

B. Occupations in Writing

1. Technical Writer
2. Copywriter
3. Magazine Editorial Workers

C. Performing Arts

1. Theater Manager
2. Concert Artist
3. Dancers

D. Religion and Theology

1. Religious Vocations (Laymen)
2. Clergyman

E. Language and Linguistics

1. Interpreter
2. Translator

F. History and Museum

1. Anthropologist
2. Archaeologist

VIII. Health Related Occupations

A. Mental Health and Mental Health Services

1. Psychiatrist
2. Psychologist
3. Psychometrist

B. Medical and Biological Science Services

1. Medical Technologist
2. Medical Assistant
3. Veterinary Laboratory Technician

C. Dentistry and Dental Science Services

1. Dental Assistant
2. Dental Technician
3. Dental Hygienist

D. General Hospital and Medical Office Related Occupations

1. Nursing Aide
2. Receptionist
3. X-ray Clerk

E. Personal and Community Health Services

1. School Nurse
2. Sanitarian
3. Public Health Educator

IX. Hospitality and Recreation Related Occupations

A. Commercial and Non-Commercial Travel

1. Travel Agency Workers
   a. Information clerk
   b. Travel consultant
   c. Clerk
   d. Department head

2. Ticket and Reservation Agent
3. Public Relations Worker
4. Steward

B. Public Industrial and Private Recreational
1. Professional Athlete (Football)
2. Physical Education Teacher
3. Camp Counselor
4. Community Service Director

C. Recreation Concerned With Natural Resources
1. Ground Keeper
2. Retail Florist
3. Gift Shop Owner

X. Manufacturing Related Occupations

A. Management
1. Personnel Director
2. Salesman

B. Scientist
1. Chemical Operator
2. Inspector

C. Engineer
1. Metallurgical Engineer
2. Electrical Engineer

D. Technician
1. Electronics Technician
2. Unit Assembly-Line Tester

E. Craftsman
1. Instrument Maker
2. Tool Maker

F. Skilled Worker

1. Machinist

2. Frameman (Frame Wirer)

G. Semi-Skilled Worker

1. Assembly-Line Bench Worker

2. Maintenance Occupations

a. Plumber

b. Millwright

c. Pipefitter

d. Carpenter

e. Stationary engineer

f. Sheet metal worker

3. Finishing Occupations

a. Metal finisher

b. Plater

c. Sprayer

d. Polisher

e. Interior workers (cutter, sewing machine operator, and trimmer)

XI. Marine Science Related Occupations

A. Research

1. Hydrologist

2. Hydrographic Surveyor

B. Mineral and Chemical Extraction

1. Marine Biologist

2. Oceanographer

C. Fishing

1. Fisherman

2. Fish Culture Technician

D. Aquaculture

1. Marine Life Technician

2. Diver

E. Marine Technology Engineer

1. Marina Worker

2. Ship Designer

F. Surface and On-Shore Support

1. Boilermaker (Ship)

2. Diesel Mechanic (Ship)

XII. Marketing and Distribution Related Occupations

A. Marketing Management

1. Supervisor

2. Floor Manager

3. Research Director

B. Marketing Research and Analysis

1. Statistician

2. Scientist (Chemist)

3. Survey Worker

C. Purchasing

1. Broker

2. Jobber

3. Foreign Language Stenographer

D. Sales Promotion and Training

1. Advertising Agent

2. Teacher (Marketing)

E. Selling--Sales Engineer

F. Physical Distribution

1. Warehouseman
2. Inspector
3. Deliveryman

XIII. Personal Service Related Occupations

A. Domestic Services

1. Laundry Industry Workers
   a. Sorter
   b. Washman
   c. Blanket washer
   d. Mender
   e. Assembler
   f. Bundle wrapper
2. Household Workers
   a. Housekeeper
   b. Butler
   c. General maid
   d. Nursemaid
   e. Gardener

B. Lodging and Related Services

1. Hotel and Motel Workers
   a. Doorman
   b. Bellman
   c. Garage attendant
   d. Room clerk
   e. Information clerk
   f. General manager
2. Elevator Operator

C. Barbering, Cosmetology, and Related Services

1. Barber

2. Funeral Director and Embalmer

D. Drycleaning, Laundry, and Apparel Service

1. Shoe Repairman

2. Dry Cleaning and Laundry Workers

a. Industrial launderer

b. Linen launderer

c. Diaper service

d. Cleaning and dyeing

E. Stewards, Attendants, and Miscellaneous Personal Service

1. Service Station Worker

2. Airline Stewardess

F. Food and Beverage Preparation and Service

1. Cook

2. Baker

XIV. Public Service Related Occupations

A. Administration and Regulatory Services

1. City Manager

2. Political Worker

B. Urban Development

1. Historian

2. Geographer

C. Education

1. Speech and Hearing Clinician

2. Driving Instructor

D. Protective Services

1. Policewoman

2. Fireman

E. Post Office

1. Postman

2. Postal Clerk

F. Public Utilities

1. Sanitary Engineer

2. Public Utility Workers

a. Watch engineer

b. Switchboard operator

c. Auxiliary equipment operator

d. Load dispatcher

e. Lineman

f. Troubleman

G. Labor Affairs

1. Public Personnel Worker

2. Industrial and Labor Relations Worker

H. Social Service, Rehabilitation, Correction

1. Social Worker

2. Lawyer

XV. Transportation Related Occupations

A. Highway Transportation

1. Truck Driver

2. Dispatcher (Trucking Industry)

3. Motorcycle Mechanic

4. Taxicab Driver

B. Rail Transportation

1. Track Worker

2. Locomotive Engineer

3. Conductor

C. Airborne Transportation

1. Pilot
2. Airline Dispatcher
3. Ticket Reservation Agent
4. Airport Manager

D. Pipeline Transportation

1. Pumpman
2. Gager

E. Water Transportation

1. Able Seaman (Unlicensed)
2. Merchant Seaman (Licensed Officer)
3. Stevedore (Crane Loading)

Resource Materials

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INTRODUCTION

This occupational handbook is designed to be used with the Career Awareness Guide "I Can Be Me From A to Z."

It is important that the teacher explain the use of this handbook to the pupils.

A thorough explanation will enable elementary pupils to perform independent research of occupations of their interest.

This handbook will aid pupils in elementary school to become aware of the occupational clusters that they will be studying more in depth during junior high and senior high school.

This publication should be used to focus attention on awareness of occupations rather than choice, to generate excitement rather than production, and to expose pupils to different life styles, career patterns, and educational experiences that enhance the individual and bring meaning into his life.

(NOTE: This book may be used without the Career Awareness Guide.)

RESOURCE MATERIALS

An analysis of fifteen occupational clusters identified by the U.S. Office of Education. Sherman/Denton, Texas: 1972.

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Occupational Outlook Handbook. U.S. Department of Labor, 1972-73.

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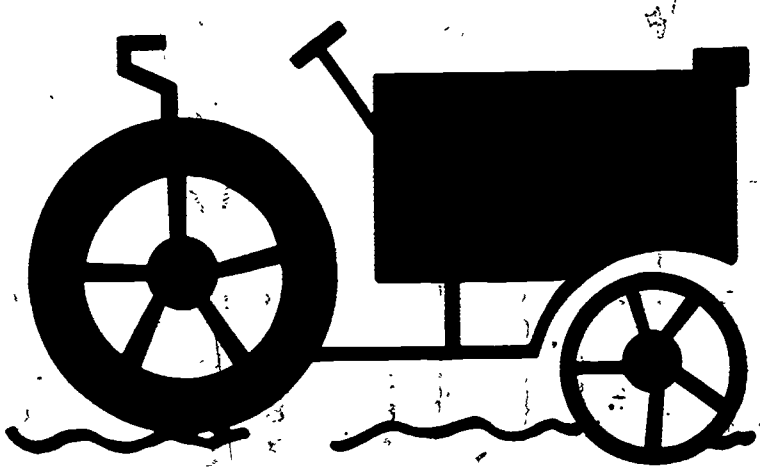
BEST COPY AVAILABLE

Agri-Business and Natural Resources



The need for food, clothing, and shelter has been man's basic problem throughout history. The problem is the same today; it has just become more complex with the increase in population and the many technical changes that have occurred in our society. To say the vast complex of agribusiness and natural resources is big business is to put it mildly; thirty to forty percent of our labor force in the United States is engaged in some aspect of food production, processing, and delivery to the American table. The production of oil, ores, coal, and minerals employs additional millions of workers.

AGRICULTURAL ENGINEER

Agricultural engineers develop efficient systems for the production, transportation, processing, and distribution of food and fiber. They are involved in the design of irrigation layouts, ponds, soil tillage tools, pesticide application, harvesting machines, and other systems to grow crops, fruits, vegetables, cotton, forest trees, and other plants. Because the systems they design operate at the point where machines meet life, the agricultural engineer must have an understanding of our natural resources (water, soil, air, and the sun) and of life itself.

History and Future--The first agricultural engineering project may have been the attempt by the ancient Egyptians to harness the floodwaters of the Nile, or it may have been an earlier effort. As a profession, however, agricultural engineering dates from 1907 when the American Society of Agricultural Engineers was organized.

To provide food for the growing population, agricultural engineers will continue to be in great demand for some years to come. They will be needed to help increase food production in their own country and throughout the world.

Work Environment--Some agricultural engineers work outdoors a good deal, planning or supervising installations of machinery or construction projects; others hold desk jobs that keep them indoors most of the time. Engineers spend little or no time in strenuous or dirty work.

Training and Education--A bachelor's degree is the minimum educational requirement for an agricultural engineer. High school courses should include mathematics, physics, chemistry, mechanics, social sciences, English, economics, and soil, plant, and animal sciences.

Qualifications--The agricultural engineer should have the ability to analyze, evaluate, and make accurate judgements. He should be able to convey his ideas fluently in both speech and writing.

Advantages and Disadvantages--The demand for engineers far exceeds the supply. Many engineering students are signed up for jobs while still in their senior year of college.

Engineers can look forward to high average earnings as they gain experience in their profession.

SOIL CONSERVATIONIST

The soil conservationist plans and develops coordinated practices for the protection of land and natural resources. He or she plans such soil management practices as crop rotation, strip cropping, contour plowing, and reforestation, as well as soil erosion control as related to soil and water conservation.

Soil conservationists supply farmers, ranchers, and others with technical assistance in planning, applying, and maintaining measures and structural improvements for soil and water conservation on individual holdings, groups of holdings, and on water sheds.

Farmers use this technical assistance for protecting land against soil deterioration; rebuilding eroded and depleted soils; improving cover on crop, forest, pasture, range, and wildlife land; conserving water for farm and ranch use; and reducing damage from flood water and sediment in draining or irrigating farms or ranches.

History and Future--Farmers have always been faced with land unsuitable for cultivation. Remedies were developed by the owners themselves through the limited scientific knowledge of the times.

Employment opportunities are good. The profession will expand because government agencies, public utility companies, banks, and other organizations are becoming interested in conservation and are adding conservationists to their staff.

Work Environment--Most soil conservationists are employed by the federal government. The average work week is forty hours. Most of the work is outdoors. There can be occasional travel.

Training and Education--A bachelor's degree with a major in soil conservation or a related agricultural science is necessary.

High school students interested in soil conservation should elect a college preparatory program and take as many courses in science and mathematics as possible. Some summer experience on a farm is desirable.

Qualifications--The soil conservationist must be able to accept responsibility.

Advantages and Disadvantages--Those who have unusual aptitude have good chances of advancement to higher salaried technical administrative jobs.

HORTICULTURIST

The horticulturist develops new or improved varieties of orchard or garden plants which will have a higher yield quality, nutritional value, resistance to disease, or adaptability to climate or soil. He also tries to find better methods of growing, harvesting, storing, and transporting horticultural crops.

Horticulturists usually specialize in either a specific plant or a particular technical problem, such as plant breeding.

History and Future--New graduates with a bachelor's or master's degree will find many opportunities to work in junior level positions or as research assistants. The employment outlook, particularly for those holding a doctoral degree, is excellent.

Work Environment--The work is varied, pleasant, and interesting. Jobs are available out-of-doors, in greenhouses, offices, and laboratories.

There is some physical activity involved, such as walking, stooping, bending, reaching, handling, and grasping.

Training and Education--In high school, a college entrance program should be considered, including courses in chemistry, biology, mathematics, and vocational agriculture.

Qualifications--Initiative, curiosity, patience, persistence, interest in working with plants, and a liking of the out-of-doors are necessary qualifications.

Advantages and Disadvantages--This career offers personal satisfaction in seeing one's effort resulting in the improvement of food and plants for human betterment.

There is equal opportunity in this career field for both men and women.

DAIRY PRODUCTION TECHNICIAN

There are two main areas for employment in the field of dairy production. The first area is in actual farm operation (owner, manager, herdsman). The second area of work is in an agriculturally related business or in one of many organizations the dairyman hires to perform specific services for him.

Most dairymen do not mix their own dairy rations but rely on technicians to do it for them; practically all dairymen are using highly selected animals in their breeding programs and call on technicians to provide advice concerning selection, as well as to perform the insemination service.

Dairy production technicians can also go into sales work, selling special agricultural products and services to dairymen.

History and Future--For many years dairying was considered a summer industry. Cows were milked starting in the spring when they calved and continuing to the winter when they were simply allowed to go dry.

The field of dairy production technology is vast with a great diversity of employment opportunities. As research and science improve the technology of production, there will be even more change and opportunity for employment.

In the early 1970's two to four jobs were available for each graduate, and the indication is that the ratio will not change.

Work Environment--The technician must be prepared to work every day of the week. He is at the disposal of the cow, who must be milked twice daily, who gives birth anytime, and who can need care any hour of the day.

Most of the work is out-of-doors, although there are jobs available in the laboratory.

Training and Education--High school graduation is a prerequisite for becoming a dairy production technician, and more and more dairy farms and agriculturally related businesses are looking for people with at least two years of college. High school courses should include biological and earth sciences, mathematics, vocational agriculture, chemistry, and English.

Qualifications--The dairy production technician should have a real desire to work with animals. He should have a curious mind and stay informed on the latest developments and newest methods as they emerge in the industry. The technician must be able to communicate both verbally and in writing in order to be able to work effectively with others.

Advantages and Disadvantages--Fringe benefits include room and board, laundry, milk, and sometimes meat. In addition, technicians are entitled to the same basic workmen's compensation coverage and health insurance provided by other businesses. Social security is the only retirement system. Vacation time and personal leave time are provided.

FORESTER

A forester is an expert on the interrelationship of forest soil, air, water, trees, and other plants, people, wildlife, and domestic animals. He directs land surveys, road construction, and the harvesting and planting of trees. He knows the economics of forestry. He is skilled in preventing and stopping damage to forest resources from insects, diseases, and fires. He plans and prescribes forest land uses and practices.

History and Future--The first professional schools of forestry were started in the late 1890's.

The growth of professional forestry was slow at first. By 1912 only 500 men had had formal training in forestry.

The future for foresters appears to be excellent. Employment prospects are good now. The demand for foresters is expected to grow. There is a growing need for forest land to be used for recreational purposes and as a means of conserving water and soil.

Work Environment--A forester's regular workweek is forty hours, but when emergencies occur foresters must put in extra time coping with fires, floods, and storms. The amount of work also varies with the seasons. Spring and summer are seasons when the forester has a number of extra duties. He must work long hours then, even though he usually has part-time helpers.

Training and Education--The forester needs a good education. In high school the prospective candidate should place special emphasis on English, mathematics, and science. The professional forester needs at least a bachelor's degree in forestry. Many have either a master's or a Ph.D.

Qualifications--A forester needs initiative, self-reliance, and the ability to work well with people. Scientific curiosity, reasonably good health, and a genuine liking for the out-of-doors are important.

Advantages and Disadvantages--There are many advantages to be found in working as a forester. It is a good job for the person who loves the outdoors and enjoys working on his own. The occupation is relatively secure, and the person working in it can feel that he is making a worthwhile contribution to society.

Sometimes the forester finds himself in situations of great hardship or danger in which he has no one to depend on but himself. He has to be intelligent, resourceful, and firm against any impulse to panic.

FOREST AND FOREST PRODUCTION TECHNICIAN

The forest and forest production technician may work in the areas of forest management preparing surveys and maps, timber production, recreation wildlife, forage management, or water regulation. Some are involved in protecting forests from insects, disease, or fire. Some work in the research or testing of various products designed to improve forests or lumber. Still others work in lumber yards, sawmills, veneer mills, logging operations, furniture companies, or wherever technical knowledge of wood or a wood base product is needed.

History and Future--Forestry is a relatively new profession. However, the employment outlook is excellent.

Work Environment--Forest technicians normally work a thirty to forty hour week, but working hours may include occasional weekends or evenings, particularly for those in round-the-clock specialties such as recreation or firefighting.

Training and Education--A high school diploma is necessary, and a prospective technician should attend a junior or community college or technical institute, earning an associate degree. Courses include mathematics appropriate to forestry, communications, botany, engineering, marketing and business, manufacturing processes, and specific technical forestry courses.

Qualifications--Forest technicians should be able to communicate well with others and to apply theoretical knowledge to practical problems. Physical stamina, ability to work with the hands, and enjoyment of the outdoors in all kinds of weather is necessary for some positions.

Advantages and Disadvantages--There are opportunities everywhere in the country for forest technicians.

GEOLOGIST

The geologist is largely concerned with locating and obtaining physical data and material. This may necessitate the drilling of deep holes in the earth to obtain samples, collecting and examining materials found on or near the surface, and possibly the preparation of geological maps. In the laboratory the geologist makes studies of the collected material for which he may have had neither time nor equipment in the field. Then, he writes reports on his work for use by future geologists.

History and Future--The employment outlook is excellent for men and women with graduate degrees. Many new fields are appearing where knowledge of geology is combined with another science, as in astrogeology.

Work Environment--The geologist's work may be physically demanding, involving considerable time in the field and living a camper's life.

Although the practice of geology, because of its often strenuous nature, has appealed primarily to men, some women enter the profession each year. They find jobs as teachers, laboratory research workers, technical writers and editors, librarians and sometimes as field geologists.

Training and Education--The minimum education necessary for most geologists is a master's degree.

A prospective geologist in high school should take courses in mathematics, science, English, and at least two modern foreign languages.

Qualifications--The geologist must be able to get along well with many kinds of people. He must have the ability to visualize things in three dimensions. He should also be a keen observer.

Advantages and Disadvantages--The geologist may be separated from his family for periods of time, but the ease of transportation is making these periods shorter. The chance to see and learn new things and the necessary mental stimulation all add zest to the work. The financial compensation is good.

FARM CROP PRODUCTION TECHNICIAN

The farm crop production technician plans, plants, cultivates, cares for, harvests, and markets field crops, such as grain and cotton, for commercial purposes.

Nearly everything used on a farm is now purchased away from the farm, such as seed, fertilizer, pesticides, machinery, fuels, and general supplies. Companies selling these products need farm-trained and farm-oriented technicians who can understand the buyer's farm problems and needs. These companies also need technicians to assist in research. The farm machinery technician tests and recommends improvements or adaptations in machinery designed by company engineers. Some technicians work closely with farmers supervising the production of a crop.

History and Future--Perhaps one of the most important discoveries in history was the discovery that plants could be grown from seed.

The word "agriculture," which is another word for farming, comes from the Latin words meaning "field" and "till."

The student exploring a career in crop production technology should not be misled by the fact that the number of farms is decreasing. Food production in all of its facets should continue to provide good employment opportunities throughout the coming year.

Work Environment--Many technicians are required to work out-of-doors a great deal of time. A laboratory technician's work involves exacting systematic procedures. Facilities are generally clean and well lit. An inspection technician's work may involve long hours during harvest season. Those involved in sales work may spend considerable time in travel.

Training and Education--The student who wishes to go on to a junior college should have a good high school background in mathematics and science. He should complete as much vocational agricultural mechanics as possible. English is also important because much of the work involves careful and accurate record keeping and the ability to communicate with others.

Qualifications--The prospective technician should like outdoor work and should be able to adapt to extreme weather conditions. There may be certain seasons of the year when he is required to work long hours under considerable pressure to get a crop harvested or processed at the right time.

Advantages and Disadvantages--The technicians who work on the farms are often provided with free housing.

Those who have had experience in several jobs in the industry may advance to managerial levels more rapidly than those who have not.

FISH AND WILDLIFE TECHNICIAN

The fish and wildlife specialist studies natural animal resources to determine the best method of conservation and propagation. He recommends a limitation or holiday on fishing or hunting of any species in danger of extinction. He encourages growth of fish and wildlife by reducing disease and stream pollution, restoring vegetation and other food sources, and encouraging breeding.

Fish and wildlife specialists also serve as park naturalists and park rangers. Naturalists study wildlife native to their area, preserve scientific specimens, collect records, plan museum exhibits, and conduct study tours.

The ranger uses a background of wildlife knowledge to assist in protecting and managing both animals and park visitors and in presenting a clearer picture of the natural inhabitants of the area.

History and Future--Early American settlers found an abundance of fish, game, and other wildlife. Indeed, products of their fishing and hunting sufficed to keep the early colonists alive.

By the early nineteenth century most of the states had adopted regulations protecting their fish and wildlife. However, these laws were not enough to counteract the destruction of natural life. At the same time, the development of farms, villages, and industries removed numerous species from their natural state and traditional feeding grounds. Those that escaped the hunter's bullet may have died from lack of nourishment due to the farmer's plow.

Positions for fish and wildlife specialists may result from increased attention paid by commercial organizations.

Work Environment--The work is often seasonal. Overtime or weekend work during certain times of the year is common.

While some specialists work in clean and comfortable laboratories in major metropolitan areas, many employees work in remote locations.

Qualifications--The specialist must possess good judgment. Keen observation and interest in wildlife are important. The specialist should possess a good writing skill for preparing frequent reports demanded of him.

Advantages and Disadvantages--Because of the relatively small number of persons employed in fish and wildlife positions, advancement possibilities are somewhat limited in most states.

Relatively few opportunities exist for women as specialists, as the rugged outdoor life necessitates the use of men (in the opinion of most employees).

ENTOMOLOGIST

The entomologist works primarily in research, control, and teaching. He or she is concerned with the study of insects, reduction of some harmful species, and the aiding of helpful species to survive and multiply. The researchers study in laboratories and in their natural environments. It may be necessary for them to travel in the United States and all over the world.

Entomologists are developing nonchemical controls of insects, such as the development of insect-resistant plants and the use of birds and harmless insects to combat the harmful varietes.

History and Future--Entomology is a relatively small field of about 6,000 professionals. It is expected that there will be more job opportunities than there will be qualified entomologists to fill them.

Many women find satisfying careers in the field of entomology.

Work Environment--Working conditions vary considerably in entomology. Outdoor work often requires considerable physical activity in all kinds of terrain. In the laboratory, the entomologist works with live insects and other forms of life, with chemicals, and with all kinds of science equipment and supplies.

The entomologist in teaching works with groups of students in lecture and discussion and with individuals in personal conferences.

Training and Education--The prospective entomologist should attend a college or university offering a broad background in biology and other science specialties. With a bachelor's degree one would work in a less technical branch of entomology, such as being an assistant or in routine control work.

The master's degree is considered the minimum program for the professional entomologist. However, the Ph.D. degree is recommended for those interested in college teaching and research.

Qualifications--An aspirant should have above average general ability in a college aptitude test, be able to read above his grade level, and be able to obtain very good grade marks in high school subjects, especially science.

Advantages and Disadvantages--Entomology is a growing field with very good employment opportunities. The professional entomologist can work in a variety of conditions, such as teaching, research, writing, and control work.

Six to eight difficult and expensive years of college work are required for the best background. In research, long hours of frustrating work may sometimes end in little or no results, which is often true in science-related professions.

MINING ENGINEER

The mining engineer's primary duty is one of exploration and production of mineral materials from the earth's crust.

The engineer is responsible for the planning and the sinking of shafts and the digging of tunnels in the safest and most economical manner. He must choose the best method and equipment to use in extracting, recovering, and treating the ore. He must design or select the best processing equipment for the job to be done. He purchases equipment and supplies and supervises and assists in the erection of plants.

The mining engineer directs or supervises the removal of ore from the mine. He is responsible for the maintenance of the mine, for the safety of the miners, and for the overall smooth running of the whole mining operation.

History and Future--The Phoenicians were the first major users of metal and had developed efficient mining systems and organizations for mine operators by 1200 B.C.

The modern history of mining began in the middle of the nineteenth century. There has been an extremely rapid growth of metal mined, together with increasing demands for all kinds of mine products.

The outlook for mining engineers is expected to be favorable through the next decade. The number of new college graduates with degrees in mining engineering is currently not high enough to replace those who leave the profession to retire or transfer to another field.

Work Environment--Mining engineers employed by industries usually work at the location of the mine. Although the engineer may have an office, he will spend much of his time dressed in field clothes and working in the open or underground. He might live and work in a small community in an out-of-the-way place, but if he is engaged in management, sales, teaching, research, or consulting he is likely to live near or in a large metropolitan area.

Training and Education--Preparation for a career in mining engineering should begin in high school with algebra, geometry, trigonometry, physics, chemistry, geography, and mechanical drawing. English is a must and a good background in social studies is important.

Qualifications--The engineer must be physically fit, have a liking for the out-of-doors, be adaptable to varying conditions, and be able to accept life away from the normal environment. He should have a good command of written and spoken English and be willing to work long hours when necessary.

Advantages and Disadvantages--There is always some danger in working around heavy machinery, and in a shaft mine there are additional problems. The physical conditions, lack of natural light and air circulation, mean that special precautions must be taken.

Valuable experience in different mines and working with different metals and ores in various parts of the United States or abroad equip the engineer for responsibility as a supervisor, administrator, or sales engineer.

MINER

There are varied tasks for miners. One drives underground openings to extract coal, ore, or rock. Another drills holes in the working face of the ore or rock and inserts explosives to break up the mass.

Miners operate the cutting machines, drilling machines, loading machines, and continuous mining machines that perform most of the work in underground coal and potash mines. In these and all mines there are power shovels, loading shovels, drills, bulldozers, and huge trucks that enable the miner to work efficiently with a minimum of effort and a maximum of safety.

History and Future--American Indians used the surface coal to make carvings or paint their skins black. Only the Hopi Indian who lived in what is now Arizona burned coal for fuel and for firing pottery.

Coal supplied more than half the United States' energy needs as late as 1943. It now provides a little more than one-fourth. Nevertheless, the industry is progressing again.

The future for the coal industry looks good. Industry and government are expanding their investment in research that is expected to provide more uses for coal. Because of increased mechanization, however, most of the demand will be for mining engineers and skilled labor.

Work Environment--Today the average workweek is about forty hours. The miner gets time and a half for overtime and Saturday work, double time for Sunday work, and triple time for work on holidays.

The first ten states according to the number of men engaged in mining are Texas, West Virginia, Louisiana, Pennsylvania, Oklahoma, California, Kentucky, Illinois, Ohio, and New Mexico.

Training and Education--A high school education is valuable and often required, for the miner of today must be a skilled technician capable of operating or maintaining complex, expensive equipment.

Courses in vocational schools should cover equipment maintenance, electricity, machine operation, mine gases, explosives, and mining law.

Qualifications--The miner must be in good physical condition. Working underground in fairly close quarters calls for a cool head and the ability to think quickly.

Advantages and Disadvantages--Coal mining today is a much more attractive occupation than it used to be.

Company towns are mainly things of the past. Improved roads, good transportation facilities, and higher wages have helped eliminate them, and miners and their families are no longer isolated in strictly mining communities.

Although certain hazards are inherent in the mining industry--falls, explosions of firedamp and coal dust, cave-ins--the coal industry over the years has made much progress in accident prevention. Progressive coal companies realize that a good safety program is an integral part of the production plans. Also, all states where there is commercial mining have a state department of mines that inspects and controls mining operations. The Federal Bureau of Mines also enforces rigid safety laws. This bureau has sections concerned with safety, mine inspection, and miners' health.

GEOPHYSICIST

The geophysicist studies the physical aspects of earth, including its atmosphere and hydrosphere, utilizing the principles of physics, mathematics, and chemistry.

The geophysicist analyzes data to compute the shape of the earth, eliminates the composition and structure of its interior, and determines the flow pattern of ocean tides and currents. He studies the physical properties of atmosphere, helps locate petroleum and mineral deposits, and investigates the origin of glaziers, volcanoes, and earthquakes.

Geophysics is a broad and active field divided into many subfields.

Geophysicists who work in geodesy study the size and shape of the earth and the variations in the pull of gravity. They set up a network of points and elevations above sea level, establishing bench marks for reference purposes.

Seismology is the study of earthquakes by which geophysicists learn most of what is known of the interior of the earth.

Oceanography is the scientific study of the sea. From specially equipped ships, scientists study the currents, content, and bed of the ocean.

Hydrologists measure rivers and streams and study underground supplies of water and the occurrences, behavior, and disposition of water on the under land.

The profession of geophysics covers a broad spectrum of studies from the core of the earth to the atmosphere of Jupiter.

History and Future--The demand for geophysicists is growing rapidly. The number of new graduates will fall far short of the needs of employers. The geophysicist is in demand to find new reserves of critical radioactive minerals for atomic energy. The natural environment has been modified by man's presence, so that the work of environmental scientists has increased dramatically.

Work Environment--The work may be physically demanding. Considerable time may have to be spent in the field away from family. Many hours are spent working in the laboratory and preparing reports. Some jobs involve frequent relocation, both within the U.S. and in various foreign countries.

Training and Education--A bachelor's degree is the minimum required education. A good background in high school physics, chemistry, and mathematics is important. Graduate degrees are becoming increasingly important in competing for the best jobs.

Qualifications--The prospective geophysicist should have an aptitude for geology, physics, chemistry, and mathematics and should also like to work outdoors.

Advantages and Disadvantages--Women are welcomed into geophysics as equals. There are no barriers to advancement of women in any area of geophysics, and many women occupy responsible positions. The American Geophysical Union has had women officers, and some of its most distinguished members are women.

PETROLEUM ENGINEER

The petroleum engineer keeps in touch with the field party, is an expert in fossils, and often goes along on field trips. After discovery and exploration of a potential oil field and after the oil company decides to drill, he takes over.

The engineer must know the entire field, so that he can decide how many wells should be sunk, how they should be sunk, how they should be spaced, and how much time should be allowed for drilling operations.

After the well is completed, the petroleum engineer decides what method to use to get oil and gas to the surface. He studies subsurface rock layers penetrated by the drill, estimates the quality of petroleum present, and decides how it can be recovered more easily.

Not all petroleum engineers work for oil companies. Some work for manufacturers, designing and testing new oil field equipment. Some specialize in the economics of petroleum engineering, evaluating oil properties and providing their employers with information to guide their future operations. Some are self-employed.

History and Future--The outlook for petroleum products is excellent. Demand for petroleum products is expected to keep on rising rapidly.

Exploration for petroleum will continue, but many oil men believe that the most important sources of oil lie in offshore areas, in the Arctic, and in fields already discovered. The petroleum engineer will be a key man in studying these sources and applying secondary recovery methods.

Work Environment--The petroleum engineer works outdoors in all kinds of weather and in all kinds of places. The engineer may have to live in a trailer or camp in out-of-the-way places in unusual climates. He may work on platforms built above the water or on barges.

Training and Education--The usual requirement for a job as a petroleum engineer is a college degree. In high school a college preparatory program should include courses in mathematics, physics, chemistry, shop work, and mechanical drawing. English composition is important, for clear written and oral reports are required of engineers. Social studies, including economics and foreign languages, is helpful.

Qualifications--The petroleum engineer must be able to work and get along with all kinds of people. He has to be a good supervisor of production crews. Ingenuity, good judgment, and resourcefulness are required for solving various engineering problems. The engineer must develop a practical, common sense knowledge of cost because his company expects him to get the most oil and gas at the lowest cost.

Advantages and Disadvantages--Earnings of engineers in the petroleum industry are generally above the national average, and such benefits as pension plans, insurance, and paid vacations are common.

Petroleum engineers can eventually move up to administrative positions. Many trained engineers become top executives.

FARMERS

Farmers raise crops such as corn, wheat, tobacco, cotton, vegetables, and fruits. They may specialize in some phase of producing animals or poultry mainly for food, or they may maintain herds of dairy cattle for the production of milk. While some farmers may combine several of these activities, most specialize in one specific area.

The crop farmer grows corn, wheat, cotton, tobacco, peanuts, or specialty crops, such as peas, beans, beets, soybeans, potatoes, fruits, and berries.

The hay farmer grows hay. He must be able to judge the exact time for mowing which will yield the best crop in terms of such factors as stem toughness, leaf loss, and the growing season of subsequent cuttings.

The livestock farmer generally buys his calves from ranchers who breed and raise them. The livestock farmer's work is basically to feed and fatten young cattle, and generally he raises his own corn and hay in order to cut feeding costs.

The sheep rancher raises sheep primarily for their wool. Large herds are maintained on range land in the western states. Since large areas of land are needed, the sheep rancher must usually buy grazing rights on government owned lands.

The dairy farmer is concerned with the production of the maximum amount of high-grade milk; he also will raise corn and grain in order to provide feed for his animals in order to reduce cost.

The poultry farmer does not hatch his own chicks but buys them from commercial hatcheries. The chicks are then kept in brooder houses until they are seven or eight weeks old and are then transferred to open pens or shelters. At six months the hens begin to lay eggs, and roosters are culled from the flock to be sold for meat.

History and Future--Farming is an ancient occupation, going back before the beginning of recorded history. Before farming began, man was a hunter. Tribes roamed from area to area, killing animals for food, clothing, and shelters and picking whatever wild berries, nuts, and fruits that might be found. As the population grew, rudimentary efforts began to tame wild animals and to cultivate food plants in order to provide a more constant source of food. Goats and sheep were raised in mountainous or hilly lands and were moved from one grazing spot to another.

The big breakthrough in farming came when it was realized that seeds saved through the winter could be planted in the spring and that planned crops could be raised and harvested. There is evidence that wheat was cultivated in Mesopotamia (now Iraq) as early as 4700 B.C. and that cotton, too, was used by ancient people in producing cloth. Peas, beans, rice, and barley were also some very early crops.

Farming methods and implements were crude. Oxen dragged forked sticks through the ground to break up the soil; scattered seeds were pressed into the earth by having sheep driven over the land; women and children often sat in the fields guarding the newly planted seeds from scavenging birds.

In colonial America alomst 95% of the people were farmers, planting such crops as Indian corn, wheat, flax, and further South, tobacco. With the exception of turkeys, all of the livestock raised was brought over from the Old World. Chickens were brought by Spaniards in the sixteenth century and by the English colonists to Virginia and Massachusetts. Hogs, cattle, sheep, and goats were also imported. Hay was raised to feed the farmer's livestock, and just enough other crops were raised to supply the farmer and his family throughout the year.

The invention of farm machines in the 1800's, such as the reaper, the threshing machine, the steel plow, and the two-horse cultivator, enabled the farmer to put a great deal of land under cultivation, and the widespread sale of farm products began. At the beginning of the twentieth century, the tractor was developed, and a new and important crop, soybeans, was imported from the Orient and widely planted and processed.

Along with the introduction of many labor-saving farm machines came new and improved methods of soil conservation. The use of fertilizers, contour farming, and strip rotation greatly increased the productivity of the land and at the same time preserved it. The Department of Agriculture, which was created in 1862, and the growth of agricultural colleges with their various extension services combined to make the farmer more knowledgeable, productive, and efficient in his use of land and livestock.

Farming is becoming big business with fewer but larger farms the rule. Unskilled workers will find it hard to get jobs; the outlook is better for workers who acquire skill in operating and maintaining farm machinery.

Work Environment--The farmer is outdoors most of the time regardless of weather conditions. Long hours and hard manual labor make excellent health and strength necessary. During planting and harvest seasons, he will work very long and irregular hours with few breaks in the routine. Even during the cold winter months he must repair machinery and buildings.

Training and Education--There are no specific educational requirements for the crop or animal farmer, but the farmer should have a knowledge of the principles of soil preparation and cultivation, disease control, machinery maintenance, as well as knowledge of business practices and bookkeeping.

High school courses should include algebra, geometry, carpentry, accounting, and English. Extension courses should also be taken in order to keep abreast of all new developments in farm technology and science.

Qualifications--All farmers, regardless of their specialty, should enjoy being outdoors and should be in excellent physical condition.

Advantages and Disadvantages--The farmer is his own boss. He enjoys the wonderful sense of inner security that comes from treading a man's own acres. He can work in the outdoors. He has the joy of seeing plants grow and prosper.

Farming provides a deeply rewarding life that contributes immeasurably to mankind's well-being.

POULTRYMEN IN INDUSTRY

In the field of poultry product technology, there are opportunities for men and women in the departments of research and development, quality control, and technical service.

The sanitarian sees that all poultry products meet the requirements of customers and regulatory agencies.

The scientist performs basic research or applies basic findings to practical problems. It is in the laboratories of the poultry industry that the team effort of scientists results in new product development.

The hatchery manager is responsible for transforming millions of eggs into chicks, ducklings, and turkey poults. He organizes and supervises all activities of the hatchery.

Technical sales and service personnel assist producers and managers of production units and help design efficient systems for production. They also help to bring together the activities of the producer with other parts of the industry and government agencies.

The nutritionist develops special diets for poultry or specific farms. He supervises all laboratory operations for analyzing feedstuff, formulating the new diets, and testing them. Geneticists design and develop the foundation stock for all types of poultry; the stock will then have the necessary characteristics for breeding profitable birds. With the help of the computer, they can predict the results of specific mating with a high degree of accuracy.

History and Future--The poultry industry got its start in New England and on the North Atlantic coast, but today it is scattered throughout the country.

The demand for graduates with poultry background exceeds the supply available.

The industry needs men and women who are able and willing to work hard, handle responsibility, and work with new ideas.

Work Environment--Working conditions vary in different areas. Most poultry industries are located in Long Island, Minnesota, California, Iowa, and Georgia.

Training and Education--Preparation for a career in poultry science should include courses in chemistry, microbiology, and engineering.

In high school courses should include science, math, and English. Membership in the Future Farmers of America or a 4-H club is a helpful prerequisite.

A college education is a distinct advantage. The work is so specialized that the prospective poultryman needs college courses in poultry breeding, management, marketing, and nutrition.

Qualifications--A prospective poultryman should be in good health and able to stand hard work. Attentiveness to detail and an inclination toward neatness and order are also desirable qualities.

Advantages and Disadvantages--The incomes of poultrymen in industry are fairly stable because they produce under contract. Contract production is more widespread in poultry industry than any other major type of farming.

BUTCHER

Butchers cut up large pieces of meat and trim away any excess fat and bone. They may also prepare meat products, such as sausages, hams, and corned beef. They must use a variety of tools, including knives, saws, and cleavers. Some butchers are also responsible for keeping an inventory record of all meat going in and out of their area and for ordering new stocks of meat and other supplies.

History and Future--The employment outlook is excellent. Thousands of entry jobs for meat cutters will be available during the next decade to replace experienced workers who retire, die, or transfer to other occupations.

Work Environment--Butchers generally work a thirty-five to forty hour week with extra pay for overtime. Work surroundings are usually well lighted and well ventilated. The job requires much heavy lifting and standing. There can be unpleasant odors and sudden temperature changes when entering and leaving refrigerated areas.

Training and Education--High school or vocational school graduation is preferred but not always required. A number of vocational schools offer courses or programs in meat cutting. Butchers usually learn their trade through on-the-job training or an apprenticeship program, both of which take two to three years to complete.

Qualifications--Prospective butchers must be in good health, clean, have enough physical strength to lift heavy pieces of meat, and have good manual dexterity.

Advantages and Disadvantages--Skilled butchers can advance through promotions to supervisory positions in larger establishments or by going into business for themselves.

FOOD PROCESSING WORKERS

The first step in the food processing operation consists of cleaning and washing the raw food. This is done by the washer operators who screen, air blast, or wash the raw products.

Machines sort the products for size; hand sorters examine them for ripeness and defects. Hand trimmers or machine operators trim the products of waste and blemishes. Hand peelers may remove peel or skin. The food may be handled by machines that cut, slice, dice, halve, or peel it.

Filling machine operators regulate the amount of food going into each container.

After the day's processing is over, all the machinery must be thoroughly cleaned, washed, and sanitized so that it will be immaculate for the next day's work.

History and Future--The outlook for the processing industry is bright, but prospects are not particularly good for unskilled workers. More and more machines are taking over the work of human hands. With this increasing mechanization comes a need for skilled machine operators.

Work Environment--Because sanitation is of primary importance in food processing, plants are clean and well lighted.

Some plant operations must be performed at low temperatures, for which employers provide special clothing.

Training and Education--There are no particular education requirements, although workers with at least a grammar school or a high school diploma are preferred. Employees are trained on the job.

Qualifications--Good health, good eyesight, and manual dexterity are the essential factors. All workers who handle food must furnish a health certificate from their doctors.

Advantages and Disadvantages--Many small plants operate only during harvest time and close down for the rest of the year. Other plants process foods available throughout the year, such as meat and fish, and provide steady employment.

Advancement opportunities for unskilled workers are not good, although some supervisory positions are available. Chances are better for machine operators, who may begin operating simple machines and move up to more complex operations or supervisory work.

AGRIBUSINESS TECHNICIAN

The agribusiness technician provides farmers with financial credit, power, fuel, transportation services, farm and supply services, and contract marketing and processing.

The agribusiness technician may work as a part of personnel management for a large corporate farm or dairy with the authority to hire and fire employees, coordinate work layout with the farm manager, and assume the responsiblity of the entire structure of salaries.

The agribusiness technician may work with a credit institution soliciting the business of farmers and agricultural businessmen to make appraisals of real estate and personal property, to organize and present loan requests, to close loans, and to service those loans with a periodic review of the borrower's management performance and his financial status.

History and Future--Only a few years ago the farmer thought of himself as being nearly self-sufficient. Today he relies heavily on agricultural business for services that were unheard of when he started farming. This field has grown so rapidly that it is virtually a new area of endeavor for every generation. In the early 1970's there were approximately five people employed in agricultural business for every full-time farmer in the United States. The ratio continues to widen as more and more companies and organizations offer more and better direct production services.

The employment outlook for this profession is highly favorable. As small farms give way to large corporate entities, the technician's services will be in increasing demand. The large farms will require people highly trained in very specific areas to handle the vast and diversified management operations. Since the demand for such people so far exceeds the supply, it is expected that employment opportunities will be high during the next decade.

Work Environment--Because the field of the agribusiness technician is so large, working conditions vary greatly. Those who work in the area of sales will be traveling a good deal. The job may require a few nights spent on the road or a few weeks spent out of the country. Those who work for banks or offices will usually work in clean, pleasant surroundings. The specialist who goes into farm management or who owns his own farm will need to work outdoors in all kinds of weather.

Training and Education--A high school diploma is an absolute necessity. Courses during high school should include English, social studies, laboratory science, mathematics, and as many agricultural and business courses as possible.

After completion of high school, it is necessary to train in a two-year agricultural or technical college.

Qualifications--The technician must be willing to get his hands dirty when necessary. He must be able to establish rapport with both the professional staff or owners he works with and with the laborers who work for him. He must always be well informed on his specialty and must keep his information current.

Advantages and Disadvantages--An agribusiness technician will often be confronted with problems requiring careful thought and decision. As a consequence, he must be able to remain calm when things get hectic, to make sound decisions, and then to stand by his decisions in the face of possible disagreement. It is a profession which requires initiative, self-reliance, and the ability to accept responsibilities which inevitably draw blame at times of failure, as well as substantial rewards for successful performance. For those with qualities of leadership and a strong interest in agricultural business, it can be a challenging, exciting, and highly satisfying profession.

FARM EQUIPMENT DEALER

The dealer must be a wise businessman, a top-notch salesman, an efficient manager, and an effective supervisor of personnel. If he is running a large enterprise, he will spend most of his time overseeing operations as general manager. In a smaller organization, he personally will do all or most of the selling, servicing, and paperwork.

Arranging attractive displays of equipment is part of the dealer's job. As a rule, the dealer conducts sales meetings with his staff, arranges special sales events, and coordinates advertising and promotion. He must be sure the sales and service staff are taking good care of all customers, and he must be alert to sales possibilities stemming from the changing of the farmers in his community.

The dealer must be able to evaluate used machinery that is taken in trade and see that each item is put into good condition for resale. The parts department is also very important in this operation. Checking inventory and ordering new stock are also part of his job.

History and Future--The first piece of equipment was probably nothing more than a sturdy stick used to break the earth. Today close to $4 billion worth of sophisticated farm equipment is sold annually in the United States and Canada.

The prospective farm equipment dealer should carefully study the local situation before he decides where to enter the business. If he goes to work for an established dealership, he should try to find one that is thriving. With ambition and good judgment, young people should be able to fill the need for modern, aggressive dealerships.

Training and Education--A college education offers the greatest prospects for success in operating a farm equipment dealership. However, there are no specific educational requirements for entering the farm equipment field, but, as in most jobs, the more formal training a person has the better qualified he is and the better are his chances for advancement.

Qualifications--The farm equipment dealer needs a pleasing personality and a knack for dealing with people. He must be courteous, tactful, and patient. Honesty and reliability are other vital characteristics for the equipment dealer.

Advantages and Disadvantages--The farm equipment dealer has all the advantages of a self-employed businessman. He chooses his own working methods and hires his own staff. The successful dealer usually works longer hours with less vacation than his employees, but one who enjoys being his own boss and building a prosperous business does not consider this a great hardship.

A farm equipment dealership can provide a pleasant and challenging career for a person who likes selling and working with machines and who does not care for big city life.

ARTIFICIAL BREEDING TECHNICIAN

The technician collects semen for artificial insemination. The methods of collecting semen with an artificial vagina or by electrical stimulation are of the greatest use.

The technician also inseminates the female farm animals using the semen from the male farm animal.

History and Future--It has been reported that the Arabs used artificial insemination in horse breeding three or four thousand years ago.

After World War I, the Russians, being short of good stock, began an extensive study of the techniques and practical use in such a breeding program. Interest has spread rapidly during recent years and extensive research has been developed in many countries. The progress made and the success of the practice is indicated by the nearly eight million cows bred by this method in the United States in 1962.

Work Environment--The technician works with clean sterilized instruments. Most of the work is performed outdoors.

Training and Education--A high school diploma is nearly always required. The high school curriculum should include courses in science and agriculture.

Qualifications--The technician must have physical stamina and good health. To be successful the technician must also have a knowledge of nutrition, genetics, and management.

Advantages and Disadvantages--The technician can expect excellent opportunities in the future, especially if he keeps abreast of the innovations that will occur in artificial insemination.

The increased use of this method for reproducing animals may result in fewer purchases of male animals. On the other hand, the demand for offspring of superior transmitting ability is greatly increased.

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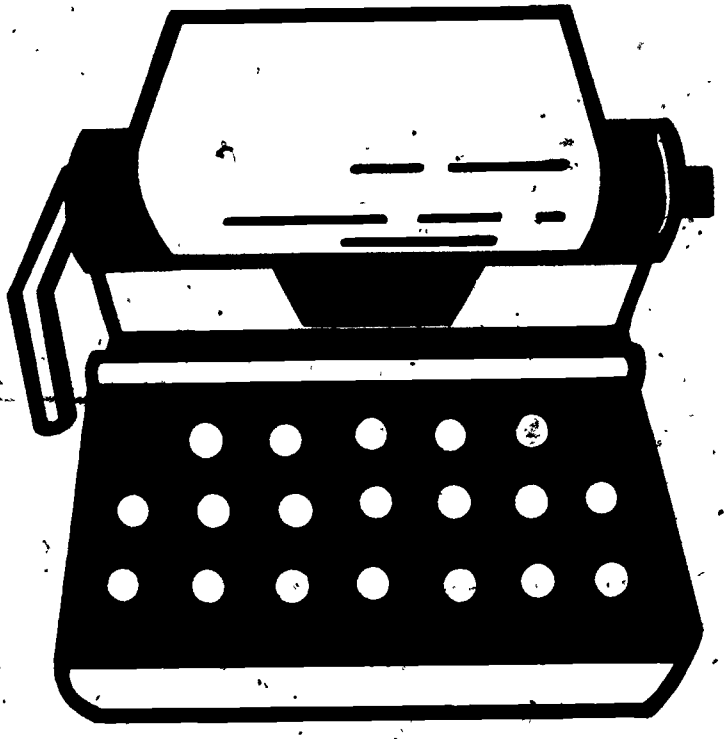
Business and Office



Business and office occupations are of vital importance to the nation's businesses. Business workers play a major role in businesses and a wide variety of other organizations, both private and governmental. Whether the organizations are large or small, employing only a few people or many thousands, the effective business performance contributes greatly to the success or failure of the enterprise.

ACCOUNTANT

The major fields of employment are found in public, private, and government accounting.

Public accountants work independently on a fee basis for any business or individual wishing to make use of their services.

Private accountants, sometimes called industrial or management accountants, handle financial records of the firm of which they are salaried employees.

Government accountants work on the financial records of government agencies or, when necessary, audit the records of private companies.

History and Future--Modern accounting began with the technique of double-entry bookkeeping which was developed in the 15th and 16th centuries. With the Industrial Revolution, business became more complex and the need for accounting methods grew. With the development of governmental and industrial institutions in the 19th and 20th centuries it became necessary to have accurate records for periodic reports.

It is expected that employment opportunities for accountants will be very good in the near future. The demand for college trained accountants will be greater than for those without college training. Accounting employment during the next ten to twenty years should expand rapidly due to the complex and changing systems of taxation.

The increased use of new types of record-keeping systems and of computers will create a demand for well-trained accountants to serve as consultants to managers of various business and industrial organizations.

Work Environment--Accountants ordinarily work between thirty-five and forty hours a week.

Public accountants are subject to considerable pressure during the busy tax periods from November to April. They may find it necessary to work long hours and more than five days a week. Private and governmental accountants are also sometimes involved in much travel.

Training and Education--High school students preparing for an accounting career should be proficient in arithmetical and numerical concepts, speaking, and writing.

A bachelor's degree with a major in accounting is generally recommended for entrance into the accounting field.

Qualifications--The accountant is accurate with figures and has the ability to think logically. He has clarity of both oral and written expression, neat and orderly habits of work, sound judgment, and the ability to make his own decisions based on such judgments.

Advantages and Disadvantages--Advancement may be rapid for able accountants, especially in public accounting. Those with inadequate academic preparation are often assigned to routine jobs and find themselves handicapped in obtaining promotions.

CERTIFIED PUBLIC ACCOUNTANT

The certified public accountant is an internal auditor who specializes in analyzing, investigating, and measuring every operation of the company and its relation to the company's profit and loss. He probes into the workings of the organization, becomes familiar with the functions of every department, and ascertains that each job is being done as efficiently as possible. He seeks ways to raise costs and raise profits through better controls either by better accounting methods or by a change in procedure.

History and Future--The employment outlook for accountants is expected to remain excellent. This is especially true for college-trained and certified public accountants. Women certified public accountants should have no trouble finding rewarding work.

Work Environment--Working hours range from thirty-five to forty hours a week for the certified public accountant. Some overtime work is usual during busy seasons, depending on the nature of the company. The end of the fiscal year, when books are closed and reports are made, may be a busy time for the certified public accountant.

Training and Education--The certified public accountant must pass a special qualifying examination and hold a certificate issued by the state in which he wishes to practice. More than half of the states require certification or registration to practice as a public accountant, and the requirements vary considerably in each state.

Qualifications--The certified public accountant should like mathematics and be accurate and methodical in his work. Above-average intelligence and reliability are assets in this profession.

Advantages and Disadvantages--Certified public accountants can go into business for themselves if they are competent and hard working. They usually find their work challenging and interesting because of the variety of problems that must be solved.

The certified public accountant has to work overtime and travel is necessary.

MATHEMATICIAN

There are two broad areas in mathematics, theoretical and applied.

The theoretical mathematician is concerned with the advancement of mathematical knowledge, the logical development of mathematical systems, and the study and analysis of relationships among mathematical forms. They focus their efforts mainly on problems dealing with the investigative and developmental aspects of principles of mathematics and mathematical reasoning.

The applied mathematicians are concerned with the development and application of mathematical knowledge to practical and research problems in the social, physical, life, and earth sciences. Applied mathematicians work on problems ranging from stability of rockets to effects of new drugs on disease.

History and Future--There is a shortage of well qualified mathematicians and the employment outlook at all levels of preparation is expected to be good. It is anticipated that the demand for mathematicians with Ph.D. degrees will continue in both theoretical and applied areas of concentration, with many opportunities in the areas of research and instruction. Women mathematicians who are qualified for research or teaching should have good employment opportunities.

Work Environment--The mathematician usually has regular hours and works a forty hour week. The work is not considered hazardous but may require long periods of close concentration and eye or nerve strain. Professional mathematicians who work with or near electronic computing equipment will probably work in air-conditioned buildings since these machines are extremely sensitive to temperature changes.

Training and Education--The basic educational requirement for the mathematician is a bachelor's degree in mathematics.

The high school student who is interested in mathematics may wish to accelerate his studies by enrolling in summer session programs offering regular or elective mathematics courses.

Qualifications--The mathematician must have high intellectual curiosity and good imagination.

Advantages and Disadvantages--Mathematicians in positions with the federal government receive annual vacation leave, holiday vacations, retirement, medical plans, and other attractive benefits which make these job opportunities competitive with other work situations.

Institutions for higher education employ mathematical instructors for the academic year from September to June. The instructors can supplement their regular teaching income with summer school teaching, writing, and any available consultative opportunities.

SYSTEMS ANALYST

Systems analysts are instrumental in the business shift from manual to mechanical methods of doing accounting, payroll, and the like.

The analysts determine the exact nature of the data processing problem and then structure the answer so that the results can be gained more efficiently by a computer. Systems analysts prepare charts, tables, and diagrams to describe the flow. This may involve various techniques, such as cost accounting, sampling, and mathematical methods.

After the system has been devised, systems analysts often recommend the type of equipment to be used and prepare instructions for the programmer.

History and Future--The demand for systems analysts will continue due to rapid expansion of electronic data processing in business and government and the increasing sophistication and complexity of computers.

Work Environment--Systems analysts work a forty hour week. An occasional or rush project may call for their presence weekends or evenings. The work surroundings are quiet, clean, and well maintained. They are bothered by little more than the clutter of paper work.

Training and Education--Some employers request that candidates have a bachelor's degree and experience in mathematics, science, engineering, accounting, or business.

Some employers prefer to hire people as systems analysts who have had some experience in computer programming.

Qualifications--The analyst must have enough interest in his work to be willing to answer calls on weekends or evenings during a rush project.

Advantages and Disadvantages--Top management often considers systems analysts as saviors of a troubled business and expects too much of them and their electronic "brains." However, for the systems analyst who can significantly improve aspects of his employer's operations, the rewards are great, both in position and sense of accomplishment.

DATA PROCESSING MACHINE OPERATOR

Data machine operators are divided into two categories: computer operators and auxiliary machine operators. Computer operators communicate with the computer through a console, a part of the computer that is similar to a typewriter keyboard, used for entering and receiving commands and messages. The console message may ask the operator for another job or tell him that a prior inputted job has been completed.

The auxiliary operators are responsible for the input and output operations of the system when each operation is handled by a machine that is not controlled by the central processing unit. Input machines are used to prepare data that goes into the main computer unit, and output machines translate the information into usable form.

History and Future--The field of electronic data processing has experienced rapid growth for a number of years. At present many data processing specialists are needed to fill new positions. Although it may be easier for people to find jobs in data processing than in many other fields, growth will be moderate in the future. There will be more emphasis on the qualification of the applicant, and competition for available positions will increase.

Work Environment--Machine operators usually work forty hours a week. There may be opportunities for overtime at a pay rate of time and a half or double time. Small data processing installations usually operate on a single-shift basis, but larger installations often operate continuously, with three eight-hour shifts. Workers may always operate on the same shift or they may be given alternating day, night, and swing-shift assignments.

Computer operators usually have comfortable working conditions. The computers must be housed in specially constructed rooms that are cool and dust-free. Computer operators may find the short bursts of activity and constant machine noise annoying. There are times, however, when a computer will function for long periods without the close supervision of the operator.

Training and Education--A high school education is the minimum requirement for employment in electronic data processing. Many employers require from several months to two years of technical school training for computer operators; some firms prefer college training for their operators. Applicants for this type of work who have a good high school record need not hesitate, however, if their grades and aptitude tests show clerical and mathematical ability and an interest in bookkeeping, business machine operation, and business practices.

Qualifications--The data processing machine operator must like to work with machines and be capable of handling a variety of tasks on several types of equipment, always following specific instructions carefully. Good motor coordination is important because the machine operator must set up the computers quickly and respond to messages rapidly, especially when errors occur in the program.

Advantages and Disadvantages--There are several grades of operators: junior, senior, lead, and manager. From manager the operator can advance to programmer or supervisor of the system. Further advancement is open to persons who are interested and have had some years of experience and further education.

KEYPUNCH OPERATOR

The keypunch operator's work can usually be divided into two major tasks: selecting data to be punched from written information and recording information on a card by pressing the appropriate keys on the machine.

The operator places a stack of blank punch cards in the hopper at the top of the machine. She presses the keys to record the pertinent data from the order onto the punch cards.

Before the punch cards are fed into the computer, they are verified or checked for accuracy. This is done on a separate machine, a card verifier, which is similar to a keypunch. The operators feed the punched cards into a verifier and rekey the same material from the original documents. The verifier checks to make sure that the proper holes have been punched in the card. If a difference is sensed between what the verifier operator punches and the holes on the card, the machine will flash a red light and notch the card above the column in which the discrepancy occurred. If an error is found, a new card must be keypunched.

When the operator has finished recording all the necessary data and the cards have been verified, they are ready to be fed into the computer.

History and Future--Keypunch machines were first used in the United States by the Bureau of the Census in 1890 as an aid in compiling population data.

At first, businesses utilized the cards only to compile statistics. Later, as alphabetic keypunch machines and electronic computers were developed, private enterprise began to use the punch card system.

The trend toward increased use of electronic data processing methods is expected to continue.

Work Environment--Keypunch operators generally work a forty hour week, although overtime may be necessary during busy periods. Large manufacturing plants and other businesses that handle extensive volumes of paperwork sometimes hire keypunch operators for night-shift work.

Training and Education--A commercial high school program with courses in business machine operation, typing, accounting, and office procedures is good preparation for work as a keypunch operator. Students who attend commercial or vocational high schools may be able to include keypunch operating courses in their studies.

Some companies hiring large numbers of keypunch trainees conduct their own training classes. Others send the trainees to classes conducted by manufacturers of keypunch equipment. Some of these courses last from twenty to eighty hours depending on the company and the school.

Qualifications--Accuracy is important in keypunch work. The operator should have good eyesight (corrected with glasses if necessary) and strong powers of concentration. Patience is also important, as the work tends to be very repetitive.

Advantages and Disadvantages--Technology is rapidly expanding the need for computers and simplifying the jobs connected with data processing. Keypunch operators who are already working will be required to keep up with technological advancement if they intend to keep their versatility in the job market.

Advancement tends to be slow. The work can be monotonous, and to some people the noise of the keypunch machine can be disturbing.

COURT REPORTER

The court reporter is a very busy person during a court trial, sitting at a table near the witness, taking down every word by hand or on a shorthand machine. During the trial the court reporter records the questions asked of the witnesses, their answers, the arguments and comments of the lawyers, and the judge's rulings and instructions to the jury.

Many court reporters take notes on a stenotype rather than by hand. With each stroke a reporter can write a syllable, word, or phrase. The notes come out in English letters on a pad of paper.

At any time during a trial, the reporter may be asked to read aloud from his shorthand notes. This means he must keep his notes well organized so that he can find his place quickly without fumbling.

In a large city, a reporter usually covers the same court regularly. In less populated areas where one circuit judge serves several courts in different districts or counties, the reporter travels the circuit along with the judge.

History and Future--There is a shortage of qualified court reporters and an increasing demand for them. Business and other school placement services can usually place graduates as soon as they finish their training.

The employment outlook for court reporters is excellent and should continue so.

Work Environment--The court reporter's hours may be irregular. Some days the reporter may not have an assignment, and other days he may put in many hours of overtime. The irregularity of such work often requires personal sacrifice.

Training and Education--Many schools offer specific courses in shorthand reporting. They require a high school diploma or its equivalent for admission.

College training is not a requirement for the shorthand reporter, but it can be a help. An academic background and study of many different subjects are invaluable aids in improving one's vocabulary. Familiarity with words is a basic tool of the court reporter.

Qualifications--A patient, cheerful, and even disposition is helpful in reporting because the constant rapid writing sometimes becomes monotonous and demanding. A courteous manner, neat appearance, and well organized work habits are essential. [redacted] are good hearing and good vision.

Advantages and Disadvantages--Because of the need for well-trained reporters, a good reporter can choose the type of work and the part of the country he would like to work in.

Some people find the heavy pressure of constant writing monotonous and tedious. Recording every word that is said often imposes a heavy strain on the writer, both emotionally and physically.

LEGAL SECRETARY

The legal secretary is able to assist the lawyer or judge in the preparation of a wide variety of legal documents, including petitions, subpoenas, briefs, wills, contracts, and deeds. She often witnesses the signing of documents and is capable of doing supportive legal research. She is familiar with court procedures and should have a complete understanding of a law library so that she may use it with ease. Many legal secretaries have become notary publics.

History and Future--The demand is great for well trained highly competent legal secretaries, and the future looks even brighter. As the number of lawyers increases, so does the need for legal secretaries to assist them. The current expansion of legal services for the disadvantaged means there will be a demand for secretaries during the next few years.

Work Environment--A legal secretary may work for a lawyer in private practice or for several lawyers in a large firm. She may work for a legal department of a corporation, a judge, a legal aid center or governmental agency, an insurance company, a trust officer in a bank, or a deed and title company.

Training and Education--The legal secretary needs concentrated training in courses such as typing and shorthand, as well as many courses dealing with specific areas of the legal world.

The best road to success as a legal secretary is more education such as can be obtained by enrolling in a good private business school or junior college of business.

Qualifications--A legal secretary is well organized and efficient. She speaks tactfully to clients and is competent in arranging appointments. She is polite and poised at all times, able to handle any situation diplomatically and confidently. She knows and conscientiously practices the Code of Legal Ethics. Her telephone manners and personal grooming are always perfect. She is courteous, thoughtful, and highly ethical in every respect.

Advantages and Disadvantages--A career as a legal secretary can be meaningful and rewarding for persons who want to serve in the legal system of our nation. Starting salaries are excellent for the legal secretary.

MEDICAL SECRETARY

The medical secretary specializes in working for a physician, a dentist, a medical researcher, a hospital executive, clinic staff members, and the like. Sometimes this job amounts to being a medical assistant, as the secretary does routine medical tasks in addition to secretarial duties.

History and Future--Openings for medical secretaries will continue to grow during the next decade. Many will be hired to fill new jobs, but an even greater number will be needed to replace those who retire or stop working for other reasons.

Work Environment--Most medical secretaries work in clean, well-equipped, air-conditioned offices. Although situations vary, most work about eight hours a day five days a week. If extra hours of work are required to finish a job, overtime pay or additional time off is usually given.

Training and Education--A high school diploma is a minimum requirement. Most high schools offer business courses, sometimes along with on-the-job training. Vocational schools offer more extensive business training than does the average high school.

Qualifications--The prospective secretary should have a thorough knowledge of English and the ability to read rapidly and accurately and to organize work. Spelling, punctuation, and grammar skills are essential. The ability to work under pressure and to function as a member of a team are important. A pleasant phone voice is also helpful.

Advantages and Disadvantages--Most secretaries receive fringe benefits such as paid vacations, hospitalization, insurance, retirement plans, and sick pay. As with salaries, benefits vary according to the individual situation.

EXECUTIVE

An executive's basic job is to get things done by directing and coordinating the efforts of other people. He may be responsible for making policy, planning, organizing, or controlling. He may have thousands of people working under him or none.

All executives, regardless of where or at what level of management they work, have two qualities in common: leadership and a sense of responsibility.

Top management usually consists of executives, such as the president, the members of the board of directors, and other company officers, who take part in deciding company policy. Middle management includes executives and junior executives who are responsible for seeing that company policy is carried out.

History and Future--The opportunities for management executives should increase at a moderate pace during the coming years. The problems of automation, computerization, and expansion require a larger ratio of competent administrators to solve them and guide production at a smooth pace. The executive of tomorrow will need more background in science, mathematics, and computers to deal effectively with these situations. Rising living standards and an increasing demand for services will also contribute to the need for qualified people.

Work Environment--Some executives work normal hours; most work long and irregular hours. Constant pressure and the demand for creative thinking are factors that frequently require the executive to put work ahead of personal life. An understanding family and patient friends are great assets.

Training and Education--A college degree is necessary to become an executive. There are three kinds of curriculum that may lead to an executive's position: a specialized major such as science or engineering, an industrial management course, or a liberal arts course.

Qualifications--There are certain qualities all executives should posses: an ability to get along well with others, sound judgment, self-confidence, and emotional maturity. He should have good health, imagination, and creativity.

Advantages and Disadvantages--The salary range of executives varies widely depending on the size of the company and the responsibility of the position.

Benefits often include stock options, profit-sharing plans, and bonuses. The usual vacation and insurance benefits are also included in the employment program of most companies.

BANK EXECUTIVE

Bank executives are the men and women who operate the bank according to the policies laid down by the board of directors. In the day-to-day business of the bank, they make decisions and supervise other personnel in the performance of their work. The scope of their responsibilities depends on the size of the bank. In small banks one officer may do several jobs. In large banks, functions may be separated into many departments.

In any bank, the president is usually the top officer and is responsible for all operations. In huge financial organizations the position of president carries tremendous prestige and weighty responsibility. He is directly answerable to the board of directors for the execution of their policies and the operations of the bank.

History and Future--The banking world expects the number of executives to increase rapidly. About 10,000 executive replacements are made annually.

Work Environment--Bank executives usually work in clean, well-lighted office buildings with private offices and secretaries.

Bank executives work a 37 1/2 hour week, but often their considerable responsibility requires them to put in a good many extra hours of unpaid work.

Training and Education--High school students who aspire to bank administration should follow a college-preparatory course. Emphasis should be on mathematics, grammar, and composition and should be balanced, where possible, with typing, bookkeeping, and public speaking.

Qualifications--As a representative of the local business community, the bank executive will be expected to participate in many civic activities. Therefore, initiative, leadership, sober judgment, warmth of personality, good grades, and student group participation are qualities bank recruiters seek.

Advantages and Disadvantages--Banks offer well-above-average fringe benefits, such as paid vacations and holidays, comprehensive insurance programs, pension plans, and profit sharing arrangements.

INDUSTRIAL TRAFFIC MANAGER

The traffic manager is in charge of the activities of shipping and receiving personnel. He is responsible for the distribution of goods within his own company as well as for outgoing goods.

He must determine which is the most economical and quickest means of shipping goods: water, rail, pipeline, or highway. When goods are delayed en route to a destination, industrial traffic managers must determine why the delay occurred. Then they make arrangements with owners of transportation companies to speed up transportation.

In most companies, the traffic manager is responsible for the personnel of his department. Payroll and other related problems may be directed to him for solutions.

In a small firm, the traffic manager may have to produce claims, approve routine bills, trace lost shipments, lease parts and terminal facilities, or clear goods through customs.

History and Future--Since World War II, traffic management has become a well developed area of work.

As the population of the United States grows larger and more mobile and the movement of their belongings becomes necessary, the need for traffic managers and traffic management personnel increases.

The employment outlook for industrial traffic managers is good.

Work Environment--The industrial traffic manager works thirty-five to forty hours per week. He may be required to work extra hours preparing reports and attending meetings.

Training and Education--To obtain a job in industrial traffic management, one must have graduated from high school or have equivalent education. The subjects with the greatest value are English, mathematics, chemistry, physics, geography, bookkeeping, typing, and business practice.

Qualifications--Basic leadership qualities such as enthusiasm, initiative, tact, honesty, and thoroughness are essential. The traffic manager must also be able to accept responsibility and give orders effectively. He should be at ease when meeting and talking with people.

Advantages and Disadvantages--Beginners and lower positions in traffic departments may be engaged in a routine of repetitious detail. Conditions may be moderately dirty, noisy, and uncomfortable, depending on the particular job and place of employment.

The man or lady on the way up may have to give extra hours to learn all phases of the traffic manager's position. Experience and demonstrated ability are considered to be the most important factors in promotion to the higher level jobs.

BANK TELLER

Bank tellers may perform a variety of related duties in their jobs. Those known as "paying and receiving tellers" are primarily responsible for serving the public directly by accepting customers' deposits and providing them with receipts, paying out withdrawls, recording the transactions, cashing checks, exchanging money for customers to provide them with certain kinds of change or currency, and accepting savings account deposits.

History and Future--In ancient times men would sit at low benches or tables to transact financial business and to exchange money with customers. Today, the work of the teller is quite similar to that performed in ancient times.

The word bank has come to us from Italian "banco" meaning "bench."

The employment outlook for bank tellers is predicted to be good for the forseeable future with the numbers of tellers needed increasing rather rapidly and continuing for some time.

Work Environment--The majority of bank employees work a forty hour week. Tellers may sometimes be required to work rather irregular hours and overtime may be necessary perhaps once a week.

Working areas are usually favorable in pleasant and attractive physical surroundings. Office equipment and furnishings in many banks today are very modern and endeavors are made to create a relaxed but efficient work atmosphere.

Training and Education--The majority of banks and financial institutions require that applicants have at least the minimum of a high school education. Many bank employees today have a college education or they have taken specialized training courses offered by the banking industry.

Qualifications--The bank teller must have accuracy, speed, a good memory, the ability to work with figures, manual dexterity so that money may be handled quickly, and neatness and orderliness in the performance of work. A bank teller's honesty must be above reproach, reflecting absolute trustworthiness.

Advantages and Disadvantages--Bank tellers may enjoy the satisfaction of job stability and security offered in banking work. Bank tellers also enjoy membership in an occupational group that carries community respect and social acceptance.

Those persons who find it an emotional strain to handle and be responsible for large sums of money may find the job not appealing to them. The teller must also sometimes work under the pressure of busy rush hours.

FINANCIAL ECONOMIST

The financial economist studies the nature and relationships between the quantity of money, credit, and purchase power in order to develop monetary policies and to forecast financial activity. He investigates credit structures and collection methods in order to improve them. He examines banking methods and procedures to devise techniques for regulation of lending and fixing interest and discount rates, and he may recommend or establish domestic and international monetary policies.

History and Future--The need for economists specializing in business is primarily a development of the 20th century.

Industries will employ many economists, as businessmen become more accustomed to relying on scientific methods of analyzing business trends, forecasting sales, and planning purchase and production operations.

Work Environment--The financial economist generally has pleasant working conditions.

The average workweek is forty hours, particularly for those employed in business positions.

Training and Education--A bachelor's degree with a major in economics is considered the minimum preparation for a beginning or entry job as an economist.

Those who plan to become financial economists should pursue additional graduate study beyond the bachelor's degree.

Qualifications--Personal attributes which are desirable for the financial economist are dependability, accuracy, patience, and objectiveness. An economist must be able to analyze and interpret data, reason abstractly, solve problems, and express ideas orally and in writing.

Advantages and Disadvantages--Many positions in economics are not considered high salaried; most of the jobs pay sufficiently well to provide for individual and family security. Opportunities are available for those whose drive and needs are such that they must forge ahead to high paying and more responsible positions.

CASHIER

The main function of the cashier is to receive payment from customers for purchases of services rendered to him by his employer. He performs this task in a variety of locations. Cashiers work in theater box offices, amusement parks, gas or electric utility companies, department, grocery, or other retail stores, hotels, and hospitals.

The cashier receives the customer's money, makes the proper change, and gives the customer a receipt. He usually uses a cash register or an adding machine or a combination of the two. He may sell candy, cigarettes, baked goods, or novelty items which are in a counter near him. In a theater box office, he also operates a ticket dispensing machine.

History and Future--As businesses expanded and supermarkets and self service stores came into common usage, more and more businesses employed cashiers to receive customers' money, make change, provide customer receipts, and often to wrap the merchandise purchased.

Future job opportunities will probably be more available to those individuals who have obtained specialized training in bookkeeping, typing, business machine operations, and general office skills. Many job opportunities should also be available to those who wish part-time employment.

Work Environment--Cashiers are usually employed on a five day, forty hour week in retail businesses and supermarkets.

Working areas are usually pleasant and many times in attractively decorated surroundings. Sometimes the work area may be small and confining since many cashiers work behind counters, in cages, booths, or in other small places.

Training and Education--Most employers require that potential employees be a minimum of eighteen years of age and a high school graduate.

High school students may find that courses in bookkeeping, typing, business machine operations, business arithmetic, and related areas are assets in developing skills for a career in cashiering.

Qualifications--Personal appearance and attitude are very important in the cashier's work. A pleasant and congenial disposition and a desire to serve the public are needed. Tact and diplomacy, accompanied by a smile, are real personal assets.

Advantages and Disadvantages--Cashiering is usually not a difficult job for which to qualify. It requires no prolonged training period nor are the personal requirements extremely rigid. It is normally a pleasant job in which one meets all kinds of people.

Although the cashier is subject to rush periods and customers' complaints, pay is not too high and the cashier is responsible for the cash on hand balancing with total receipts. Some jobs require the cashier to personally make up any shortage.

RECEPTIONIST

The receptionist's duties vary with the type and size of the firm that employs her. In some offices she may be in charge of the switchboard and be expected to do filing, typing, and bookkeeping.

In a manufacturer's showroom the receptionist may demonstrate display models of the company's product or arrange tours through the plant.

In a doctor's or dentist's office the receptionist's most important duty is to keep appointments straight. She usually answers the telephone, sends out bills, and keeps the waiting room in order.

In general, the receptionist's main duty is to greet people; she acts as a kind of hostess for her company.

History and Future--In ancient times, businessmen employed persons to greet callers and set up business appointments. They were not receptionists but secretaries who lived in the household and performed many business-related functions. As each succeeding century brought increasing technological advancement, business activities became more and more complex, and eventually the task of greeting callers became an occupation.

More and more business firms are recognizing the importance of the receptionist in promoting good public relations. Since personal appearance and personality are so important in this job, it is unlikely to be affected by automation.

Work Environment--Receptionists in large business firms work in pleasant, well-furnished front offices or waiting rooms, free from noise and overcrowding. Some businesses have no room for a separate reception area, and the receptionist may have to do her greeting and telephone answering in the midst of a busy office.

The receptionist's hours are usually eight hours a day, five days a week. However, in a doctor's office, a hospital, or a beauty shop, she may have to work some evenings or weekends as part of her regular hours.

Training and Education--A high school education is required. Courses in English, spelling, typewriting, bookkeeping, and business practices are assets for a beginner.

Receptionists in a physician's or dentist's office may need some special training in such areas as recognizing emergency situations and the scheduling of appointments for various procedures.

Qualifications--The receptionist must be able to get along well with a variety of people, those within the company as well as visitors. She should cultivate a well modulated voice and learn to speak clearly and distinctly, especially if she will be expected to answer the telephone.

The receptionist may also encounter people who ask questions she is not supposed to answer. Avoiding revealing confidential information while maintaining the customer's goodwill may require a good deal of tact and imagination.

Advantages and Disadvantages--Advancement depends on the employer as well as the employee. Some companies have little opportunities for advancement. In other companies a receptionist who shows ability and who is willing to obtain further training may move into higher paying sales, clerical, or secretarial jobs.

The receptionist who takes pride in her job has the satisfaction of knowing she is instilling a favorable image of her employer in the minds of those she meets. Her cheerful, courteous greeting may be the only bright spot in the day of a hurried visitor.

FILE CLERK

File clerks work in all types of business offices. They may work in general offices or for departments of large companies (for instance, the sales department).

The file clerk files letters, orders, invoices, receipts, and other business records in file cabinets or drawers. She places the materials in files following the directions of her supervisor. She may file the items by subject matter, number, alphabetically by names of individuals or companies, or by a special system used by the office. The file clerk also prepares file folders and labels when needed. She may need to sort the materials before they are filed or another office worker may do this. In some offices, she prepares indexes to items on file.

When asked, the file clerk finds materials in the files and gives them to the person requesting them. She may keep a record of who has the items and the dates they were taken and returned. She may also clean out-dated materials from the files.

Some file clerks are required to type and to open and deliver mail when not doing filing work. Some also act as receptionists and answer telephones. Still others are assigned to different jobs from time to time. They sometimes handle unusual or special assignments in addition to their regular filing duties.

History and Future--Job opportunities in clerical work should be good, especially with large companies. Those clerks with typing ability are usually in greater demand.

Clerking is a beginning job in many offices and a first job for many office workers. Several openings occur each year to replace workers who leave for other kinds of work.

Work Environment--Most file clerks work in modern, well-lighted, air-conditioned offices. They may stand for long periods of time while filing materials. There is much reaching, walking, bending, and stooping involved in this work.

Because the same operations are repeated over and over again in this work, the applicant should not mind routine work.

Training and Education--High school graduation is required by many firms hiring file clerks. During high school, courses in typing could be helpful for students interested in becoming file clerks.

Qualifications--File clerks must have a good memory and the ability to work rapidly and accurately. The ability to read well and to learn different filing systems is very important. The file clerk must also be neat and orderly in her work.

Advantages and Disadvantages--The work is in pleasant and congenial surroundings, but one should realize that the work performed is often repetitious and the duties are very similar from day to day.

TYPIST

The occupation of typist can be considered in three main categories: general typist, transcription typist, and specialty typist.

The general typist copies letters, manuscripts, and reports. In addition, she may handle routine billing procedures and prepare stencils or other duplicating masters.

The main duty of the transcription typist is to prepare typewritten copies of material that has been recorded on a dictating machine.

The specialty typist uses a specially equipped electric machine from which she can transfer coded messages to magnetic or paper tapes for use in a computer. She might also operate a computing or a noncomputing billing machine, a teletypewriter that sends and receives long-distance messages, or a varityper on which she can remove one typeface and insert another (roman, gothic, or italic).

History and Future--The problem for the qualified beginner is not finding a job but choosing a good one. Most sections of the country report job openings for typists on every employment survey. The majority of these come as replacements for young women who stop work to take care of their families. Turnover among typists has been and undoubtedly always will be high for this reason.

As automation continues and new machines are introduced, it will become even more necessary for a typist to increase her skills so that she will be qualified to use the new equipment and thus reach a more skilled position and a higher salary. When the opportunity is available for learning about new methods of business, she should take full advantage of it.

Work Environment--Office workers in private industry generally work thirty-five to forty hours in a five day week and are usually paid for six or seven holidays and two weeks of vacation annually. Many establishments also provide health and life insurance, retirement benefits, sports, social programs, and profit-sharing or yearly bonus plans.

Training and Education--Graduation from high school is a minimum requirement for almost every office job. A business training curriculum in high school will include one or two years of typing, enough to pass standard speed tests of fifty words a minute with ease. Business English, office practice, bookkeeping, shorthand, and other business courses offered will be assets, particularly for promotion. Besides typing skills, a good typist must have a knowledge of business practices and of spelling, vocabularly, punctuation, and grammar.

Qualifications--The good typist, like most other people successful in business, will strive to get along with her co-workers. A pleasant personality, thoughtfulness, discretion, and courtesy will all help her to attain this goal. A person who has continually tried to increase her knowledge of various subjects, better her secretarial skills, use initiative, show loyalty, and respect confidential information will usually merit advancement in any organization.

Advantages and Disadvantages--The job of typist provides entry into an office, and advancement is often possible, even for those not previously trained in secretarial skills. The door is sometimes opened to other opportunities through company-sponsored education programs conducted at the place of employment or at established schools in the community. Typists who qualify can progress to the position of stenographer or secretary, correspondent or clerical supervisor, office manager or administrative assistant, or head of the typing pool or some other company department.

MAIL ROUTER

The mail routers deliver and collect mail in an assigned area, which may include one large building with many offices or an outlying area.

Most of the router's time is spent indoors, where he or she comes into close contact with people.

The router's first task is sorting the mail. The mail must be sorted carefully, according to prearranged stops. The mail is delivered throughout the building. The router makes stops to each office leaving the mail with the secretary and picking up mail to be delivered to the main office.

History and Future--Benjamin Franklin was responsible for setting up the first mail delivery system in the United States.

Most of the jobs for office mail routers today are found in large urban areas such as New York City, Chicago, Boston, Los Angeles, and Philadelphia.

Although a majority of the jobs are in metropolitan areas, there are many jobs in smaller communities.

Work Environment--Most routers work a five day, forty hour week. Their work is mostly done indoors with people.

Training and Education--The applicant must be eighteen years old. He must know simple arithmetic, spelling, and be able to follow instructions.

Qualifications--The mail router must have a good memory, legible handwriting, good eyesight, and must be a person of honesty and integrity.

Advantages and Disadvantages--In addition to regular salary, routers receive generous fringe benefits, including a paid vacation, paid sick leave, and insurance benefits.

Routers must be able to stand for long periods of time and walk long distances.

XEROX MACHINE OPERATOR

The xerox machine can be operated by almost any office employee. The more complicated machines are capable of producing thousands of copies of typewritten and handwritten documents in a single "run" and are usually operated by trained operators who spend most of their time doing this type of work. The operators who use these machines insert in the machine a master copy of the document to be reproduced and then adjust the mechanism and start the machine.

History and Future--Job openings for xerox machine operators are expected to occur each year through the 1970's. Most of these openings will arise as business organizations continue to grow in size and number.

Work Environment--The conditions for xerox machine operators usually are similar to those of other office workers.

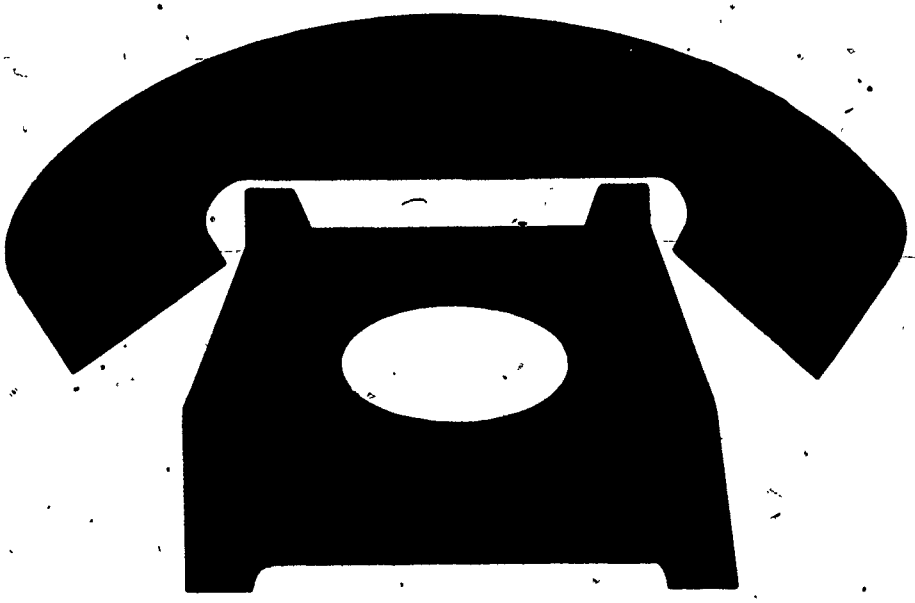
Training and Education--Graduation from high school or business school is the minimum educational requirement.

Qualifications--Good coordination of eye and hand movements and good vision are important for most machine operators.

Advantages and Disadvantages--Promotions occur frequently. Many xerox machine operators often advance to more complex positions, and employers usually provide the additional training required for advanced positions.

BEST COPY AVAILABLE

Communications and Media



As man becomes more sophisticated, so do his communication devices. This can be witnessed by such inventions as the printing press, the telegraph, and the telephone. The advent of radio and television ushered in a communication explosion which is progressively mushrooming as more advances in technology are made. Many new jobs have resulted from such an explosion, and an expansion of new jobs is expected to continue.

FREE-LANCE WRITER

Free-lance writers can be found among housewives, teachers, merchants, mechanics, stenographers, nurses, and others in almost every city and town in the country. Since they are in business for themselves, they work in their own homes or offices. In the course of a year the free-lance writer may submit dozens or even hundreds of manuscripts to editors or publishers in scores of cities.

There are two classes of free-lance writers. There are those who will write anything, either on their own initiative or by assignment.

The other group of free-lance writers are the specialists. They confine themselves strictly to one field or even one aspect of a field.

The free-lance writer's work consists of research, reading, writing, revising, and intelligent marketing.

When the writer has done the preliminary research and reading, he begins the actual production of the article. The writer must cover as much ground as possible in as few words as possible. This involves repeated writing and revising.

History and Future--The future for a free-lance writer depends upon the free-lancer himself. The writer with ideas and a talent for communicating them with meaning and interest will always have a market for his material.

Work Environment--The conditions are generally pleasant. He does his work in the peace and quiet of his home or in libraries, museums, court houses, newspaper offices, factories, or wherever the quest for information takes him.

The free-lance writer sets his own hours. He may work only when the spirit moves him, or he may put in a regulation day.

Training and Education--A college education is important but not necessary for free-lance writing. Some have learned the rudiments of writing by taking correspondence courses or simply by reading.

College education is recommended for the free-lancer who aspires to an editorial position with a newspaper or a magazine. He would major, of course, in such subjects as English, literature, drama, or journalism. He should learn as much as he can about other fields, such as history, political science, religion, and science.

Qualifications--Free-lance writers should have writing ability, aggressiveness, and the kind of self-confidence that can sustain constant rejection by editors.

Advantages and Disadvantages--The free-lance writer must contend with rejection. The writer may work for weeks and months on an unassigned article only to have it returned with or without comments by the editor. Rejections happen in the lines of the best free-lancers, and they happen often when the inexperienced or unpublished author is trying to establish himself.

After the free-lancer becomes well established, he will find editors and publishers calling upon him to do articles. When that time comes, the writer will know that he has "arrived."

COLUMN TYPIST

The column typist's main job assignment is to produce typed copies of printed and handwritten materials in column form; in this respect, his work is somewhat different from the office typist's. Some column typists may work from rough drafts which are difficult to read and which contain difficult material. They will also have to rearrange materials for column form, although some typists are provided with proportional spacing typewriters.

History and Future--The invention of the typewriter in 1829 by W. A. Burt eventually created the occupation of typist, as typewriters went on the market during the period 1847 to 1856. This important technological advancement increased communication.

As communication continues to expand more column typists will be needed on the news staff. The greatest demand will be for typists who can do other work at the newspaper.

Work Environment--The column typist works in offices for newspapers or magazines.

Training and Education--Employers generally prefer to hire a high school graduate. Most employers require an applicant to type with accuracy forty to fifty words per minute.

Qualifications--Important aptitudes and personality traits for this occupation include finger dexterity, accuracy, and the ability to concentrate. Column typists should also have good health for regular prompt job attendance and good eyesight.

Advantages and Disadvantages--The physical work surroundings are usually pleasant and comfortable in modern well-furnished and equipped offices. The work is not hazardous or physically strenuous, although the work must sometimes be performed under the stress of time and deadline pressures or other adverse circumstances.

PHOTOTYPESETTER

The phototype operator sends perforated paper tape or magnetic sound tape into a phototypesetting machine which "reads" the tapes and photographs the individual characters indicated on the tape.

Some typesetters operate photolettering machines which produce lines or individual characters in large-size type, such as those used for newspaper headlines and for advertisements. As in phototypesetting, a photographic process is involved, and the final product is on film or paper.

Typesetters frequently operate tape-performing machines called teletypesetters which have keyboards similar to those of typewriters. The machines are fitted with reels of tape that are perforated as the keys are struck. The perforated tapes are inserted in the linecasting machines, which set the type as directed by the perforation (to make a line of holes to facilitate separation). After the tape has been punched, it may be sent by teletype to other cities where it is automatically reperforated and used to control the operation of linecasting machines.

History and Future--The number of firms using typesetters range from fewer than 100 in 1964 to nearly 1,100 in 1969. Further increases are anticipated.

Technological changes will also significantly affect the educational and skill requirements for phototypesetters because greater use of phototypesetting will require some photographic skills.

Work Environment--Working conditions vary from plant to plant. In some plants heat and noise are factors. In general, the newer plants are well lighted and clean, and many are air conditioned.

Training and Education--An applicant must be a high school graduate. A good background in English, spelling, and mathematics is helpful.

Qualifications--An interest in electronics and photography is becoming increasingly useful. Artistic ability is an asset for a phototypesetter.

Advantages and Disadvantages--Phototypesetting operators have year-round employment and better than average earnings. Persons with certain physical disabilities, such as deafness or loss of one leg, can perform this work efficiently. Operators are employed in all sections of the country and in communities of all sizes.

The work may be monotonous to some. Operators may be required to work under pressure to meet deadlines.

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CYLINDER PRESSMAN

The cylinder pressman's duties are similar to those of the letterpress operator, but some differences arise because of the specialized character of the press. A cylinder press has three cylinders. The first cylinder carries the metal plate. The second cylinder carries the rubber blanket, and the third cylinder carries the material on which the impression is to be made.

The cylinder pressman is responsible for the proper operation of the press. He makes all adjustments on the cylinder to make sure it is operating smoothly.

The cylinder presses are used for books, magazines, and pamphlets. They can handle large sheets of paper up to 72 inches wide.

History and Future--Printing in the United States began in Cambridge, Massachusetts in 1639. Since then Boston, New York, and Philadelphia have become the principal centers of printing in the country.

About 1814 Koenig, a German, developed the first practical cylinder press. This was later improved for use in printing newspapers.

Work Environment--The cylinder pressman works under almost ideal working conditions, as far as temperature and humidity are concerned. The pressman generally works in an air-conditioned shop or at least where the humidity is regulated for bodily comfort.

Depending on where the pressman works and the type of press he operates, he may have one or more helpers or he may work alone. In either case, he is generally in contact with other employees of the shop or with management personnel. His co-workers generally include cameramen, strippers, layout men, artists, and shop foremen or "owners."

Training and Education--A high school education is usually required to enter this occupation. An increased importance is being placed on having had specialized high school courses, such as art, print shop, mathematics, chemistry, and physics.

Qualifications--The cylinder pressman should have considerable mechanical aptitude, manual dexterity, and a genuine interest in printing. He must have good eyesight and especially good color perception, since he must mix inks and match colors. He should be alert and able to follow oral and written instructions.

Advantages and Disadvantages--The pay is above average for most pressmen. The printing industry has less seasonal fluctuations than most industries which means steady employment for its workers.

Pressmen must be on their feet and active during their working hours. They work with solvents, inks, and other solutions which produce unpleasant odors and may cause skin rash.

PRESSMAN

The pressman's work includes "making ready," which means that all the type or plates must be at exactly the same level. On an elaborate printing job, "make ready" work takes hours, and the pressman must start and stop the press many times as he adjusts the type or plates.

The pressman must watch the press constantly to be sure that it is operating properly. He must also check the printed material from time to time to see that the impression and color are correct.

History and Future--Many technological changes have taken place in the printing industry since the Chinese and the Koreans discovered they could reproduce images with carved wooden blocks. This method of printing was first used in the ninth century. In Germany about six hundred years later in 1454, Johann Gutenberg and others invented and developed movable type and methods of casting it in metal.

After the invention, printing spread rapidly throughout Europe.

Work Environment--The workweek for the pressman ranges from thirty-five to forty hours, with the average about 36 1/2 hours.

A two week vacation with pay after one year's employment, as a general practice, seems to be giving way to three weeks, especially in unionized plants. Even a fourth week is not unusual.

Pressmen face some problems of noise from the machinery. Many of the printing plants are air-conditioned, and most are well lighted and clean.

Training and Education--An applicant must have a high school education or its equivalent. Helpful high school courses include English, grammar, spelling, and mathematics.

Qualifications--Physical strength is important for many of the jobs in the pressroom. Pressmen often lift heavy press plates or page form, and they stand and stoop a lot. Reasonably good eyesight is important because the pressman must be able to mix colors for the color processes.

Advantages and Disadvantages--The pressman earns time and a half for overtime and double time for holidays.

Some older plants that are not air-conditioned are hot because of the heat created by some machines that use molten metal for casting type.

FILM EDITOR

The editor's job has come into being because of the way a film is made. Usually the film is a jumble of unrelated shots when it is first seen by the film editor. It is estimated that there is at least six times as much film as can be used in the final version. The editor's job is to select the scenes that will be used and to arrange them in an orderly pattern that will please an audience.

The film editor has to make many decisions. First, he must decide whether there is the proper film coverage to tell the story in the most effective way. He is concerned with the matter of timing the scenes to give the picture a pace that will hold the audience's interest. The editor also has to decide where to make cuts in the film and where special optical effects, such as dissolves or trick photography, are needed. He has to order these from specialists.

History and Future--The popularity of television films and the abundance of commercials, as well as the increase in the number of company units to produce training, sales, and promotion films, should provide adequate opportunities for qualified workers.

There are few women in this field, but opportunities are good for those who enter it.

Work Environment--The film editor is supposed to be limited to a forty hour workweek; but this hardly ever happens. It is not at all uncommon for him to work twelve hours a day or longer during the weeks before a film is completed. Television film editors work under great pressure, being frequently assigned to edit films only forty-eight hours before they are shown.

Training and Education--In high school, courses in English, art, and photography will be helpful. One should learn how to use a movie camera, how to make a sequence of shots that tells a story, and how to cut and splice to remove scenes that do not contribute to the total effect of the story.

Qualifications--The person who wants to be a film editor should be dedicated to his work and should be able to endure long hours and heavy pressure.

Advantages and Disadvantages--Film editing is an ideal job for the person who wants to combine technical work with an opportunity for creative artistry. Probably the greatest reward it offers is the fascination of the job itself.

Film editors in some fields have trouble keeping year-round employment.

CARTOONIST

Cartooning in the hands of real pros is an exceedingly sophisticated form of communication in terms of both art and content. Not very long ago, cartoonists were ranked fairly low on the artistic ladder. The only exceptions were the handful of great political cartoonists. All the others were looked down on as having little artistic talent.

Years ago, it was enough to think up a good gag and if the gag was funny enough, a clumsy or even a bad drawing was acceptable. However, today a good cartoonist, even a good average cartoonist, must draw well because cartoon audiences are a lot more sophisticated than they have ever been.

History and Future--Benjamin Franklin invented and drew the first newspaper cartoon. Comic strips were born in a New York newspaper circulation war of the 1890's as a way of holding readers. A strip called "The Yellow Kid" is considered the first genuine strip.

The family comics came along in the Roaring 20's. These include "The Gumps," "Blondie," "Gasoline Alley," and "Little Orphan Annie."

Employment outlook for the cartoonist is very good because there is scarcely a newspaper or magazine that does not use cartoons.

Work Environment--Cartoonists work for newspapers, magazines, and trade journals doing either the single-illustration cartoon and caption or the comic strip. They also work for manufacturers and television and movie producers.

Training and Education--A cartoonist needs a broad liberal education. This does not necessarily mean one must have a college degree, but it does imply that through either night school or extensive independent reading one acquires the equivalent knowledge and information.

Qualifications--A cartoonist must have the zeal and self-discipline to put in endless hours of study and practice.

Advantages and Disadvantages--With a combination of luck, exceptional talent, and creativity, one could equal the top cartoonist's earnings.

Some cartoonists get off to a slow start because cartooning is one of the most competitive fields.

PLAYWRIGHT

A playwright is a "maker" of plays; play writing is what he does.

He or she writes original plays about a series of events in real or imaginary life. The playwright differs from the novelist or short story writer in that he produces a story to be presented in a theater, on radio or television, or in motion pictures. The playwright creates an illusion of reality primarily through speech with a minimum of directions and descriptions of the action required by the performers. However, the playwright must be familiar with the mechanics or business of the medium for which he is writing (stage, television, radio, or the movie industry). He may indicate specific gestures and entrances to or exits from the stage at specific lines of dialogue. He may also suggest specific camera angles for a production of his play.

The playwright may adapt fiction, non-fiction, or historical events into a motion picture.

History and Future--Historically, the theater began as a religious ceremony. The early Greeks and probably other ancient people prepared pageant-like presentations for the festivals of various gods. Gradually, the pageants developed into something nearer to the plays and movies we have today.

There is always a demand for playwrights. However, the competition is keen. Beginners have opportunities to gain recognition in television as a prime point of beginning, but the motion picture industry, the legitimate theater, and radio stations all seek well-written and original stories.

Work Environment--The conditions under which playwrights work vary and are often created by the playwrights themselves. Beginners in the field frequently work at "bread and butter" jobs and write in their spare time. Others, who have become established in the profession may work in dens or studies in their homes or in small offices. Those beginning may live in cold water flats in low rent districts.

Some playwrights may work two or three hours a day and take a year to write a play; others may take a few weeks.

Training and Education--Today, college training is a requirement for a successful playwright. A thorough knowledge of English is important. A good background in social science, language, and typing is an asset.

Qualifications--The playwright must be creative and imaginative with a deep and thorough understanding of human nature. A high intelligence and considerable patience are also helpful qualifications.

Advantages and Disadvantages--Playwrights who have achieved notable success command larger incomes than beginners.

Some playwrights may work long irregular hours to meet a deadline and disappointments are numerous for would-be writers. Only the talented attain real success.

LINEMAN

In constructing new telephone lines, linemen place wires and cables leading from the central office to customers' premises. They use power-driven equipment to dig holes and set in telephone poles which support cables. Linemen climb the poles which support cables, usually leaving the ends free for cable splicers to connect later.

Linemen repair and maintain existing lines. When wires or cables break or a pole is knocked down, linemen make emergency repairs. The line crew foreman keeps in close contact with the testboard foreman who directs him to trouble locations on the lines. Some linemen periodically inspect sections of lines in rural areas and make minor repairs and line changes.

History and Future--Employment of linemen is expected to increase at a slow rate, despite anticipation of a continuing high level of activity in line installation. However, hundreds of job openings for these craftsmen are expected to become available during the next decade because of the need to replace workers who transfer to other jobs, retire, or die.

Work Environment--Linemen must do a considerable amount of climbing. They also work in manholes, often in stooped and cramped positions. Safety standards developed over the years by telephone companies, with the cooperation of labor unions, have greatly reduced the hazards of these occupations.

Training and Education--Applicants must have a high school or vocational school education. Knowledge of the basic principles of electricity, and especially electronics, is helpful.

Qualifications--Manual dexterity and the ability to distinguish colors also are important. Men who have received telephone training and experience in the armed services frequently are given preference for job openings and may be brought in above the entry level.

Advantages and Disadvantages--Linemen are covered by the same contract provisions governing overtime pay, vacation, holidays, length of service, and other benefits that apply to telephone workers.

When severe weather conditions damage telephone lines, linemen may be called upon to work long and irregular hours to repair damaged facilities and to restore service. Some linemen, by the time they reach their mid-fifties, transfer to other jobs, such as installers, repairmen, or central office craftsmen.

TELETYPE OPERATOR

The teletype operator sends and receives messages on high speed machines that look and operate very much like electric typewriters. The messages are sent and received entirely in capital letters. Teletype machines are electrically connected with other machines of the same kind at receiving and sending points.

Some teletype operators work on machines that perforate the message on paper tape. The tape is then put into another machine that sends the coded message to the receiving office where it is automatically translated and printed on sheets of paper.

The teletype operator may also perform duties such as typing and clerical work, especially in a private business office where operating the teletype machine is not a full-time job.

History and Future--Today's teletype operator has replaced yesterday's telegraph operator, and the teleprinter or teletypewriter has made the old dot-and-dash Morse code obsolete. The telegraph key and sounder are rarely used for transmitting messages.

New job opportunities are continually created by the expansion of business and industry. There are more jobs available because of the greatly increased use of teleprinter communications by business and government agencies. Large numbers of teletype operators are needed to handle this quick, economical method of communication.

The turnover among operators is high, so there are always job openings for both beginners and experienced teletypists.

Work Environment--The teletype operator normally spends eight hours a day on the job and works five days a week. Occasionally the teletypist works overtime daily or on weekends. He or she works in a large office that has many desks, teleprinter machines, and other communication devices.

Training and Education--Most employers prefer to hire people who are high school graduates. For beginners they select young people eighteen to twenty-five.

Teletype operators must be skilled typists and able to do routine clerical work, such as filing and keeping records. Teletype applicants must be able to type forty to forty-five words a minute. The trainees are given a four to eight week training course that includes the operation of various machines. The applicant must also be proficient in spelling, grammar, punctuation, and vocabulary.

Qualifications--The applicant must be accurate, dependable, able to work under pressure, and able to work well with others.

Advantages and Disadvantages--Experienced teletypists may advance to supervisory positions, and some become chief operators, instructors, or branch managers.

Paid vacations and holidays, retirement plans, and low-cost group life and health insurance are offered by most employers.

Sometimes there is continuous noise from all the machines being operated in the same office.

CORRESPONDENCE CLERK

Correspondence clerks are the people who answer most of the mail received by companies that get a large volume of mail not requiring managerial or executive action.

Correspondence clerks may handle all sorts of letters not ordinarily handled by supervisory or executive personnel. The correspondent analyzes problems, interprets, and applies company policy and philosophy to solve them. He may often follow established precedents in arriving at his solution.

The correspondence clerks get all the incoming mail. They may screen such mail for urgency and handle first those letters that appear to require immediate action.

The clerk keeps a file of all correspondence he receives and sends or routes the papers to another location for filing. He may be required to keep a tally of the amount of mail he handles.

History and Future--The job of correspondence clerk has become somewhat more complicated in the last fifty years due to the growth of business.

Fifty years ago when business owners began to employ helpers, a bookkeeper was usually the first to be hired. In addition to handling the books, he often was assigned to write letters to customers and, gradually, to answer more and more of the correspondence. As the business flourished, an employee might be hired specifically to read and answer all the mail. This correspondent often had more education than co-workers, and he was chosen for his literary ability.

Modern business and modern government is becoming more complex with each passing year. As a result, more and more correspondents will probably be needed.

Many areas of office work are becoming mechanized. However, automation does not pose any foreseeable threat to correspondents. Complaints, inquiries, and requests from customers and salesmen will always require personal judgment and individual attention.

Work Environment--Depending on the size of the correspondence and the amount of responsibility that goes with the job, correspondents have private offices or separate cubicles. However, they may work together in one large room.

Correspondence clerks normally work a 37 1/2 hour week. If a correspondent works for a company where there are seasonal ups and downs, he may sometimes have to work overtime to keep up with the mail.

Training and Education--A high school diploma is sufficient for some correspondence jobs. Some employers prefer college graduates, particularly if the position requires much responsibility.

The correspondent must be strong in grammar, spelling, and composition and must be particularly adept at expressing himself clearly and concisely in writing.

Qualifications--The correspondent clerk must speak clearly, so those taking dictation have no trouble understanding him. He must be attentive to details and rate high in clerical ability. He must be able to compose his own letters in a tactful and courteous manner, leaving the customer with a friendly feeling for the correspondent's company.

Advantages and Disadvantages--Beginning correspondents usually advance to senior correspondents after a year or two of experience. The next step may be to supervisor of a section or unit within the department, then to supervisor of all correspondents, and, possibly, to training supervisor of correspondents.

Correspondence clerks will usually receive the same fringe benefits that are given the rest of the company personnel. These benefits include medical, hospitalization, and life insurance programs, paid sick leave, holidays, vacations, pension plans, and other extras.

Many correspondence clerks are often working amid distractions such as the noise of telephones, personal conversation, dictating, and typing. Strain can build up when his concentration is interfered with by activity around him.

BROADCAST TECHNICIAN

The broadcast technician sets up, operates, and maintains the electronic equipment used to record or transmit television programs. He works with microphones, sound recorders, lighting and sound effect devices, television cameras, magnetic video tape recorders, and motion picture projection equipment. Broadcast technicians operate the quality of sounds and pictures being recorded or broadcast. They also operate controls that switch broadcasts from one camera or studio to another, from film to live programing, or from network to local programs.

In small stations technicians perform a wide variety of duties. In large stations technicians are more specialized.

History and Future--Television itself is a young industry. Color television, using satellites for signal transmission, is already an actuality. There are many developments in the minds of broadcast engineers which will continue to make broadcast engineering a promising and challenging career.

Work Environment--Most technicians in large stations work a forty hour week with overtime pay for work beyond forty hours. Many broadcast technicians in the large cities work a thirty-seven hour week. In small stations, many technicians work two to eight hours overtime each week.

Working conditions are usually pleasant. The work is done in clean attractive surroundings. Most of the work is done indoors.

Training and Education--The education normally required is at least a high school diploma plus technical or trade school courses. A good background in math, science, English, and social studies is important.

The potential technician must pass a series of written examinations covering the theory, construction, and operation of transmission and receiving equipment, the characteristics of electromagnetic waves, and the U.S. government and international regulations governing broadcasting. (Information about these examinations can be secured from the Federal Communications Commission, Washington, D.C., 20554.)

Qualifications--The applicant must have an interest and knowledge of electronics, plus a reasonable degree of manual dexterity and quick response to directions.

Advantages and Disadvantages--Most of the larger stations have hospitalization and sick leave plans, as well as vacation programs.

When a station is on the air twenty-four hours a day, the broadcast technician may be required to work on weekends and holidays.

LITERARY AGENT

A literary agent's primary function is to find the best market for his writer's works and to sell them for the best price and terms.

The relationship between literary agent and writer is somewhat similar to that of lawyer and client. A lawyer seeks to advance and protect his client's interest when dealing with a third party; an agent seeks to do the same thing for a writer.

The literary agent handles details for the established writer, such as recommending contracts for approval or rejection, checking on the copyright of a book, and handling requests for permission to quote.

The agent serves both beginning and established writers. He offers a sympathetic ear and friendly encouragement when his clients need it. He gives advice about the sales possibilities of new ideas. He serves as an impartial judge of new materials.

History and Future--The literary agent is a newcomer. The first literary agencies were started in New York City in the early 1900's.

At one time the majority of agents were men; but more and more women have entered the field, and some of them are very successful.

There seems to be room for as many literary agents as can prove themselves competent.

The challenge of the work is great, however. The success of a literary agent rests solely on his own merit.

Work Environment--A literary agent attempts to work only thirty-five or forty hours a week, although he usually has to work much longer. Much of his business is conducted over the lunch table or at dinner. If he has clients who are employed during the day, he will have to meet with them during the evening.

Most literary agents are located in New York, but some are located in other publishing centers.

Training and Education--There are no particular educational requirements for becoming a literary agent, nor is any special work experience required. Some high school and college courses, however, provide a valuable background.

In high school and college, one should take as many courses in literature and composition as possible. College courses in selling and accounting will help prepare for the business side of the job.

Qualifications--He must be able to judge a manuscript critically and express his ideas clearly, especially in conversation. He should enjoy working with people, and he must be tactful and understanding.

Advantages and Disadvantages--The literary agent is often self-employed; he can arrange his work schedule as he desires. Because he works in a creative field, he finds himself surrounded by vital and varied personalities.

A beginning agent can plan on long hours and lean years until he has a clientele whose work will sell and until he establishes a good general reputation among publishers and writers.

CAMERA OPERATOR

The cameraman or cameralady sets up and operates a power driven camera. He or she photographs scenes from angles and positions that are decided upon by the head cameraman and the director.

The cameraman must be able to use a variety of cameras, lenses, and filters to achieve a desired effect.

Cameramen who work for television stations, networks, or on newsreel crews are considered part of the working press. They are called newsfilm cameramen, and their specialty is motion pictures.

History and Future--The first cameraman appeared in 1927 in an experimental television program that was sent by wire between New York and Washington, D.C., by the Bell Telephone laboratories. In 1939 when Franklin Delano Roosevelt used television in opening the New York World's Fair, the general public realized that television was just around the corner. In 1942 several stations went on the air with regular television operation.

The employment outlook for cameramen is excellent because of the growth in media.

Work Environment--Cameramen usually work a thirty-six to forty hour week, except in special jobs or assignments. In some cases, hours include evenings, weekends, or holidays. Some outdoor work and travel may be required.

Training and Education--There is no age requirement for entering the field. However, high school graduation and some technical training are recommended or, better yet, a college degree in journalism. A candidate is likely to be at least eighteen or older.

Qualifications--The cameraman must be agile, dexterous, accurate in photographing and identifying the content of his films, imaginative, alert, outgoing, and tactful. He must be able to deal forcefully and diplomatically with a wide assortment of personalities, from society dowagers to convicted criminals.

Advantages and Disadvantages--There are opportunities for advancement. A cameraman advances as he becomes known for his outstanding work.

The cameraman must contend with subjects who do not want their profile taken, who insist upon a straight-on view, or who think a room should be arranged a certain way, their way. The cameraman listens silently to unsolicited suggestions while he does the job as he thinks it should be done.

PERFORMING MUSICIAN

People do not become musicians because they have talent and ability. Talent is necessary, of course, but no one who chooses the life of a performing musician usually does so because he loves music so much that no other life will satisfy him.

The division between serious and popular musicians is no longer clear-cut. Serious musicians may play popular music in studio orchestras, recording orchestras, or theater orchestras because there is much more money in the popular field.

There are many combination careers in music such as coaching, conducting choruses or church choirs, and playing for special occasions. Few jobs in music are really steady, so musicians often keep extra jobs in reserve.

History and Future--In the sixteenth, seventeenth, and eighteenth centuries the place of musicians in society was a stable one. Wealthy nobles and patrons supported musicians.

However, after the revolutions and wars of the early 1800's, noblemen had all they could do to support themselves. Musicians were left without support and for the first time had to appeal to the general public. Musicians thought themselves unfortunate but did give music back to the people.

The field of music continues to be highly competitive. There are many opportunities but not enough to ensure work for all musicians.

Training and Education--After completing high school, the future musician will need much more training, either in college or its equivalent. Today, even the popular musicians are getting a solid education in the basics of music, harmony, theory, and composition. Only the extraordinarily talented and lucky popular musician can get by without the ability to read music.

Qualifications--The musician must have drive, persistence, and the need to be in music. He must have patience, willingness to work long hours, and the ability to concentrate and to work well even under unpleasant conditions.

Work Environment--A performer's hours of work will be fairly irregular and sometimes unpredictable. Part of the day will be spent in rehearsing and practicing. Most of the actual work will be in the evenings.

Advantages and Disadvantages--One new opportunity for beginning musicians is the growing number of contests and competitions. These give young soloists a chance to be seen and heard, and being heard in competition can bring chances for a concert tour, a special performance, or study with outstanding teachers.

The world of music can be glamorous and exciting. However, hard work, patience, and unglamorous hours of practice and rehearsal lie behind all careers in music.

TELEVISION ANNOUNCER

An announcer is engaged in an exacting career. The necessity for finishing a sentence or a program at the exact second planned makes this a demanding and tension-producing career. It is absolutely essential, however, that the announcer be able to keep his audience ignorant of the tension under which he must work.

Announcers who cover sports events for the benefit of the listening or viewing audience are often known familiarly as "sportcasters." The sportcaster must have extensive knowledge of the sport which he is covering, plus the ability to describe quickly and accurately what is going on.

The announcer who specializes in reporting the news to the listening or viewing public is called a "newscaster." His job may be only the reporting of facts or it may include editorial comments. In some instances, the newscaster writes his own script. In other instances, he reads verbatim what comes in over the teletype machine. His delivery is usually dignified, measured, and impersonal. This type of announcing differs noticeably from the kind practiced by the sportcaster whose manner may be breezy and interspersed with slang or by the disc jockey who may try to be humorous or intimate and confidential.

History and Future--Credit for television invention cannot be given to any one man. The first commercially licensed television stations went on the air in 1941 in New York. They were stations WNBT and WCBW. Both suspended operations during World War II but resumed them in 1946 when television sets began to be manufactured.

The prospect for entry employment into announcing is moderately good.

In the past, employment opportunities for men were better than for women. However, women announcers are being employed in more than female-oriented programs.

Training and Education--Although there are no formal educational requirements for entering into the field of television announcing, many large stations are now chiefly employing those who have been to college.

A good background in history, geography, literature, the arts, political science, music, and the sound and structure of the English language is important.

Qualifications--Poise and a pleasing voice and personality are of great importance to the prospective announcer. In addition, men and women who aspire to a career as television announcers must present a good appearance. Neatness, cleanliness, and careful attention to the small details of correct dress are important.

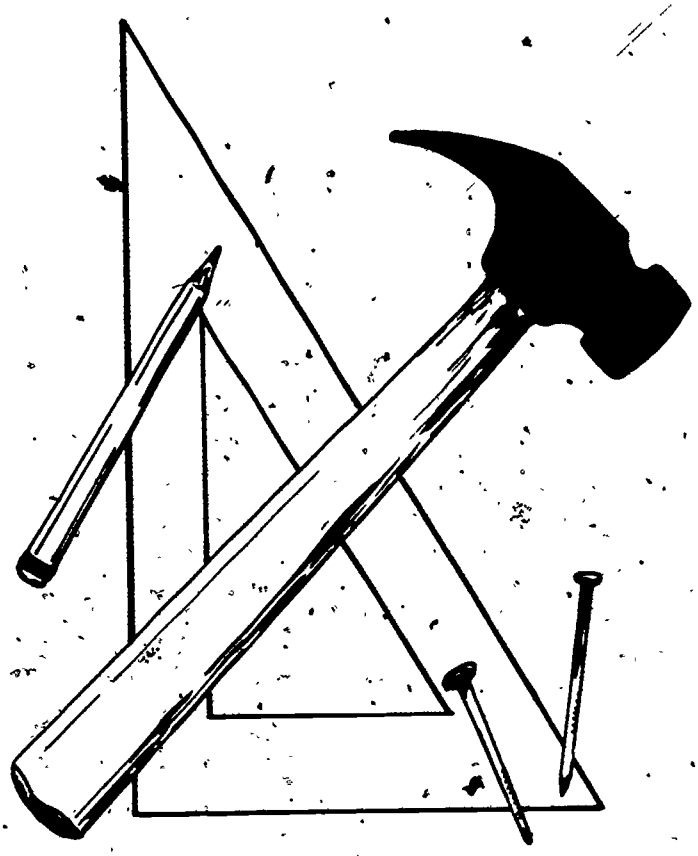
Work Environment--Working conditions are usually very pleasant. Almost all stations are housed in modern facilities and are kept at comfortable temperatures both summer and winter.

Advantages and Disadvantages--An announcer's job will sometimes take him among the great and famous. By being at the nerve center of an important communications medium, he will be more keenly aware of current issues and of divergent points of view than is the average person.

The irregularity of working hours may make for a difficult family situation at times and may cause interruptions in relationships with friends.

ERIC

Construction



The activities of the construction industry touch nearly every aspect of our daily lives. The houses and apartments we live in; the factories, offices, and schools in which we work; and the roads we travel upon are examples of some of the products of this important industry. The industry encompasses not only new construction projects but also includes additions, alterations, and repairs to existing structures.

CARPENTRY FOREMAN

The carpenter works with wood, tile, insulation, board, and other related materials. He erects the wood framework in buildings and installs molding, paneling, cabinets, and hardware. The carpenter saws, fits, and assembles plywood, wallboard, and other materials. He uses tools such as hammers, saws, power saws, drills, and chisels.

The carpenter works either indoors or outdoors. He may work in a factory, an office building, or other large establishments.

History and Future--In the Stone Age, man built huts, bridges, and in spite of the crude tools he was forced to use, early man was a fairly good carpenter. Today man uses all sorts of tools in his work as a carpenter.

Job opportunities in carpentry will be plentiful throughout the next decade.

Work Environment--Most carpenters work on buildings. They also work on bridges, fences, docks, and other types of structures. Carpenters on large jobs work together as a crew.

Training and Education--The best training is received through on-the-job training which usually lasts four years.

Qualifications--Good manual skills are required. The carpenter must be accustomed to all types of weather. Good physical condition and mathematical ability are important assets of the carpenter.

Advantages and Disadvantages--A carpenter can usually find work in almost any area of the country. Benefits are reasonable if the carpenter belongs to a union. Advancement leads from journeyman to foreman to craft superintendent. If the carpenter knows construction well, he may become a building inspector or an appraiser.

Overtime work is common and certain hazards are found in carpentry work.

HOTEL CARPENTER

The hotel carpenter is among the skilled workers in the maintenance department of a hotel. He or she helps keep all equipment in good condition and is responsible for keeping all fixtures working adequately.

History and Future--The first hotel carpenter was employed in 1836 in New York's Astor House.

A fairly steady demand for hotel carpenters is expected to continue. Many thousands of openings result each year from turnover.

Work Environment--The hotel carpenter works in the maintenance department of the hotel. His work may be indoors or outdoors.

Training and Education--The training for hotel carpentry is the same as the carpenter's training which is an on-the-job training program for at least four years.

Qualifications--Good manual skills are required. The ability to get along with people and a mathematical ability are assets to the carpenter.

Advantages and Disadvantages--Work opportunities for the hotel carpenter are usually readily available in nearly all sections of the country. The pay is good and the work is usually interesting and varied.

The carpenter is exposed to all types of weather. He often works outside when it is very hot or cold.

CARPENTRY LABORER

The carpentry laborer works in manual occupations that generally require no special training. He or she assists the skilled carpenter and does much of the manual work. The job consists of loading, unloading, stacking, and carrying materials. They also clean up rubble and clear work areas.

History and Future--Laborers appeared when man first began gathering and using materials to build shelters. Throughout the years, the need for laborers in the construction industry has increased steadily.

Work Environment--The laborer assists the carpenter in building homes and office buildings. The work is done both indoors and outdoors.

Training and Education--No formal training is required of the carpentry laborer. However, apprenticeship programs are offered for those who wish to advance and better themselves.

Qualifications--He or she must be reliable and competent and enjoy working in the outdoors.

Advantages and Disadvantages--Wages are good and many laborers increase their education and advance to higher positions.

PIPEFITTER

The pipefitter installs systems to carry air, gas, oil, water, and various fluids in industrial plants. Pipefitters may specialize further in installing pipes to conduct gas from generating or storage plants to homes. He installs, services, and repairs the pipes of sprinkler systems in public buildings.

History and Future--Opportunities for employment for pipefitters are expected to rise moderately because of a high level of construction activity which is expected to continue and the increased amount of pipefitting required in home, industrial, and commercial construction.

Work Environment--The job of a pipefitter is strenuous and requires much standing and working in cramped positions.

Training and Education--The pipefitter is required to have a high school education with an average background in mathematics.

Qualifications--A pipefitter should have the ability to work with his hands. He should be able to visualize a complete job and its various details before he begins work on it.

Advantages and Disadvantages--Pipefitters have one of the highest wage rates of all skilled craftsmen. They are not as liable to seasonal layoffs as other workmen are and they can continue to work in bad weather since most of their jobs are done inside completed or almost completed buildings.

However, the work can be hard involving heavy lifting and working in cramped spaces.

WELDER

Welding is one of the most common and dependable methods of joining metal parts.

Welding is a method of joining pieces of metal by applying heat, pressure, or both, with or without filler metal, to produce a permanent bond. Although there are more than forty different welding processes, most of the processes fall under three basic catagories: arc, gas, and resistance welding. Arc and gas welding can be performed manually or by machine. Resistance welding is mainly a machine process.

History and Future--Many welders will be needed for maintenance and repair work in the growing metal working industries. The number of manual welders engaged in production work is expected to increase. The construction industry will need an increasing number of welders as the use of welded steel structure expands.

Work Environment--Safety precautions and protective devices are extremely important for welders because of the many hazards associated with welding. Welders use protective clothing, goggles, helmets with protective lenses, and other devices to prevent burns and eye injuries.

Training and Education--The prospective welder must complete grade school. He should attend a vocational school and have one to two years of on-the-job training.

Qualifications--Welding requires manual dexterity, a steady hand, good eye-hand coordination, and good eyesight.

Advantages and Disadvantages--Welders are often in contact with rust, grease, paint, and other elements found on the surface of the metal parts to be welded. Some welders use clear eyeshields or clear goggles as they generally offer adequate protection to these operators.

SHEET METAL WORKER

Sheet metal workers install ventilating, air-conditioning, and warm air heating systems in homes, offices, factories, stores, and other buildings.

Often when a new building is remodeled, sheet metal workers put in new metal fronts. They also construct metal kitchen equipment such as stove hoods, stem tables, and sinks for hotels, restaurants, and homes and make and erect the metal frames for giant outdoor billboards. Another important job is maintenance which includes keeping all kinds of installations and equipment made from thin metal sheets in good repair.

History and Future--For thousands of years, probably since around 5,000 B.C. men have worked with metal. Ancient man made jewelry and ornaments of gold, silver, and copper and pots and pans of copper, brass, and bronze.

Changing technological conditions will result in more demand for sheet metal workers as well as for new, more highly developed skills in this field.

Work Environment--Forty hours is the standard work week for sheet metal workers as it is for the majority of unionized building tradesmen. The demands of a particular job, however, may require the worker to put in more than eight hours a day and occassionally he may have to work on Saturdays, Sundays, or holidays.

Training and Education--The beginning sheet metal worker learns his trade both in class and through on-the-job experience under the guidance and supervision of skilled sheet metal workers.

The trainee should have an average background in reading and mathematics.

Qualifications--The trainee should be between the ages of seventeen and twenty-three, in good physical condition, and skillful in working with his hands.

Advantages and Disadvantages--The sheet metal worker is provided with such benefits as pension plans and health and accident insurance. Sheet metal workers in building construction make about $6.00 nationally. The present range of maximum union rates is from $4.95 in Charlotte, North Carolina to $8.00 in New York.

The workers may have to tolerate an environment that is dirty, noisy, too hot, or too cold.

SOFT TILE SETTER

The tile setter is a skilled craftsman and works primarily with the materials indicated by his or her job title.

The tile setter attaches tile (a thin slab of baked clay, stone, or other material) on walls, floors, or ceilings according to blueprints or other instructions.

History and Future--A moderate increase is expected in the employment of tile setters.

Work Environment--Tile setters are employed mainly in new building construction and in the large urban areas.

Training and Education--Training consists of 6,000 hours of on-the-job training in addition to related classroom instruction.

Qualifications--Applicants should have an eye for quickly determining the proper alignment for tile and should have a good sense of color harmony.

Advantages and Disadvantages--Skilled and experienced tile setters may become foremen. Others may be able to start their own small contracting businesses.

Growth of this trade will be limited by the increasing use of competing materials such as asphalt floor tile, structural glass, plastic tile, and plastic-coated wallboards which usually are installed by workers rather than tile setters.

PLASTERER

The plasterer is a skilled craftsman who applies coats of plaster to the interior, ceilings, and partitions of buildings to produce a finished surface.

The plasterer uses such specialized tools as the darby (a board with a handle to apply and smooth the wet plaster), a hawk (a square board on which the wet plaster is carried), various floats (flat or right angled sheet iron pieces), and trowels.

History and Future--There are at present well over 50,000 plasterers in the United States. About 1,500 openings are created each year.

The employment of plasterers is expected to increase during the next decade because of the growing trend in building construction in our nation's economy.

Work Environment--The plasterer works in unfinished buildings or in those being remodeled. The work includes much standing, stretching, walking, stooping, bending, balancing, reaching, and climbing.

Training and Education--A three or four year on-the-job training is generally recommended as the best way to learn plastering.

Qualifications--The plasterer should have average intelligence, good physical health, manual dexterity, and hand-eye coordination.

Advantages and Disadvantages--This trade can be learned while being paid on the job; therefore, there is no costly training period. The hourly pay of plasterers is one of the highest in the building trades.

In northern climates, construction work is considerably reduced in cold weather. This means plastering is a seasonal job in many parts of the country.

MARBLE SETTER

The marble setter installs shop-made marble and artificial marble and structural glass when it is used in the inside of a building. The marble setter does little fabrication work because the marble and other materials are cut to size and polished before they are delivered to the work site.

History and Future--Employment in marble setting is expected to increase mainly because of the anticipated rapid expansion in construction activity.

Work Environment--Marble setter workers work indoors and outdoors depending on the types of installation. A large proportion of the marble setter workers are members of a union.

Training and Education--The completion of a three year on-the-job training is the best way to learn marble setting. A high school graduate or its equivalent is desirable.

Qualifications--Applicants are required to be between the ages of seventeen and twenty-two. Good physical condition and manual dexterity are important assets.

Advantages and Disadvantages--The excellent properties of marble as a building material will insure its continued use and provide work for marble setters despite the relatively higher costs of marble compared with competitive materials.

ELECTRICIAN (CONSTRUCTION)

The construction electricians lay out, assemble, install, and test electrical fixtures and wiring used in electrical systems. They also install and connect electrical machinery and communications systems.

The electrician furnishes his own hand tools such as pliers, screwdrivers, brace and bits, knives, and hacksaws. The employer furnishes heavier tools and equipment although in residential construction, heavier tools are not usually required.

History and Future--Employment of construction electricians is expected to increase very rapidly through the 1970's because of the anticipated large expansion in construction activity.

Work Environment--Most of the construction electrician's work is indoors; therefore, he is less exposed to unfavorable weather conditions than most other skilled building trade workers.

Training and Education--A high school education is required; courses in mathematics and physics are desirable.

Qualifications--Because improperly installed electrical work is hazardous, most cities require electricians to be licensed.

Advantages and Disadvantages--Hourly wage rates of construction electricians are among the highest in the skilled building trades. Electricians risk falls from ladders and scaffolds, cuts from sharp tools, electrical shock blows from falling objects, and burns from "live" wires. However, safety practices learned during training have helped to reduce the injury rate for these workers.

LINEMAN

The lineman constructs and maintains the network of power lines which carries electricity from generating plants to consumers. His or her work consists of installations, equipment replacements, repairs, and routine maintenance work.

History and Future--Several thousand job opportunities are expected to be available through the 1970's. Most of these opportunities will occur because of the need to replace experienced workers who retire, die, or transfer to other fields of work.

Work Environment--Linemen work outdoors, and in emergencies, they work in all kinds of weather.

Training and Education--An applicant can qualify for the job as a skilled lineman after about four years of on-the-job training and classroom instructions.

Qualifications--Candidates for line work should be strong, in good physical condition, and have no fear of heights. They must also have steady nerves and good balance work at the top of poles.

Advantages and Disadvantages--Linemen are among the highest paid transmission and distribution workers.

Their work is strenuous and there are some hazards when working with line wires.

CONSTRUCTION CHECKER

The construction checker carefully examines machinery, equipment, and tools of a construction company to make sure they are in good operating condition.

History and Future--The demand for the use of construction equipment is expected to increase substantially. Therefore, construction checkers will be needed to check the equipment.

Work Environment--Some of the work is relatively clean and free from dust, smoke, and fumes. However, many checkers work outside when it is hot and some are exposed to fumes of dust and smoke.

Training and Education--Some construction companies prefer the checkers with a bachelor's degree. Many companies do not require a degree, but rather train employees for a checker's position.

Qualifications--Applicants must be in good physical condition and have an aptitude for mechanical work.

Advantages and Disadvantages--Checkers are paid at one and one-half their normal rate for working more than forty hours a week or for working on Saturday. They receive premiums for working late shifts and double the hourly rate for Sundays or holidays.

CARPET LAYER

The carpet craftsman first inspects the floor to be covered to determine its condition. Then he plans his layout carefully to minimize waste of materials.

When installing the carpet, the craftsman may fasten tactless strips with tape or nails along the borders of the installation. (The strip secures the carpet when it is installed.) The tools used by carpet layers include: hammers, knives, shears, tape measures, chalk, chalklines, carpet stretching devices, and floor rollers.

History and Future--The projected increase in employment of carpet layers is expected mainly because of the expansion in construction activity.

Work Environment--Carpet layers generally work regular daytime hours; however, installing carpet in a store or office may require work during evening hours or on weekends when stores and offices are not open for business.

Training and Education--Most employers prefer high school graduates, but this qualification is not generally required.

A three or four year on-the-job training program is recommended as the best way to learn floor covering. Also, a good knowledge of mathematics is helpful.

Qualifications--Most employers seek applicants between seventeen and thirty years of age having at least average physical strength. A neat appearance and a pleasant business-like manner are important attributes because the work is performed on the customer's premises.

Advantages and Disadvantages--Carpet layers' work is usually not affected by weather conditions. During the winter months, most work is done in heated buildings. Job hazards are not numerous, but installers frequently experience knee injuries because they do much of their work while kneeling. Back injuries occur occasionally as a result of twisting and lifting on the job. Most of these injuries can be avoided, however, if proper work procedures are followed.

PAINTER

The painter's first job, after he has set up his ladder and scaffolding, is to prepare the surface he is going to paint. Proper preparation is very important for a professional job.

Once he or she has prepared the surface, the painter mixes his paints to achieve the desired color. He must know the kind of material he is working on such as plaster, wood, metal, brick, concrete, cinder block, and others.

The painter uses three major tools to apply paints and coatings: the brush, spray gun, and roller. The skilled painter knows which one is best for each job.

History and Future--Leaders in the industry expect the total number of painters to increase moderately during the next several years. Some 17,000 jobs should be available each year for the next decade or so.

Work Environment--The painter works inside and outside. When he works inside, the rooms are usually heated so the paint or varnish will dry readily.

The painter's work is active and quiet strenuous. He stands, walks, stretches, and stoops all day long, day after day.

Training and Education--The following subjects should be helpful to students who are interested in a painting occupation: mathematics, drawing, art, social studies, and English.

Qualifications--Good health and a fairly strong physique are important qualifications. Other qualifications include the ability to work in high places, absence of allergies to paint and other materials used, good eye-hand coordination, good eyesight, good color discrimination, and no physical handicaps with the exception of hearing defects.

Advantages and Disadvantages--Maintenance painters usually have steady work, but many painters have days, weeks, and even months of unemployment. The winter months are usually the slow season for most painters.

CABINETMAKER

Cabinetmaking is one of the most highly skilled woodworking crafts in construction.

The cabinetmaker usually works from drawings, blueprints, and specifications of the object to be made. He selects the wood to be used and marks the proper size and shape on each piece. He roughly shapes the pieces of wood with a handsaw or a power band following the markings. He then trims each part to the proper size and smooths it with planers and sanders.

The cabinetmaker involved in custom work usually completes objects from start to finish. Some cabinetmakers may assemble and install prefabricated cabinets, cupboards, and counters.

Work Environment--Cabinetmakers usually work indoors under conditions that range from barely adequate to excellent.

The cabinetmaker uses hand tools such as chisels, planes, hammers, screwdrivers, drills, handsanders, and saws. Nails, screws, and glue are generally used in quantities. Paint, paint brushes, and often a spray paint gun are included in his equipment.

History and Future--In recent years, the increased demand for fine furniture and built-in units has increased the demand for skilled cabinetmakers.

Training and Education--A four year on-the-job training program is required following high school graduation.

Qualifications--The cabinetmaker should possess above average vision, eye-hand coordination, finger dexterity, and spatial perception (the ability to visualize an object to be made in three dimensions). Patience, creativeness, honesty, and imagination are also desirable characteristics.

Advantages and Disadvantages--Cabinetmakers who are self-employed may work longer hours than cabinetmakers employed in cabinet shops, and they usually earn higher incomes.

BLASTER

A blaster operates a machine that cleans castings by blasting them with air mixed with metal shots or grit. The castings may be smoothed by tumbling. In this process the castings, together with an abrasive material and sometimes water, are placed in a barrel which turns and the castings tumble against each other, thereby removing sand, burrs, and scale.

History and Future--More blasters will be needed because of an anticipated substantial increase in the production of metal casting to be used in household appliances, plumbing fixtures, and gas and water lines.

Work Environment--Working conditions have improved in recent years for blasters through the installation of modern ventilating systems. Also, new equipment has reduced heat fumes and smoke.

Training and Education--A beginning worker is given supervised on-the-job training for a period of four or five years, usually supplemented by classroom instructions.

Qualifications--Applicants must be in good physical condition.

Advantages and Disadvantages--The rate of injuries for blasters is high. However, in recent years employers and unions attempted to eliminate injuries by using protective equipment such as face shields, metal toe shoes, helmets, and safety glasses.

BULLDOZER OPERATOR

The bulldozer operator is identified by the type of machine he operates.

He or she helps clear land for a variety of large scale construction projects.

History and Future--The rapid rise in employment of bulldozer operators will occur mainly because of the anticipated growth in construction activity and the growing volume of highway construction.

Work Environment--The operating engineer works outdoors; consequently, he usually works steadily during the warmer months and experiences slow periods during the colder months.

The operation of a bulldozer is physically tiring because the constant movement of the machine shakes or jolts the operator.

Training and Education--A high school education or its equivalent is necessary to operate a bulldozer.

Qualifications--Skillful coordination of eye, hand, and foot movements are important. Also, physical strength is needed.

Advantages and Disadvantages--A bulldozer operator can advance to job foreman and, occasionally, to construction supervisor. Some can qualify for higher pay by training themselves to operate more complicated machinery.

Construction machine operators work outdoors in all kinds of weather. Dirt and noise are part of the job.

SURVEYOR (CONSTRUCTION)

The surveyor plays an important part in the construction of highways, airfields, bridges, dams, and other structures by providing information on measurements and physical characterisitcs of construction sites.

The surveyor determines the distance between two points and the precise measurements and locations of elevations, points, lines, and contours on or near the earth's surface. He or she is assisted by three workers when making the detailed measurements in the field.

History and Future--Employment opportunities for surveyors are expected to be favorable throughout the next decade. Among the factors expected to contribute to the favorable employment outlook is the rapid growth of urban areas which will create requirements for additional surveyors to locate boundary lines and to lay out streets, shopping centers, schools, and recreation areas. Construction and improvement of the nation's roads and highways will also require many new surveyors.

Work Environment--Surveyors usually work an eight hour day and a five day week. However, they sometimes work longer hours during the summer months when weather conditions are most suitable for surveying activities.

Training and Education--Employers prefer high school graduates with a good background in mathematics.

Qualifications--A surveyor should have sound health and a strong liking for outdoor work. Because most surveyors must supervise and direct the work of others, leadership qualities also are important.

Advantages and Disadvantages--Employment opportunities are limited for women because most of the surveyor's work is strenuous, most of the work is done out of doors, and surveyors may be exposed to all types of weather conditions. However, some of the surveyor's work is performed in an office.

CLEARING FOREMAN

The clearing foreman supervises and coordinates the activities of unskilled blue collar workers and is responsible for the equipment and material used by the workers for clearing areas for construction work.

Supervising workers is the most important part of the foreman's job. Many blue collar workers never work under supervisors above the rank of foreman, and it is through their foreman that they get their work orders, their discipline, and their recognition.

History and Future--The number of foremen in construction is expected to grow very rapidly due to the rapid expansion of construction work.

Work Environment--Working conditions of foremen vary widely from industry to industry. Construction foremen are often subject to unpleasant weather conditions.

Training and Education--Most workers who are promoted to foreman jobs are high school graduates who have learned their skills on the job.

Qualifications--Employers look for leadership qualities when considering persons for foreman positions. The foreman should also be able to motivate employees, command respect, and get along with people.

Advantages and Disadvantages--Some foremen who have limited authority may feel isolated, neither a member of the work force nor a significant part of management. On the other hand, the foreman position holds more prestige than that of blue collar workers and the work is often more challenging and rewarding.

CONSTRUCTION ENGINEER

The construction engineer may perform work in research, development, design, testing, planning surveys, or estimating equipment or structures necessary to the repair, installation, or building of construction projects.

History and Future--The outlook is for very rapid growth in the employment of construction engineers because of the continuous expansion of construction companies.

Work Environment--The construction engineer works in an office studying information gathered about the rock and soil formation on which to construct buildings or other construction sites.

Training and Education--The construction engineer must have a college degree. Before entering college, he must have a good background in mathematics.

Qualifications--The construction engineer must have a keen knowledge of construction methods.

Advantages and Disadvantages--Most construction engineers can expect increases in earnings as they gain experience.

Although engineers work under quiet conditions in modern offices, some have to work in mines if they are construction engineers.

BEST COPY AVAILABLE

Consumer and Homemaking Education

The field of home economics has broadened considerably in the last two decades, from the teaching of traditional skills to the teaching of consumer skills. The aim of home economics has remained consistent in the improvement of family living. Now the scope has been widened to include the welfare of the family in regard to its consumption practices. The purpose of consumer education is to educate families to be able to make the most of the resources at their commands and to enhance individual, family, and social well being in the process.

FOOD SERVICE MANAGEMENT

A manager of any food service of whatever size must coordinate and direct the work of all the employees, from the chief in the kitchen to the busboy or porter. He or she directs such activities as hiring and training personnel; purchasing food, supplies, and equipment; keeping records and accounts; taking inventories; and making or approving menus. He must always be able to answer a customer's questions and to handle emergencies. Often he will also be responsible for advertising and handling public relations.

One of the manager's most important duties is to make sure health and sanitation regulations are observed. He must also supervise kitchen equipment, set food prices, and keep the staff happy. He often has direct contact with the customers, greeting them, establishing a friendly atmosphere, getting their suggestions about the food and service, and handling their complaints.

History and Future--The job outlook for food service managers is excellent for those with business sense, ambition, and a sound knowledge of the food industry.

Work Environment--A food service manager's job is usually not a nine to five occupation. Salaried managers often work more than forty hours a week; many times they work more than forty-eight hours. Their week can include weekends and holidays.

Working conditions are usually quiet, pleasant, air-conditioned, and sanitary. Though the manager will often be rushed in his work, he will almost always be able to take time during a slow period of the day to relax and perhaps have a cup of coffee and a piece of pie on the house.

Training and Education--Young people interested in food service management should graduate from high school and then go on to college or junior college.

A person's major in college could be hotel, restaurant, or institutional management. However, it could be business administration. College and junior college graduates with training in quantity food service are very much in demand and can usually advance quickly to managerial or supervisory positions.

Qualifications--A manager must have initiative, imagination, and ingenuity. He must have a knowledge of the food service industry that can best be acquired through education and experience. He will have to have a flair for salesmanship, a love of detail and accuracy, and a head for business.

Advantages and Disadvantages--The food service manager has a complex and difficult job, but it is rarely dull and hardly ever insecure. The food industry is expanding and is usually steady all year. People economize on many items, but they continue to eat. With rising standards of living and growth of the eating market, a good manager need never fear unemployment.

FOOD PREPARATION WORKER

The head cook or chef is in direct charge of the kitchen. The chef supervises the work of the entire staff. He is familiar with all the jobs done by the cooks. He sees that the food is arranged and garnished attractively for serving. He is familiar with the various cuts and grades of meat and may be responsible for boning and trimming them. Determining portions and using food economically and efficiently are among his duties.

History and Future--Cooking as a vocation may have originated when people began to travel away from home. In ancient and medieval times, inns accommodated tired travelers. As soon as cities began to grow, some of the more affluent citizens took to dining out, and those without families often depended on public eating places.

A good cook or chef is almost always assured of a job. Even in times of economic recession, people continue to eat out. There are many more openings for experienced cooks than there are people to fill them. With the expansion of the quantity food service business, openings will increase throughout the 1970's.

Work Environment--Modern hotel or restaurant kitchens, as well as kitchens of large modern institutions, are roomy and air-conditioned. Many kitchens, however, are small and crowded and likely to be very hot. In all kitchens, cooks must work standing up and at a very fast pace during rush periods. The work is, therefore, physically demanding.

Training and Education--Informal on-the-job training, apprenticeship, and vocational school education are three methods of learning the chef's job. Although high school graduation is not a requirement, most employers want young people who have completed high school, and they prefer those with some vocational preparation.

Qualifications--Food preparation workers should have the physical stamina necessary for long hours of standing without rest. Ability to work under pressure without becoming unduly irritable or nervous is a must, since most cooks work closely with other people, must often work quickly, and at all times must keep the customers satisfied.

A cook must have keen senses of smell and taste. Much tasting and sampling of foods is necessary in the course of preparing or working out new recipes.

Advantages and Disadvantages--Food preparation workers that are graduates of vocational schools have the best chance of advancing. Whereas the apprentice trainee generally begins as a kitchen helper, persons with vocational school background usually begin at a higher level and advance at a faster rate.

FOOD PROCESSING TECHNICIAN

The food processing technician deals with food products such as fish, dairy products, meats, vegetables, fruits, cereals, and grains.

He or she is responsible for buying the canned, frozen, fresh, or preserved food varieties best suited for the company's needs. The technician may work in the area of food production, making sure foods are stored at proper temperatures, processed under sanitary conditions, and that budgets are met.

History and Future--The food processing field is so large and varied that it can accommodate many different types of people. Often physical disabilities will not be a handicap. The employment outlook, for both men and women, is excellent.

Work Environment--Food technicians work in marketing, governmental inspection, warehousing and transporting companies, advertising and promotion, or wherever their specialized knowledge is needed.

Training and Education--A high school diploma is required. A prospective technician should attend a two-year college or technical school and earn an associate degree in food processing. Main courses in school should include chemistry, nutrition, basic food processing, English, and electives in advanced food processing courses.

Qualifications--A license is required for food brakers who do fat testing, bacterial testing, and sampling.

Advantages and Disadvantages--Salaries can go as high as $20,000. Some jobs require time spent outdoors, in traveling, in offices, or in laboratories.

INTERIOR DESIGNER AND DECORATOR

The creative work of interior designers and decorators enhances the attractiveness of our homes and other buildings. Designers and decorators plan the functional arrangement of interior space and coordinate the selection (including colors) of furniture, draperies, fabrics, floor coverings, and interior accessories.

Interior designers and decorators usually work directly with clients to determine preferences and needs in furnishings. They may also do "boardwork," particularly on large assignments. This includes work on floor plans and evaluation and creation of sketches or other perspective drawings in such media as watercolor, pastel, or tempera so clients can visualize their plans. They also provide cost estimates. After the client approves both the plans and cost estimates, arrangements are made for the furnishings. These arrangements are for the supervision of the work of painters, floor finishers, cabinetmakers, carpet layers, and other craftsmen and for the installation and arrangement of furnishings.

History and Future--A slow but steady increase in employment of interior designers and decorators is anticipated through the 1970's. Various factors should contribute to a greater demand for interior designers and decorators. Some of the contributing elements are population growth, larger expenditures for home and office furnishings, increasing availability of well-designed furnishings at moderate prices, growing recognition among middle-income families of the value of decorator's services, and increasing use of design services for commercial establishments.

Work Environment--Hours of work for decorators are sometimes long and irregular. They usually adjust their workday to suit the needs of their clients, meeting with them during the evenings or on weekends when necessary. Designers' schedules follow a more regular workday pattern.

Training and Education--The course of study for an interior designer or decorator usually includes design principals, art history, freehand and mechanical drawing, painting, essentials of architecture as they relate to interiors, furniture and exhibition design, and study of various materials, such as wood, metal, plastic, and fabric. A knowledge of furnishings, art pieces, and antiques is important. Courses in salesmanship, business arithmetic, and other business subjects are of great value.

Usually the minimum educational requirement is completion of either a two or three year course at a recognized art school or institute specializing in interior decorating and design or a four year college course leading to a bachelor's degree with a major in interior design and decoration.

Qualifications--Artistic talent, imagination, good business judgment, and the ability to deal with people are important assets for success in this field.

Advantages and Disadvantages--Decorators and designers with ability may advance to department head, interior furnishings coordinator, or to other supervisory positions in department stores and large decorating or design firms; if they have the necessary funds, they may open their own establishments. Talented workers usually advance rapidly.

Self-employed decorators have an especially wide range of earnings. Their profits are related to the volume of business, their prestige as a decorator, economic level of their clients, their own business competence, and the percentage of wholesale prices they receive from the sale of furnishings.

CUSTOM DRESSMAKER

The custom dressmaker selects styles and fabrics that will produce flattering clothes with perfect fit. She must know how to use color, pattern, and her technical skill to disguise figure problems.

The dressmaker, however, does not usually try to keep an extensive stock of fabrics on hand. She may discuss fabric with the customer and then get swatches from a yard good or department store for the final choice, or the customer may purchase the material and pattern and bring them to the dressmaker. In either case, the dressmaker must know what fabrics will do, how to work with them, how they drape when made into a garment, and how they hold up under traveling, dry cleaning, and wearing conditions.

History and Future--Dressmaking is one of the oldest and most respected skilled trades. Before the days of modern garment factories and ready-to-wear clothing shops, all clothes, both men's and women's, were made for the individual either by a member of the family or by a professional.

Individually made clothes are a very desirable commodity, and many people prefer them when they can afford them. As the number of those who can afford them grows with the upward swing in both population and in the general economy, the need for skilled dressmakers becomes more apparent.

Custom dressmaking is not expected to expand in any spectacular way, but it certainly presents good opportunities for employment and self-employment to young people who strive for perfection in work.

Work Environment--Many skilled dressmakers work in department stores, ready-to-wear shops, and trade and vocational schools. A good many custom dressmakers work only part-time, usually in their own homes.

Almost every town in every section of the county has a dressmaker. Large cities, of course, have a greater number of dressmaking shops, both large and small.

Training and Education--The high school student who hopes to become a dressmaker should study art, design (especially as it applies to clothing), English, and business. The business and English courses will be especially valuable if one operates his own business. If vocational subjects such as tailoring or sewing are available, they should be included in the program.

After high school graduation, formal training in one's specialty, tailoring for instance, is desirable, either at a trade school, junior college, or in a tailoring or dressmaking shop.

Qualifications--Good eye-hand coordination, color discrimination, and finger dexterity are necessary. Personal traits should include patience, neatness, and accuracy.

A keen interest in clothes; an awareness of style and fashion trends; an understanding of form, proportion, fit, and color; and a knowledge of fabrics are essential.

Advantages and Disadvantages--Competition is very keen in the dressmaking field, not only from custom shops but also from ready-to-wear shops that offer clothing of good quality.

FASHION DESIGNER

The fashion designer is first of all an artist with a sense of line, color, and form. The tiny details, such as the special fabric or accessory, are what distinguishes the designer from the dressmaker. The designer must know the basics of dressmaking. She must know how to draft patterns, cut fabrics and fit, drape, and sew the garment, but these are the skills she acquires to enhance her talent in design.

Unless the designer knows how to perform each step, she cannot supervise all the details of producing an original model. Also, she must be familiar with the problems of cutting and fitting in order to determine production cost.

The designer must be always aware of people and events that will influence fashion and of what will be acceptable to a fickle public. A routine part of her job is to attend the theater, to go to restaurants and clubs, and to travel widely in order to observe what is being worn and to anticipate future trends in design.

History and Future--Seventy years ago the American fashion designer was virtually unknown. Styles worn in the United States were created by designers in Paris or in other European capitals.

The fashion industry is expanding in the United States. New markets are developing in all areas of wearing apparel for both men and women. Although competition is great, there will be a market for new and fresh talent in fashion design as long as there is a market for clothes.

Work Environment--Fashion designers in the United States work in four areas: (1) designing for custom shapes, (2) creating patterns for home sewing, (3) designing clothes for mass production to be sold to department, clothing, and mail order stores, and (4) designing clothes for the theater, television, and moving pictures.

The greatest number of designers work for manufacturers who make clothes on a mass production basis. Many work for specialty apparel shops or for the custom departments of such stores as Bergdorf-Goodman, Nieman-Marcus, and Marshall Field and Company. Some designers own their own shops.

Training and Education--Firms employing designers usually expect them to have a college degree or from two to four years of training at a school specializing in fashion design. Even with this educational background, beginners spend considerable time in on-the-job training.

Some firms accept high school graduates after a competitive examination or a showing of their work; others take students who have completed two or more years of college work.

Qualifications--The two basic ingredients necessary for a career in fashion design are talent and stamina. A strong sense of color and form, a feel for the proper use of fabrics, and a flair for the unusual in design provide the young designer with a good start in the field.

Advantages and Disadvantages--Designers who are able to create original and appealing designs and who know how to sell may try free-lance designing while awaiting a chance at a full-time job.

While serving in lesser jobs before advancing to assist a designer, the beginner is able to see how a design department functions, and she learns about production costs and meeting the price lines of the manufacturer.

The pressures that exist in a designer's work are great and the designer must be versatile, cool-headed, and well organized.

The days just before a new collection is to be shown are particularly hectic, and the designer's skills are severely tested when long hours or last minute work makes for frizzled nerves, short tempers, and unexpected problems.

CUTTING ROOM OCCUPATIONS

Workers in the cutting room prepare cloth for sewing into articles of wearing apparel. There are five basic operations in the cutting department: spreading, marketing, cutting, assembling, and ticketing. Small shops may combine two or more of these operations into a single job. Most jobs in the cutting room are held by men.

Hand spreaders lay out neat bolts of cloth into exact lengths on the cutting board. Machine spreaders are aided by machines in laying the cloth evenly back and forth across the table.

In most plants markers trace the fiberboard pattern pieces on large sheets of paper and make several carbons of these tracings. Some plants that make men's and boys' suits and coats trace the pattern pieces with chalk directly on the cloth itself, rather than on paper.

A cutter cuts out the various garment pieces from the layers of cloth which are then spread on the cutting table. He follows the outline of the pattern on the cloth with an electrical cutting knife and cuts through all the layers at once. Sometimes layers of cloth are as high as nine inches. The work of a cutter and a marker frequently is combined into a single job of cutter-marker.

Assemblers, sometimes called bundlers or fitters, bring together and bundle garment pieces and accessories (linings, tapes, and trimmings) needed to make a complete garment. They match color, size, and fabric design and use chalk or thread to mark locations for pockets, buttonholes, buttons, and other trimmings.

History and Future--Employment is expected to increase moderately. Thousands of job opportunities are expected to result from employment growth. A considerable number of opportunities for young people will occur because of the thousands of experienced workers who will leave the industry. Most of the clothing industries employ more older workers than many industries do. It is estimated that deaths and retirements alone will provide 74,000 job openings annually.

Work Environment--Working conditions in cutting rooms are pleasant. In manufacturing establishments cutting is often performed in a separate area away from the main sewing and pressing operations.

Training and Education--Most workers enter the cutting room by taking jobs as assemblers (bundlers or fitters). Patience and the ability to match colors and patterns are necessary qualifications for these jobs.

Qualifications--Good eyesight and manual dexterity are essential for most production jobs in the apparel industry.

Advantages and Disadvantages--Cutters in the apparel industry can expect to lose very little work time as a result of strikes or other work stoppages because the industry has had many years of peaceful labor management relations. However, workers making certain types of garments may have layoffs of several weeks during slack seasons. Generally, such layoffs occur more often in plants making seasonal garments. In many plants, the available work during slack periods is divided so that workers can be assured of at least some earnings.

ADMINISTRATIVE OCCUPATIONS

The majority of the administrative positions in the apparel plant are in the production department. The production manager occupies a strategic position in apparel firms. He is responsible for estimating production costs, scheduling the flow of work, hiring and training workers, controlling quality, and supervising the overall production activities of the plant.

History and Future--Employment for administrators in the apparel industry is expected to increase moderately. Demand for apparel in the years ahead is expected to increase also. This will result mainly from increasing population and affluence.

Work Environment--Many apparel establishments, especially those in metropolitan areas, are housed in old buildings whose surroundings and facilities may frequently leave much to be desired. Newly constructed plants usually have ample space, good lighting, and air conditioning. Some of the new plants have cafeterias and health clinics with a registered nurse.

Training and Education--The administrator usually begins as a trainee. A college education is being required more often for these jobs.

Qualifications--The administrator should have a thorough knowledge of fabrics and a keen sense of color. He should also be acquainted with garment-making techniques.

Advantages and Disadvantages--Administrators work in shops that have union contracts. These contracts deal with such subjects as wages, hours of work, vacation and holiday pay, seniority, and health, insurance, and pension plans.

HOME ECONOMIST

Most home economists teach foods, nutrition, textiles, clothing, child development, family relations, home furnishings, and/or home management. Other home economists write articles and textbooks, do independent research, make speeches, or take an active part in professional organizations. Businesses employing home economists include public utility companies, newspapers, magazines, and food companies.

Home economists may also work in test kitchens, for dress pattern companies, or for the government.

History and Future--As a profession, home economics is about sixty-five years old.

The number of job opportunities for home economists is expected to be ample through the mid 1980's.

The demand for home economists with advanced degrees will continue to exceed the supply for some time.

Work Environment--Home economists in all areas enjoy pleasant working conditions.

Most home economists work between thirty-five and forty hours a week. Management level or supervisory jobs can require more hours but generally with greater workday flexibility. Weekend and evening work sometimes accompany jobs that involve public speaking or demonstrations.

Training and Education--A bachelor's degree in home economics is the minimum educational requirement. College teaching and a position in research and nutrition require advanced degrees.

High school students should prepare for college with the usual basic academic curriculum.

Qualifications--The home economist needs primarily an openness to change, concern about people and their needs, and an ability to make commitments and to recognize and appreciate differences.

Advantages and Disadvantages--In the past, most home economists have been women although a growing number of men are entering the field, particularly in the areas of food and institution administration, family relations and child development, and applied arts.

Home economics is one of the best routes to high-paying executive positions. To the average worker it offers good pay and other important satisfactions.

DIETITIAN

A dietitian assures the proper feeding of individuals and groups by planning nutritional meals for hospitals, institutions, schools, restaurants, or hotels. He or she also purchases food equipment and supplies, supervises chefs and other food service employees, and prepares various kinds of educational nutritional materials.

The dietitian works with people and for people. Whatever task she or he performs and wherever she works, she is dedicated to maintaining and improving health, enhancing the enjoyment of living, prolonging life, and even helping to save it.

History and Future--In 1920 there were only a few thousand dietitians in the United States, most of them in hospitals.

The outlook for those entering the field today is exceptionally promising because the demand for qualified people has already exceeded the supply.

Work Environment--Generally, working conditions are pleasant. Dietitians may work in offices, kitchens, or hospital rooms. Most dietitians work a forty hour week. There will be some weekends and irregular hours.

Training and Education--A bachelor's degree with a major in foods and nutrition or institutional management is necessary. A year of dietetic internship, which provides practical experience, is recommended.

Qualifications--The dietitian must be able to get along with all kinds of people and must have good business sense and an ability to handle details. She must like science and be able to make foods attractive and tasty.

Advantages and Disadvantages--The hours are irregular. Sometimes, especially at the start of a career, one may occasionally have to be on duty on weekends, evenings, and holidays.

Financial rewards compare very favorably with those of other professions.

Every day brings new challenges, new excitements, new chances to serve. Dietetics can be a lifelong outlet for talents, enthusiasm, and idealism.

EXECUTIVE HOUSEKEEPER

Executive housekeepers are responsible for keeping the institutions they serve clean and attractive. Each facet of the work must be carefully analyzed, and competent job descriptions must be written in complete detail. The executive housekeeper is responsible to management for screening and hiring the best personnel available. If, after careful training and indoctrination, employees do not measure up to acceptable standards, the housekeeper must be responsible for discharging them.

The executive housekeeper does much of the purchasing of supplies and equipment used by housekeeping personnel.

History and Future--About twenty-five or thirty years ago the executive housekeeper's occupation became a distinct career. Since then, the image of the executive housekeeper has changed from that of a mature, capable woman who brought experiences from her own home to the problems of the hotel or hospital housekeeping department to that of a trained business person who has experience not only with housekeeping but also with the administration of an extensive staff.

Executive housekeeping is a relatively new career in management and one that is still growing.

Work Environment--Executive housekeepers usually work a forty hour week, although those employed in hotels may work more. Employment tends to be quite stable.

Training and Education--The majority of today's housekeepers are not college educated. The young person who plans a lifetime career as an executive housekeeper for a large hotel or hospital is advised to obtain a college degree. A major in business administration or institutional management would provide helpful background.

Qualifications--The executive housekeeper must have the ability to organize his own activities as well as those of others. He or she should be able to supervise workers, teach them the fundamentals of housekeeping, analyze procedures and determine how they might be improved, and make independent decisions.

Advantages and Disadvantages--One of the greatest advantages is the good living conditions that are usually afforded the executive housekeeper. Many institutions provide laundry service, meals, and housing, usually a comfortable suite or apartment.

Other benefits include two to four weeks of paid vacation and the privilege of attending meetings pertinent to the job, with the opportunity for wide and increasing contacts.

Since executive housekeepers already hold the top positions in their field, they have few opportunities for advancement. Those who work in hospitals and other institutions may secure similar positions in larger institutions or may be promoted to general service manager.

PRE-SCHOOL TEACHER

The pre-school teacher does a variety of things not required of the elementary school teacher. He or she spends little time at a desk and a great deal of time actively working and playing with children, guiding them, and exploring with them. The teacher leads an active life that requires understanding, ingenuity, imagination, and a great deal of patience.

The pre-school teacher must confer with parents frequently. It is important that he win the parents' confidence and cooperation. When the parents and teachers work together, they can better understand the special needs of the children.

History and Future--Pre-school originated in England in the twentieth century. The first was designed to provide assistance for the poor, but in World War II when many mothers of small children went to work in factories and offices, the pre-school evidenced their services and accommodations to suit the neighborhoods in which they were located.

The need for good qualified teachers in pre-school continues to grow as more and more children begin their school experience long before entering first grade. Jobs are available in almost every part of the nation.

Work Environment--Hours of work vary. The pre-school teacher may work half days or full days. He or she also has to spend a certain amount of time beyond classroom hours either studying, conferring with parents, or planning each day's work. Government financed pre-school programs offer teachers in both rural and urban areas the opportunity to work year-round if they wish, thereby increasing their salaries about 20%.

Training and Education--High school students interested in pre-school education will find courses in social studies, English, and art helpful.

The majority of states require four years of college. Some states require a high school education and advanced or special preparation in child development.

Qualifications--The pre-school teacher must be in good health and have a pleasant personality.

Advantages and Disadvantages--An experienced pre-school teacher with a degree in child psychology can advance to become a director of a group of pre-schools.

The pre-school teacher must be able to ignore a certain amount of noise and to face minor crises each working day without a loss of temper or a case of nerves.

CHILD DAY-CARE WORKER

The major responsibility of the child care worker is to provide a learning environment for the children he supervises.

Each worker is responsible for a group of about eight children ranging in age from three to five years. The staff is concerned with developing the child's self-confidence and self-esteem.

The workers are very much interested in cultivating each child's imagination and his problem-solving abilities.

The administrative staff looks after the practical end of the child care center, such as finances, training programs, and personnel management. Usually the administrative staff and the group leaders work together to decide what types of programs need to be formulated and what objectives should be set.

History and Future--As our society becomes more service-minded, it is anticipated that there will be a great need for child care workers of all kinds. The fact that government and industry are paying more attention to the need for day care indicates that more people will be needed to fill positions in new programs.

Work Environment--Working conditions vary widely. Some communities have been fortunate enough to afford new centers, while others have had to make use of private homes that were remodeled for day-care purposes. Some industries have established day-care centers for employees' children. In order to meet state and federal licensing regulations, all day-care centers must be clean, safe, and have an appropriate staff.

Training and Education--A high school education is the minimum requirement for a day-care worker. Some centers require some form of on-the-job training, which includes basic theories of child development. A minimum of a bachelor's degree is necessary for advancement to the administrative level.

Qualifications--Patience is a major personal requirement for day-care workers. The day-care worker must exhibit concern for the children he supervises. Only a sincere interest in the development of children can make a day-care program successful.

Advantages and Disadvantages--A master's degree or doctorate is helpful for advancement to an administrative level.

EXTENSION HOME ECONOMIST

The extension home economist assists homemakers in the county in improving their home management, the nutritional content of their meals, and other aspects of their family living. They are responsible for keeping themselves well-informed and up-to-date in any area relating to the home and for communicating this new information to the women of a particular county or group of counties.

History and Future--Officials foresee an increased need for extension home economists to handle programs for low-income urban areas and depressed rural communities.

Work Environment--The economist travels to many homes, spends a number of evenings at small meetings, and works with various groups.

Training and Education--A bachelor's degree with a major in home economics is required. Some economists eventually teach on the college level, and a master's degree is needed for this. After college graduation, prospective agents must complete an in-service training program.

Qualifications--The economist must have a formal background. He or she must enjoy working with people and be able to teach. He must also be patient and have the ability to organize group projects.

Advantages and Disadvantages--The economist can advance by moving to more responsible positions within the county or by reassignment to a different county. Promotions may also be on a financial basis.

The work itself is taxing, both physically and mentally.

EXTENSION YOUTH AGENT

The extension youth agent works with boys and girls in 4-H clubs and other organizations by doing projects and activities. 4-H, a national program of 3.25 million young people, is concerned with an individual's fourfold development--head, heart, hands, health. The youth worker and trained local leaders guide boys and girls in planning and conducting a great variety of educational activities. 4-H is not a farm organization, for about half of today's membership belongs to rural nonfarm and urban families. The 4-H program has much to offer town and city youth as well as farm youth.

History and Future--In 1914 the extension service was established to serve people living in the rural areas and to bring up-to-date scientific information to them.

There is a growing trend for extension agents who specialize in working with youth.

Work Environment--The extension agent works an eight hour day, although his hours may be irregular. An important part of his job is attending meetings or giving speeches. Problems that call for special attention and research involve extra time and effort.

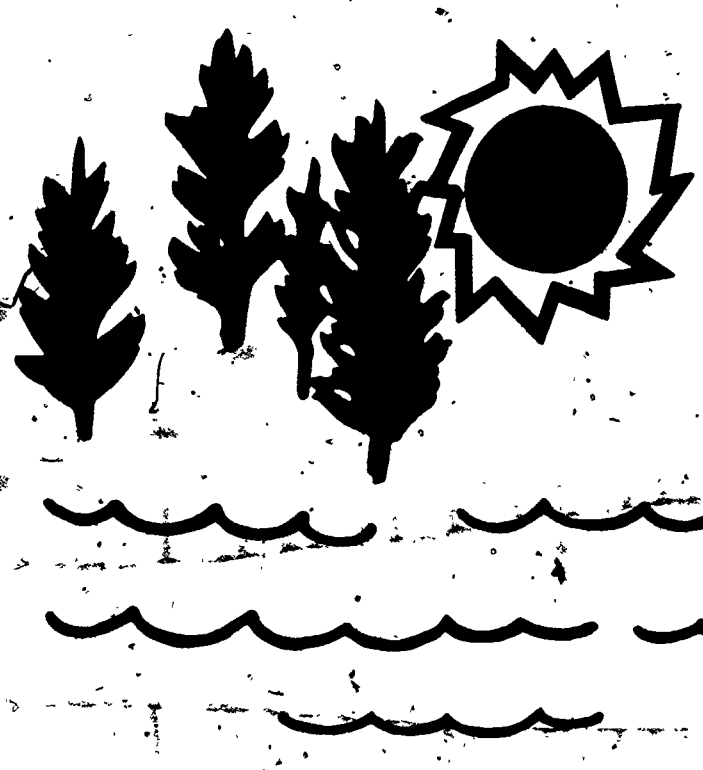
Training and Education--The minimum educational requirement for an extension agent is a bachelor's degree in home economics or some other closely related field. Agents must continually participate in on-the-job training programs.

Qualifications--The extension agent should have a pleasing personality, drive, leadership and administrative talent, and common sense. The frequent personal contact with the public in extension work calls for a strong interest in and understanding of people.

Advantages and Disadvantages--Extension agents are relatively well paid. They also receive federal employee benefits such as paid vacations, annual sick leave, and retirement, health, and life insurance plans.

The extension agent's pleasure is derived from working with many different people, the opportunities to apply his skills, and the satisfaction of performing useful services to a community and to the nation.

Environment



The environmentalist is concerned both with conditions as they presently exist and the preservation and maintenance of a representative amount of the natural environment. The federal, state, and governmental demands for persons with the required qualifications for environmental occupations gave rise to increased financial support to institutions interested in training persons for environmental occupations.

ENVIRONMENTALIST

The environmentalist is a specialist in promoting and protecting environmental health. He develops methods and carries out procedures for the control of the factors of man's environment that affect his health, safety, and well-being. These factors are food, drink, shelter, water, waste, air, disease-producing germs, rodents, insects and other vermin, chemicals, and other external and internal physical conditions of man's life.

History and Future--Records of attempts to control the environmental factors affecting health go back thousands of years. Most people at all times have tried to control those things they felt were a threat to health, but it has only been in recent years that concern for the preservation of vital natural resources has become general.

Employment opportunities for environmentalists having a bachelor's degree in environmental health are expected to be very good through the 1980's, particularly in private industry.

Work Environment--Jobs for environmentalists are available in most communities, but the majority of opportunities are concentrated in populous areas. There are also opportunities overseas with the Peace Corps, the World Health Organization, and other organizations.

Training and Education--A bachelor's degree in environmental health or in biological, physical, or chemical science is necessary for all beginning environmentalists. Preparation for entrance into environmental health work should begin in high school with a college preparatory program and emphasis on both science and social studies courses.

Qualifications--The environmentalist must be able to work harmoniously with others. He must know how to explain tactfully the need for corrections of unsanitary conditions and to secure cooperation. He should be an educator, a diplomat, and an arbitrator.

Advantages and Disadvantages--The environmentalist in some departments is provided with an automobile and a gas allowance. Insurance and health programs, pension, sick leave, and vacation time are provided for the environmentalist.

ENVIRONMENTAL HEALTH TECHNICIAN

Environmental health technicians assist engineers, scientists, and health agencies in promoting a healthy environment for man. They gather data on, inspect, and evaluate health facilities and services used by the public. Increasingly, they are dealing with air pollution, noise pollution, and other recently recognized hazards to environmental health.

Technicians employed in the field of environmental health work in health laboratories, water treatment plants, and sewage disposal plants, performing chemical and bacteriological analyses on samples of food, water, and other substances. They may be employed as sanitary inspectors and make unannounced visits to restaurants, hotels, and cafeterias to insure compliance with sanitation laws and regulations. They may work for food processing companies, enforcing legal standards of sanitation, purity, and grading.

History and Future--The future should bring many opportunities for environmental health technicians. Each year the nation's awareness of environmental problems increases, creating the demand and the backing for technician careers in air and water pollution, noise control, and other facets of protection for the public from unhealthy environmental conditions.

Work Environment--The conditions under which technicians work vary, depending upon the specialty within environmental health they choose. Generally, conditions are good.

Training and Education--The most widely accepted educational preparation is an associate degree or completion of two years of college, including twelve semester hours in mathematics and natural science, plus a year's experience as an environmental health technician trainee.

Qualifications--The applicant interested in a federal government position in the environmental health field must take a civil service examination for certification.

Advantages and Disadvantages--Technicians who go on to the baccalaureate or master's degree may advance to become water treatment operators, research technicians, or supervisors of groups of inspectors.

SAFETY ENGINEER

The major job of the safety engineer is to prevent loss due to employee injury and property damage. Specifically, he is concerned with the elimination of unsafe practices and conditions in industrial plants, mines, commercial establishments, construction operations, traffic, and places of public assembly.

The safety engineer often has occasion to recommend that certain procedures in the establishment be changed or that supplementary safety equipment be added to machinery. He studies accident records both in his own and in other establishments to determine causes of accidents; determining the causes can serve as a basis for proposing preventive measures. Not waiting for accidents to occur, the safety engineer examines specifications for job procedures, machinery, equipment, and structures from the standpoint of safety, well before construction or installation. He is concerned with the education and training of employees not only in safety procedures but also in being aware of hazards at all times.

Some of the specific activities in safety engineering are inspecting buildings, mechanical equipment, and property; investigating and reporting specific accidents; checking plants, specifications, contracts, and purchase orders from the safety viewpoint; designing improved plant layout or other changes in the environment to control hazards; selecting safeguards for machinery and other equipment for personal protection; and analyzing job procedures from the safety sandpoint.

In his work to promote safety education of employees and the public, the safety engineer may set up safety rules, check to see that such rules are followed, organize safety committees or councils to maintain interest within the establishment, and secure the cooperation of the establishment's management, workers, and unions that may be involved. He may run contests, special drives, and special campaigns to publicize the need for safety. He may set up bulletin board displays and write brochures for distribution.

History and Future--Compared with other branches of engineering, safety engineering is young, and, like most youngsters, it is still growing. One of the factors leading to increased demand for safety engineers is the constant development in industry of new production methods, new machinery, and new materials. Use of atomic energy may call for radical departures from traditional safety methods and for exceptional imagination in reducing radiation danger. The increasing interest of labor unions in the subject of safety is resulting in new legislation, which in turn will require industry to employ more safety engineers to advise on proper safety measures.

Work Environment--A safety engineer may spend much of his time in the field, as much as seventy-five percent if he is working for a large establishment. As a loss prevention officer, he is called on in emergencies at any of the company's plants, even though each plant has a supervisor directly responsible for safety.

The greater number of safety engineers work in the highly industrialized sections of the country, such as the middle Atlantic states, East North Central states, and the manufacturing centers of the South and West. They are employed in industry, construction, mining, manufacturing, transportation, and distribution.

Training and Education--A high school diploma is a must to qualify for a safety engineer. A prospective safety engineer should take courses in mathematics, chemistry, and physics. He should have a knowledge of industrial hygiene, physiology, industrial psychology, and a general knowledge of plant management, insurance, and workmen's compensation laws.

Qualifications--Mental alertness, tact, and persuasiveness are important for success in the field of safety engineering.

Advantages and Disadvantages--There are good opportunities for advancement in the field. The various job titles held by members of the American Society of Safety Engineers show the wide variety of occupations in business, government, and industry in which the safety engineer may engage: president, vice-president, general manager, chief engineer, district manager, and divisional director.

INDUSTRIAL HYGIENIST

The industrial hygienist is constantly on the alert for possible hazards. He must know what materials are being used and how they affect workers. He must also be familiar with manufacturing processes and operations.

The hygienist must determine whether a hazard is immediately dangerous, whether it may endanger a worker's health only after long exposure, or whether it is well under control. To do this, he may take air samples to ascertain the concentration of lead or fumes in the air, or he may run blood tests to see if a worker is allergic to toxic gas. The results of these tests and analyses enable him, with the aid of the safety engineer, to design controls that will eliminate or minimize these dangers.

History and Future--Industrial hygiene is expected to grow; the need for capable and qualified personnel is great and should become even greater. The growing concern with air and water pollution will undoubtedly create many opportunities in environmental control, of which industrial hygiene is an important part.

Work Environment--Industrial hygienists working for big industries are primarily concerned with the immediate environmental problems likely to be encountered in the plant. This is definitely not a nine-to-five job; the industrial hygienist has the primary responsibility for setting up and maintaining safe and healthy working conditions and practices.

Training and Education--The basic qualification for an industrial hygienist is a college degree with a major in engineering or in one of the biological or physical sciences.

The student should select high school courses that prepare him for college, including chemistry, biology, physics, and mathematics.

Qualifications--The industrial hygienist should have a genuine interest in science and the ability to apply knowledge in a practical manner. He must possess a keen sense of responsibility. He must have the ability to work well with people.

Advantages and Disadvantages--The industrial hygienist may have to work long, tedious hours to obtain solutions to presenting problems. However, the compensations are excellent.

BACTERIOLOGIST

Bacteriology is a specialized branch of biology. The bacteriologist studies the growth, structure, development, and general characteristics of bacteria, viruses, molds, and other organisms of microscopic size.

The bacteriologist isolates and makes cultures of significant bacteria or other microorganisms, controlling such factors as moisture, temperature, and nutrition. He identifies microorganisms and observes their action upon the living tissue of plants, higher animals, other microorganisms, and dead organic matter. He makes chemical analyses of substances such as acids, alcohols, and enzymes produced by bacteria.

History and Future--The cooperation of thousands of scientists studying the effects of microorganisms on nutrition, disease, reproduction, growth, and the like has resulted in the vast development of microbiology in this century.

Bacteriology is one of the fastest growing areas of life science, and opportunities are expected to be excellent at all levels of education.

Scientific advances in current problems and ecology have created new and exciting possibilities for bacteriologists of the future.

Work Environment--The bacteriologist's working space is extremely clean, well lighted, and ventilated. It is usually a laboratory, where he may be responsible for the work of assistants, technicians, and students.

Bacteriologists ordinarily work a standard eight hour day and five day week. They might have night or weekend duties in certain laboratories that operate continually, such as those in hospitals or those engaged in special research projects.

Training and Education--High school students interested in bacteriology should take all the science and mathematics courses available to them, begin their language training early, and acquire proficiency in the laboratory.

A bachelor's degree with a major in microbiology is required. A Ph.D. is necessary for those who wish to get ahead.

Qualifications--Bacteriologists should be curious, patient, systematic, and have an aptitude for science.

Advantages and Disadvantages--A bacteriologist can advance to the position of project chief and direct a team of other bacteriologists. A bacteriologist can also advance by progressing from strictly technical assignments into positions in which he interprets bacteriological knowledge.

The bacteriologist must be careful to guard against dangers from burns, cuts from glassware, and injuries from improperly used chemicals.

PEST CONTROL OPERATOR

Pest controllers are employed to mix and prepare insecticides, load trucks with supplies, or solicit new accounts for their company. Most of these people, however, have had training and experience as pest controllers and are qualified to do insect and rodent control work in case of emergency or during rush periods.

While the controller is performing his duties, such as spraying, dusting, or setting out bait, the serviceman looks for ways in which the customer can improve pest control. If he sees uncovered refuse pails, poor drainage areas, or broken walls through which pests can enter, the responsible serviceman points them out to the person in charge.

History and Future--As scientists and physicians gradually learned more about diseases and epidemics, they discovered the causes. Certain insects and animals were found to be major carriers of disease. Eventually, laws were passed in all communities establishing standards of sanitation to control the spread of vermin. Today, departments of health and sanitation enforce such laws by inspection and advise the community of the danger of unsanitary conditions.

Because pest control operators are an important part of the continuing program of public health and sanitation in all communities, there is a constant demand for pest control services and for qualified pest control personnel.

Work Environment--The average workweek is forty to forty-four hours over a five day period. Some men do Saturday or Sunday work or are on call on these days for emergencies.

Employees who have been with a company for at least two years usually get a two week vacation. Many companies schedule vacations to take place during the winter or fall because insects, birds, and rodents are most active in spring and summer.

Training and Education--A high school education is preferred by most employers. Experience or demonstrated ability in previous jobs may be accepted in place of a high school diploma. Helpful courses include chemistry, English, and mathematics. Many pest control companies now seek college graduates with degrees in entomology.

Qualifications--The pest controller should be friendly and courteous at all times. Because the results of his work are not always immediately apparent to the customer, the serviceman should be able to explain his company's full pest control program.

Advantages and Disadvantages--Some chemicals can be harmful if inhaled or brought into contact with the skin. Pests and rodents are neither attractive nor pleasant, and the serviceman may have to explore dirty, dusty places in seeking out nests and breeding areas.

On the other hand, the controllers work independently, without supervision. They deal with many people in the course of a day. The variety of pest problems add interest to their work. The knowledge that their efforts contribute to health and property protection and to their customers' peace of mind brings considerable satisfaction.

PARK AND RECREATIONAL MANAGEMENT TECHNICIAN

The park and recreational technician supervises outdoor recreational services and facilities in public or private parks, forests, rangelands, mountains, desert areas, and seashores. He also protects wildlife and natural resources.

The technician in a park would have charge of the day-to-day operations of maintaining the area. He would make landscape plantings, maintain grounds, and direct people to various areas of interest in the park.

The technician working at a ski resort or public golf course would be responsible for plantings to landscape the area and turf. He would work with landscape architects in the planning of site development so he would know the needed maintenance.

History and Future--The national park system had its beginning in 1872, when President Ulysses S. Grant signed an act of Congress establishing the Yellowstone region as a "public park or pleasuring ground." This was the first national park in the world, and in the years that followed many other areas were set aside for public enjoyment. The National Park Service was established in 1916 to manage the various national parks, monuments, and historic sites.

At present there are more opportunities than people to fill them in both permanent and summer jobs. The rapid growth of the recreation business will lead to a rapid increase in the need for personnel to manage and maintain facilities. Spending for recreational pursuits has increased much faster than the population. It is estimated that over a million jobs will be available in the field of recreation by 1980.

Work Environment--The park and recreational land technician works outdoors. He must love the outdoors because he will have to work under all kinds of extreme weather conditions. Although he usually works a forty hour week, his hours are often irregular during major tourist seasons.

Training and Education--The high school student should prepare himself for a two year technical college by taking courses in mathematics, earth science, biology, chemistry, ecology, and English.

Qualifications--The technician must be able to meet and talk with all types of people, work with management, direct employees, and often assume the role of both an employee and an employer. Above all, he must enjoy working outdoors.

Advantages and Disadvantages--The technician is in constant contact with the public. He must remain calm in times of crisis, since there may be times when people's lives depend on his resourcefulness and flexibility during moments of great stress.

However, loving the outdoors and playing a major part in conserving, maintaining, and enlarging our natural resources bring a satisfaction not found in other kinds of work.

PARK NATURALIST

Park naturalists perform scientific and professional work in connection with the natural history and conservation programs of national, state, and municipal park and conservation services. They are responsible for the scientific study of the areas to which they are assigned and the education of the people using or otherwise concerned with these natural facilities. For the most part, their work is concerned with the study, research, management, and protection of the natural features of their areas.

Naturalists preserve scientific specimens and records, plan and prepare museum exhibits, advise on methods of preserving natural history features, operate museums and information centers, conduct guided field trips, and prepare and give illustrated and non-illustrated talks in national and state parks and in nearby communities. They may take pictures either on slides or movie film to illustrate their talks.

History and Future--This field is a small and specialized one. Most vacancies occur because of retirements and deaths of present employees. Promotions of qualifieid aids and other workers fill the vacancies.

Work Environment--The park naturalist spends most of his time out-of-doors, often walking and talking to groups he is conducting on tours. At other times, he works at his desk preparing talks, explaining the area and its wildlife and plants to visitors, writing articles for magazines or newspapers, and compiling records.

The work is not considered seasonal. The extra work of the busy season is carried on by part-time workers. The park naturalist in one of the state or national parks may be stationed far from his home.

Training and Education--The high school student interested in becoming a park naturalist should take courses in biology, botany, zoology, and earth science. After high school a bachelor's degree should include major study in botany, zoology, geology, ecology (the study of wild plant and animal life in its natural state), natural history, forestry conservation, and park management with at least twenty-four hours in botany, ecology, or zoology.

Qualifications--The park naturalist should have patience, tact, poise, a sincere love of the out-of-doors, interest in the conservation of wildlife, and the desire to teach others about it. He must be reliable, industrious, responsible, emotionally stable, alert, imaginative, and have a desire to increase his knowledge of nature. The aptitude to develop a pleasant but firm attitude in enforcing rules for the protection of wildlife is also necessary.

Advantages and Disadvantages--The usual fringe benefits available to all civil service employees apply to the park naturalist. These include retirement benefits, hospitalization, vacation time, and sick leave.

The work is not considered hazardous and is varied and interesting to the qualified person. Much of the park naturalist's work involves meeting with people, including professional foresters, residents, tourists, and seasonal employees whom he supervises.

URBAN AND REGIONAL PLANNER

Until the 1960's, most planners were primarily concerned with the physical growth of the cities. This is still an important part of the work of many planners. They are interested in a comprehensive plan that will be a guideline for the future growth and physical development of a city. Such a plan shows the proposed use of the land, whether it be residential, industrial, or commercial areas, open space or recreation, as well as the distribution of public facilities such as roads, transit, schools, and parks.

The main concern is for unifying the social, economic, and physical development of the community and its environs in a way that will satisfy the citizens' objectives.

History and Future--In the United States planning has progressed slowly from the idea of "the city beautiful" to "the city practical." Artists and other public-spirited citizens have sponsored small projects to beautify the ugliness of city life.

The prospects in the field of planning are excellent. Job opportunities are being created as a result of new federal and state legislation to improve our physical, social, and economic environment.

Work Environment--Planners work with metropolitan areas, states, or an entire nation. When they work with larger areas, they are typically concerned with broader issues such as the development of a state's economy, use and conservation of natural resources, and improvement in health care and in education.

Training and Education--A high school student should prepare for a program leading to a liberal arts degree in a field related to planning, such as political science, geography, or architecture, and then study two or three years at the graduate level in a specialized school to earn a master's degree in planning. It is possible to get started with a bachelor's degree in planning, but work at the graduate level is recommended. For specialized teaching or research work, a doctor's degree is usually required.

Qualifications--The most important qualities of a good planner are a capacity to analyze difficult problems and to come up with imaginative ways of meeting them, a commitment to social and environmental change that will offer full and equal opportunity to all Americans and wipe out the grim heritage of poverty and racial injustice, and a desire to work with people and to help them in developing their preferred solutions to the problems that most concern them.

Advantages and Disadvantages--Planning is a young profession and the need for qualified planners is great. Planning is a respected and important profession. The planner works with the leading citizens of his community. When his plans are accepted, he finds his job extremely gratifying.

Sometimes there are limitations to what a planner can do. He may have to modify his plans to satisfy various groups. Then, too, he must be patient; in some instances, he must wait many years before he sees the results of his work.

TREE EXPERT

The main job of the tree expert is pruning or trimming trees. Starting at the top of the tree, he works his way down, removing dead and diseased or weak branches with a saw or a pole pruner. One kind of pruning is line clearing in which the tree expert removes branches that might rub against telephone or electric lines. Another kind of pruning is shaping. Here, the expert prunes certain branches to give the tree a more pleasing shape.

After trimming, the tree expert brushes the cuts with a wound-healing paint that prevents insects from attacking the tree at the exposed area. He carries his paint and brush in a can hung on his belt. The expert is always on the lookout for possible wounds, and he paints all those bigger than the size of a dime.

Another important job of the tree expert is filling cavities or holes in trees. This retards decay and strengthens the tree, possibly saving it from premature death.

History and Future--As both governmental agencies and individuals seek to improve the environment in our cities and suburban areas and to conserve natural resources, the need for tree experts multiplies.

There is a growing demand for well-trained tree workers, and many tree service companies are actively recruiting qualified young people. This means good opportunities for those with the necessary interest to learn the trade.

Work Environment--Most of the tree expert's work is done out-of-doors. When the weather is bad, he usually cleans and repairs the equipment he uses. The work is done year round, even in winter.

Training and Education--Students planning to enter the field of working with trees should take high school courses in biology, botany, chemistry, mathematics, horticulture, and agriculture.

Qualifications--The tree expert must have good health and considerable physical strength. He must be able to climb trees and handle heavy tools. He also needs a good sense of balance and steady nerves, for he often has to work high above the ground. He should have mechanical aptitude, for he will be operating saws, cranes, and other power equipment.

Advantages and Disadvantages--The tree worker constantly runs the risk of injury as a result of a fall from a tree or from working with power and handtools. Proper safety measures, of course, minimize these hazards.

Tree experts are covered by the workmen's compensation laws of the various states and enjoy a number of other fringe benefits, depending on the size of their companies.

RANGE MANAGER

The range manager oversees the use of the grazing land. He must select the best type of grass for grazing purposes and see that the land is properly seeded and conserved. He determines the number of livestock permissible for grazing so that areas are not overburdened or depleted, and he ensures the observance of regulations by lease holders.

The range manager must be knowledgeable in the use of insecticides, in disease control, in the use of firefighting techniques, and in soil reclamation science.

The range manager keeps records, makes reports, researches problems affecting his area, and provides technical assistance to holders of privately owned grazing lands.

History and Future--Employment opportunities are expected to be good for range managers throughout the next decade. Growing numbers will be needed to aid in the expansion of the range facilities and to extend much needed technical assistance to emerging nations in different parts of the world.

Work Environment--Depending upon the area in which one works, conditions vary greatly. Those involved in teaching range management follow regular university and college schedules and work in pleasant surroundings. Those who go into public or private rangeland management should expect to work out-of-doors almost continually, regardless of weather conditions. Since the acreage involved is always large, it is often necessary to spend time away from the home base and to work in isolated areas far from contact with other people or recreational facilities.

Training and Education--Individuals interested in becoming range managers should hold a bachelor's degree in range management or in a related field such as soil conservation or agronomy. Preparatory courses in high school should include chemistry, mathematics, English, and physics.

Qualifications--The applicant should be in good physical condition, able to talk to people, and to write both speeches and reports.

Advantages and Disadvantages--The work is often lonely and arduous, requiring both discipline and maturity. It provides the interested individual with great freedom of operation, a decision-making role, and an enormous sense of accomplishment.

RECREATION WORKER

Recreation workers help people to enjoy and use their leisure time constructively by organizing individual and group activites and by administering physical, social, and cultural programs for all age groups at camps, playgrounds, community centers, and hospitals. They also operate recreational facilities and study the recreation needs of individuals and communities.

History and Future--Employment of recreation workers is expected to increase very rapidly. Several thousand recreation workers will be needed annually. In recent years the number of college graduates having a major in recreation has fallen far short of the demand for recreation workers.

Work Environment--The average workweek for recreation workers is forty hours although some work fifty hours per week. A person entering the recreation field should expect some night work and irregular hours.

Training and Education--Most employers in the recreation field prefer persons who have a bachelor's degree and a major in recreation, social science, or physical education.

Persons interested in becoming recreation workers should take courses in philosophy, the humanities, natural sciences, and the arts.

Qualifications--Good health, emotional maturity, and a warm personality are essential qualities for recreation workers.

Advantages and Disadvantages--Opportunities for advancement to administrative positions often are limited for persons who have no graduate training.

Most public and private recreation agencies provide from two to four weeks vacation and other fringe benefits, such as sick leave and hospital insurance.

Fine Arts and Humanities

The scope of the humanities encompasses those studies and activities concerned with the social, moral, and aesthetic values of a culture. The fine arts, as opposed to the applied arts, are concerned primarily with aesthetic expression. The arts strive to function as a vehicle for varied and profound expressions of thoughts and feelings and to serve the development of man's highest technical skills.

FINE ARTISTS

The fine artist may specialize in painting, sculpture, photographic art, or graphic art.

The painter specializes in certain types of subject painting, such as still life, landscapes, seascapes, or portraits. He may make preliminary sketches of the scene he intends to paint and return to his studio to finish it, or he may paint on the spot.

The sculptor may work with clay, shaping a model which is used for reproducing the object in bronze or concrete. Some carve objects from stone, wood, or concrete using chisels, hammers, and other hand tools.

The graphic artist is concerned with making wood and steel engravings and wood blocks.

History and Future--Since the dawn of civilization, man has gained pleasure by expressing himself through painting, drawing, architecture, and sculpture. In many instances these have been the only source from which archeologists and historians have learned of the history of ancient civilization.

The employment outlook for good fine artists is expected to be moderately good throughout the next decade.

America is undergoing a surging interest in art. Landscape, seascape, or portrait artists with exceptional talent should be successful in selling their paintings.

Work Environment--The fine artist usually sets his own working hours. He may do his painting during the day, night, or on a weekend.

The artist may paint or sculpture only what he desires and then exhibit and sell his work at art galleries or other private showings. Some artists teach in professional art schools or in college or university art departments.

Training and Education--High school courses in social studies, science, and foreign languages could be helpful in developing a cultural background necessary for serious art.

Many established artists agree that a strong, broad educational background is helpful. Some feel an art training program with several courses in psychology is helpful, since artists paint people, express ideas, and depict human emotions.

Qualifications--Artists should be patient, persevering, and ambitious. They should have a fine sense of color, depth perception, and balance. Good eye-hand coordination and finger dexterity are necessary.

Advantages and Disadvantages--Fine artists may earn from barely enough to pay for their materials to thousands of dollars for each of their works. While a few artists support themselves solely by their art work, most find it necessary to supplement their incomes.

COMMERCIAL ARTISTS

The commercial art field is so broad that newcomers are advised to specialize in a particular branch.

Advertising artists are probably the best known workers in commercial art. Artists employed by an advertising agency or an art studio work on television commercials, as well as such printed materials as booklets, folders, displays, packages, and labels.

The illustrator usually has a particular style that lends itself to some specific form or illustration. He may be best at black and white or full-color drawings for short stories and articles, or his style may be best suited for illustrations for books, advertising, or fashion publications.

Fashion illustrators create pictures of clothes and accessories to go with the printed words.

Graphic designers create layouts for the printed page for advertisements, magazines, books, and brochures. They select specific art or photographs, do hand lettering, choose typefaces, and arrange the materials to attract the eye.

History and Future--One of the first things early man did was teach himself to draw. After he had satisfied the basic need for food and shelter, he became aware of a desire for something more--the communication of his ideas to those around him.

Thus, the artist was born. Through the centuries before the development of wiring, man expressed himself by drawing on the walls of caves, on stones, and even on tree bark. This need to tell others of his joys and fears was very strong.

In our age of mass communication, we continue to call upon the artist to help us express our ideas, but his work has become considerably more refined and sophisticated. Today, the artist is a specialist.

The job trend for commercial artists during the next decade appears good. Job opportunities will vary, of course, depending on the area of specialization.

Work Environment--Artists usually work thirty-five to forty hours a week. When they are under pressure to meet a deadline, they work longer. The artist may work alone or in a roomful of artists, and his working area or studio is generally well lighted and ventilated. Most of the work is done at a drawing board.

Training and Education--The prospective artist should attend an art school or institute that specializes in teaching commercial or applied arts. Entrance to the school usually requires graduation from high school, where math, science, literature, and history should be included in the artist's curriculum to provide the necessary background.

Qualifications--The artist must have good judgment concerning color and line harmony, a keen sense of beauty, design, and form, and manual dexterity. The ability to follow instructions carefully and to have work ready at the time specified by the customer is also very important.

Advantages and Disadvantages--The field of art can be extremely rewarding for the creative person. He has the opportunity to play with ideas, to keep finding new ways to solve problems, and to enjoy the satisfaction of seeing his ideas take shape and develop.

One of the disadvantages the artist must contend with is the rush period. At times there will be deadlines to meet, and the artist will have to work overtime and under pressure.

Women usually are interested in the fact that this is one of the few careers that can be carried on at home after marriage if they wish.

ARTIST'S MODEL

The work of the artist's model is to pose for an individual artist or for a class of art students. In posing he or she must stand or sit in one position for several hours at a time. Permission to relax is given once during each hour. Often the model must pose on a platform under hot and bright lights and sometimes wear little or no clothing. One job may last a day, another for several weeks.

History and Future--Ever since there have been artists, there have been models who posed for them. In earlier times, many of these models were paid to do so, but were, in fact, the wives or sweethearts of the artists.

There will always be a need for well-qualified artist's models; there are probably entry positions for more than 500 each year. Since at least ten times that number try to become models each year, chances for success are only about one in ten.

Work Environment--The artist's model usually works indoors in a loft, a studio, or a classroom. These rooms may be large and drafty with high ceilings and inadequate heating or cooling facilities. The more modern art schools, however, will be well heated, well ventilated, and well lighted. The model may wear ordinary street clothing, an exotic costume, or pose in the nude.

Training and Education--There are no standard educational requirements for models, but most employers prefer a high school graduate.

Qualifications--The artist's model must be able to sit or stand in one position in front of one or many artists for long periods of time. Therefore, physical stamina is very important.

Advantages and Disadvantages--There is no usual line of advancement in the modeling profession. It is a rarity, indeed, for the artist's model to advance to a higher position. However, the better art schools and the more successful artists pay higher hourly wages to an experienced model.

There are limited employment possibilities for men in the modeling field. Many men model occasionally in order to supplement an income which is obtained from another source.

TECHNICAL WRITER

The technical writer understands the language of the scientist or technician and has the ability to interpret it clearly and accurately for interested readers who are not scientists or technicians.

The technical writer prepares service manuals or handbooks, sales literature, research proposals and reports, contract specifications, and research abstracts. He also writes publicity releases, catalogs, and brochures.

The technical writer must know his subject before he can prepare the material. He begins by learning as much as he can about the subject. He studies reports, journals, notes, engineering drawings, and any other material which is available. He consults with draftsmen, engineers, scientists, technicians, production supervisors, and other workers who may be familiar with the product or process about which he is going to write.

After he has gathered and organized the information he needs, he prepares a first draft. He may ask representatives of the group for whom the document is being written to read the initial draft.

He may prepare or rewrite several drafts of the manuscript, depending upon the complexity of the subject and the audience for whom the material is being prepared.

History and Future--Technical writing is one of the newer, more professional career fields. It is expected that the present shortage of qualified technical writers will continue for some time. Thus, employment opportunities for both men and women are most favorable, particularly for those with exceptional writing abilities. Numerous opportunities exist in this field for women as well as men.

Work Environment--Technical writers work the usual five day, forty hour week in offices that are quiet and conducive to the kind of concentration required.

The technical writer works at a desk or typewriter to prepare his copy. Often he must visit other departments in the plant to observe processes, to consult with workers, or to participate in other information-collecting activities.

Training and Education--A bachelor's degree is a minimum requirement.

In high school, the student should pursue the regular preparatory program, including English, social studies, science, and mathematics.

Qualifications--The writer must be accurate and logical in his reporting and fit his style to the type of document he is preparing. Conforming to such technical accuracy and precision can stifle creative or imaginitive characteristics, but this type of writer must precisely interpret the messages of others and not his own. In this regard, his work differs greatly from other types of communication.

Advantages and Disadvantages--Sometimes the technical writer has to work under pressure which can result in some physical or mental strain. However, workers are not subject to undue physical strain or health hazards. Their vacations and benefits are the same as those of other employees in their organization.

COPYWRITER

The copywriter takes the ideas submitted to him by account executives and, using psychology, writes descriptive copy in the form of headlines, jingles, slogans, and other techniques designed to attract the attention of potential buyers. Some products are made to appeal to special people such as housewives, businessmen, or sportsmen. They are advertised through different media (radio, television, newspaper, billboards). The copywriter, in addition to being able to write, must know something about people and various advertising media. He also writes advertising material describing products such as automobiles or electric appliances, as well as for particular industries such as television.

History and Future--There are good employment opportunities for young people well qualified either through aptitude or by experience.

The copywrite industry will experience moderate growth during the next decade because of the new products created by science and technology, competition among existing industries, competition from new industries, and a continuing population growth. Increasing popularity of the self-service sales technique means that producers of goods will have to increase their advertising efforts so that customers will select their products from among others.

Work Environment--A normal forty hour week can be expected but may include evening and weekend work when necessary.

Copywriters most frequently work under great pressure in order to meet deadlines.

Training and Education--Most agencies employing beginning copywriters prefer college graduates with majors in journalism. A good knowledge in English is a necessity, also a variety of literature and social studies courses.

Qualifications--Emphasis is placed on the copywriter's ability to use language, both spoken and written. The ability to work with ideas is essential since the purpose of the copywriter is to sway the public to the point of buying.

Advantages and Disadvantages--Those who are not well qualified or prepared for agency work will find the writing field increasingly difficult to enter. This will also be true for those who seek work outside of agencies or in various other advertising services or organizations.

Usually, copywriters find their work a constant challenge to their initiative, imagination, and creative abilities.

MAGAZINE EDITORIAL WORKERS

The magazine editor must be able to combine creative and executive duties. Some editors spend much of their time in actual editorial work, revising and correcting articles, arranging material, selecting illustrations, and planning layouts. Other editors leave most of the work to their assistants and devote their own time to general supervision, policy determination, and administrative duties, including personnel management.

On large publications one or more assistant editors may work with the editor on each issue. They may also direct the editorial work in special departments of the magazine, such as fiction, homemaking, fashion, sports, or news.

Editorial assistants usually answer letters, interview callers, do the first reading of free-lance articles, and do library research to check facts used in articles.

Copyreaders check finished work for length, style, grammar, spelling, punctuation, organization, accuracy, and readability.

History and Future--A high rate of competition for beginning jobs has long been the rule in magazine editorial work. This is expected to continue, but the situation eases to some extent on the upper job levels. Well-qualified editorial workers are usually in demand.

Work Environment--Editorial workers are under tension much of the time with deadline pressure. Working overtime and on weekends and holidays is sometimes necessary.

Training and Education--A person interested in a career as an editorial worker should begin planning in high school. He should get a good background in English, literature, foreign language, science, and the social studies. Courses in composition, journalism, and shorthand would also be helpful.

Qualifications--The editorial worker must know the elements of good writing, including grammar, spelling, and punctuation. He should be able to express himself clearly, effectively, and easily.

Adaptability and the ability to work quickly, accurately, and efficiently under pressure are essential.

Advantages and Disadvantages--Editing offers more opportunities to women than do many other vocations. In the total printing, publishing, and allied industries women hold about twenty-eight percent of the jobs. In the editorial field itself the percentage is probably much higher, since women hold many jobs at all levels.

Advancement opportunities in the editorial field are generally very good. Since experience counts a great deal, promotions within the staff are usual.

THEATER MANAGER

The theater manager's duties can be divided into two categories: customer relations and business management. The comfort, entertainment, and safety of patrons fall into the category of customer relations. They are the manager's first concern.

It is up to the manager to see that lighting, heating, and cooling systems are working properly, that the theater and its restrooms are clean, and that refreshment stands are adequately stocked.

The manager is responsible for the safety of his patrons or guests. He has to make sure that state and local fire prevention laws and ordinances are strictly observed.

The second most important function of a theater manager is business management. He is responsible for hiring and paying employees, advertising, and maintenance of the building and equipment.

History and Future--Theater, the presentation of drama, was one of the first forms of entertainment that mankind invented.

Increasing opportunity for theater management, training, and advancement should develop as a result of the trend toward ownership of theaters by very large regional and national circuits. Whatever develops in television and other kinds of home entertainment, people will still enjoy going out to the theater, so demand for this type of entertainment is likely to increase. Capable managers will always be needed to make the theaters inviting.

Work Environment--Theater managers regularly work evenings and weekends, when theater attendance is heaviest.

If there is a breakdown in equipment, a theater manager may have to spend many hours at the theater before show time. If the doorman or cashier is ill, the manager may have to take over his job or find a replacement. In fact, any emergency is likely to involve the manager, who has the responsibility for keeping the theater in operation.

Training and Education--There are no particular educational requirements for the prospective theater manager, although the manager should have at least a high school education. High school courses in English, bookkeeping, typing, and public speaking are important. Extra curricular activities that aid in personality development, such as drama, debating, and student government, are also recommended.

Qualifications--A theater manager should have sales ability, good business sense, imagination, and an attractive personality. He must be able to get along with people, film distributors or producers, customers, unions, local business and community leaders, and his own employees.

Advantages and Disadvantages--The great majority of theater managers and employees are men, although women are employed as cashiers, refreshment counter clerks, and sometimes as ushers.

Promotion from within is common in the industry for employees who show promising qualities of ingenuity, efficiency, and courtesy. They have the opportunity to advance to superior of a number of theaters for a company or to film buyer or advertising director.

CONCERT ARTIST

Singers may work under many different kinds of circumstances. The concert or opera singer may prepare for one performance for many weeks or many months. When the performance is over, he may start preparing for another or he may not have an engagement for a long period of time. Concert artists often tour the country and sometimes tour abroad. They usually travel with a staff which arranges the small but necessary details which make any concert successful.

Many concert artists are opera stars. They may give concerts when they are not scheduled to appear in an opera or when the opera season is over.

History and Future--Singing is the earliest form of musical expression. Much of it was chanting, which still is heard, but the tonal qualities were quite different from those which are commonly heard today.

Beginning a career as a singer has always been a difficult undertaking. It is no different now. It is a highly competitive field, attractive to many persons. Many try; few succeed. However, success is always possible for the person who is willing to strive to achieve it.

Work Environment--The concert artist may work under a wide variety of circumstances. He may be given a star's dressing room or share a mirror in the basement of a theater. He may work under the hot camera lights of motion pictures or television or tour in subzero temperatures. He may work amid the noise and confusion of a large rehearsal of a broadway show or in the relative peace and quiet of a small recording studio. Seldom are two days just alike.

Training and Education--There are no formal educational requirements, but a knowledge of foreign languages, especially Italian, French or German, will be helpful to both the concert and opera singer. Clear enunciation in all languages, including English, is important.

Qualifications--The concert artist must possess real dedication to the art of singing.

Persistence and perseverance are other important qualities for the artist. He must have perseverance to continue to practice day after day and to devote many hours to hard self-discipline.

Advantages and Disadvantages--The famous opera and concert stars who earn as much as $1,000 for a single performance may not have as many performances during a year. Although the income for what appears to be only a few hours work may seem attractive, the annual income may not be so impressive.

The artists must remember that their productive years may be few and that the income which is earned during the period of their public acclaim may have to serve them for life.

DANCERS

A dancer performs dances alone or with a group of persons. Moving rhythmically, usually to music, dancers can project an infinite range of emotions, ideas, and visual effects. Dancers often wear costumes which help to set the desired mood.

There are four basic types of dancing and most dancers specialize in one. Acrobatic dancers perform dances requiring difficult gymnastic feats; ballet dancers perform artistic dances suggesting a theme or story. Interpretive dancers (modern) interpret moods or characterizations. They utilize facial expressions and the body to express the dance theme. Tap dancers tap thythms with their feet.

History and Future--Dancing has served different functions and has taken on many styles through the years, but it has always been the liveliest of the arts. In ancient Egypt and Greece, it was a form of worship. Rome added the pantomime to the dance and gave it a social function. Social dancing began in the Middle Ages and continues to be enjoyed today in almost every land.

Keen competition and irregular employment will continue to characterize dancing as a career. However, the number of civic and community dance groups is increasing, and more professional dance companies are developing in cities throughout the United States. There will also be more opportunities for employment in television.

The employment outlook will be best for those who qualify as dance teachers.

Work Environment--Workweeks for dancers vary. A performance week has light performance and twelve rehearsal hours. Performers get overtime pay when required to work beyond the specified work hours.

Training and Education--Training involves many years of private lessons and attendance at a private dance school or college.

In high school the student should take any courses in dancing that are offered. Other high school courses should include English, social studies, mathematics, science, and history.

Qualifications--A dancer doesn't need to be a great beauty or unusually handsome, but a well formed body with good muscular control is important. Good feet and normal arches are required. Physical grace is also required.

Advantages and Disadvantages--Advancement in the dance field is not always toward stardom as a performer. Many dancers who have become teachers have received more pay and prestige than they did when performing. They often start instructing in schools where they have studied and become known. Sometimes they save enough money to open their own schools.

RELIGIOUS VOCATIONS
(LAYMEN)

There are many positions for laymen who wish to work professionally in religious activities without becoming ordained. Most of these positions require special religious or secular training.

The director of Christian education has a variety of duties within a local congregation. He is responsible for planning the entire teaching program for both youths and adults.

The educational associate for special groups works in a large parish, setting up and guiding activities of a particular age group in study, worship, and recreation. He also organizes and assists the volunteer workers.

Lay workers in campus ministry assist the campus chaplain with all program activities.

History and Future--There is a great demand for qualified religious staff members. Two of the greatest needs are in religious education and social service, where the demand for qualified people far exceeds the supply of those who hold jobs with only partial training. Qualified people with degrees of skill and education are needed for church related work all over the world.

Work Environment--Some religious workers serve as chaplains in the armed forces, on college campuses, or at hospitals or prisons. Others become professors or teachers in universities, seminaries, or colleges.

Training and Education--Training for religious occupations may take from a year beyond high school for some lay work to ten or more years for some form of the ministry.

A college degree is a necessity for the professional jobs.

Qualifications--The religious worker needs a real dedication to religious values, a profound belief in the worth of the work he does, and faith in the doctrine taught by his own church body. A deep interest in other people should include sensitivity to and respect for individual differences.

Advantages and Disadvantages--Church work encompasses a variety of occupations. Any young person, man or woman, whose religious faith, convictions, and ideals inspire him to serve his God, his church, and his fellow man through his employment can almost certainly find a religious vocation suited to his interests, aptitudes, qualifications, and training.

College trained people, especially those with advanced degrees, command greater salaries, but religious workers are nearly always paid less than similar personnel in other areas such as industry or government.

CLERGYMAN

The clergyman has the responsibility of carrying out church rituals (forms of worship), explaining religious beliefs, and leading the followers in the practice of their religion.

As the leader of worship, the clergyman conducts public services, offers prayers, and leads devotions at church society meetings.

As teachers of the faith, the clergyman usually prepares and delivers one or two sermons on the Sabbath. He also addresses various church groups.

The clergyman is also "pastor of his flock." During the week he may spend considerable time visiting the people of his parish. When newcomers arrive in the neighborhood, he calls on them and welcomes them to the community. He officiates at baptisms, weddings, and funerals. He counsels his members on their problems.

The clergyman is also the leader of his congregation. He directs church affairs and coordinates the activities of various groups (Sunday school, young people's groups, and so forth). Committee meetings take up a good deal of his time. He is vitally interested in the education of his young members in religious and social service work and teaches them by participating in classes, clubs, group and individual discussion, and recreational activities. Such activities help the pastor to know his church members better.

The clergyman also participates in church administration, the overall direction of the local church and denomination at large. He attends many regional and national meetings, assists in determining church policy and doctrines, and supervises much of the local church office work.

As the representative of the church, the clergyman often takes part in community activities, especially those that concern his parishioners' spiritual and social welfare and their cultural development.

History and Future--Today there is a severe shortage of clergymen. The shortages are expected to continue. The biggest church expansion will be in cities and suburbs. There will also be expanding opportunities for clergymen in television and radio work, youth and family relations, labor-management relations, and ministries to people on the move, such as vacationers in national parks. Clergymen will be needed for counseling students at colleges and universities.

Training and Education--A bachelor's degree or its equivalent is usually necessary for gaining admittance to an accredited theological seminary (a school where clergymen are trained). During college one should acquire a broad background in liberal arts. Courses in English, philosophy, history, and the natural and social sciences are especially helpful.

Qualifications--The effective clergyman is sensitive to people and their problems; curious about life; possessed of a deep sense of responsibility that drives him at all times beyond the limits of duty; willing and able to stand by his convictions but with the humility to yield if necessary; courteous and tactful; and emotionally stable. He communicates to others a cheerful and optimistic outlook and avoids self-importance. He is able to speak well. To withstand the physical demands of the work, the clergyman should be healthy.

Advantages and Disadvantages--Income for clergymen is often higher in large cities and in prosperous surburban areas.

In many cases clergymen are furnished with free housing and utilities. In addition, many clergymen receive retirement pensions and paid vacations of two to six weeks.

A clergyman seldom keeps regular office hours; he is on call at all hours of the day or night to anyone needing his counsel and guidance.

INTERPRETER AND TRANSLATOR

The interpreter translates the spoken passages of a foreign language into another specific language. He may be designated according to the language interpreted, such as French interpreter or Spanish interpreter.

The interpreter is able to convert to a second language a spoken sentence which still is being completed in the first language. The interpreter is able to comprehend the speaker's intention for the conclusion of the sentence from the way in which it is phrased and from the context in which it is placed. He knows something of the speaking habits of the person whose speech he is interpreting and thus is able to anticipate the way in which the sentence will be completed. He may also make judgments about the intent of the sentence or phrase from the speaker's gestures, facial expressions, and inflections.

History and Future--From the time when men who spoke different languages found it necessary to communicate with each other, there have been interpreters.

Diplomats and high level government officials have always employed persons who might serve as interpreters. However, the need was not so pressing that such persons were required to spend many of their working hours performing the service.

Persons who are good linguists are greatly needed to work as interpreters.

It is estimated that the demand for interpreters will increase as more international conferences are held. The outlook for competent persons is excellent. However, great skills are needed. There is little demand for mediocrity.

Work Environment--Interpreters work under a wide variety of circumstances and conditions. Conference interpreters probably have the most adequate facilities in which to work. Their glass-enclosed booths are well lighted and temperature controlled. Buildings in which international conferences are held are usually attractive and comfortable.

Interpreters who work in escort services are often required to travel for long periods of time. Their day begins and ends with that of the group or persons for whom they are interpreting.

Training and Education--Employers prefer interpreters who have achieved college and graduate degrees in the field in which they are to interpret.

A high school student interested in a career as an interpreter should enroll in a college preparatory course. A thorough knowledge of one's own language is a good basis for building an understanding of another language.

Qualifications--The interpreter must be poised. He should not become excited or exasperated under trying circumstances and should be able to concentrate in the midst of confusion. In other words, he must possess the temperament which is necessary for a job as an interpreter.

Advantages and Disadvantages--Competency in language determines the speed of advancement for interpreters. Job opportunities and promotions into positions of responsibility are plentiful for those who have acquired great proficiency in languages.

However, there is no time when an interpreter can feel that his skills are adequate. His is a career which takes constant work and study. Persons who are successful recognize this fact and maintain an interest in keeping abreast of current happenings in the countries in which their languages are spoken. Although many persons do not realize it, language changes constantly. Names for new inventions, machines, or processes are constantly being added to a language. A person who does not keep up with language changes will find his communication skills have become outdated and he will sound stilted and old-fashioned.

(NOTE: The translator must possess the same qualities as the interpreter. The only difference is that the translator deals with written words.)

ANTHROPOLOGIST

There are two main divisions of anthropology, the cultural and the physical. Cultural anthropology deals with man's behavior, both past and present, as well as with the beliefs people hold in relation to religion, language, economics, and political organizations. Cultural anthropologists often work with smaller, less complex and more easily understood societies.

Physical anthropologists are concerned with the biology of human groups. They study the differences between the members of past and present human societies and are particularly interested in the geographical distribution of human physical characteristics.

History and Future--Anthropology dates back to Aristotle. It is a commonly accepted fact that it became an established science during the Victorian Era or the era of exploration. Anthropology developed rather slowly until the 1930's when the use of applied anthropological research began to be stressed by a number of governments.

It is anticipated that there will be a great demand for anthropologists, especially those who have their Ph.D. degrees. Those with lesser degrees will face competition for professional positions. However, many of the less qualified people will enter related fields of work, such as public administration and areas demanding professional personnel with a broad background.

Work Environment--The majority of anthropologists are employed by colleges and universities and have satisfactory working conditions. The physical facilities in which they work are normally clean, well-lighted, and ventilated.

Anthropologists usually work about forty hours per week although the hours may not be regular.

Training and Education--High school students planning to enter anthropology should take courses in foreign languages, English composition and literature, mathematics, history, and geography, as well as in the natural sciences.

The high school graduate should be prepared for a long training period beyond high school, about four years of work beyond the bachelor's degree.

Qualifications--The anthropologist should demonstrate a keen interest in biology, history, and geography and should have the ability to learn foreign languages easily. He should also gain pleasure from visiting museums and from viewing collections of ancient artifacts.

Advantages and Disadvantages--There are a number of rewards inherent in the work, including job security and the major satisfaction one gains from working in an area he truly enjoys. There is satisfaction in knowing that the work of the anthropologist is helping to create a better life for everyone through a better understanding of humanity, past and present.

ARCHAEOLOGIST

An archaeologist is a student of man's past whose primary interest lies not in the interpretation of documents recorded by man, but in the examination of artifacts (structures and objects) made and used by man in all ages. These artifacts permit the archaeologist to study man's material products and to reconstruct, with a degree of accuracy, the culture of the people. Through cultural associations, the archaeologist may infer the economic, political, social, and intellectual development of man.

History and Future--Archaeology began in 1948 with the discovery of the city of Pompeii which had been buried for centuries under volcanic ash.

Archaeology has come a long way since the discovery of Pompeii. Today, aerial photography locates buried sites that at one time would have taken men years to find. Ingenious methods have been worked out to learn the approximate time that objects thousands of years old were made.

There will continue to be jobs for qualified people, but candidates will have to be both very talented and highly motivated. Most openings will be for archaeologists trained as anthropologists.

Work Environment--The archaeologist whose major interest is field archaeology will spend much of his time at excavation sites. He will be away from home for long periods of time, often at irregular intervals. He will spend many hours each day digging, sifting dirt and debris, and cleaning various artifacts. This work is done slowly and painstakingly, often in hot, uncomfortable surroundings. Work hours for the field archaeologist are long, for evenings are spent examining and classifying the results of the day's diggings or in writing reports.

The archaeologist engaged in museum work will have the benefit of a routine workday. Often, he will assist in preparing collections for public exhibition, conduct lectures, and pursue research.

Many archaeologists agree that the intellectual rewards of work in this field, whether it be field archaeology or museum work, are far more meaningful and satisfying than the monetary rewards.

Training and Education--A Ph.D. degree is highly desirable for a person who intends to pursue a full-time career in archaeology. There are some jobs available for those with only a master's degree, which takes two to three years beyond the bachelor's degree. Many people get a master's degree and then take a job while they complete work on a doctorate.

Training for a career in archaeology should begin in high school. It is important for the student to have a good background in English, since the archaeologist must be able to speak and write well. Courses in typing and bookkeeping are also valuable tools.

Other valuable high school subjects are history, geometry, trigonometry, mechanical and freehand drawing, and general science courses.

The high school student should also read a lot about archaeology in general, as well as the field he intends to specialize in. He should visit and study the collections of nearby museums. It would be a good idea for him to talk over his career plans with an archaeologist at a university or museum. He should also get some camping experience.

Qualifications--The archaeologist is physically tough enough to stand the hardships of field work. He has a scientific mind and enjoys searching out facts. He has a good memory for details. He is also extremely patient and accurate. Above all, he is dedicated to his profession.

Advantages and Disadvantages--Archaeologists holding a doctor's degree will have the best opportunities for employment. Graduates with only a master's degree will face heavy competition for professional positions in archaeology.

Health

Due to the rising population and greater individual emphasis on obtaining health protection and health care, there is a tremendous need for more health workers to provide adequate service and facilities to maintain a high level of health for our citizens.

PSYCHIATRIST

The psychiatrist is not a "soul healer"; he or she is a medical doctor, who, through additional years of training and experience, has become a specialist in the diagnosis, treatment, and prevention of mental disorders.

Many psychiatrists are in private practice. Some may combine private practice with part-time teaching, hospital or clinic work, or consultation in community mental health agencies.

Many psychiatrists work with other specialists such as psychologists, psychiatric nurses, social workers, and physical and recreational therapists.

History and Future--Philippe Pinel, an eighteenth century French doctor, is credited with making the first significant efforts toward bringing the treatment out of the realm of witchcraft and demonology. For a long time mental diseases were thought of as something evil until the end of the nineteenth century when modern psychiatry began.

There is a demand for psychiatrists both in private practice and in institutional work. The high income for psychiatrists helps compensate for the years and money spent in education and training.

Work Environment--Many psychiatrists are in private practice; some combine private practice with part-time teaching, hospital or clinic work, or consultation in community mental health agencies.

Training and Education--A psychiatrist's formal education is long and difficult. He or she needs a broad educational background in social science, humanities, and natural science. After high school, he needs four years of college, then a period of major training: four years in an approved medical school.

The psychiatrist will spend an additional three or four years in a variety of hospital and outpatient settings.

Qualifications--The psychiatrist must be able to gain the trust and faith of his patients and must share the most intimate and personal lives without becoming emotionally involved.

Advantages and Disadvantages--It costs a psychiatrist less than other doctors to get started in practice since he does not require as much expensive equipment. Also, his yearly overhead expense is considerably smaller.

It takes, as a student, about fourteen years after leaving high school before one can become certified as a psychiatrist.

PSYCHOLOGIST

A psychologist is interested in behavior (the way people act). Basically, he or she wants to learn about people and about the principles that underlie the way they respond to events.

Many psychologists work in various social, institutional, and industrial settings, such as schools, welfare agencies, hospitals, colleges, clinics, and private industries. The psychologist may be a teacher, but he may also conduct research and provide services as part of his regular activities.

History and Future--The psychologist's work has changed some over the last fifty years. There is as much emphasis placed on the psychologist's advisory role as on his diagnosis and treatment of mental and emotional disorders.

The field of psychology, especially school psychology, is relatively new and growing rapidly offering exciting possibilities for young people who want to help children, who enjoy working with people, and who are curious about the causes of human behavior.

Work Environment--The psychologist may teach or conduct research, serve as consultant to other professional persons, administer programs, and participate in the diagnosis and treatment of emotional disorders.

Training and Education--Preparation for a career includes studies in biological and social sciences, some specialized psychology courses, and one or two years of course work beyond the bachelor's at the master's level. Earning the doctorate demands a high level of academic achievement and may require a research project that makes an original contribution to the field of psychology.

Qualifications--The psychologist must be mature, well adjusted, poised, and must like to work with people.

Advantages and Disadvantages--The pay is very good as salaries range upward according to experience. Many can supplement earnings with private practice.

Admission to graduate programs is highly competitive. Enrollment is limited in order to insure high quality in the preparation of students.

PSYCHOMETRIST

A psychometrist is a person who gives tests and makes surveys. These tests and surveys attempt to measure intelligence, reading ability, achievement, personality, interests, or aptitude.

Although psychometrists may serve in a variety of positions, they are usually employed in schools. The psychometrist who works in a large school system may spend almost all his time giving tests to students.

Before a psychometrist knows what use to make of test results, he or she must know how to interpret them. This means he must have information about how people in general answer the test questions he is using.

History and Future--More than fifty years ago the psychometrist gathered data by observing the difference in behavior among individuals. Now it has developed into a highly technical area using psychology and math.

The psychometrist has a bright future. There is much demand for people who can handle psychology and math.

Work Environment--The psychometrist works in industry, government, or schools. He works more with facts, such as information about people, rather than with people themselves.

Training and Education--The psychometrist must have a good knowledge of math. The psychometrist must also have an educational and psychological background that will enable him to look beyond a test score and take other important factors into consideration before he reaches a decision about any person. He must have a master's degree.

Qualifications--A person in this position should like mathematics and enjoy solving problems.

Advantages and Disadvantages--Opportunities in the field of psychometrics are plentiful. The field has considerable overlap with other specialities. Some psychologists may well be considered psychometrists for their time spent developing tests and application blanks for selecting or training employees.

MEDICAL TECHNOLOGIST

Medical technologists perform numerous laboratory tests. Some of the tests are simple; others are not. The tests contribute to the detection, diagnosis, treatment, and study of diseases.

Most of the medical technologists work under the direction of a clinical pathologist (a doctor's doctor and a medical detective).

Most medical technologists are employed in metropolitan areas where the concentration of hospitals and other institutions with medical laboratories is highest.

Between eighty and ninety percent of medical technologists are women. The number of men in the profession is growing, however, especially with the new opportunities opening up in laboratory management.

History and Future--Technologists have been assisting physicians since the fourteenth century. It was not until the 1890's that medical laboratories were formally established in the United States.

Laboratory techniques are constantly changing; new ones are being developed almost daily. Consequently, requirements for employment in this field are climbing and a trend is toward a five year preparation.

There is a demand for more medical technologists.

Work Environment--About two-thirds of all medical technologists work in hospital laboratories. Others work in clinics, with doctors in private practice, and in medical, dental, and veterinary colleges.

Medical technologists work eight hours a day and forty hours a week. Those employed by hospitals, where emergency duty is often required, may be on call one night a week or one week a month.

Training and Education--Graduation from high school is necessary to begin formal preparation for a career in medical technology. Biology, chemistry, physics, mathematics, and typing are very helpful in preparing for medical technology. Three years of undergraduate work and one year of clinical training are required to become a certified technologist.

Qualifications--One should possess certain qualities of personality and character. A genuine concern for the welfare of people, precision and accuracy in their work, patience and calmness, the ability to work efficiently under pressure, and the willingness to check and recheck details are all essential characteristics in becoming a qualified medical technologist.

Advantages and Disadvantages--Opportunities for advancement are good for the capable and conscientious medical technologist who keeps up with new developments in the profession. Medical technologists have the opportunity for promotion to supervisor of a department in the medical laboratory of a large hospital or, eventually, to become supervisor of the entire laboratory.

Medical technologists who work weekends or nights may receive overtime pay.

Medical technology does have an occupational hazard of infection from bacteria or viruses, though such an illness occurs rarely. If disease is contracted, carelessness is usually the cause.

MEDICAL ASSISTANT

The medical assistant usually sets up appointments for patients, keeps the waiting room in order, greets patients as they enter, and answers questions. She or he keeps all record cards up to date, sends out bills, and makes simple laboratory tests. Sometimes the medical assistant has to keep the doctor's financial records up to date.

History and Future--Within the last thirty years, the job of the medical assistant has been recognized as a distinct vocation for which special training is necessary. The employment opportunities for medical assistants in the future are good.

Work Environment--Medical assistants work a forty hour week. Some work on Saturdays or during evenings.

The hospitals, offices, and clinics are generally clean, pleasant places in which to work. Usually the offices are air-conditioned and convenient to transportation.

Training and Education--High school graduation and some office training are requirements for the medical assistant. He or she must have pertinent courses in science from high school such as biology, chemistry, physiology, and hygiene.

Qualifications--The medical assistant must have an especially pleasing, sympathetic personality as well as a genuine interest in and a liking for people. Poise is an essential requirement.

Advantages and Disadvantages--The medical assistant has a steady year-round job, usually in pleasant surroundings. The work is interesting.

Oftentimes the medical assistant meets people under conditions of stress and tension.

VETERINARY LABORATORY TECHNICIAN

The veterinary laboratory technician is responsible for the health and welfare of the animals. He must provide food and water, clean housing, ample exercise, and must observe the changing health status of the animals.

The technician must know as much as possible about the animal's habits, including feeding, nesting and breeding activities, and its natural habitat.

The technician's duties are to give animals injections, take samples of body fluids, and observe reactions to experiments.

History and Future--Animals have contributed so much to man's benefit and enjoyment, so it is only natural that man wants to conserve this valuable resource. The field of animal care has grown very large in scope over the years. Veterinary technicians are essential to maintain the interdependence of man and animals.

The increased interest in breeding and laboratory science points to a bright future of many opportunities for animal care workers.

Work Environment--They work in medical schools, research centers, animal hospitals, and commerical breeding houses for experimental animals directed by a Ph.D., an M.D., or a veterinarian.

Training and Education--The technician must be twenty years of age in order to apply for certification. Technicians must be high school graduates. Other requirements include three years of experience, a course in animal technology, and the successful completion of a written, oral, and practical examination.

Qualifications--One must have a love for animals and an understanding and appreciation of the use of animals for experimental purposes. Working with animals in 4-H clubs and similar organizations can offer valuable experience in developing qualifications for laboratory technicians.

Advantages and Disadvantages--Earnings differ considerably depending on the type of job and the size of the organization. Benefits may include free tuition for advanced education or free housing.

Many animals have a distinct odor that may be unpleasant until one becomes accustomed to it. However, a veterinary technician must accept the environment of the animals.

DENTAL ASSISTANT

The dental assistant performs duties which relieve the dentist from clerical and minor routine tasks. The dental assistant may stand on her feet a great deal of the working day. She readies the dental chair for patients and arranges the dental equipment, instruments, and supplies which the dentist may use. Dental assistants may also act as an office manager, private secretary, receptionist, and bookkeeper.

History and Future--This occupation is relatively new. The first dental assistant is known to have been employed near the end of the nineteenth century. There are today an estimated 115,000 dental assistants in this country. Opportunities appear to be excellent although competition for these jobs is keen.

Work Environment--The dental assistant may work at top speed some of the working day and at a normal or slow pace at other periods. She may be subject to irritable or uneasy adults and to children who may be fearful, noisy, or ill-tempered.

Training and Education--Some dentists prefer to hire high school graduates or those with some college background and to train them on the job. Some assistants may attend a one or two year program in dental assisting.

Qualifications--These include a pleasing personality, the ability to get along with all kinds of people, a neat appearance, a well modulated voice, some manual dexterity, courteousness, and tactfulness. The assistant should be able to take supervision graciously and to accept responsibility.

Advantages and Disadvantages--The dental assistant works in an environment to meet many interesting people. He or she has regular hours and can count on steady employment.

There is a lack of promotional opportunities and the difficulty of working with frightened and complaining patients.

The assistant may also be on his or her feet most of the day.

DENTAL TECHNICIAN

The dental technician starts with the model of a mouth impression and the written directions supplied by the dentist. He then completes all the processes necessary to make a set of teeth. He or she selects the teeth by color, size, and shape and gives the finishing touches of polishing and grinding the dentures to insure exact fit and comfortable smoothness.

The dental technician also makes and repairs partial dentures and other replacements, such as crowns and bridges. All the work is done according to a dentist's carefully detailed prescription.

History and Future--There is no record of exactly when commercial laboratories came into being, but it is known that in 1830 a dental supply house in London specialized in making dental plates for dentists.

The first dental supply was opened in the United States in 1887 by Dr. W. H. Stowe, a practicing dentist.

It is expected that more dental laboratory technicians will be needed in the future. The dental laboratory technician is practically exempted from the affects of automation because no two of his assignments are alike. Each one demands careful handwork and individual attention.

Work Environment--The dental technician works in hospitals, dental offices, or commercial establishments. The area where he is working should be clean, orderly, well ventilated, and well lighted.

Training and Education--A high school diploma or its equivalent, one or two years in an educational institution that offers dental laboratory training, one year of supervised on-the-job training, and three years of practical experience are required in his specialty. At the end of this five or six year period of training and experience, he must pass a written and practical examination.

Qualifications--The dental technician must have a great deal of patience, accuracy, and a certain amount of artistic ability. He or she must have a high degree of manual and finger dexterity, good eyesight, and color vision. Speech, hearing, or lower limb handicaps need not deter a person from preparing for this type of job if it appeals to him.

Advantages and Disadvantages--Knowledgeable men in the field forecast excellent opportunities for dental technicians because there is no fear of automation. Better job opportunities are concentrated in larger cities.

DENTAL HYGIENIST

The dental hygienist works directly in the mouth of the patient and, aside from the dentist, is the only dental helper that is licensed to do so.

The dental hygienist's work includes scaling and polishing the teeth, examining and charting dental defects, giving instructions in home care of the teeth, and completing routine office business procedures.

History and Future--Dental hygiene is a relatively new occupation. It was orgainzed in 1913 mainly through the efforts of Dr. Alfred Jones.

The Bureau of Labor statistics estimates that an average of 2,400 job openings will occur annually through 1980.

Work Environment--Dental hygienists are usually employed in clean, well lighted offices. The nature of the work requires long hours of standing.

Training and Education--High school subjects generally required for the prospective dental hygiene student are mathematics, biology, chemistry, and English. Before becoming licensed or permitted to practice, a dental hygienist must have a minimum of two years of college level education at one of the special schools of dental hygiene.

Qualifications--The hygienist should enjoy working with the public. Good grooming and good health are also important.

Advantages and Disadvantages--Working conditions are pleasant, and contact with many kinds of people makes the job a constant challenge.

Opportunities for advancement are somewhat limited without additional education. However, opportunities for careers outside private dental practice increase with additional education.

NURSING AIDE

The aide performs duties and tasks assigned by and performed under the supervision of a registered nurse. She or he assists in the personal care of ill or disabled persons and in the maintenance of a safe and healthful environment. The nursing aide may be assigned jobs such as answering patients' signals and seeing that the nurse is made aware of the patients' situation. Some nursing aides may assist with the weighing, feeding, and bathing of patients.

History and Future--The nursing profession has always needed nursing aides to assist professional nurses. Opportunities for employment in hospitals are excellent. More than 60,000 new openings are expected each year. Many of these openings will be in hospitals, but jobs will also be available in nursing homes, old age retirement homes, and similar institutions.

Work Environment--The nursing aide may be employed in almost every phase of hospital work from the gift shop to the recovery room.

Since a hospital involves services on a twenty-four hour a day basis, the aide may be expected to work an evening or night tour. Most hospital evening tours are from 3:00 p.m. to 11:30 p.m.; night tours are from 11:30 p.m. to 7:30 a.m. The usual workweek is from thirty-five to forty hours.

Training and Education--After graduation aides may be trained on the job for a period ranging from two weeks to three months with some classroom instruction.

Qualifications--An aide must enjoy dealing with a variety of people and situations. Good grooming, speech, personal hygiene, and physical and mental health are requirements for working in a hospital or other health facilities.

Advantages and Disadvantages--The aide receives salary during training and often day-care centers provide care for young children of married students.

RECEPTIONIST

The receptionist is a hostess who may give the caller his first impression of an entire organization.

Probably no two receptionist's jobs are alike. Their duties are determined by the nature of the business that employs them.

In a hospital, the receptionist has a variety of duties. She or he directs visitors to proper floors, checks patients' discharge slips before they leave, and records the date and hour of the discharge in addition to the number of days the patient was hospitalized.

In a doctor's or dentist's office, the receptionist's most important duty is to keep appointments straight. She usually answers the telephone, sends out bills, and, if she has been trained, assists the doctor.

History and Future--According to the Bureau of Labor statistics, in early 1967 there were 250,000 receptionists employed in the United States.

The Bureau of Labor statistics predicts a rapid increase in the number of receptionists. More than 25,000 workers will be needed each year, since employers are rapidly becoming convinced of the public relations value of a good receptionist.

Work Environment--The medical receptionist works in hospitals, clinics, health insurance offices, and medical schools. The receptionist's hours are usually thirty-five to forty a week although she may work some evenings, if the doctor has office hours then, and take time off during the day.

Training and Education--Most employers demand that a beginning receptionist have at least completed high school. Receptionists in physicians' offices may need some special training so that they can assist the doctor in his work, if necessary. This type of training can be learned on the job.

Qualifications--The receptionist's biggest asset is her personality. She must have a friendly, calm, poised manner and the emotional stability that will enable her to be as courteous and gracious to the last caller of the day as she was to the first.

Advantages and Disadvantages--A receptionist has the pleasure of meeting different people. Offices are often attractively decorated.

The fact that job requirements are relatively low means that a receptionist can be replaced rather easily and, therefore, lack job security.

X-RAY CLERK

The duties of an X-ray clerk generally include making X-ray exposures and helping the radiologist in fluoroscopy (observing the inside of an object by using X-rays).

The X-ray clerk also may be called upon to do the clerical work involved such as keeping records of the patients and the films. The clerk is also responsible for the mental and physical comfort of the patient while in his care.

History and Future--The increasing important contribution of X-rays to the medical field established the qualified X-ray clerk firmly in his employment situation. He or she is not subject to the insecurity that threatens many vocations.

Work Environment--X-ray technicians work forty to forty-four hours per week. Compensation for overtime in the case of emergencies is usually in time off duty rather than in increased pay. The environment is usually clean and the clerk must wear a uniform.

Training and Education--The candidate must be a high school graduate or the equivalent. Mathematics and science courses are helpful in preparation for a career as an X-ray clerk.

Qualifications--Applicants between the ages of eighteen to thirty years of age are generally preferred. Candidates must be in good health. Applicants should show a willingness to work with the sick and disabled and to be accurate, thorough, and sympathetic.

Advantages and Disadvantages--The X-ray clerk profession provides contact with highly trained, pleasant, and intelligent co-workers. The training period is relatively short. There are opportunities for travel both in the United States and abroad.

The X-ray clerk, like other paramedical workers, is occasionally in contact with patients having contagious or communicable diseases; however, with modern precautionary techniques there is little likelihood of contracting these diseases.

SCHOOL NURSE

The school nurse works with the principal, teachers, and other school personnel in identifying and meeting social, emotional, and physical needs of school children. She or he examines children and keeps their health records.

The school nurse teaches classes in subjects such as child care, first aid, and home nursing and establishes nursing policies to meet emergencies. The school nurse also administers immunizations and maintains health records of students.

History and Future--Nursing was first considered a profession during the 1860's when Florence Nightingale, during the Crimean War, showed the value of good nursing care. Thousands of additional nurses are needed in the schools today. This expansion is due to the population growth in the schools and many social changes. Approximately one percent of all nurses are men, but gradually more are responding to the expanding opportunities for men nurses.

Work Environment--The school nurse works in public or private schools with children, teachers, administrators, other school personnel, and parents. A workweek is generally five days totaling thirty-five to forty hours.

Training and Education--High school graduation with competence in science and math is a must. A bachelor of science degree with a major in nursing is required for a school nurse.

Qualifications--The school nurse must have good physical health, emotional maturity, sound judgment, dependability, initiative, and a sense of responsibility.

Advantages and Disadvantages--A nursing background can lead to other career fields such as administrators, supervisors, instructors, and consultants for a drug company. Additional education and training adds to the nurse's advancement opportunities and income.

The school nurse has to work with injured and crying children.

SANITARIAN

The sanitarian is a specialist in environmental health. The sanitarian has many jobs that help protect us. He or she examines food plants and water supplies. He may get a sample of food or water and have it tested. He acts as a consultant to industries such as beef packing plants. He gives health education programs to teach people about better health habits. He may make suggestions on ways to avoid pollution.

The professional sanitarian may be assisted by a sanitarian technician. The technician takes samples for testing and often performs the required test.

History and Future--Only thirty-one universities and colleges offered undergraduate programs in environmental health in 1968. Employment of sanitarians is expected to increase very rapidly through the 1970's as state and local health agencies expand their activities in the field of environmental health.

Work Environment--Sanitarians come in contact with unpleasant physical surroundings such as sewage disposal facilities and slum housing.

Sanitarians are employed in just about every state and about half are employed in ten states: California, Florida, Illinois, Indiana, New York, Ohio, Pennsylvania, Texas, Virginia, and Wisconsin.

Training and Education--A bachelor's degree in environmental health is the preferred preparation for a beginning job as a professional sanitarian. Beginning sanitarians usually start at the trainee level where they remain up to a year receiving on-the-job training in environmental health practice. They also learn to evaluate conditions and to recommend corrective action.

Qualifications--Sanitarians must have the ability to get along well with people, as it is often necessary to be tactful in securing the correction of unsanitary conditions. Sanitarians should be able to speak effectively before civic groups or in court.

Advantages and Disadvantages--High level positions usually require a graduate degree in some aspect of public health. In some cases, sanitarian technicians having two years of college and work experience can advance to professional sanitarian positions. However, rising hiring standards are restricting the entrance to professional positions for those without a bachelor's degree.

PUBLIC HEALTH EDUCATOR

A health educator is hired to keep the public informed about their community health conditions and how they can be improved. To do this, a health educator must do a variety of tasks. He or she plans programs for television and radio. The educator gathers a list of people who are willing to talk to groups about health topics. He also plans training programs for the area and helps people solve their own health problems.

History and Future--Research in health care is rising; therefore, health educators are needed to keep the public informed.

Work Environment--Health educators work with news reporters and other professional speakers in health education.

Training and Education--A four year college graduate is preferred with a good background in English, science, and health education in addition to training in human relations and photography.

Qualifications--The health educator must be interested in working with the public in general. He or she must have a pleasing personality and appearance.

Advantages and Disadvantages--A health educator will have frequent opportunities to meet and work with other interesting people but the most important advantage is the personal satisfaction of helping others improve their health.

Hospitality and Recreation

Hospitality includes every occupation which aids individuals or groups in making the actual plans for a vacation and/or tour and involves all transportation personnel who have contact with the passenger or tourist. Recreation includes all personnel who enable the tourist to be entertained and/or amused. Many hospitality and recreation occupations that were once part-time and somewhat insignificant have become full-time, indispensable tasks.

TRAVEL AGENCY WORKERS

Agencies vary in size, from big operations employing many people who perform various jobs to small agencies in which one person conducts all the business.

The information clerk gives information about train, ship, and plane schedules; fares; hotel accommodations and rates; and tours, cruises, and sightseeing trips.

The travel consultant helps tourists plan sightseeing itineraries and plans the amount of money the tourist needs on a trip.

The clerk types the itinerary and keeps the books in order.

The department head supervises the employees of the travel agency.

History and Future--The travel agency is a relatively new business. The first agency in the United States was founded in New York City in 1872 by Thomas Cook and Sons, a company that now has offices all over the world.

The outlook for travel agencies is very good. Travel is the third largest business in the United States. More than seventy-five percent of all international air travel is handled by North American travel agents.

Work Environment--Most agents work a forty hour week, although this frequently includes working a half day on Saturday or an occasional evening. During rush times of the year (from January through June) overtime may be necessary. Agents may receive additional salary from this work or be given compensatory time off.

The agent usually works in pleasant physical surroundings, designed to prove attractive to his clients.

Training and Education--Most travel agencies require their workers to have a high school education and many prefer those with one year or more of college. Some positions, such as manager or owner of an agency, call for a college degree in business or even a master's degree.

In high school the student can best prepare for a job as a travel agency worker by taking courses in history, geography, mathematics, public speaking, literature, and English. Knowledge of at least one foreign language is essential in some agency jobs. Typing and shorthand will help the beginner enter the field as a secretary or a general office clerk.

Qualifications--Travel agents are in constant contact with the public. Thus, they must be able to get along well with people. A good agent must be patient, courteous, and able to convey a personal interest in the travel plans and problems of his client. He should also have a liking for such details as studying timetables, computing tax charges, and marking maps.

Advantages and Disadvantages--The travel agency worker deals most frequently with people who are happy and enthusiastic about their travel plans and are, therefore, pleasant to work with. There are, however, some clients who are difficult to please and who change their minds quite often. This situation can be very frustrating for the agent.

During economic recessions the travel business is one of the first to feel the pinch. Travel for pleasure is one of the first luxuries to be forsaken, and even business trips are usually greatly curtailed.

TICKET AND RESERVATION AGENT

The reservation agent makes flight reservations for customers and gives out flight schedules and fare information. Records are made of the reservations taken, and those are teletyped to clerks in other cities to avoid selling the same flight space twice.

The agent also gives information on flight schedules, fares, arrivals, and departures. He weighs and checks in baggage, charging fees for overweight.

History and Future--The employment outlook for reservation agents is very good.

Work Environment--Agents work a five day, forty hour week, including some night, weekend, and holiday shifts. During rush periods, overtime may be required. Work surroundings are usually pleasant and comfortable. The work is not considered physically strenuous; however, agents must lift baggage from weighing scales to pulley belts and must stand most of the time on duty.

Training and Education--A high school education is required, and many airlines require new employees to complete a training program.

Qualifications--A neat appearance, tact, and a clear speaking voice are essential.

Advantages and Disadvantages--The agents must wear a uniform, but the airlines will give a uniform allowance or arrange for it to be bought at discount rates. Reduced rates on air travel are usually given to agents and their immediate families during the off season.

PUBLIC RELATIONS WORKER

Public relations workers provide information about an employer's business to newspapers, magazines, radio, television, and other channels of communication. They plan the kind of publicity that will be most effective, contact the people who may be interested in using it, and prepare and assemble the necessary materials.

Public relations workers may arrange speaking engagements for company officials and write the speeches they deliver. Often they participate in community affairs, serving as an employer's representative during safety campaigns and other community projects. Showing a film at a school assembly, staging a beauty contest, calling a press conference, and planning a convention may all be part of a public relations worker's job.

History and Future--The demand for public relations workers is expected to grow as population increases and the general level of business activity rises. In recent years, there has been an increase in the amount of funds spent on public relations and many organizations have newly developed public relations departments. This trend is expected to continue in the years ahead.

Work Environment--The workweek for public relations workers usually is thirty-five to forty hours. Irregular hours and overtime often may be necessary. On occasion, the nature of their regular assignments or special events requires that public relations workers be on call around the clock.

Training and Education--A college education generally is regarded as the best preparation for public relations work. Some employers seek graduates who have majors in English, journalism, or public relations; others prefer candidates with a background in science or some other field related to the firm's business activities.

Qualifications--Creativity, initiative, drive, and the ability to express thoughts clearly and simply are the most important personal qualifications for the public relations worker.

Advantages and Disadvantages--For the public relations workers who develop special talents, particularly in the field of financial relations, the salaries and opportunities are excellent.

Public relations may require long and irregular hours. Sometimes extensive travel is necessary. Public relations may be a somewhat insecure career, since clients may curtail programs or decide to develop an internal public relations operation, although the work today is more stable than it was ten or twenty years ago.

STEWARD

Stewards are employed mainly to take care of the passengers in terms of comfort and safety. They check in for work about an hour before flight time so they can pick up the passenger list and join the flight crew for a briefing.

The steward stands at the door of the plane, ready to greet each passenger as he arrives. At the same time, he may have to check each ticket against the flight list. When all passengers have boarded the plane and the door is closed for takeoff, the steward issues a general welcome to the passengers over the plane's intercom. He then gives instructions for use of the aircraft's emergency equipment.

During the flight, the steward makes certain that seat belts are fastened when necessary and gives additional safety instructions when required. He answers passengers' questions about the flight and weather conditions.

The steward also has record keeping duties. He must report on all minor medications given to passengers and list all lost and found articles.

At the end of the flight he stands at the door and bids all passengers a friendly goodbye. His final duty is to fill out a flight report. Then he heads for home.

History and Future--The total number of stewards and stewardesses is expected to grow, resulting from increases in passenger traffic and the use of larger planes.

However, competition is stiff. Out of the thousands of young people who apply for jobs each year, only a small percentage meet the airline's standards of intelligence and personality.

Work Environment--Stewards may work nights, holidays, and weekends. Their flying time is usually limited to seventy-five hours a month. They may spend as many as thirty-five hours a month on ground duties.

Almost all the stewards work solely on overseas flights, although domestic airlines are training more men now.

Training and Education--The minimum educational requirement is graduation from high school. Some airlines require at least two years of college or the equivalent in training and education.

Qualifications--Applicants must be at least nineteen years old, five feet two inches to six feet tall with weight in proportion to height. They must have excellent health, a pleasant speaking voice, and good vision.

Advantages and Disadvantages--Stewards have opportunities to travel and meet interesting people, sometimes celebrities. Generous vacation time, sick leave, and other fringe benefits usually go with the job.

One looking for glamor in this occupation may be disappointed if glamor is thought to mean an easy job. The work is hard in some respects. A flight attendant handles heavy trays and serves full-course meals or snacks under conditions not always easy.

PROFESSIONAL ATHLETE (FOOTBALL)

A professional athlete is one who participates in competitive athletic events for pay. The amateur athlete receives no pay whatsoever. Once an athlete has gained professional status, he can no longer compete as an amateur.

History and Future--Up to the middle of the nineteenth century, hunting, fishing, and horse racing were the chief sports in the United States. Between 1850 and 1900 many new forms of athletics came into being and formal rules for playing were adopted. College football began in 1869.

There are always openings for beginning but well qualified players. The competition for these, however, is extremely keen.

Work Environment--Players report to training camps about mid-July, approximately two months in advance of the regular playing season. For the first few weeks they have physical workouts twice daily along with classroom sessions morning, noon, and night. As training progresses, physical workouts are limited to one a day and include scrimmages and much heavy contact.

Training and Education--Ninety-eight percent of professional football players are former college players. About the only way a non-collegian can make it in professional football is to play in either the military service or in minor league football, but this is rare because it is difficult for a non-collegian to compete even at these levels.

Qualifications--Outstanding health and physical fitness are a must. Motivation is essential. A player cannot compete successfully unless he is motivated to do so. He must like the game well enough to withstand its rigors and must want to win within the scope of the rules of the game.

Advantages and Disadvantages--The professional football player is respected and treated as a celebrity. Great players can earn high incomes from team salaries, percentages of winnings from league championships, and endorsements for various types of products. Those with college training can often capitalize on their names as sports stars in entering business after their playing days are over.

There is a chance of permanent physical injury. Competition is keen to stay on a major league team. While earnings are high, they are made only during a small portion of one's working life. There are usually critical adjustments to be made once the days of cheers and headlines are over and the challenge of making a living becomes more routine.

PHYSICAL EDUCATION TEACHER

Physical education teachers work to make people physically fit, good citizens, and capable leaders.

The physical education teacher may choose to teach in an elementary or secondary school or to become a supervisor or director of physical education. The teacher may continue his education and become a college teacher or research specialist.

The physical education teacher may also teach children with special problems, such as the physically handicapped, the underprivileged, or the mentally retarded.

History and Future--Physical education in the United States began to take shape shortly after the Civil War. Industry grew rapidly and the use of mechanical power began to spread. Modern technology reduced the physical activity that always has been a part of a person's daily work. The workday and workweek were shortened. Therefore, organized physical education became a part of the regular school program.

At the present time, there is an acute shortage of women teachers. Opportunities for both men and women in the elementary grades are expected to increase as physical fitness programs expand. Opportunities in junior colleges as well as four year colleges will grow as enrollments continue to swell and new colleges are established.

Work Environment--Hours and duties of the physical education teacher vary with the job, as do the conditions under which he works. In northern climates much of the fall activity is outdoors in brisk weather. In southern regions the activity may be outdoors in the warm sun. Otherwise, the teacher usually works in a well-ventilated, well-lighted gymnasium.

Training and Education--High school students interested in a career in physical education should take courses in mathematics, science, and English. They should also take part in as many leadership activities and sports as possible, including intramurals, athletic associations, and summer recreation activities.

Completion of a full four year college program leading to a bachelor's degree is required for teaching almost anywhere in the United States.

Qualifications--The physical education teacher must be able to communicate with students of all levels of intelligence and from all kinds of backgrounds.

A pleasing personality and appearance, a good sence of humor, good character, integrity, maturity, emotional stability, and the desire and ability to lead young people are important to success.

Advantages and Disadvantages--Physical education is a rewarding, healthful, and invigorating career with strong appeal to the many young men and women who like sports, the outdoors, and who enjoy youth work.

The work is strenuous. The teacher should be able to undergo long periods of physical activity and expect to work longer than the average eight hour day.

Usually a physical education teacher receives extra compensation for performing extra duties.

CAMP COUNSELOR

The camp counselor is mainly concerned with the mental, emotional, and physical well-being of the campers in their cabins or tents. The counselors help their campers participate in the scheduled activities. During unscheduled time they help campers keep cabins neat and assist them with basic living skills, such as general cleanliness and appropriate grooming and dress.

The day-camp counselor helps the child make a successful transfer to activities away from school and home in a natural, informal learning situation.

The day-camp counselor is concerned mainly with enabling the child to use and enjoy the benefits of outdoor recreation and elementary camping skills. In some cases day camping is a preparation for overnight and resident camping.

History and Future--In 1862, Fredrick William Gunn, a private schoolmaster in New England, organized the first school camp when he took his students on a two week camping trip to Long Island Sound in New Haven, Connecticut.

Opportunities for professional careers in the camping field itself are on the increase and the future looks bright both for summer counselors and for those who want a career in camp work.

Work Environment--Some camps are quiet and small, serving as few as twenty to twenty-five campers; others might accommodate 500 or 600 campers at a time. Some are overnight camps. In others, campers may stay from one to four weeks or even for the whole summer. The average day camp is operated on a day to day basis with campers on the site from six to eight hours each day. Day camps might be operated one or two days a week.

Training and Education--Young men and women who are eighteen years of age and have had one year of college can qualify for camp counselors. Some camps hire junior counselors to help with various activities.

Qualifications--The counselor must be emotionally mature enough to treat each person in his group fairly. A counselor must enjoy the outdoors and be alert to the beauty and wonder of nature. There is no place in counseling for the overly squeamish person who shudders at the sight of a snake or a beetle or for the fair weather counselor who goes to pieces in the face of rain.

Advantages and Disadvantages--A competent counselor might rise to the position of unit head, supervising the activities of other counselors. After several years of camp experience as a unit head, he can become a head counselor.

Experience in one camp qualifies a counselor for positions in other camps, provided he can secure a favorable reference from the director for whom he has worked.

COMMUNITY SERVICE DIRECTOR

The community service director is a generalist, relating education to all phases of community organization and development. He is responsible for coordinating and programming activities that are centered in the school. The director uses the school as the basis of operation in providing a program for all ages in vocational training and participation. His objective is to improve skills as well as to offer new and broad experiences toward the general improvement of the individual participants.

History and Future--Unlike many career fields that face near extinction because of man's progress in technology, recreation offers extensive opportunities now and in the future. As people's incomes rise and their leisure time increases, the demand for recreational resources and facilities grow.

The demand for skilled recreation workers is expected to rise in the future because of the increase in leisure time and the growing emphasis on recreation programs in the many areas cited.

Work Environment--Some directors work for neighborhood organizations or for government agencies. Some work in modern office buildings. Others have offices in community centers or ghetto store fronts.

Training and Education--Young men and women who want to become community directors should obtain a college degree in sociology or psychology.

Qualifications--A pleasant personality, neat appearance, and a good speaking voice are essential. The director should have strong leadership qualities and should enjoy working with others. The director should also be able to accept responsibility and to exercise judgment.

Advantages and Disadvantages--Most community directors start out as assistants or specialists. From there they advance to playground, playfield, or recreation center directors and then to superintendent of recreation activities. The top position is superintendent of recreation and parks.

GROUND KEEPER

The ground keeper takes care of gardens, shrubbery, and trees.

The ground keeper uses mechanical equipment such as cultivators, edgers, lawn sweepers, electric pruners and clippers, and power mowers and sprayers. He makes minor repairs and services this equipment regularly so that it is kept in good operating condition. He also uses tools such as spades, trowels, rakes, hoes, shears, weeders, diggers, bulb planters, and seeders. A modern ground keeper may help in the adaption and installation of an underground irrigation system for the area he takes care of. More elaborate systems are automatically controlled from an electronic console, with which the ground keeper must become familiar.

History and Future--Landscaping services are taking over much of the maintenance work and are providing good job opportunities for ground keepers. As a result of the increased amounts of leisure time, people will make greater demands on public facilities. As a result, employers will need larger staffs than ever before.

Work Environment--The ground keeper's workweek may run from forty-four to forty-eight hours, including Saturday during the busier seasons. The men try to use all the daylight hours to advantage. Some jobs, particularly during the planting and growing seasons, may require unusual working hours. This could mean starting the working day at sunrise or working a split shift--some hours in the early morning, the remainder in the late afternoon or early evening. If bad weather interferes with the planting schedule, some overtime may be required.

Most ground keeping is done outdoors and must be pursued in many kinds of weather. The four or five winter months are not very busy in climates that have freezing temperatures, and sometimes assistants and laborers are laid off for part of the winter. Golf courses, however, usually retain at least some of the crew through the winter so that equipment can be overhauled during the slack season.

Training and Education--Many employers are not at all concerned about formal education for their gardeners; they are satisfied with employees who have an ability to read and write English. As in most work, however, additional education gives the applicant an advantage over those having only a minimum education. Biology, especially botany, and vocational agriculture are good high school courses to take. Courses at a botanical garden or agricultural college will also prove worthwhile.

Qualifications--Good physical health is necessary.

Ground keeping work is for people who like to be outdoors and not tied down to a strict routine. He must have a love for plants and flowers and for working in the soil with his hands.

Advantages and Disadvantages--Although the work requires reaching, bending, stooping, kneeling, lifting, and walking, it is seldom strenuous. It is not considered dangerous; however, it is not entirely without hazards. Insecticides can be harmful if not handled with caution. Injuries can be incurred by anyone working with machinery and tools, particularly if he is careless.

Government jobs that come under civil service offer stability and security not always available in other gardening employment. In some areas this work is unionized, with employees belonging to the International Brotherhood of Teamsters.

RETAIL FLORIST

All florist shops have certain functions in common. The owner must be a good buyer and a good merchandiser. The function of buying is very important. Flowers are perishable, so the owner must know how many flowers to buy and when to buy them.

The florist sets up window displays or oversees this work. He plans advertising and sales promotion, hires and supervises employees, and administers the business in general.

History and Future--The outlook for the florist industry is good at present, and economists predict it will continue.

Automation presents little threat to floral designers, florist shop managers, and sales persons.

Work Environment--Sometimes the florist will spend twelve to fourteen hours a day in his shop during holiday seasons when other people are relaxing. He may also have slack seasons.

Training and Education--In high school the prospective retail florist should take courses in bookkeeping, business English, retailing, art, and design.

Qualifications--Sensitivity to beauty is important to the florist. He must be able to select flowers that are in good taste for each occasion and to arrange them with an artistic sense of form and color.

The florist needs creative ability and finger dexterity to make floral arrangements.

Advantages and Disadvantages--Floral occupations provide an outlet for persons with artistic talent, creative ability, and business sense. As a business, it can be started with a relatively small amount of capital. It can also be run as a family business.

There is a certain amount of risk, since the business faces heavy competition, the problems of perishable stock, and the changeable preferences of the public. It takes many years to build a business.

GIFT SHOP OWNER

The most important job of the gift shop owner or manager is the selection of merchandise. Owners of large shops go on periodic buying trips to merchandise centers or even abroad to choose the exact items they want.

When the merchandise is delivered, the owner decides how it should be arranged in the store.

Record keeping, finances, and planning are all the responsibility of the shop owner. The owner also has the responsibility of doing the day-by-day bookkeeping and clerical work, buying advertising, deciding when to have special sales, and planning other attention-getting events.

The owner must keep careful track of the inventory. The owner must at all times be aware of what is in stock, what is moving and must be recorded, what is out of stock, and what items are not selling. If something is not selling and is taking up important space in the shop, he might want to put it on a special sale table.

History and Future--The future of the gift shop business depends on the general economic situation of the nation.

Success for the individual shop depends on the owner's business talent, her adaptability in giving personal service to each customer, and her skill in selecting desirable and salable merchandise.

Work Environment--Gift shops are usually open six days a week and one or more evenings, but in some locations, as in resort towns or on a highway, the shop may be open even on Sundays and holidays from morning to night.

The gift shop business tends to be seasonal with Easter, Christmas, and June the busy periods. Birthdays, anniversaries, and other individual events, however, keep things moving at a moderate pace throughout the year.

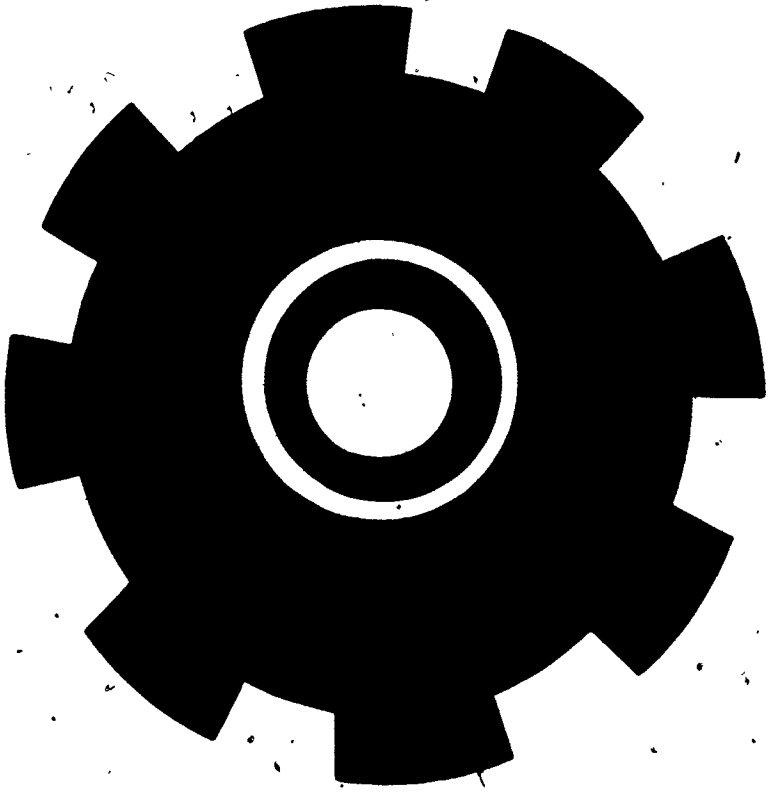
Training and Education--The gift shop owner should at least have completed high school. Many of those in the business have a college education.

High school courses that will be helpful are English, art, retailing, salesmanship, business management, bookkeeping, business accounting, economics, typing, and psychology. Special courses in flower arrangement, principles of interior decoration, or the study of antiques would also be helpful, depending on the type of shop.

Qualifications--For dealing with the public, the gift shop owner should have personal qualifications such as friendliness, patience, tact, a pleasant manner, and an outgoing personality. The gift shop owner must be industrious and willing to work long hours, perhaps for a small income, especially when getting started.

Advantages and Disadvantages--Owning a business enables a person to do the kind of work that he prefers and to control his own working conditions. While some gift shop owners earn little more than expenses, others may net what is generally considered to be a high salary.

Manufacturing



Manufacturing is the activity around which our national economy revolves. From factories flow the goods that have provided a standard of living unmatched elsewhere in the world. The products of the manufacturing industries range in complexity from a simple plastic toy to an intricate electronic computer and in size from miniature electronic components to gigantic nuclear powered aircraft carriers. It is expected that by 1980, well over twenty million people will be employed in manufacturing industries. By far this is the greatest number of people in any area of work.

PERSONNEL DIRECTOR (MANUFACTURING)

The first job of the personnel director is to find people to fill available jobs at nearly all levels. He advertises, recruits, or uses agencies to find applicants. Then he carefully interviews them to make sure they fit the job.

If problems arise in the company, the personnel department assists department heads in handling employee complaints and grievances. It also may train supervisors in the handling of employees and their problems. In some companies the personnel director is in charge of dealing with unions and of handling contract negotiations as the company representative.

History and Future--Fifty years ago a company probably had never heard of the term personnel director, for this is a field that has developed along with the growth of business.

Expansion of employment in personnel work is expected during the next few years as the nation's employment rises. Job opportunities for college graduates with specialized training in the field will be greater than those for young people seeking advancement into personnel work from production, clerical, or other sub-professional jobs.

Work Environment--Personnel workers generally work in comfortable office surroundings. The hours are fairly regular, between thirty-five and forty a week, but the personnel worker must be flexible enough to cope with emergencies that might call for overtime work.

Training and Education--A college degree is necessary for entrance into personnel work. In certain specialities and in the top level of personnel administration, a master's or a doctor's degree is considered essential.

The personnel worker should have a good background in social and behavioral sciences, especially sociology, psychology, and social psychology. Courses in business and economics are also important for understanding the company and its policies.

Qualifications--The personnel worker must understand why people behave as they do in certain situations and what will make them good or bad employees in certain positions.

Advantages and Disadvantages--Generally, personnel workers receive the same benefits as the other employees in the organizations where they work. These benefits include paid vacations, insurance, hospitalization, and retirement programs.

Personnel workers may put in time after working hours studying or attending professional conferences.

SALESMAN (MANUFACTURING)

The manufacturer's salesman tries to use the best technique possible for selling his product. After he has made the sale, it is his responsibility to keep the customer satisfied with the product and with the company selling it. He keeps customers informed about new products and new uses of established products. He advises them of price changes. He often suggests to his employer methods of advertising and promoting a product and then helps set up attractive product displays.

Most manufacturer's salesmen spend a good deal of time traveling. Often this is done during the evening after a full day's work calling on customers. The customers may vary from other manufacturers to railroads, banks, wholesalers, and sometimes retailers.

History and Future--As more and more products are marketed, a growing number of salesmen will be needed to explain their benefits to the public. The increasing complexity of many products will boost the need for highly trained salesmen.

Work Environment--A manufacturer's salesman works within a given territory. This territory can vary from a few blocks in a large city to several states.

The salesman almost always uses an automobile for transportation, although occasionally those working in small city territories find it more convenient to walk.

Although most of their time is spent making calls, these salesmen devote several hours a day to paperwork. Much of the paperwork can be done in the office at the start or end of the day, but some has to be done at home in the evening or over weekends.

Training and Education--In high school a student can start preparing for a sales career by taking courses in English, math, and social studies. A speaking and reading knowledge of one or more foreign languages gives you a special advantage of selling.

Qualifications--A salesman must have a friendly personality, one that puts people at ease. He must also be honest and have enough energy to meet the demanding work schedule. A well-groomed appearance is a must.

Advantages and Disadvantages--A salesman with a good sales record and proven leadership ability can be promoted to higher level jobs, such as sales supervisor or branch manager. Many top executive positions in industry are filled by men who have had successful sales careers.

Selling is hard work and requires conscientious and diligent effort.

CHEMICAL OPERATOR (MANUFACTURING WORKER)

The chemical operator is responsible for the safe and economic operation of chemical equipment, as well as for the quality and quantity of the product. In order to turn out a product that meets exacting specifications, he must follow instructions carefully. In accordance with these instructions, the operators regulate the amounts of materials to be used. They set and adjust the controls for temperature, pressure, and flow of materials. To check the quality of the procedure, the operators use measuring and testing instruments and keep records and reports of each stage of the operation. They may be aided in their work by one or more helpers or assistants.

History and Future--The chemical industry started in the New World in 1635 when John Winthrop, Jr. opened a small plant in Boston. Winthrop's plant produced chemicals used to process gunpowder and leather. The development of synthetic plastics and fibers in the 1920's helped to boost commercial chemical activity. Both world wars also created an increased demand for chemical products.

Chemical operators will continue to be one of the largest occupational groups in the industry.

Work Environment--Most industrial chemical plants operate twenty-four hours a day seven days a week, and production workers usually work on rotating shifts that include night and weekend work.

Many workers are given two weeks vacation after one year of employment, three weeks after five years, four weeks after ten years, and five weeks after twenty years.

Training and Education--High school graduation is the usual educational background required for chemical operators. High school courses in science and mathematics may prove valuable.

Qualifications--Mechanical aptitude and good eyesight are essential. Chemical operators must also be alert in order to quickly spot mechanical failures.

Advantages and Disadvantages--The industrial chemical industry offers workers high wages, very good job security, and liberal fringe benefits. Employees who are willing to accept responsibility will find ample opportunity to work their way up in their jobs because most plants prefer to promote from within their own staffs rather than to seek experienced workers elsewhere.

INSPECTOR (MANUFACTURING)

Almost everything manufactured must be carefully inspected during the manufacturing process. Mass-produced items must be tested and inspected to make sure they operate properly. The workers who see that the size and quality of raw materials, parts, assemblers, and finished products meet specifications are known as inspectors.

Inspectors use a variety of methods in order to be certain that the products they examine conform to specifications. They may merely look for scratches and other defects in products or parts or they may use gages, micrometers, and other measuring devices to check the accuracy of the parts.

Inspectors often keep records of the number of parts they have accepted and rejected. When they find a large number of faulty pieces, they notify their supervisors so that corrections can be made on the production line. Some inspectors use hand tools, such as screwdrivers or pliers, in their work. In some industries, inspectors may make minor repairs and adjustments and grade products for quality.

History and Future--In early 1968, about one-half of all inspectors were women. Many of these women were employed in the metalworking industries, especially in plants that produce small electrical and electronic components.

The electrical machinery industry is expected to increase overall employment. However, the growing complexity of the products manufactured should also result in a need for more inspectors.

Work Environment--Some inspectors may work in well-lighted, air-conditioned work places in an aircraft or missile plant; others, who may work on the production floor of a machinery or metal fabricating plant, often are exposed to high temperatures, oil, grease, and noise.

Training and Education--Employers select inspectors by giving a test to determine their ability to work with numbers. Employers also look for employees who can do work requiring constant attention. Employers may hire applicants who do not have a high school diploma if they have qualifying aptitude tests or related job experience.

Qualifications--Many employers look for applicants who have good health and eyesight, can follow directions, and are dependable.

Advantages and Disadvantages--Most of the manufacturing plants employing inspectors provide for fringe benefits, such as paid holidays and vacations, health insurance, life insurance, and a retirement pension.

METALLURGICAL ENGINEER (MANUFACTURING)

The metallurgical engineer is responsible for extracting metals from ores, smelting and refining them, and making them into the myriad products of our technological world.

The extractive metallurgist deals with the separation of metals from their ores and with their refinement. Some gold, copper, a little silver, mercury, and bismuth are found as metals, but all the others exist naturally in a nonmetallic compound state and have to be separated from the worthless material in which they are found.

History and Future--Metallurgy is an immense and growing field, offering many opportunities for the engineer. The profession of metallurgical engineering is worthy of consideration by anyone with a scientific turn of mind.

Work Environment--Metallurgists may be employed by mining companies or by plants that produce automobiles, aircraft, agricultural equipment, ships, or other steel products, big or little. They may work for electrical and public service companies, designing and constructing machinery for generating heat and power.

Most metallurgists work and live in the large industrial centers of New York, New Jersey, Pennsylvania, Ohio, Illinois, Michigan, and California.

Training and Education--A college preparatory program in high school is best with concentration in math, science, and English. The second step is a bachelor's degree. In view of the wide scope of the activities of metallurgical engineers, it is not surprising that they have graduated as chemists, physicists, and chemical engineers. Basic courses in math, chemistry, physics, mechanics, and English are characteristics of the whole college program.

Qualifications--An interest in and aptitude for math and science are necessary. Mechanical ability, curiosity, and a desire to study and work out intricate problems are good traits to have. Ingenuity, resourcefulness, and patience are also important qualifications.

Advantages and Disadvantages--There is a constant need for trained personnel in metallurgy. Although 800 engineers are graduated every year, the industry can use four times that number.

There is really no limit for the metallurgist. The combination of good formal education, native ability, addiction to continued study, and varied experience will unlock almost any door for a metallurgist.

ELECTRICAL ENGINEER

Electrical engineers design, develop, and supervise the manufacture of electrical and electronic equipment. This includes communications equipment, electronic apparatus such as television, radar, computers, and missile guidance systems, and electrical appliances of all kinds. They also design and participate in the operation of facilities for generating and distributing electrical power.

Electrical engineers usually specialize in a major area of work such as electronics, electrical equipment manufacturing, communications, or power. Many specialize in sub-divisions of these broad areas; for example, electrical engineers may specialize in computers or in missile guidance and tracking systems.

History and Future--Each year the demand for well qualified electrical engineers greatly exceeds the supply. This shortage is expected to continue through the 1970's. Besides the growth brought about by our population expansion, the engineering field is growing in scope and complexity, requiring alert, perceptive, and well-trained personnel.

Work Environment--The majority of electrical engineers work inside, using the most modern and efficient equipment available. The work is challenging, usually non-repetitive, and gives the opportunity for research and for using one's ingenuity. Employment in this career field is not usually of a seasonal nature.

Training and Education--The engineer aspirant should complete a high school college entrance program including physics, chemistry, mechanical drawing, and all the mathematics possible.

Qualifications--The engineer aspirant should be persistent, careful, painstaking, and thorough. Honesty, reliability, and willingness to work and study are all traits found in successful electrical engineers.

Advantages and Disadvantages--Electrical engineers receive two or three weeks vacation with pay, depending on their length of service, and from six to eight paid holidays a year. Almost all electronics workers are covered by health and life insurance plans; many are covered by pension plans and other fringe benefits.

ELECTRONICS TECHNICIAN (MANUFACTURING)

Electronics technicians are employed in many branches of technology and business.

One major specialty of an electronics technician is troubleshooting for a company that uses a complex computer system. He tests equipment that is not working properly, discovers the faulty parts, and repairs the computer.

The electronics technician who works in research may assist in the construction and testing of experimental models, such as lighting arresters, for research on ultra-high voltage power transmissions.

An electronics engineering technician helps design and make specialized test equipment. The duties of the electronics engineering technician include testing sophisticated circuitry, interpreting design concepts, working out practical production methods, and preparing reports on experimental projects.

History and Future--Electronics really came into its own after World War II. One important development was the increased office use of electronic data processing equipment. This revolutionized methods of record keeping. Computers have revolutionized not only business methods but also manufacturing processes.

Today, man is probing into space. Space is a vast and growing undertaking that requires thousands of electronics technicians. Truly, this is one career that has no ceiling on opportunity; the sky is no longer the limit.

The demand for electronics technicians is expected to increase through the 1980's, especially for graduates of technician training programs.

Work Environment--The electronics technician usually works a forty hour week. However, if he is responsible for equipment that must be kept in constant operation, sometimes he must be on call to make emergency repairs. Technicians in research projects may also have to work irregular hours. When more than one technician is available, overtime usually is rotated.

Training and Education--Courses in high school that will be useful to the electronics technician include algebra, geometry, trigonometry, and basic physics.

An applicant may wish to get his training for electronics technology at a college or university offering a specific program for technicians, or he may wish to study for a bachelor's degree in engineering technology.

Qualifications--Mathematical aptitude is important. Patience and the ability to pay careful attention to details are helpful qualities.

A willingness to keep up with new developments either by reading or by formal study is also essential, for the field changes quickly and knowledge is soon outdated.

Advantages and Disadvantages--Electronics offers qualified persons excellent opportunities for employment, and the industry is still growing rapidly. It is also a comparatively well-paying field, since the demand for trained technicians currently far exceeds the supply. Electronics technicians often are engaged in exciting work that is important to the welfare of the nation.

One disadvantage to the field of electronics technology is that the present high level of employment opportunity is dependent on a similar high level of expenditure for research and development.

UNIT ASSEMBLY-LINE TESTER

The unit assembly-line tester begins testing when raw materials enter the plants, and he continues throughout fabricating operations. Finished components and end products undergo thorough testing and inspection, frequently including periodical operation before shipment.

In end-product manufacturing plants, testers use voltmeters (an instrument for measuring in volts the differences of potentials between different points of an electrical circuit), oscilloscopes, and other test meters to make certain that components, subassemblies, and end products conform to specifications.

History and Future--Employment for assembly-line testers probably will rise at a slow rate because of the growing mechanization and automation of assembly line operation.

Work Environment--Plants are well lighted, clean, and quiet. Many plants are relatively new and are located in suburban and semirural areas. Most plant departments are air-conditioned where dust-free conditions or air temperature control is necessary.

Training and Education--Formal training in electronics usually is not necessary for assembly-line testers, but completion of high school frequently is required. Job applicants may have to pass aptitude tests and demonstrate skill for the tester's type of work. On-the-job training, usually for a short period, generally is provided for workers who have had no previous experience.

Qualifications--Testers need good vision, good color perception, manual dexterity, and patience.

Advantages and Disadvantages--Many assembly-line operations are repetitious. Music during working hours, cafeterias, recreational facilities, and social programs are provided for employees by some electronic manufacturing firms.

The frequency of injuries in electronics manufacturing is far below the average in manufacturing as a whole, and injuries are usually less severe.

INSTRUMENT MAKER (MANUFACTURING)

Instrument makers are specialists in a large field of workers. They are sometimes called modelmakers or experimental machinists, workers who apply their trade knowledge and skills to construct full-scale experimental working models of electronics or mechanical controls, tools, and machines. They may construct scale models for testing, display, or perhaps for molds or cost products. Generally, instrument makers work with engineers and scientists to develop new kinds of research, development, and testing instruments.

An instrument maker may be told exactly how to make the instrument, or he may have to work from sketchy notes. In this case, he may be responsible for the selection of materials to be used, method of construction, and setting of design specifications. Sometimes, instruments have never been made before, and in these situations the instrument maker may be free to solve design problems without outside guidance.

History and Future--The craft of instrument making came into being several centuries ago when experimental science began to develop.

Many early instruments were made by hand. Only in recent years have mass-production methods been applied to instrument making. In some branches of this industry, hand methods are still used to a large extent. This is especially true in the work of making instruments for research and development.

More sensitive and versatile instruments will have to be produced in the near future and as the need for these increases, so will the need for qualified instrument makers.

Work Environment--Instrument makers work a normal forty hour week. Union contracts provide benefits such as paid vacation, sick leave, profit sharing, pension, and life, health, and accident insurance. Most instrument manufacturing firms are located in or near large cities, such as New York, Chicago, Philadelphia, Boston, Los Angeles, Detroit, Buffalo, and Rochester, (N. Y.). Often they are located near universities, research centers, and government laboratories where research and development is performed.

Instrument makers work in laboratories or small specialized shops. Some work in research laboratories of universities. Others work in laboratories and shops of large corporations that mass produce instrumentation and control systems. Most instrument makers, however, work for small firms or for the government.

Training and Education--One who wants to become an instrument maker should take as many high school mathematics and science courses as possible, including physics, chemistry, algebra, geometry, and trigonometry. He should also take mechanical drawing and shop courses in advanced metal working and electronics.

Qualifications--The instrument maker must have good eyesight, steady hands, and mechanical aptitude for this occupation.

Advantages and Disadvantages--Instrument makers seldom face the tiring, monotonous assembly-line pressure. The field offers steady employment and regular hours to skilled employees.

Commonly used machines can be dangerous if not handled with care, and slivers of flying metal also pose a threat to the negligent worker. These problems, however, are easily controlled.

TOOL MAKER

The job of the tool maker is one of the most highly skilled and exacting careers in the metal machining field. The tools he makes are used by production and other metal machine workers in all industries.

He builds tools either to his own or a designer's specifications. He must be able to interpret and follow blueprints, rough sketches, or models; operate lathes, shapers, grinders, drill presses, and other metal working machines; and carry on all operations from choosing the proper metal stock to the hand finishing, inspecting, and testing of the complete tool.

The tool maker works closely with management executives in the installation of new tooling methods. He has an ideal background for problem-solving in this area.

History and Future--Several thousand beginners will be needed each year to replace those who retire or leave the trade for other reasons. Also, the constant expansion of the metal machinery industry and the technological changes which are occurring mean an increased need for these highly skilled workers.

Work Environment--The tool maker works with others, usually in orderly, well-lighted, and ventilated but noisy shops. Sometimes, because of the nearness to foundries, the working area may be hot, humid, and dusty.

He may work in a small screened-off section of a plant or in a room used by a number of tool makers. Although much of his work is done while standing, he may sit at a bench to do hand work. He frequently moves from one place to another to use different equipment and machines.

He uses his eyes continually for close work, such as reading blueprints and the fine calibrations on measuring devices.

Training and Education--High school graduation is usually required for entrance into this apprenticeship training program.

An aspirant might consider the following courses while in high school: machine shop, metal shop, mathematics (algebra, geometry, trigonometry), mechanical drawing, and physics.

Qualifications--The aspirant to a position of tool maker should be a high school graduate with a high average mental ability. He should have mechanical interest and aptitude and a liking for exacting detail work. He should have some mathematical ability, finger-hand dexterity, and good eye-hand coordination. He should have pride in his craftsmanship, be able to follow orders, and be able to work well with others.

Advantages and Disadvantages--The tool maker has one of the highest earnings in the skilled trades. His employment is steady. He would usually be the last one laid off in a period of recession, mainly because he could do many other jobs in a machine shop.

The training period is long. There is danger of injury from the high-speed cutting edges. The close tolerances to which he works could be nerve-wracking to some people.

MACHINIST (MANUFACTURING)

A skilled machinist working on a typical project usually performs the following steps. First, he carefully studies the blueprints, sketches, or other specifications his foreman has given him. He calculates the size of the workpieces he will need, what machine tools he will use, and in what order he will use them. Next, he sharpens his cutting tools and sets up the machine. This involves inserting and adjusting the cutting tools and setting up the speed and movement of the machine's holding device.

Many machinists are learning to operate and repair numerically controlled machines. Basically, these are machine tools that are controlled by instructions (number symbols) punched on a card or a tape. The card or tape is inserted into the machine. The machine then translates the numbers into various actions, such as cutting or drilling.

History and Future--Machine tools are a product of the Industrial Revolution that began little more than two hundred years ago. Before that time, everything man wore or used was handmade with tools that had changed little in basic design over the centuries.

During the 1950's machine tools changed drastically because of technological developments, such as numerical control of operations and widespread application of electronics.

The total number of machinists is expected to increase only slightly during the next few years. However, there will be thousands of job openings available because of the need to replace workers who retire, die, advance, and change over to another field.

Although automation is making some jobs obsolete, it is creating new positions for machinists who are capable of operating the complex electronic and computerized systems.

Work Environment--Machinists work seven to eight hours a day. Occasionally, they may put in overtime. Depending on the plant, afternoon or night shift work may be required. Most shops give their machinists paid vacations and other benefits.

Machine shops are clean and well lighted, and the work is not physically strenuous.

Training and Education--High school or vocational school graduates are preferred by most companies.

The machinist must know how to read blueprints, operate machine tools, and use measuring instruments and handtools. The machinist must know the working properties of all sorts of metals. He also has to be able to apply mathematics to shop problems and use the charts and tables supplied by manufacturers of metal and hardware.

Qualifications--Machinists need above-average intelligence, mechanical ability, patience, accuracy, and ingenuity. They also should have manual dexterity, good eyesight, and be able to stand for long periods of time.

Advantages and Disadvantages--The capable machinist may advance to different levels of machining, such as tool and die making or experimental machining. He may also advance to foreman, assistant superintendent, general superintendent, works manager, or he may consider the possibility of opening up his own shop.

Safety hazards are not numerous in machining. Among the hazards are flying metal chips, abrasive dust, sharp cutting tools, and high speed moving parts. The danger has been greatly reduced in recent years by requiring workers to use unbreakable goggles, protective shoes and other safety devices, and by requiring strict observance of safety rules. When accidents do occur, state workmen's compensation laws provide medical care and pay benefits for the resulting loss of working time.

FRAMEMAN (FRAME WIRER)

The frameman is usually the beginning job from which a worker may advance to a more skilled central office craft job. Much of the frameman's job involves running, connecting, and disconnecting wires according to plans prepared by line assigners.

History and Future--Many opportunities will result for new framemen from the need to replace workers who retire, die, or transfer to other jobs.

Work Environment--Framemen work in clean and well lighted surroundings. Generally, the frameman is covered by the same provisions governing overtime pay, vacations, holidays, and other benefits that apply to telephone workers.

Training and Education--Applicants must have a high school or vocational school education. Usually, beginning framemen work with experienced framemen under the direction of a supervisor or foreman.

Qualifications--An applicant must have manual dexterity, good eyesight, no color blindness, and an aptitude for mechanics and reading diagrams and blueprints. He should be able to work with others, for many times teamwork is essential to solve a complex problem.

Advantages and Disadvantages--A frameman can receive additional training within the company he is working. After additional training, he can move into the job of central office repairman or test boardman with a higher pay schedule.

ASSEMBLY-LINE BENCH WORKER

The assembler may sometimes feel like a very small cog in a very large wheel. However, his or her job is essential to the electronics industry. The nature and technical aspect of the end product lend themselves to assembly-line production, and it is important that each technical operation be perfect. Using small hand tools, each assembler is responsible for the exactness and quality of the work performed. Cutters, tweezers, pliers, soldering irons, and screwdrivers are among the tools used. Hand soldering and spot welding of tiny joints require a delicate touch. On some jobs the assemblers may work with a microscope. Assemblers sometimes check the results of their own work, then locate and correct errors.

Most of the assembly jobs held by women are with companies that manufacture end products, usually for consumer use, such as phonographs, stereo components, or television sets. These semi-skilled jobs are usually repetitive and require little or no knowledge of electronic theory.

History and Future--The assembly line has become the basic element around which most modern factories are designed.

Long-range plans of electronics manufacturers project a constant need for assemblers to staff new or expanding plants. The industry has provided excellent opportunities for women; these are expected to continue to grow over the next decade.

Work Environment--Assembly-line workers usually work five eight hour days or forty hours a week. Overtime is not very common, since most assembly operations are scheduled to conform with expected demands.

Most manufacturing plants are of modern design and are well lighted; the comfort of employees has been taken into consideration. Work areas are clean and often air-conditioned. Noise is kept to a minimum.

Training and Education--Courses in home economics, such as sewing, will increase finger dexterity. Typing courses serve the same purpose. Courses in mechanical drawing and blueprint reading are helpful.

Qualifications--Manufacturing industries require that applicants for assembly-line jobs be at least eighteen years of age. Employers generally prefer younger workers for beginning positions in this field. They feel that with further training and schooling these employees may develop into highly skilled technicians or may be able to handle the job of supervisory technician.

The ability to work rapidly and steadily with maximum accuracy is very important. The close working quarters on many assembly lines require that an assembler have a congenial personality and the ability to get along with fellow employees.

Advantages and Disadvantages--Advancement opportunities are great for the semi-skilled, such as higher pay as the worker develops the ability to do more than one job. Assemblers may become inspectors or group leaders responsible for sections of the assembly line. They may be trained to operate simple testing equipment or they may become qualified to train others.

Before an assembly-line worker advances to other positions his job can become monotonous and tiring.

MAINTENANCE OCCUPATIONS

A large staff is required to keep machines and equipment in good operating condition and to make changes in the plant layout. The maintenance and repair of complex electrical, electronic, and hydraulic equipment require well-trained electricians, electronic technicians, and maintenance mechanics. Millwrights move and install heavy machinery and equipment. Plumbers and pipefitters lay out, install, and repair piping, valves, pumps, and compressors. Other maintenance employees include carpenters, stationary engineers, and sheet metal workers.

History and Future--The employment in skilled occupations, including millwright, pipefitter, and machinery repairman, is expected to increase. The number of semi-skilled workers is expected to remain relatively stable.

Work Environment--The maintenance workers are employed in plants which are relatively clean and free from dust, smoke, and fumes.

Training and Education--Training periods are required for some maintenance workers, a period of four years of training before they can perform specialized jobs. Although many craft workers acquire their skills by working with experienced workers, apprenticeship generally is the best way to learn a skilled trade.

Qualifications--Applicants for most plant jobs must be in good physical condition and have an aptitude for mechanical work.

Advantages and Disadvantages--Maintenance workers receive the same benefits as other skilled workers. They receive an average of twelve paid holidays a year. Most companies provide regular annual wage increases as well as automatic increases when the cost of living rises.

FINISHING OCCUPATIONS

Many finishing operations must be performed in automobile manufacturing. Metal surfaces must be readied for finishing, exteriors painted, interiors covered, and seats upholstered. Metal finishers file and polish rough surface areas of metal parts in preparation for painting. Platers put a thin coat of chrome on bumpers and on other parts such as grills, mirrors, and hubcaps. Sprayers operate spray guns to apply paint or other finishes to the metal parts. Polishers rub the finished surfaces by hand or polish them with a portable motor-driven buffing wheel.

Cutters, sewing machine operators, and trimmers combine their skills to provide comfortable and attractive interiors. With hand shears or an electric knife, the cutter cuts fabric or leather to the specific shape according to a pattern. The sewing machine operator sews together the upholstery sections. Trimmers arrange and fasten springs and padding or foam rubber for the seats and upholstered areas. The trimmer also installs the covering material.

History and Future--Many occupations in automobile manufacturing will increase; some will decline. The finishing occupations are expected to remain relatively stable.

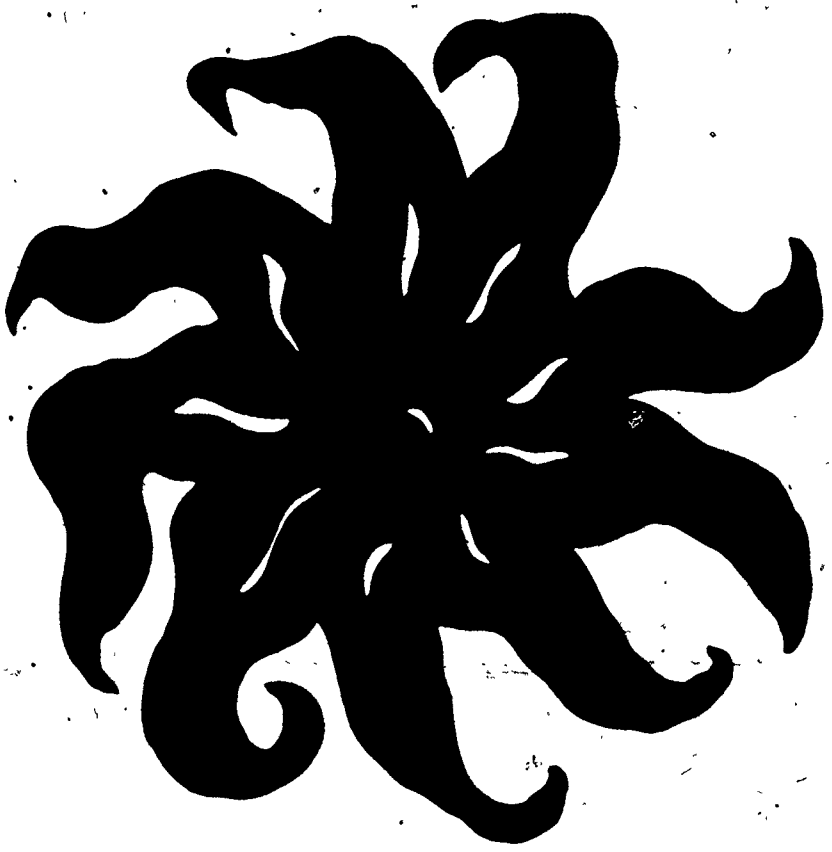
Work Environment--Motor vehicle plants are, on the whole, comparatively safe places to work, although safety conditions vary somewhat among the individual departments or facilities. The rate of disabling injuries in motor vehicle plants has been less than half that of all manufacturing industries in recent years. Some plants have fully equipped hospital facilities with doctors and nurses in attendance.

Training and Education--Employees in finishing occupations are trained on the job. Finishing jobs can be learned in a few hours or days. Some can be learned in a few weeks.

Qualifications--Applicants must be in good physical condition and have an aptitude for mechanical work.

Advantages and Disadvantages--Employees receive paid vacations and an average of twelve paid holidays a year. Most companies provide regular annual wage increases, as well as automatic increases when the cost of living rises.

Marine Science



Marine science identifies those jobs related to the discovery, cultivation, and harvesting of food and minerals from fresh and ocean waters. Marine engineering and technology are involved with designing and constructing the many specialized instruments and vessels required to explore and harvest marine resources.

HYDROLOGIST

The hydrologist is concerned with the surface and underground waters in the land areas of the earth. He maps and charts the flow and disposition of sediments; measures changes in water volume; and collects data on the form and intensity of precipitation and the disposition of water through evaporation and ground absorption. The information which the hydrologist collects is applied to problems in flood control, crop production, soil and water conservation, irrigation, and inland water projects. Some hydrologists study glaciers and their sedimentation.

History and Future--The employment outlook is favorable, particularly for those with advanced degrees.

Work Environment--A hydrologist works mostly outdoors. He carries his own equipment. There is considerable walking, standing, and use of the arms and hands. The hydrologist may work in isolated areas.

Training and Education--A minimum of a bachelor's degree in geophysics or a related science is required. A master's degree or Ph.D. is needed to get ahead in the field. High school courses should include mathematics, earth science, physics, chemistry, and mechanical drawing.

Qualifications--Important characteristics include enjoyment of outdoor work, above average general scholastic ability, the ability to get along with co-workers, and especially good health.

Advantages and Disadvantages--The opportunities for travel, both within and outside the country, offer challenging and interesting possibilities to those who are interested in new faces and places. On the other hand, those whose family ties are strong may not wish to engage in travel. With sufficient employment possibilities, travel preferences may be only matters of individual concern.

HYDROGRAPHIC SURVEYOR

The hydrographic surveyer makes surveys of harbors, rivers, and other bodies of water. He determines the depth of the water usually by taking surrounding or sound measurements in relation to land masses. These surveys are essential in planning navigation projects; in developing plans for and constructing breakwaters, dams, piers, marinas, and bridges; and in constructing sailors' charts and maps.

History and Future--For the next decade the employment outlook in surveying is expected to be good. In view of the pressure for preparation in engineering as a prerequisite for professional status and licensure, opportunities will favor those who have college degrees, or at least two years of junior college or institute preparation.

The demand for hydrographic surveyers will be increased by gas and water lines that require property and boundary line surveys and by the increasing demand for land and sea maps and charts.

Work Environment--The hydrographic surveyer works the usual forty hour week except when overtime is necessary to complete a survey in order that a project can be started immediately. The peak period for the surveyer comes during the summer months when weather conditions are most favorable. However, it is not uncommon for the surveyor to be exposed to all types of weather conditions.

Training and Education--Graduation from high school is considered a basic requirement for most opportunities in surveying of a professional or technical nature. Mathematics, including as many courses in algebra, geometry, and trigonometry as possible, is most important. In addition, physics, mechanical drawing, and other related science or drafting courses should be taken.

If one is interested in the professional level, a four year college program is required. In college one should pursue a program leading to a bachelor degree in engineering.

Qualifications--The hydrographic surveyor must be a physically sound, intelligent, and personable individual who prefers being outside and engaging in technical or scientific activities involving precise and detailed measurements.

Advantages and Disadvantages--Most positions with the federal, state, and local governments and with private firms provide the usual medical, pension, and insurance benefits and vacation and holiday periods.

Some survey projects involve a certain amount of hazard, depending upon the region and the climate as well as the plant and animal life.

MARINE BIOLOGIST

The marine biologist studies the life history, habits, sports, and economic aspects of fish to provide technical assistance to fish hatchery managers, federal and state conservation officials, and other interested organizations and individuals. He surveys streams and lakes to determine the types and quantity of fish which might be supported. He also develops stocking policies and performs other work in order to obtain the maximum number of fish.

History and Future--Total employment of marine biologists by federal and state agencies is not expected to expand appreciably. Additional positions may result from increased attention paid by commercial organizations.

Work Environment--The work of the marine biologist is often seasonal in nature. Overtime or weekend work during certain times of year is common.

Training and Education--A college degree is required. High school students interested in preparing for positions as marine biologists may take such courses as algebra, plane geometry, trigonometry, biology, chemistry, physics, English, geography, social studies, and physical education.

Qualifications--The marine biologist must possess good judgment. He must be able to take into account the various factors and current situations related to the sea specimens with which he is concerned. He then must make proper decisions concerning their protection, nature, and accessibility. Keen observation and interest in detail are helpful.

Advantages and Disadvantages--Because of the relatively small number of persons employed in marine biological services, advancement possibilities are somewhat limited in most states.

The top positions in marine biology are held by the directors and assistant directors.

OCEANOGRAPHER

Oceanographers conduct surveys and experiments and then collect and study the data about the motions of ocean water (waves, currents, and tides), marine life (sea plants and animals and their habits), ore and petroleum deposits (minerals and oils contained in the nodules and oozes of the ocean floor), and the contour of the ocean (ocean mountains, valleys, and depths). Many of their findings are compiled for maps, charts, graphs, and special reports and manuals. Some of the oceanographer's time each year may be spent on the water, gathering data and making observations. A large amount of oceanographic work is done on dry land and by people who never or hardly ever go to sea.

History and Future--Employment opportunities for oceanographers should be excellent in all fields of specialization.

The demand for oceanographers is accelerating as man becomes determined to learn more about the sea and its resources.

The future of this new and challenging profession, oceanography, is most promising.

Work Environment--Oceanographers in shore stations, laboratories, and research centers will work on a five day, forty hour week basis. Occasionally, they will serve a longer shift, particularly when conditions of a research experiment demand around-the-clock surveillance. Such assignments may involve unusual working hours depending on the nature of the research or the purpose of the trip.

Training and Education--Four years of college is required for beginning positions in oceanography. Students in high school should pursue an academic course including as many of the basic and advanced courses in mathematics and science as they can obtain. In college, a broad program covering the basic sciences with a major in physics, chemistry, biology, or geology is desirable.

Qualifications--An oceanographer should have a strong interest in science; an interest in outdoor activities such as hunting, fishing, swimming, boating, or animal care; and an interest in scholarly activity (reading, research, and writing).

Advantages and Disadvantages--The individual who likes the water, who enjoys life aboard ships, and who is willing to absent himself from home for periods of time will find satisfaction in certain oceanographic positions.

The individual who does not wish to leave his family or interrupt his community activities has an opportunity to seek positions where travel away from home is not necessary.

FISHERMAN

A fisherman's life varies according to the kinds of fish he seeks. Offshore or deep-sea fishermen may remain at sea on rather large vessels (from 100 to 200 feet) for weeks at a time, depending on the size of their catch and whether their ship is equipped to keep the fish fresh by refrigeration or freezing.

Inshore fishing is the term used for catching salmon, shrimp, clams, oysters and other kinds of fish and shellfish.

Bank fishing, which is done by dragging the ocean floor, is the term used for catching haddock, flounder, cod, and other bottom fish,

King crabs are trapped in huge crab pots set out with small fish as bait. The pots are left eight to twenty-four hours and checked frequently to keep the bait fresh.

Lobster trapping is similar to crab trapping, except the traps are much smaller, and it can be done easily by one or two men. Oysters are harvested by dredging or with tongs. Both oysters and lobsters must be thrown back if they are not of legal size.

History and Future--Fishing is a big industry, but it has been declining in recent years. Foreign competition, overfishing in some waters, water pollution, and old and obsolete vessels and equipment are blamed for the decline.

Some solutions suggested by the industry include federal funds to encourage the building of larger vessels, an industry-wide program of modernization, and international controls to protect against foreign fishing near U.S. shores. These measures, plus new uses for fish oils and processed fish, will revive commercial fishing in the United States.

Work Environment--Fishing is conducted commercially from coastal towns and cities throughout the United States. Off the Maine coast, fishermen trap the valued northern lobster. From Chesapeake Bay and Alaska come prize crabs. The Gulf of Mexico yields fine shrimp and oysters. Pacific coast fishermen bring in tuna, halibut, salmon, flounder, mackerel, ocean perch, and other deepwater fish, as well as bank fish and shellfish.

The fisherman may have to work for hours in the salty spray, and the work of loading, packing, and sometimes cleaning the fish is taxing on every muscle.

Training and Education--There are no formal educational requirements for fishermen and many teenage boys learn the trade from their fathers or other relatives. There is an increasing enrollment in special short courses, such as general seamanship, navigation, meteorology and weather communications, boatbuilding and boat maintenance, scientific commercial fishing, and fish marketing.

Such subjects are taught in the high school curriculum in some port cities; elsewhere they are offered at trade and vocational schools and at some colleges.

Qualifications--Courage, expert seamanship, mechanical ability, physical stamina, and a good head for business are the first requirements for the fisherman.

Patience and the ability to get along with others in close quarters are important. A fisherman working under a captain must be able to take orders; yet in an emergency he must assume responsibility with a cool head.

Advantages and Disadvantages--There is both a physical and financial risk in fishing. Price fluctuation, accidents at sea, storms, fires, and competition from foreign fishermen all continue to make fishing uncertain from month to month. For the adventurous man these risks are offset by the lure of the sea, the chance to go into business for himself, and the joy of working outdoors.

FISH CULTURE TECHNICIAN

The fish culture technician produces fish for game or food. He may hatch fish eggs, raise them to releasable size, and use them for stocking purposes, or he may buy young fish, raise them, and market them as a farm crop.

Fish hatchery (fish culturist) technology is the largest branch of fish culture at the present time. The technician's work consists of raising and spawning brood fish, caring for the eggs, feeding the young fish, cleaning ponds, maintaining hatchery grounds and equipment, planting the fish, and keeping accurate records.

Technicians trained in fish wildlife conservation generally assist biologists in the performance of field work in fish conservation programs. They may be required to gather field data, engage in habitat improvement programs, maintain fishways and ladders, and improve streams.

The experimental biology technician assists biologists in field and laboratory work involving fishery research investigations. The work seldom involves the raising of fish but instead may result in experiments to test new foods for fish, evaluate, tag, and mark certain species, and observe developments first in the laboratory and then in the field.

History and Future--Several factors suggest a very favorable long-range employment outlook for fish culture technicians. The ever growing population, the loss of many marine life species due to pollution, and the popularity of fish not only as a food supply but for sport and home aquariums all contribute to an increasing need for qualified professionals in the field of fish culture technology.

Work Environment--Most technicians perform the majority of their work outdoors in all kinds of weather. The nature of the work requires them to be around all kinds of water. The strong smell of fish may be one unpleasant aspect of the job. In performing laboratory work, fish culture technicians will enjoy clean well-lighted facilities.

Training and Education--A high school education is basic to qualify for positions in fish culture technology. Any student considering this field should take courses in biology, chemistry, physics, and mathematics. English is very important because the technician is playing an ever-increasing role in report writing. Legible handwriting is desired, along with typing ability.

Qualifications--The technician must like working with his hands. The bulk of his work involves physically carrying out an assignment, not just thinking about it. He is almost always in contact with the public and should have a pleasant personality. Assignments may involve long hours in the field even on weekends and evenings, so the technician must also be in excellent health.

Advantages and Disadvantages--Due to the newness of the occupation, advancement standards are not as rigid as in other professions. Generally, the requirements for advancement consist of the extent of training, the willingness to keep abreast of complex technological changes, and the commitment which the technician brings to his job.

MARINE LIFE TECHNICIAN

The marine life technician is concerned with the biological side of oceanography, the life that teams in the sea, from microscopic animals and plants to whales and giant kelp. The marine life technician gathers, sorts, classifies, analyzes, processes, breeds, and farms marine life.

Marine life technicians may gather and sort marine life in the waters of bays, oceans, sounds, and estuaries (an arm of the sea at the lower end of the river). They may harvest, process, and classify special kinds of seaweed, seaworms, shellfish, and fish for use in pharmaceutical products, as fish bait, or as biological specimens.

History and Future--The employment outlook for both men and women is excellent.

Work Environment--Working conditions vary. Work in the field generally calls for long, irregular hours and physical strength. The work is often performed outdoors in all kinds of weather. Some jobs call for a forty hour week in clean, comfortable surroundings.

Training and Education--High school graduation is necessary; courses should include as much biology and chemistry as possible. The prospective technician should then attend a two year junior college or technical institute, earning an associate degree. Courses will include English, technical mathematics, chemistry, marine botany, zoology, and biology.

Qualifications--Marine life technicians must love the sea, be manually dexterous, and have excellent eyesight. (Corrected vision is acceptable.)

Advantages and Disadvantages--Marine technicians may work as consultants with sonar equipment manufacturers, sharing their knowledge of marine life sound emissions, or as specialists on a fishing boat.

Although job titles may not change, salary increases with experience.

DIVER

Tasks performed by the diver are varied but are considered to be of either an engineering or a scientific nature. Increasingly, he is performing construction, inspection, and salvage jobs.

The surface supplied and system diver is more likely to be involved in a construction, salvage, or offshore crew where he builds or inspects bridges, dams, or waterfront installations.

He may also assist in salvaging sunken ships or in the performance of both salvage and construction duties.

Insurance companies and police departments often enlist the aid of divers to recover bodies or obtain valuable evidence.

The diver using self-contained diving equipment may perform such underwater tasks as surveying, inspecting, photographing, and collecting. He is often a highly skilled explorer, diving for buried treasure, working as part of a team charting the ocean floor, or gathering plant and animal specimens for scientific study.

History and Future--The jobs for divers are increasing with the development of more and safer diving equipment and with the growing interest in the sea as a source of oil, minerals, and food.

Work Environment--The work of the diver is performed underwater. The length of time spent underwater will vary with the job and the depth at which it is performed. Some divers stay underwater at least four hours or more at the depth of 150 feet.

Training and Education--The high school student desiring to become a diver should study physics to gain a knowledge of pressure and gas laws. Mechanical courses, such as gas and electric welding, blueprint reading, mechanical drawing, and metallurgy, will be helpful. Skills in the use of pneumatic tools is desirable.

Qualifications--The diver must be in excellent physical condition with weight in correct proportion to his height and build. He must be adaptable and able to withstand extremes of temperature.

Advantages and Disadvantages--The diver who combines scientific study with diving has possibilities for advancement. There is much yet to be learned about the fascinating world under the sea, and the scientific diver has the opportunity of exploring this new world and of taking part in exciting underwater research. He can become a recognized leader in an exciting area of exploration.

There are many hazards faced by the diver in his underwater occupation.

MARINA WORKER

Many marinas offer complete maintenance, repair, and repairing services in their shops. Workers may be as busy during the winter storage season as they are in summer.

The work in large marinas varies according to the services offered. Some operate charter boats for excursions and deep-sea fishing.

Some marinas offer diving and salvage service.

Most marinas are operated together with a franchised dealership for selling boats, marine engines, boat trailers, and other equipment.

History and Future--Boating is one of the fastest growing leisure time activities in the United States. With the growth in the number and size of marinas, there will almost certainly be a need for an increasing number of workers to handle and supervise the services that marinas provide.

Work Environment--Some marinas provide care for several thousand boats, outfitting yachts for long trips and providing onshore accommodations for boaters. Such huge marinas might have a staff of twenty or more.

However, some marinas are small with only a gas pump, an office and repair shop, and dock space for four or five boats. In this kind of operation the owner and one assistant may constitute the whole staff.

Training and Education--The first step for a high school student desiring to become a marina worker is to finish high school. The prospective marina worker should attend a technical and vocational high school or take evening courses in engine and engine repair.

The marina worker can also learn more about repairing and caring for marine engines by taking one of the two or three week courses offered by several large manufacturers of marine engines.

Qualifications--A marina worker should genuinely like boats and people associated with boating.

Advantages and Disadvantages--An unskilled worker is not likely to earn much more than the minimum hourly wage until he develops greater ability.

Skilled workmen are paid on an hourly basis, especially if the workmen are hired only as special jobs arise.

Tipping is good in the luxury marinas, in those in fairly expensive resort areas, and in marinas where chartered trips are arranged.

SHIP DESIGNER

The job of a ship designer is to provide all the necessary support systems that will enable the ship to carry out its task properly. He is a type of community planner, and the size of the community he plans for may range from a small number of crew members aboard a freighter to large numbers of military personnel aboard an aircraft carrier.

Although each ship may have its own special design, designers must solve problems that are common to all ships, such as providing living accommodations for the crew and passengers. This also includes necessary services such as electric power, water, food, and sanitation. The ship must be designed with space for equipment, fuel, and cargo. Material handling systems must be designed for quick and efficient handling of the payload.

The ship must be designed so that it is sturdy enough to withstand the pounding of huge waves. Other safety precautions include dividing the ship internally into watertight compartments so that if it is damaged it will have a good chance to stay afloat. The overall design of the hull or body must allow the ship to move easily through the water. Above all, the ship must be designed to operate economically so that the operation and maintenance costs will be less than the revenues it will earn by carrying passengers and cargo.

Designing a ship to meet these specifications is a complicated job.

History and Future--Ships have been designed in various ways ever since men first traveled over water in hollowed logs. The Norse longship, the trireme of the Greeks and Romans, the Spanish galleon, the paddle-wheel steamer, and the screw-propeller steamship are all milestones in the continuing development of ship design.

Ship designers have played an important role in the history of the United States. In the 1850's American clipper ships sailed at speeds that are still unmatched. These ships were designed to carry unusually large amounts of sail. During the Civil War, American ship designers created the early ironclad warships, the *Monitor* and the *Merrimac*.

Until a hundred years ago, ships were designed by the craftsmen who built them, without benefit of any real understanding of the natural laws affecting the success of their product. Gradually, however, naval architecture became a profession as engineers learned to apply physical laws and mathematical techniques to analyze or predict ship performance. That led to accelerated improvements in ships and created a demand for formally educated designers.

Several factors make the future for ship designers particularly attractive. The number of graduates who enter the field each year is not enough to fill the positions available. The Merchant Marine Act of 1970 allows for the construction of as many as three hundred merchant ships by 1980. This means that ship designers will have to come up with new ideas and designs for ships to meet the transportation needs of the future.

Work Environment--The ship designer usually works thirty-five to forty hours a week, although his hours may sometimes be irregular when he is working to meet a contract deadline for a government agency or a private firm. At the junior levels he usually gets compensation for overtime work through either extra pay or extra time off from the job, depending on his employer's policy. The vacation time he receives varies according to whether he works for a private firm or for the government, but he usually has at least two weeks annually at the start and more later on.

Training and Education--Ship designers need an extraordinarily broad education in many branches of engineering, science, and mathematics. The necessity for this type of education is based on the fact that ships are the largest self-sufficient mobile structures made by man.

The high school student who is interested in ship design must plan on taking a college preparatory program. He should make a special effort to master courses in science, mathematics, and English. If possible, courses in mechanical drawing and computer programming should be included in the curriculum.

Qualifications--The ship designer needs to have a powerful visual imagination; at the same time, he must be able to translate his ideas into practical specifications.

He must be able to think logically, write clearly, and get along with people, since the work of building a ship requires the cooperation of many kinds of workers.

Advantages and Disadvantages--There are advantages to being a ship designer. The person who is interested in ships and the sea will probably feel a natural attraction to the work. Solving complicated problems of designing a ship and keeping up with new developments in the field make the work interesting. The job is also pleasant, for it enables a designer to split his time between doing close detailed work in an office and working with people on location during the construction, outfitting, and testing of a vessel.

There are occasional hazards on the job. Designers must climb ladders and walk on scaffolding from time to time while supervising work. Some of the equipment they work with is dangerous. However, many precautions are taken against accidents.

BOILERMAKER (SHIP)

The boilermaker works at the site where the boiler, tank, or vat is to be installed and put into use. Such sites include petroleum producing areas where storage tanks are to be filled, refineries where gasoline is made, schools and other institutions requiring large heating boilers, factories where boilers are used to generate power to run machines, and atomic energy plants where installations must withstand very high pressures.

Boilermakers find much work in the ship and boat building industry. They repair hulls, bulkheads, and decks and remove damaged parts by drilling out rivets and cutting off the heads with a chipping hammer.

History and Future--The expectation for the next decade or so will be approximately 600 job openings annually in the boilermaking occupations because of expansion, deaths, retirements, and transfers of journeymen boilermakers to other trades.

Work Environment--Boilermakers often work close to dangerous equipment. They must manage heavy materials and climb to considerable heights when constructing oil refineries, water storage tanks, and similar installations. The work requires physical exertion and must be carried on under extremes of heat, poor ventilation, noise, and dampness. At times it is necessary to work in cramped quarters inside boilers, vats, or tanks.

Training and Education--It is essential for an applicant to the boilermaker trade to possess a high school diploma. High school courses should include blueprint reading, welding techniques, the physics and chemistry of various metals, and shop mathematics.

Qualifications--Mechanical aptitude and manual dexterity are important qualifications. A strong body is necessary because the work is strenuous, and stamina is needed to meet continuous exertion. Tolerence of odors, noisy surroundings, and height is required on many jobs, and it is essential that the worker be able to work in close quarters inside boilers.

Advantages and Disadvantages--Great progress has been made in recent years in decreasing the accident rate by means of the safety programs of employers and unions and by the use of protective equipment, but the rate of injuries in boiler shops remains higher than average for all manufacturing industries.

Union contracts provide fringe benefits for most boilermakers, such as insurance, hospitalization, surgical, accident, sickness, life pension plans, and paid vacations.

DIESEL MECHANIC (SHIP)

The diesel mechanic removes, replaces, and adjusts such items as fuel pumps, injectors, piston rods, crank shafts, and bearings. One of the most frequent repair jobs is the resetting or regrinding of exhaust, intake, and air valves.

When a diesel mechanic rebuilds an engine, he takes the whole engine apart. This is usually scheduled at regular intervals, such as eighteen months or 100,000 miles.

History and Future--Increased use of diesel equipment has produced a demand for mechanics to maintain, repair, and overhaul it. A qualified diesel mechanic has been hard to find in the past decade. Diesel power will be the predominant source of power in the future. Therefore, the employment outlook for diesel mechanics is good.

Work Environment--The diesel mechanic in a ship yard works a forty hour week, although in some shops, because of the need for emergency repairs, overtime is rather frequent. Some shops may have round-the-clock shifts. Extra pay is given for night work.

Training and Education--The applicant should show satisfactory performance in high school where he has had courses in shopwork, mathematics, and science.

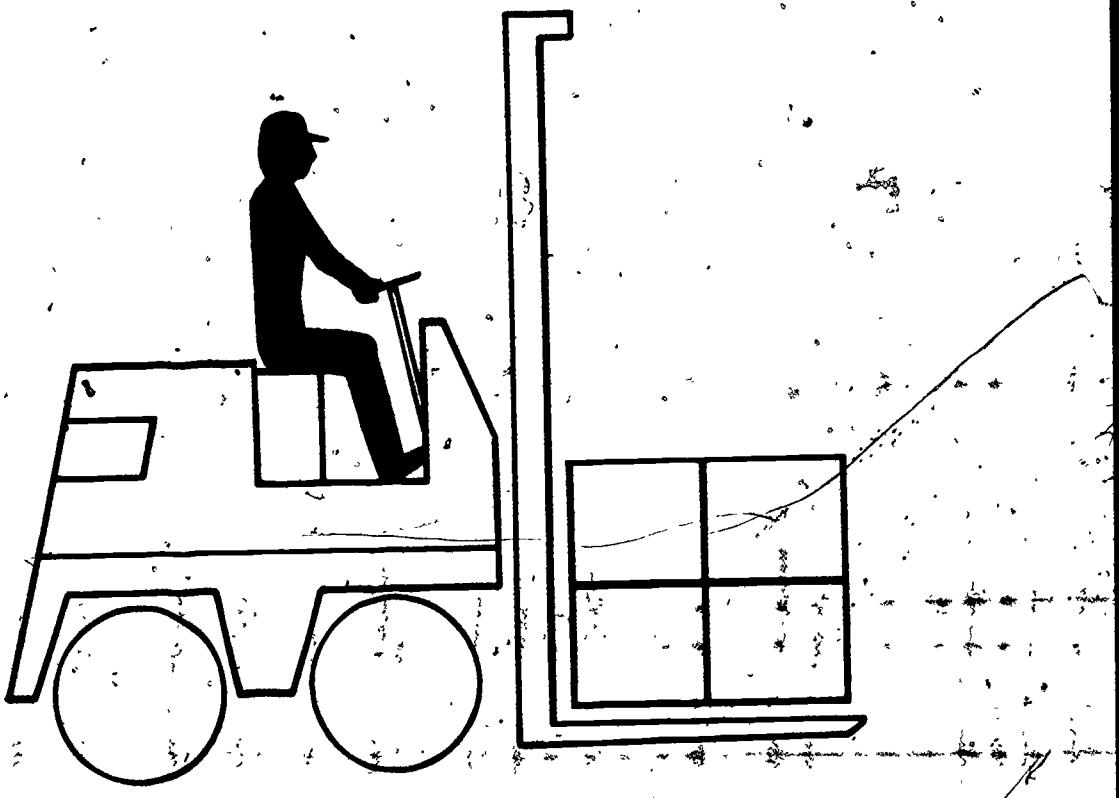
Qualifications--The diesel mechanic should be of average intelligence with good mechanical aptitude.

Advantages and Disadvantages--There are many hazards in this occupation. Heavy lifting may cause various injuries. One may receive a burn while steam cleaning an engine or touching a hot engine. Slipping on a greasy floor is another hazard. Most places of employment have adequate safety procedures to minimize the danger.

Some of the fringe benefits are time and a half for overtime, paid vacation and holidays, and health and life insurance.

The work of a diesel mechanic is challenging because of the variety of problems which occur requiring intelligence and mechanical aptitude to arrive at solutions.

Marketing and Distribution



Opportunities are almost unlimited in a variety of marketing and distribution occupations. Some of the occupations require ingenuity and responsiveness to the changing demands of customers; others offer an outlet for artistic talent or writing ability. Management positions make use of the art of getting along with people and organizing activities, and other jobs involve the performance of physical tasks such as sorting and transporting merchandise.

SUPERVISOR

The supervisor supervises and coordinates the activities of highly skilled, semiskilled, and unskilled workers, and often is responsible for millions of dollars worth of equipment and material. The supervisor is responsible for the guidance and instruction necessary to assure that workers are qualified to handle their assignments and to see that new employees are properly trained for their jobs. The supervisor must see that safety rules and regulations are observed and must instruct employees in safety practices.

History and Future--The future employment of supervisors is expected to increase moderately. A great number of job openings will occur each year as experienced supervisors are promoted, transferred to other occupations, retired, or deceased. Retirement and deaths alone are expected to result in more than 30,000 openings annually.

Work Environment--Supervisors spend most of their time coordinating activities on the company floor. Supervisors generally work more than forty hours a week and often are expected to be at work before the other workers arrive and remain there after they leave.

Training and Education--Employers generally look for experience and skill rather than specific educational background when choosing supervisors. The experience gained by supervisors rising through the ranks gives them the advantage of knowing how a job should be done as well as the possible problems involved. Also, experience helps the supervisors know what to expect from the workers they supervise. Most workers who are promoted to supervisor positions are high school graduates who have learned their skills on the job.

Qualifications--Employers look for leadership qualities when considering persons for supervisor positions. Especially helpful is the ability to motivate employees, to command respect, and to get along with people.

Advantages and Disadvantages--Employers will hire college graduates as supervisors' helpers to undergo on-the-job training until they are capable of accepting the supervisory responsibilities. After attaining this experience, supervisors having college training often are promoted to higher management levels.

Some supervisors around machinery may be subjected to noisy operations.

FLOOR MANAGER

The floor manager manages and coordinates the activities of all the workers in one department of a store. He or she assigns duties to other employees, hears customers complaints, and reorders new stock for his department. The floor manager is responsible for the operation of an assigned department.

History and Future--There is an increasing need for more floor managers because of the many department stores and shopping centers that are being constructed. The employment outlook is excellent.

Work Environment--The floor manager manages personnel such as bookkeepers, clerks, checkers, wrappers, baggers, stock boys, and meat cutters. His work is usually performed in a supermarket or department store.

Training and Education--Many floor managers work their way up through the ranks of store personnel after high school graduation.

Qualifications--The successful manager must have the ability to handle many business matters and get along well with customers and employees.

Advantages and Disadvantages--Graduates of a two year management program can start with higher salaries than high school graduates. Also, much standing is required, and many managers work six days a week.

RESEARCH DIRECTOR

The research director assembles and analyzes information needed for effective advertising programs. He studies the possible uses of the product and its advantages and disadvantages. Some workers may make special surveys of the buying habits and motives of customers or may try out sample advertisements to find the most convincing selling theme or the most efficient media for carrying the advertising message.

History and Future--The demand for marketing research services is expected to increase rapidly through the 1970's. Marketing research will expand and new marketing departments and independent research firms will be set up.

Work Environment--Marketing research workers usually work in modern, centrally located offices. Some, especially those employed by independent research firms, do a considerable amount of traveling in connection with their work. Also, they may frequently work under pressure and for long hours to meet deadlines.

Training and Education--A college degree is the usual requirement to become a marketing research trainee. Courses valuable in marketing research are English composition, speech, psychology, and economics.

Qualifications--Marketing research workers must have the exceptional ability to recognize and define problems. Also, their work calls for the ability to analyze information and to write reports which will convince management of the significance of the information.

Advantages and Disadvantages--In 1970, marketing research directors' salaries were about $20,000 annually. However, directors often work under pressure and for long hours to meet deadlines.

STATISTICIAN

A statistician is trained to analyze problems, to design experiments whose results may yield some answers to the problems, and to interpret the results when they are obtained.

History and Future--In recent years, the number of graduates with a degree in statistics was barely enough to replace those who retired or died. Employment opportunities for well qualified statisticians are expected to be favorable through the 1970's.

Work Environment--Statisticians are employed in all industries; about two-thirds of all statisticians were employed in private industry. Although statisticians are employed in all states and areas, about one-third of them work in three metropolitan areas: New York, Washington, D.C., and Los Angeles and Long Beach, California.

Training and Education--A bachelor's degree with a major in mathematics is the minimum educational requirement for many beginning positions in statistics.

Qualifications--The statistician must have an interest in mathematics and the ability to translate problems into statistical terms.

Advantages and Disadvantages--Statisticians employed by colleges and universities generally earn less money than those employed by private industry and the federal government.

SCIENTIST (CHEMIST)

The scientist in marketing performs experiments and gives expert information in the various fields of science for the benefit of marketing management.

The scientist must be a marketing expert and must be familiar with all aspects of products. He or she is involved in developing new products and improving old ones.

History and Future--The growth of science as a profession has been phenomenal during the past three decades. The scientist will make significant contributions by opening new doors to products and processes that do not exist but that provide the opportunities for creative discovery tomorrow.

Work Environment--Scientists in marketing are mostly employed in chemical companies. Some work for private research institutes and foundations.

Training and Education--A good background in biology, chemistry, mathematics, English, and physics and a concentration on developing good reading and writing skills are essential.

Qualifications--A scientistt must be willing to work for long periods before discovering the answer to a problem. He must also be able to follow through on every detail of his work, no matter how routine it may be.

Most executives are influenced by grades when hiring, and grades will continue to be the measure of ability in the selection of promising scientists until a more reliable one can be found.

Advantages and Disadvantages--Salaries are high for scientists, especially in government agencies.

Laboratory work can be unpleasant and sometimes even dangerous depending on the chemical used. However, the chemical industry has an excellent safety record because of the special care taken in the handling of dangerous materials.

SURVEY WORKER

Surveyors play an important part in the construction of highways, airfields, bridges, dams, and other structures by providing information on measurements and physical characteristics of the earth's surface.

Surveyors often specialize in one particular type of survey. Those doing highway surveys are concerned with establishing the points, grades, and lines needed for highway locations. Those performing land surveys locate boundaries of a particular tract of land, prepare maps, record plots of the land, and prepare legal descriptions of it for deeds, leases, and other documents.

History and Future--Employment opportunities for surveyors will continue to grow rapidly because of the rapid growth of urban areas. This growth will create requirements for additional surveyors to locate boundary lines and to lay out streets, shopping centers, schools, and recreation areas.

Work Environment--Surveyors usually work an eight hour day and a five day week. They sometimes work longer hours during the summer months when weather conditions are most suitable for surveying activities. The work is active and sometimes strenuous. Most of their work is completed out of doors.

Training and Education--The applicant must be a high school graduate with a background in math and mechanical drawing. One, two, or three years of on-the-job training are necessary.

Qualifications--A surveyor must have sound health and a strong liking for outdoor work. Because most surveyors must supervise and direct the work of others, leadership qualities also are important.

Advantages and Disadvantages--Many openings will result each year to replace surveyors that continue training or that transfer to other occupations.

Employment opportunities for women surveyors may be limited, primarily because much of the surveyor's work is strenuous.

BROKER

A broker is sometimes called a security salesman. Securities are stocks and bonds. He or she usually works for a firm of stockbrokers. A brokerage firm is concerned mostly with trading in stocks and bonds for customers. The broker watches the stockmarket carefully and advises customers what to buy and sell.

The broker arranges for the sale and purchase of stock for his customers.

History and Future--Since 1960, the number of brokers employed has doubled. The outlook in this field will remain good as long as the nation's economy is sound, the overall price of stocks rises, and the number of investors increases.

Work Environment--The broker is responsible for channeling the customers' money into stocks and bonds.

Training and Education--Mathematics, English, and learning to speak and write well are very important for a broker. A college education is also essential.

Qualifications--Brokers must be responsible and trustworthy. They must have an alert and well-trained mind that is attentive to details, a tactful manner, and an appreciation of the value of listening to the customers.

Advantages and Disadvantages--From an earnings standpoint, the work offers unlimited opportunity to the conscientious and ambitious person provided the stock market is on the upswing. But when the prices of stocks are going down, the broker's earnings will not be as high. Also, investment houses may cut the number of brokers employed if a decline persists.

JOBBER

A jobber is also known as a distributor. A distributor stocks thousands of different products, buying them at his own risk and trusting his knowledge of the market for resale to retail stores and business users. The distributor provides convenient means to supply his customers' needs through salesmans' calls, telephone order services, or through printed forms supplied by him.

History and Future--Over the past twenty-two years, distribution has grown at a rate nearly four times faster than manufacturing.

Work Environment--Distributors work with hundreds, even thousands, of manufacturers' by assembling in their warehouses large quantities of a vast variety of merchandise in smaller quantities to retailers, contractors, and other businesses.

Training and Education--More and more engineering skills are desired for distributors to advise and serve customers who need the most advanced products technology can produce.

Qualifications--Distributors should be able to boss themselves and have the initiative and drive to stay on the job.

Advantages and Disadvantages--Distributors are non-supervised employees. They determine their own working hours. The distributor buys thousands of products from manufacturers at his own risk and trusts his knowledge of the market for resale to retail stores and businesses.

FOREIGN LANGUAGE STENOGRAPHER

The foreign language stenographer is known as a technical or senior stenographer. He or she takes dictation in foreign languages and transcribes the material on a typewriter to another language.

The foreign language stenographer specializes in shorthand.

History and Future--As the United States continues to expand business with foreign countries, the increased communications will lead to a rapid expansion in the employment of foreign language stenographers.

Work Environment--Most stenographers work a forty hour week in most cities. In the northeastern part of the country, the scheduled workweek is thirty-seven and one half hours.

Training and Education--Most employers prefer applicants with a bachelor's degree in secretarial science. The stenographer should be able to take dictation at least eighty to one hundred sixty words per minute.

The foreign language stenographer should have a good background in foreign languages, grammar, spelling, punctuation, and vocabulary.

Qualifications--Employers seek workers who are poised, alert, and have pleasant personalities. Discretion, good judgment, and initiative are also important.

Advantages and Disadvantages--Technological changes are not expected to change the growth of employment for foreign language stenographers.

Foreign language stenographers must be exceptionally rapid and accurate, sometimes taking notes in a technical language from many different types of speakers and for extended periods of time.

ADVERTISING AGENT

The advertising agent works on policies such as the type of advertising budget, the agency to be employed, and the work with the agency in planning and carrying through the program. He also supervises the preparation of special sales brochures, display cards, and other promotional materials.

History and Future--Opportunities should be favorable for advertising agents as more and more advertisers turn their work over to agencies.

Work Environment--Advertising agents frequently work under great pressure. Working hours are sometimes irregular because deadlines must be met and last minute changes are not uncommon. Persons in creative jobs often work evenings and weekends to finish important assignments.

Training and Education--Most employers prefer college graduates. The applicant should have a good background in both spoken and written language.

Qualifications--The advertising agent should be able to accept criticism with tact. He must also have initiative, drive, and talent.

Advantages and Disadvantages--Advertising is a satisfying career for persons who enjoy variety, excitement, and a constant challenge to their creative ability. However, many applicants will face stiff competition for jobs in these occupations.

TEACHER (MARKETING)

The marketing teacher gives instructions in the field of marketing, advertising, salesmanship, purchasing, and research. The instructions may include lectures, class discussions, demonstrations, and counseling and assisting individual trainees.

History and Future--College graduates trained in marketing education are likely to find favorable job opportunities because of the growing complexity of marketing.

Work Environment--Marketing teachers are on the job year round; therefore, they receive higher salaries than teachers employed for the academic school year.

Training and Education--A college degree is required. Many employers prefer a university teacher of marketing with a good knowledge of marketing, statistics, English composition, speech, psychology, and economics.

Qualifications--One must have the ability to speak, demonstrate, and counsel with people.

Advantages and Disadvantages--Most marketing instructors receive higher wages than other instructors. The marketing instructor must continue in higher education because better salaries are paid at the Ph.D. level.

SALES ENGINEER

A sales engineer helps prospective buyers with technical problems. He or she may spend days or weeks analyzing a firm's manufacturing problems to determine the kinds of equipment and materials best suited to its operation. Sales engineers spend most of their time visiting prospective customers. They also do some paperwork including reports on sales prospects in their territories or on customers' credit ratings.

History and Future--The number of sales engineers is expected to rise moderately due to general economic growth. The development of new products and improved marketing techniques probably will heighten competition among manufacturers.

Work Environment--Some sales engineers have large territories and do considerable traveling or their territory may cover several states.. Therefore, the sales engineer is away from home for days or weeks at a time. Others may work in the neighborhood of their home base in a small area and commute from home.

Training and Education--High school graduates can be successful sales engineers, but college graduates are preferred. Many companies have formal training programs lasting two years for on-the-job training.

Qualifications--A pleasing personality and appearance and the ability to meet and get along well with many types of people are important. Arithmetic skills are an asset.

Advantages and Disadvantages--The sales engineer gets company benefits including life insurance, pensions, and hospital, surgical, and medical benefits. Some sales engineers travel at night or on weekends. Frequently they spend evenings writing reports and planning schedules.

WAREHOUSEMAN

The warehouseman is responsible for all merchandise and products received and shipped out of the warehouse. The warehouseman may pack and wrap goods for shipment, decide on the mode of transportation, distribute merchandise properly, process damage claims, and trace lost merchandise.

History and Future--Several thousand openings for warehousemen are expected annually as employment rises, as workers retire or stop working for other reasons, or as they transfer to other types of employment.

Work Environment--The working conditions vary. Some warehousemen work for newer shopping centers or large department stores in comfortable, air conditioned, well-lighted, and heated basement areas. Others may work in large warehouses that are cold, somewhat open, poorly lighted, and dusty.

Training and Education--High school graduates are usually preferred for beginning warehousemen with a knowledge of math and the ability to write legibly. Some employees are given on-the-job training under the supervision of an experienced worker.

Qualifications--One must be capable of independent judgment.

Advantages and Disadvantages--Some warehousemen who acquire post high school training or take courses in transportation may eventually advance to warehouse manager, industrial traffic manager, or purchasing agent.

INSPECTOR

The inspector must examine closely items that are manufactured to make sure they operate properly. Inspectors use a variety of methods in order to be certain that the products they examine are in proper order. They may merely look for scratches or other defects in products or parts.

Semiskilled inspectors may be required to read simple work orders and do arithmetic involving decimals and fractions. Inspectors often keep records of the number of parts they have accepted and rejected.

History and Future--The employment of inspectors is expected to increase slowly through the 1970s creating several thousand job openings annually. However, most opportunities will result as workers retire, die, or transfer to other fields of work. Deaths and retirements alone will account for 15,000 openings each year.

Work Environment--Working conditions vary considerably for inspectors. Some may work in well lighted, air conditioned work places in an aircraft missle plant. Others who work on the production floor of machinery or metal fabricating plants often are exposed to high temperatures, oil, grease, and noise.

Training and Education--Many employers may hire applicants who do not have a high school diploma if they have the ability to work with numbers and can do work requiring constant attention.

Qualifications--Many employers look for applicants who have good health and eyesight, can follow directions, and are dependable.

Advantages and Disadvantages--Most industries employing inspectors provide for fringe benefits such as paid holidays and vacations, health insurance, and retirement pensions.

Some semiskilled inspectors supplement their work experience with formal educational courses such as blueprint reading.

DELIVERYMAN

The deliveryman drives a panel or light truck over an assigned route, selling or delivering goods or providing services such as collecting and delivering laundry and dry cleaning.

The deliveryman loads or supervises the loading of his truck. The amount of merchandise in his truck generally is checked by another employee. Some deliverymen deliver merchandise previously ordered and obtain orders for future deliveries. Others make immediate sales from the stock in the truck. In either case, they must collect payments and keep records of their transactions.

History and Future--The number of retail deliverymen declined following World War II, particularly among drivers handling milk and dairy products. However, opportunities for employment as vending machine deliveryman and laundry and drycleaning deliverymen will be excellent throughout the next decade.

Work Environment--The number of hours worked by deliverymen varies. Some work only thirty hours a week while others work as many as sixty hours a week depending upon whether the individual has a well established route or whether he is trying to build up a new one.

Training and Education--Most employers prefer their deliverymen to be high school graduates, to be capable of simple arithmetic, and to be able to write legibly.

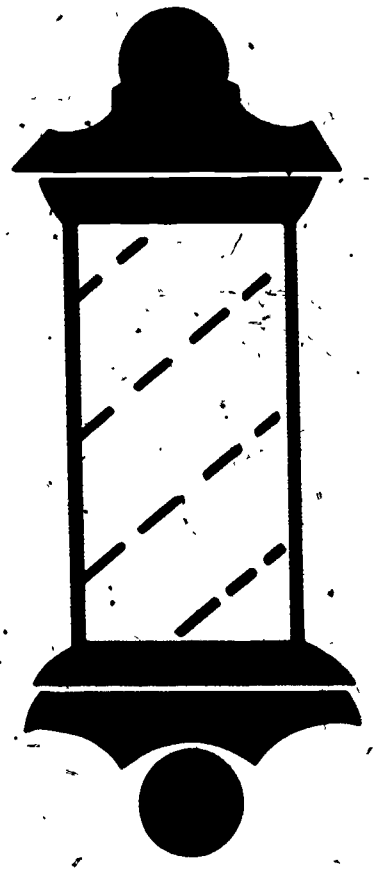
In most states a deliveryman is required to have a chauffeur's license, which is a commercial driving permit.

Qualifications--In addition to being a good driver, a deliveryman must have sales ability, a thorough knowledge of the product or service he is selling, and a persuasive personality.

Advantages and Disadvantages--The deliveryman does not work under strict supervision. He may decide how fast he will work and where and when he will have his lunch or rest periods. This freedom of action and the daily meeting and dealing with people on the route appeals to many young men.

Many deliverymen have to make deliveries in bad weather and do a great deal of lifting, carrying, and walking up and down stairs.

Personal Service



Employment in the personal service area is expected to increase rapidly. Major factors contributing to the sharp growth in the demand for these services are expected to stem from population growth, rising personal incomes, and an expanded interest in personal and family comforts. The personal service area offers job opportunities to both women and men with various levels of skills and differing degrees of training and education.

LAUNDRY INDUSTRY WORKERS

Most production operations are the same in all types of laundries. Sorters or identifiers separate the linen and garments into as many as twenty classifications based on degree of soil and the washing or drycleaning process required.

The washman adds cleansing agents (supplies) and controls the various valves that regulate temperature, water level, suds, and rinses.

As garments emerge from the machine, a flatwork-folder operator folds them.

Articles such as blankets, curtains, and draperies require special treatment. The blanket-washer operator operates a special washing machine.

Menders make minor repairs and sew on missing buttons with a button-sewing machine.

Finally, the clothing is inspected by assemblers, who gather the articles belonging to each customer. After bundle wrappers or building machines wrap them, the packages are ready for the driver to pick up for delivery, and the cycle is completed.

History and Future--The continuing expansion of specialized laundries has created more stable employment opportunities. Today, there is a larger number of good jobs in supervisory and managerial capacities than there are qualified persons, and indications are that this condition will prevail through the 1970's and 1980's.

Work Environment--Laundries are located in all parts of the country; jobs are easy to find.

Some of the jobs may prove monotonous, and the hot, steamy work areas can make working conditions unpleasant.

Training and Education--Completion of eighth grade or a year or two of high school is sufficient for most of the production jobs; supervisory and managerial work does call for additional education.

Qualifications--The basic requirements are speed, muscular coordination, manual dexterity, and good eyesight. Physical strength and endurance are important.

Advantages and Disadvantages--The field is easy to enter. There are almost no educational barriers, and the training period is short. Jobs are easy to find.

Although the pay has been low in the past, changes in the minimum wage law are bringing the wage structure into line with that of other industries.

HOUESHOLD WORKERS

There are many kinds of household workers. Among them are cooks, general household workers, babysitters, nursemaids, butlers, gardeners, and chauffeurs. The housekeeper manages the household. She or he assigns and directs the activities of maids, laundresses, and other workers.

In some large homes a butler supervises household employees, assigning and coordinating their activities. He takes care of serving meals or directs maids in this work. He also performs various personal services, such as mixing cocktails and receiving and announcing guests.

The general maid has a variety of duties, such as cleaning and dusting, changing and making beds, watching children, purchasing groceries, preparing and serving meals, and washing and ironing clothes.

The nursemaid is responsible for the children, their laundry, meals, and rooms.

The gardener has complete charge of the grounds; the chauffeur maintains and drives the family car or cars.

History and Future--Any worker who takes the trouble to develop skills in household work should have no trouble finding employment. Today, household workers can practically name their own price and, in addition, may obtain certain benefits.

Work Environment--Some full-time housekeepers live in the homes of their employers and others live out. The hours of the household worker will vary, but generally the day will begin at breakfast and end when the evening dishes are done.

The day worker will probably work an eight hour day.

Training and Education--Some vocational schools offer instruction in household and domestic occupations. High school work in economics would be very helpful.

Qualifications--Most employers who employ household workers look for neatness, a pleasant personality, and honesty.

Household workers should also have initiative and self-discipline.

Advantages and Disadvantages--Because of the chronic shortage of capable household workers, the well-qualified household employee usually has a choice of jobs.

Many household workers are not covered by social security pension plans, disability insurance, and medicare. There are many employers who do not wish to report or pay the tax required. The household worker should ask the employer to fill out the required social security forms and pay the tax.

ERIC

HOTEL AND MOTEL WORKERS

Hundreds of employees with varying degrees of skill and training work in hotels.

The doorman usually makes the first contact with the newly arrived guest. He assists with the luggage, and he may summon a bellman to assist him. The motel guest may be met by a garage attendant, who will care for the guest's car while he registers.

The room clerk or desk clerk gives the guest information on rates and the kinds of service available. Then he assigns rooms.

The reservation clerk handles reservations that are made by mail or phone.

The rack clerk inserts or removes forms that indicate when a room becomes occupied, vacant, or closed for repairs.

The information clerk answers questions regarding transportation, theaters, restaurants, and local points of interest.

The executive department is headed by the general manager, who is in charge of the overall operation of the hotel. He also makes decisions concerning hotel policies, such as rates and charges for services, personnel hiring requirements, credit sales promotion, and publicity.

History and Future--The opening of New York's Astor House in 1836 spurred the building of luxurious hotels in the U.S. Soon, every city or town of any size had its grand hotel.

A fairly steady demand for hotel workers is expected to continue. Many thousands of openings result each year from turnover.

Work Environment--Most hotel employees work a forty hour week. They may be on duty during any one of three shifts, but fewer work at night than during the day. Irregular shifts are common.

Most workers receive paid vacations, usually one or two weeks a year.

Training and Education--Completion of grade school is preferred for unskilled jobs in hotels. Some employers accept young people who have attended community or neighborhood job-training courses. More and more employers are seeking high school graduates who can be trained to take over responsible positions.

Qualifications--Patience and tact are needed in hotel work. Executive workers must have poise and the ability to get along with the public. Pride in personal appearance is an important trait for hotel employees.

Advantages and Disadvantages--Free meals, life insurance, and medical assistance are often included as fringe benefits for hotel workers.

Many aspects of hotel work are physically demanding. Most hotel workers are on their feet all day. Many of the jobs involve some lifting, bending, or stretching.

ELEVATOR OPERATOR

The elevator operator will operate an elevator to transport passengers between floors of office buildings, apartment houses, department stores, hotels, or similar establishments. In addition to running the elevator, he may supply information to passengers, distribute mail to various floors, answer the telephone, prevent unauthorized persons from entering the building, and assist other employees to load and unload freight.

History and Future--More elevator operators will be needed in the next decades as a result of the anticipated expansion in new industrial, commercial, and large residential buildings.

Work Environment--Most elevator operators work a forty hour week. Most operators receive paid vacations, usually one or two weeks a year.

Training and Education--Completion of grade school is required for elevator operators. On-the-job training is offered for most elevator operators.

Qualifications--The elevator operator should have good physical stamina.

Advantages and Disadvantages--Elevator operators on night duty may receive higher wages.

The work is physically demanding.

BARBER

Barbers provide many services related to the care of hair, face, and scalp. They also give hair and scalp treatments. Today we find barbers who style hair and color hair. These specially trained barbers are known as "hairstylists."

History and Future--Several thousand job openings for barbers are expected to arise through the 1970's.

Work Environment--Barbers provide many services related to the care of hair, face, and scalp. Their main task is to cut hair and to satisfy each customer. They may work alone or with other barbers.

Training and Education--Barbers must attend a barber school in order to obtain a license which is required in almost all states. Classes are offered in many public and private schools. Some vocational schools offer training. Courses usually last six to eleven months.

Qualifications--The barber must be able to meet certain health requirements. He must be patient and able to get along with others.

Advantages and Disadvantages--The barber meets many new people.

Barbers who go into business for themselves must have the capital to buy or rent a shop and to install equipment. The barber may be required to stand for long periods of time.

FUNERAL DIRECTOR AND EMBALMER

The duties of the funeral director begin when he is notified of a death. He immediately arranges for the body to be taken to the funeral home. As soon as possible he obtains from the family information necessary for the death certificate, which he will file, and for the obituary notice.

The funeral director discusses with the relatives what type of service and burial they desire. He helps the family in their selection of a casket, vault, and cemetery plot. He advises them on social security, insurance, and other claims if they haven't already sought other counsel on such matters.

The embalmer must know the apparent and positive signs of death. He cleans the body, conforming to the state law on hygiene and public health, and disinfects and preserves it by using certain specified chemicals.

With cosmetics and other materials the embalmer attempts to give the deceased a life-like appearance, then clothes the body and places it in the casket.

History and Future--Well-trained embalmers and funeral directors are, and will continue to be needed. It is estimated that at the present time graduates from the accredited colleges supply only about half the personnel needed in funeral homes throughout the country.

Work Environment--Working hours may be irregular, and the funeral director and embalmer must be on constant call. A recent survey indicated that licensed personnel in a funeral home averaged forty-eight to fifty-two hours of work a week.

Training and Education--A high school student can take a number of subjects to give him initial preparation for this field. Biology, chemistry, and physics will help him learn about laboratory techniques and science in general. Social studies, art, public speaking, bookkeeping, business law, and business arithmetic will also be helpful.

Qualifications--One of the most important qualifications is a sincere desire to help people. Courtesy, emotional stability, maturity, tactfulness, sincerity, honesty, and an outgoing personality are marks of the funeral director.

Advantages and Disadvantages--There are several advancement possibilities for the funeral director. He can become first assistant, manager, personnel director, or eventually the owner.

There are a number of positions in a large firm on the professional, supervisory, and managerial levels, and an apprentice or intern can work up to assistant embalmer, embalmer, funeral director, supervisor, branch manager, or manager.

There are certain health hazards in caring for bodies of persons who have had communicable diseases, but with modern facilities the danger of the embalmer contracting diseases is slight.

SHOE REPAIRMAN

The shoe repairman performs many occupations in the shoe shop. He takes off soles and heels and replaces them with new ones. He stitches, staples, trims, and buffs the shoes. He may use prepared dyes or mix his own dyes for shoes and other articles.

The repairman may use several machines and do handwork on a single repair job. When a job is finished, it is carefully marked, and a record is made of the work done and the cost. When the customer calls, the repairman shows him the finished work, wraps it, and receives payment.

History and Future--Today modern shoe repairers take in thousands of dollars for services, such as dyeing, refinishing, and alterations, which were probably unheard of twenty-five years ago. Today, the golden age of shoe repair is just beginning for the man who is smart enough to take advantage of it.

In the long run it seems likely that the demand for skilled repairmen will continue.

Work Environment--The average workweek for unionized workers is forty-four hours. The workweek for self-employed shoe repairmen averages about ten hours a day, six days a week.

The busy seasons in this occupation are spring and fall. January, February, March, July, and August are slack months but extra work is put on during the busy season.

Training and Education--There are no specific educational qualifications for the shoe repairman. However, employers usually prefer to hire high school graduates.

Qualifications--The shoe repairman should enjoy working with his hands and have pride in fine craftsmanship. He should possess manual dexterity, good eye-hand coordination, and health good enough to allow standing all or much of the day. Mechanical ability is also important; since most shops are highly mechanized.

Advantages and Disadvantages--Top men in shoe repairing will find excellent opportunities for promotion to foreman or manager of large shops.

Although shoe repair work is not strenuous, it does require physical stamina. Standing for many workers can result in painful and sometimes serious conditions of the feet, legs, and back.

DRY CLEANING AND LAUNDRY WORKERS

The laundry industry offers a variety of jobs requiring different combinations and levels of experience and education.

The industrial launderers are primarily engaged in supplying laundered clothes, towels, and other items to factories.

Linen launderers primarily engage in supplying to commercial and service establishments or household users such laundered linens as uniforms, aprons, table covers, and towels.

Diaper services supply diapers and other linens for babies to homes.

Rug cleaners repair and clean rugs.

Cleaning and dyeing plants engage in dry cleaning and dyeing apparel and household fabrics.

History and Future--In 1832 a hand laundry was established in New York City for the washing of sailors' clothing and bedding.

The trend toward a higher standard of living forecasts a position of lasting importance for laundries. Fortunately for those choosing the industry as a life's vocation, the business is still in its infancy. The possibilities for expansion and development are vast.

Laundry employment is one of the most stable in the industrial complex.

Work Environment--The normal working time is approximately eight hours per day or forty to forty-eight hours per week. Most employees are given one or two weeks vacation each year.

Laundry processing creates heat and humidity within some working areas, but these are controlled through the use of modern systems of ventilation and air conditioning.

Training and Education--A young man or woman who has a grammar or grade school education and little or no industrial experience can easily get a start in the laundry industry. Many production jobs require primarily manual skills which can be developed on the job.

Qualifications--Laundry workers should have a knowledge of fabrics, soaps, bleaches, and neutralizers.

Advantages and Disadvantages--Regulations of health departments and the use of proper methods minimize occupational diseases in laundries. Only a few of the total employees in any laundry plant come in contact with soiled clothing. Most employees work with clean and sterilized wash garments or flatwork.

Many laundries offer conventional and special employee benefits. Some of these are rest periods, discounts on laundry work, hospital insurance, pension plans, recreation rooms, plant music, working uniforms, parties, picnics, Christmas bonuses, and low cost meals in company cafeterias.

SERVICE STATION WORKER

The service station attendant spends much of his time pumping gasoline, adding motor oil, and performing courtesy tasks, such as wiping windshields and checking the air in tires. He may also change and repair tires, charge batteries, clean spark plugs, and lubricate, wash and polish cars. Because an attractive station helps business, the attendant is expected to help keep the building, restrooms, and grounds clean and in good order.

An attendant may be required to make road calls with the station truck. He must have sufficient mechanical knowledge to correct minor problems and to start the customer's car.

The attendant uses small hand tools such as pliers, wrenches, and screwdrivers. He may also use power tools and more complex equipment, such as motor analyzers and wheel-alignment machines.

History and Future--Employment prospects for service station workers are expected to increase moderately. There is a high rate of turnover as people leave the field or retire. The number of motor vehicles is expected to increase because of the growing population among those of driving age and those of higher incomes.

Work Environment--Service station attendants usually work more than forty hours a week; many work more than forty-nine hours. This includes weekends and holiday work. Many stations, especially along our nation's interstate highways, operate on a twenty-four hour basis, and attendants may be required to work on rotating shifts. In larger stations employees are paid time and a half for work over forty hours a week.

Training and Education--The major oil companies and dealers that operate large up-to-date service stations prefer that their employees be high school graduates. A high school diploma indicates a knowledge of English and mathematics.

Qualifications--The service station worker should be in good physical condition. His job is an active one that requires bending, lifting, and stooping. He should be pleasant and courteous under all circumstances. He should also be able to keep his temper under control and to give friendly prompt service to all customers.

Advantages and Disadvantages--Entry into the field is fairly simple. The educational requirements are low. Most service station workers are trained on the job; experience usually is not required.

A station attendant gets dirty. Grime and grease accumulate on his hands and clothes as he handles tools and works on cars. Possible dangers are bruised or cut knuckles, burns from hot engines, and falls on oil slicks.

AIRLINE STEWARDESS

The airline stewardess has a public relations job as well as a service job. She is the personal representative of her company and is responsible for the comfort and convenience of the passengers on the airliner. The stewardess also plays an important role in safety functions. She is assigned passenger emergency evacuation duties and has to deal with present day problems of hijacking, bombing threats, and drunken or pugnacious passengers.

The stewardess must report both to the dispatch office and to the aircraft before the plane departs. She must check supplies, adjust ventilation, and check seats for cleanliness before passengers are allowed to board. She may varify and record the names and destinations of passengers and will instruct them in the use of seat belts and oxygen before takeoff and landing.

The stewardess serves meals prepared before the flight by flight kitchens or a catering service, answers questions about the plane or flight, and points out places of interest. She may provide passengers with reading or writing materials. It is also her duty to keep the cabin tidy.

History and Future--Employment will increase considerably during the next decade as the scheduled airlines expand their operations to meet the greatly increased demand for air travel.

The great majority of openings will result from girls leaving the occupation to get married or for other reasons.

Work Environment--The stewardess's work is performed mostly inside the plane cabin, although a few of her duties are performed in and around terminals. A stewardess engaged in international flights performs some duties in foreign stations.

Since commercial airlines operate around the clock, a stewardess's hours of work include night, holiday, and weekend work.

The job offers steady, regular employment and is normally unaffected by seasonal conditions.

Training and Education--All the airlines require high school graduation. Some airlines require that stewardesses have at least two years of college or its equivalent in training and experience. Others specify at least one year of college plus one year of training.

Qualifications--The stewardess must possess poise, charm, a pleasant speaking voice, good health, initiative, and intelligence. She must be unmarried when hired, although divorcees and widows without children are also accepted now by most airlines.

Advantages and Disadvantages--The stewardess has the opportunity to travel and see new places.

The stewardess may be away from home at least a third of the time and may become very lonely in a strange city.

COOK

In large commercial kitchens, cooks may specialize in frying, baking, roasting, broiling, or sauce making. Some cooks specialize in the preparation and cooking of exotic, elaborate, or foreign foods. The nature of the cook's job depends partly on where he works.

History and Future--The employment outlook is good for cooks both in the United States and abroad.

Work Environment--Cooks work a forty to forty-eight hour week and may work either day or evening shifts.

Training and Education--A high school education is preferred but not required. Many cooks learn their trade by on-the-job training or through formal apprenticeship which usually last three years.

Qualifications--Hand and finger agility, hand-eye coordination, good memory, and creative talent in working with foods are assets. Cooks must also have a keen sense of taste and smell and be immaculately clean and in good health.

Advantages and Disadvantages--Cooks may advance by moving to other places of employment for higher wages. Successful cooks may become chefs, but this can take fifteen to twenty years.

The work can be strenuous, and cooks most often work near hot ovens and ranges. Much standing is required.

BAKER

The baker makes rolls, breads of all kinds, cakes, pies, pastries, biscuits, doughnuts, crackers, and other types of edible baked foods. He operates the equipment used in bakeries in order to mix ingredients and to divide, form, and bake the products.

The baker must have recipes or formulas to indicate the ingredients to be used. He then selects the flour and other ingredients, such as eggs, milk, sugar, and yeast, and weighs or measures them carefully.

History and Future--According to the American Institute of Baking, about 10,000 bakery workers are needed each year to replace those who retire, die, or leave their jobs for other reasons.

Work Environment--The baker is quite active during his workday. He usually does considerable walking, reaching, stooping, grasping, carrying, pushing, and lifting. He stands most of the day.

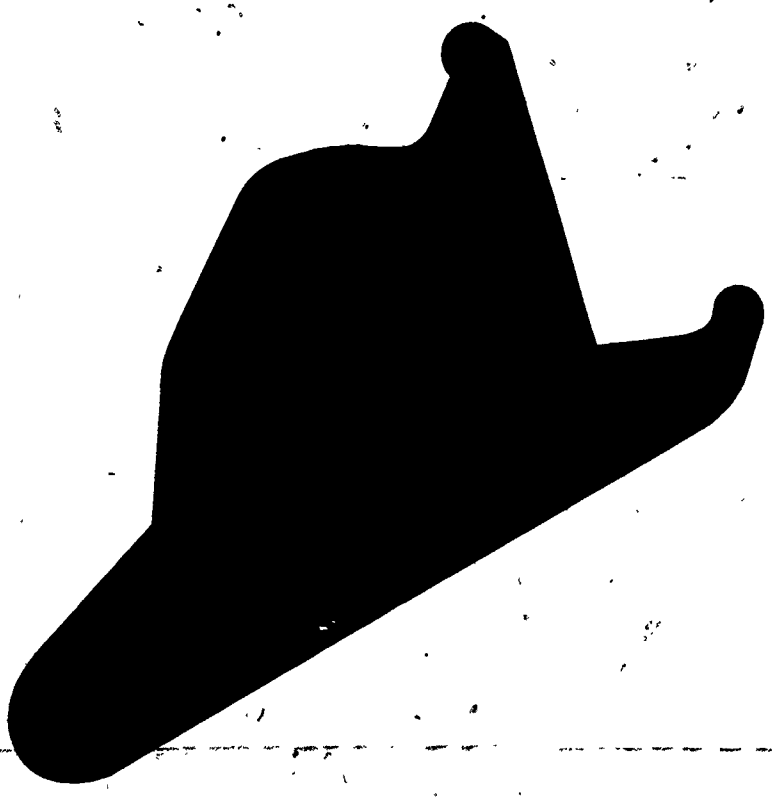
Most bakers work eight hours daily, averaging forty hours per week. Bakers owning their own shops work up to sixty or more hours per week.

Training and Education--Those interested in baking as a career should take chemistry, biology, home economics, and business arithmetic in high school. Bookkeeping will be useful for those who plan to go in business for themselves.

Qualifications--The baker should have good senses of taste and smell. He should be willing to work hard and to perform repetitive tasks.

Advantages and Disadvantages--There are possibilities of burns from hot pans and ovens and of heat prostration on hot days. Modern bakeries, however, are often air-conditioned for the comfort and health of the workers.

Public Service



Many persons devote their lives to public service, yet they could have gained far more personal and material benefits had they pursued some other type of activity. For unlike industry, measurements of competence in community service are neither profit-motivated nor production-oriented. Finally, being service-involved demands a commitment to the task as well as to the society, and those personal commitments may distinguish the dedicated public servants from all other workers.

CITY MANAGER

The city manager's duties are varied and demanding. He must see that all laws and ordinances are enforced by the proper department of the city government. He exercises control over all the departments in planning, directing, coordinating, and reviewing the services they perform for the community.

The city manager impartially appoints, supervises, and removes department heads and other employees. He prepares the annual budget for all departments and informs the council of the city's financial condition and future needs for money. The council may request the city manager to make certain regular or special reports. He is expected to attend all council meetings.

The city manager must keep in touch with the people of the community and maintain friendly relations with them.

His recommendations and management decisions must be made with care, so that he cannot be accused of favoring any group or individual as he functions in his job.

History and Future--The council/city manager idea was born in Staunton, Virginia in 1908 when the council decided to experiment in the supervision of city affairs. Today, the council/manager plan is used in over half of all United States cities where the population ranges between 10,000 and 500,000.

More opportunities for women are becoming available in city government. Although the position of city manager is considered a man's job, women are often employed as assistant managers and administrative assistants.

Work Environment--The manager does not have a nine-to-five schedule. He may report to his office at nine with hopes of getting through at five, but this frequently is impossible. Many managers put in more than fifty hours a week, without overtime pay. Inspection trips and the conduction of city business often take him away from his office.

Training and Education--Increasingly, the trend is toward city managers who have a bachelor's degree and preferably a master's degree in public administration.

College courses should include political science, history, economics, statistics, sociology, psychology, English, and speech.

Qualifications--The business manager must be able to combine business judgment, initiative, technical knowledge, and the ability to handle people.

He must be able to communicate to all social and economic levels and to all creeds and races in the community.

Advantages and Disadvantages--The position of city manager carries great responsibility. The hours may be long, with weekend duties frequent. There is no overtime pay, but salaries are higher than in other areas of government. Fringe benefits usually are good.

The high professional standards set for city managers offer challenges and rewards. The city manager with a deep devotion to public service and a talent for community leadership will find satisfaction in his work.

POLITICAL WORKER

The two major American political parties, the Democrats and Republicans, work through committees set up at all levels from local to national. Minor parties may follow a similar plan, although not necessarily on a nationwide basis; they might concentrate only on elections in connection with local issues and candidates.

During a campaign the political worker visits registered voters in his district, explains the qualifications of his party's candidates, and distributes campaign literature. Between campaigns he may visit new residents in the district to persuade them to register. He tries to learn what problems concern the voters in the precinct and how his party can be of service to them. He helps the voters in their dealings with the government, advising them on how to get tax adjustments, health services, and other aid.

Often a precinct leader has a full-time job working in some capacity for the state or local government, although civil service regulations in some localities prohibit political activity by civil servants.

Some political jobs are available shortly before or on election day. Special clerks are employed to help register new voters and to assist at the polls by checking in voters and giving information.

Other political jobs are those of election judge and clerk. They work in the polling places during registration periods and elections.

History and Future--The future of America politics rests to a large extent on the quality of the men and women who choose to work in this field, those who do the volunteer jobs, who work behind the scenes, or who actually run for office. A democracy is not effective unless its people participate in it, and so participation of all kinds--volunteer, professional, advisory--is important.

Work Environment--The political workers either work for national or local political parties.

Training and Education--High school courses should include political science, history, economics, and a thorough study of American history.

Qualifications--Political workers must have the ability to choose able people to assist them. They must know how to organize them and to keep the team working together smoothly and efficiently. This ability to keep people working together is essential at all levels of politics.

Advantages and Disadvantages--A person should not count on earning a living from politics alone at the beginning. A career in another field, which may be a springboard into politics, is a must.

HISTORIAN

Most historians work in colleges and universities where they engage in a combination of teaching and research. Some work in politics or journalism.

History and Future--Employment opportunities, especially in college teaching, are expected to increase rapidly during the next decade.

Many private industries hire college graduates who have majored in history as trainees for administrative and executive positions.

Work Environment--Historians are employed throughout the nation wherever colleges and universities are located. Historians employed by the federal government are located in Washington, D.C. Historians specializing in collecting historical documents are employed in the larger metropolitan areas.

Training and Education--A bachelor's degree is required for a beginning historian. The master's degree is the minimum requirement for an appointment as a college instructor.

Qualifications--The historian must be able to obtain historical facts and have the ability to interpret and analyze historical data.

Advantages and Disadvantages--Historians with only a master's degree, who desire college-level teaching positions, may find competition for available positions exceedingly keen. College graduates with only a bachelor's degree will very likely have an extremely difficult time finding employment as historians.

The best employment opportunities with the highest starting salary will be available to those historians who have earned their doctorate.

GEOGRAPHER

The geographer conducts research concerning the nature and use of the earth's areas, the distribution of natural resources, and the activities of people in various regions. He directly observes the physical and cultural aspects of the area under study and analyzes economic activities, racial distribution, transportation systems, and political organizations. The geographer uses available knowledge and methods taken from other scientific fields to make studies and analyses of soils, vegetation, climate, terrain, and mineral and water resources.

History and Future--The demand for professional geographers is expected to be good through the 1980's. Greater opportunities in research and teaching await those with advanced training.

Work Environment--The geographer may perform tasks outdoors or in offices or laboratories. Outside work is affected by climate. Some geographical studies may be made in areas where living and working conditions are primitive and barely adequate.

Training and Education--The minimum requirement for a career in geography is a bachelor's degree with a major in geography.

For most beginning research and teaching positions, the master's degree is required. The Ph.D. degree is usually essential for high level posts in college teaching and research.

Qualifications--The geographer should have a broad interest in people and their surroundings, a good imagination, an inquiring mind, and the ability to get along well with others. Good health is desirable since travel and poor living conditions may be involved.

Advantages and Disadvantages--Many geographers increase their earnings by doing consulting work, by writing articles and books for publication, and by doing special research on a fee basis.

The working hours are often irregular and will vary according to the geographer's specialization.

SPEECH AND HEARING CLINICIAN

The clinician works with children or adults who have some kind of speech or hearing problem.

The clinician also works with children who stutter, who have had cerebral palsy, or who have suffered brain damage. He works with adults who have severe physical disabilities or who must learn to talk all over again after illness or accident.

The exact duties of the clinician vary with the kind of speech problem and the age of the person.

History and Future--During and after World War II many new techniques were devised to aid servicemen who had suffered speech or hearing injuries. Advances in modern electronics have also contributed greatly to research and treatment.

In recent years the field of speech therapy has become more attractive to young men and women, especially since salaries have improved. Numerous openings in research, teaching, administration, and in corrective work are available to exceptional people.

Work Environment--The speech and hearing clinician works in elementary and secondary schools. The clinician is also qualified for positions in hospitals, rehabilitation centers, and clinics where speech and hearing therapy is offered.

Training and Education--A college degree is always required in this field, and the speech and hearing clinician should expect to continue training beyond the bachelor's degree.

High school and college courses in public speaking, dramatics, and singing are sometimes helpful in preparing for this career.

Qualifications--The clinician needs a warm, friendly personality to inspire confidence in his patients. He should enjoy helping all kinds of people and should be able to work as part of a professional team.

Advantages and Disadvantages--Advancement opportunities are excellent. Clinicians in hospitals and universities may rise to supervisory posts or take on administrative duties. Speech and hearing therapy can be difficult and tiring. Often speech rehabilitation can take a long time.

DRIVING INSTRUCTOR

The instructor in the driver training school uses one of the school's cars, which is equipped with dual brakes. He often calls for the student at his home and then begins a very carefully worked out plan of instruction.

Most schools have an outlined series of driving steps that should be followed with each student. Some students omit the classwork, however, and begin their lessons in the automobile.

The instructor begins with the instrument panel and safety aids of the car; he teaches such things as proper position before the wheel, use of the controls, gearshift positions, adjustments made before and after starting and stopping the car, backing, making turns, maintaining and changing lane position, and angle and parallel parking.

History and Future--The outlook for driving instruction is constantly improving. About thirty states have enacted laws and regulations to govern driver training schools and instructors.

There are also opportunities in traffic safety work. One can specialize in driver education, traffic regulations and control, or publicity for safety programs.

Work Environment--The winter season is the slack period for driving schools; driver instruction does not include learning to drive on snowy and icy streets. In the north an instructor may be fortunate to work thirty hours a week during the winter. However, the other seasons are very busy and he may work twice as long.

Training and Education--A beginning instructor must be at least twenty-one years of age and must have a high school diploma. He is also required to be an expert driver.

The National Commission on Safety Education recommends that a prospective teacher for the school driver education program have a bachelor's degree from an accredited institution with a minor or it's equivalent in safety education.

Qualifications--The instructor must be able to get along with people. He must be calm, friendly, and positive and direct in his approach; he also must be patient.

Advantages and Disadvantages--After a person has been a driving instructor for a while, he may decide to open his own driving school. There are many communities throughout the United States where there are ample opportunities for new schools. A good school with strict regulations, well trained instructors, and a reputation for honesty in its dealings with students will have all the business it can handle.

POLICEWOMAN

The policewoman is often assigned to deal primarily with one area of law enforcement, such as the youth division, the missing person's bureau, or perhaps a special female division.

One of the main functions of policewomen is the prevention of crimes against women and children. They deal also with cases where women and minors are the offenders. The policewoman may also work along with men in the department to identify and arrest swindlers and thieves who prey particularly on women.

In some small cities, policewomen spend a part of their time doing clerical work for the department.

History and Future--Matrons to supervise female prisoners were employed as far back as 1845, but it was not until 1910 in Los Angeles that the first woman was permitted to join a police force and assume police duties.

The future for women in law enforcement looks bright. Even now, there are vacancies for trained women on the staffs of many large police departments, and as more cities recognize the unique contributions that policewomen can make, there will be more opportunities.

Work Environment--The policewoman often carries a gun and handcuffs. For patrol duty, and in certain other circumstances, she operates an automobile.

The policewoman may work under all kinds of conditions as she trails a suspect in an effort to gain evidence or to apprehend a criminal.

While the women on the police force may at times be in physical danger, the on-duty fatality rate for policewomen is quite low.

Training and Education--In most cities, policewomen must have at least a high school education. A college education is of great help, both in obtaining work as a policewoman and in gaining promotions.

Qualifications--A policewoman should have good moral character and have a sense of responsibility. She must be interested in people, patient, understanding, emotionally stable, and even-tempered, especially when under stress.

Advantages and Disadvantages--Policewomen generally have excellent job security and find a good deal of job satisfaction in their work. They perform a public service, protecting some of the more vulnerable members of society. They deal with the public most of the time, and new situations are constantly arising; therefore, the work offers a great deal of variety.

FIREMAN

Firemen must be prepared, at a moment's notice, to rush to a fire and handle any emergency that occurs. Firemen must perform specific jobs assigned to them by their commanding officer. They may have to connect hoses to hydrants, position ladders, operate a pressure pump, or drive the truck. Often, firemen will have to administer first aid and other emergency treatments.

Educating the public about fire prevention and safety measures is another important duty of the fireman.

History and Future--Up until modern times, bucket brigades were the chief means of fighting fires. Now, fires are fought with new and modern equipment.

The number of firemen is expected to increase rapidly to meet the needs for fire protection in growing urban communities.

Work Environment--The fireman works outdoors in all kinds of weather, in rain, snow, freezing or scorching temperatures, hurricanes, or earthquakes.

When the fireman is indoors, his office is a simple but clean, well-lighted, and well-ventilated firehouse. Many firehouses have recreational equipment that the men may use when they are not at work.

Training and Education--A high school education is required by most fire departments. Much of the training is done on the job.

College and technical schools offer courses in fire fighting.

Qualifications--Good eyesight and hearing are important in this occupation. The fireman must be courageous, calm, quick, alert, and must be able to work well as a member of a coordinated team.

Advantages and Disadvantages--A fireman's duty keeps him away from home for longer periods than many other kinds of work do. All fire fighters are subject to the discipline required in this almost military occupation. Employment is steady and not affected by economic conditions.

Sick leave and injury benefits for firemen are better than average. Men hurt while on duty usually receive full pay while convalescing, plus compensation for medical care. If permanently injured, they are retired at half pay or more.

POSTMAN

Most postmen travel predetermined routes delivering and collecting mail from street letter boxes and from office chutes. Others drive trucks and deliver parcel post. Some deliver and collect mail along routes usually located outside the city limits. Rural carriers may sell stamps and money orders and accept parcel post letters and packages to be registered or insured.

History and Future--In early America, ships were the only means of transporting mail. When America began to grow, railroads, stagecoaches, and the pony express took the mail to the different towns. In our day and age, we find mail being sent by railroads, airplanes, and trucks.

The future employment for postmen is good. The post office department plans on hiring more employees year after year.

Work Environment--Postmen work all over the country in cities, towns, villages, and rural areas. Some may work inside a building, delivering the mail to the different offices found in the building. If a postman works in a rural area, he may have to drive many miles a day on his route.

Training and Education--A high school education is the minimum requirement. The beginning postman is provided with on-the-job training.

Qualifications--The postman must be a citizen of the United States, be able to follow orders, have a stable character and memory, be in good health, and have good vision.

Advantages and Disadvantages--The postman is paid by the United States government.

The job is open to both men and women.

The postman receives vacation days each year, along with sick leave days. Retirement plans are good and the postman is usually assured of steady employment.

Although the postman may find this work unpleasant due to adverse weather conditions and to the energy required, he may advance in his field to a higher position if he has had a great deal of experience, special training or education, and certain other abilities.

POSTAL CLERK

The duties of a postal clerk vary according to the size of the post office in which he is employed. In a small post office he is known as a distribution and window clerk, and he sorts mail as it comes in or goes out. He also tends a window, selling stamps or weighing packages. In large post offices, the work is more specialized because the mail is handled by multi-position letter-sorting machines.

History and Future--Ever since the need arose for communication between distant points there has been some form of postal service. At first it was used solely for military purposes.

In the United States, the first colonial services were privately operated. Postage stamps were introduced in 1847 and home delivery of mail was begun in 1863. To speed and improve mail handling, the Zoning Improvement Plan (ZIP code) was initiated July 1, 1963.

The employment outlook for postal clerks is reasonably good. There will be many thousands of job openings in the next decade, most resulting from the need to replace clerks who transfer to other occupations, retire, or die.

Work Environment--Most post offices are modern, bright places in which to work. There is much contact with fellow employees and with the public to add interest to the job. Post office jobs in small communities compare favorably with other jobs offered locally. Full-time clerks work a fixed five day schedule, which constitutes a forty hour workweek.

Training and Education--A high school education is helpful.

All applicants must pass a U.S. Postal Service examination, which includes tests of English, arithmetic, and general knowledge.

Qualifications--Good health and a good memory are essential for a postal clerk.

Advantages and Disadvantages--The postal service offers retirement benefits, sick leave, and disability benefits. Employees can also receive low-cost insurance as well as compensation if they are injured in the performance of their duties.

Postal service jobs are not affected by the business cycle. The labor-management contract has a no-layoff clause as a primary source of security.

SANITARY ENGINEER

The sanitary engineer specializes in many areas. One of the most important areas is refuse collection and disposal.

The work of the sanitary engineer is not routine; he faces many new challenges that are a result of modern technological accomplishments. These challenges include the health problems of hastily built suburbs, the pollution of water and air by new chemicals and radioactive wastes, accident prevention, pesticides, toxicity and food, and water supply development. To meet these challenges, the work of the sanitary engineer has become more specialized.

History and Future--The future for sanitary engineers appears to be excellent. The normal growth of population is expected to provide many opportunities. There is a need for sanitary engineers who have a good knowledge of ecology. There are also opportunities for women in the sanitary engineering field, though at present not many are employed in it.

Work Environment--Almost half the nation's sanitary engineers work for government agencies, particularly the U.S. Public Health Service, Federal Water Pollution Control Administration, U.S. Army Medical Service Corps, U.S. Navy Medical Services Group, U.S. Air Force Biomedical Corps, and various state health departments. Some are employed by municipal governments. Twenty-five percent are in business or industry as independent consultants or employees of private companies. Some work for American oil and mining companies overseas, helping to set up housing facilities for workers there. Some sanitary engineers are teachers.

Training and Education--In high school the prospective sanitary engineer should take as many science courses as possible. English, mathematics, social studies, history, and foreign language will also be helpful. At this time he should try to talk to a sanitary engineer about his plans. Consulting engineering department personnel of a college, preferably the one he expects to attend, would also be advantageous.

Qualifications--The sanitary engineer should have good mechanical aptitude and should enjoy working with detail. He should be in good health and not mind traveling extensively and roughing it when necessary.

Advantages and Disadvantages--Teaching and research positions usually require the applicant to have a doctor of philosophy or doctor of science degree, which takes another one to three years of schooling after the master's. Graduate students especially will find financial help available to them in the form of fellowships and traineeships from industry foundations, the U.S. Public Health Service, and sometimes the college itself.

PUBLIC UTILITY WORKERS

The watch engineer is the main supervisory worker. He oversees the men who are responsible for the operation and maintenance of equipment and machinery.

The switchboard operator works in a control room and directs the flow of electric current from the generators to the outgoing power lines. He must keep a constant check on his instruments to see that the electricity is moving properly through the power plant and that the correct voltage is maintained.

The auxiliary equipment operator regulates and tends pumps, fans, and blowers, as well as a variety of other equipment in steam plants.

The load dispatcher is the nerve center of the utility network. He gives the orders to start or shut down boilers and generators at the station.

The linemen build and repair power lines that bring electricity to homes, stores, factories, and schools. They are often needed to splice or replace broken wires and cables.

The troubleman goes out to locate the source of the difficulty and to make the necessary repairs or adjustments.

History and Future--There has been a growing demand for natural gas energy, giving an excellent long-term employment outlook.

Work Environment--The utility industry offers steady and secure work. Layoffs are rare. Some companies employ college students for temporary summer help, mainly on outside jobs.

Training and Education--Most jobs in the utility industry require a high school education. Subjects that will be especially helpful are mathematics, science, and English. Some jobs will require business arithmetic.

Qualifications--Mechanical aptitude, manual dexterity, the ability to get along with others, and a willingness to learn are important qualifications.

Advantages and Disadvantages--Utility companies provide paid vacations and holidays, pension plans, and group life insurance, as well as hospitalization and medical insurance programs.

Since electricity can be dangerous, utility companies enforce strict safety standards. Frequency of accidents per man-hour in the electric light and power industry is below that in most manufacturing industries.

PUBLIC PERSONNEL WORKER

The public personnel workers deal with employees of federal, state, and local government agencies such as park districts, schools, and turnpike administration.

Personnel workers in civil service work on job analysis, wage and salary classification, interviewing, giving the civil service examination, and placing workers in the right job.

Labor relations in the field of public personnel have been changing in recent years, as there has been a growth of union strength among government workers. Dealings with labor unions will probably continue to become more important in public personnel.

History and Future--Expansion of employment in personnel work is expected during the next few years as the nation's employment rises. Job opportunities for college graduates with specialized training in the field will be greater than for young people seeking advancement into personnel work from production, clerical, or other sub-professional jobs.

Work Environment--Personnel workers generally work in comfortable surroundings. The hours are fairly regular, varying from thirty-five to forty hours a week.

Personnel workers, like those in most professional fields, may put in time after working hours studying or attending professional conferences.

Training and Education--Today, a college degree is necessary for entrance into personnel work.

In choosing college courses, one must keep in mind that personnel work deals with people and companies. To deal with people, it is necessary to study the social and behavioral sciences, especially sociology, psychology, and social psychology. Courses in business and economics are important for understanding the company and its policies.

Qualifications--The personnel worker must be able to work with people of all levels of intelligence, education, and ability. In interviewing and counseling, he must be able to meet people, talk comfortably with them, and at the same time size them up for the job he is trying to fill. He must be able to remember details, the special qualifications of a certain employee, and the special needs of a certain job.

Advantages and Disadvantages--Women personnel workers, who make up about one-fourth of all the people in the field, have a better chance of finding jobs in companies that have many women employees.

Generally, personnel workers receive the same benefits as the other employees in the organizations where they work, such as paid vacations, insurance, hospitalization, and retirement programs.

INDUSTRIAL AND LABOR RELATIONS WORKER

Workers in industrial relations work with individual employees in areas such as selection, training, retraining, transfer, promotion, and retirement. They may also work in labor relations, which is usually carried on with groups of employees.

The industrial relations worker may serve as an employment interviewer or assistant to the personnel manager, a safety director who must interpret company policy to the labor force, and, in turn, communicate labor's problems to management.

History and Future--Many opportunities await qualified applicants in the field of industrial and labor relations. The entire job area is expanding very rapidly.

Work Environment--Industrial relations workers are employed in local school systems, colleges and universities, government agencies, and hospitals.

Training and Education--The industrial labor relations worker must have a college education. He might take a degree in personnel administration, business administration, economic psychology, or some related subject. College studies in labor law, organization, administration, collective bargaining, labor economics, industrial psychology, sociology, history of unions, communications skills, counseling, and public administration will prove of special value to the prospective worker in the industrial relations field.

Qualifications--The industrial relations worker is a specialist in manpower. Therefore, he must be able to think independently and to analyze the factors that affect a worker's morale, enthusiasm, and ability to do his job.

Advantages and Disadvantages--The pressure can be severe, and during periods of crisis long hours and even work around the clock can be expected. However, industrial relations workers say that the rewards of the occupation in terms of personal satisfaction far outweigh the disadvantages. The work is especially attractive to men and women who derive satisfaction from creating harmony between people of opposing views through compromise and ultimate agreement.

SOCIAL WORKER

Social workers provide the link between various services and the individuals and families who are unable to provide for themselves or who need assistance in solving their problems.

The problems which concern social workers include poverty, broken homes, physical, mental, and emotional handicaps, antisocial behavior, racial tensions, unsatisfactory community conditions, housing, medical care, and lack of educational, recreational, and cultural opportunities.

History and Future--Many factors will contribute to the need for more social workers to maintain existing programs and to staff new ones. Many openings also will arise because of the need to replace workers who retire, die, or otherwise leave the profession.

Work Environment--Hours and working conditions vary widely. The workweek of many social workers is 37 1/2 hours; some public agencies have a forty hour week. Overtime, night, and holiday work are not unusual.

Training and Education--A bachelor's degree, preferably in social welfare, generally is the minimum educational requirement for beginning jobs in social work. For teaching positions, a master's degree in social work is required and a doctorate is preferred.

Qualifications--Personal qualities essential for social workers include emotional maturity, objectivity, sensitivity, a basic concern for people and their social problems, and the ability to form and sustain good working relationships and to encourage social adjustment in others.

Advantages and Disadvantages--Promotion can be quite rapid in social work. If the worker is willing to study and give even a little more than the basic job requires, he may find he has more and more responsibility. Eventually, by demonstrating his competence, he may be admitted to the Academy of Certified Social Workers, a unit of the National Association of Social Workers, and may assume the responsibility of a self-directed practitioner.

LAWYER

Most lawyers are engaged in general practice, handling all kinds of legal work for clients. However, a significant number specialize in one branch of law, such as corporation, criminal, labor, patent, real estate, tax, or international law. Some attorneys devote themselves entirely to trying cases in courts. Others never appear in court but spend all their time drawing up wills, trusts, contracts, mortgages, and other legal documents; conducting out-of-town negotiations; and doing the investigative and other legal work necessary to prepare for trials. Some are primarily engaged in teaching, research, writing, or administrative activities.

History and Future--Law is as old as civilization. It grew out of a need for rules that would help men live together harmoniously. At first, it was little more than custom, but gradually precedents were established; out of these came formal written laws.

Graduates from widely recognized schools and those who rank high in their classes will have very good employment prospects. They are expected to have good opportunities for obtaining salaried positions with well-known law firms, on the legal staff of corporation and government agencies, or as law clerks to judges.

Work Environment--Lawyers practice in all parts of the country; the concentration of lawyers is greatest in cities and in the states which have the greatest population.

Training and Education--Seven years of full-time study after high school is necessary to complete the required college and law school work. The usual preparation for becoming a lawyer is four years of college study followed by three years in law school. However, many law schools admit students after three years of college work. A few schools may accept students after two years of college work.

Qualifications--U.S. citizenship and sound moral character are required to practice law in the United States.

Advantages and Disadvantages--The private practitioner enjoys a sense of free enterprise and independence. Law has no set retirement age, and many practice well into their seventies. Physical handicaps are no drawback. The established lawyer usually enjoys the respect of the public and considerable prestige.

A person may be unhappy in the legal profession if he is unable to stand up under pressure. Some might find the work confining or tedious. The need for lifelong study to keep abreast of developments in the field puts constant pressure on the lawyer.

Transportation

In any society transportation is necessary for survival. In an industrial society an effective system is vitally necessary. The need for an effective system of transportation will continue to grow as the nation's economy expands. While modes will change over the years with the increased usage of air cushion vehicles and aerospace devices, the field will continue to offer varied and challenging career possibilities.

TRUCK DRIVER

The truck driver spends most of his time behind the wheel; the long distance truck driver must practice safe driving techniques. Defensive driving, anticipating the unpredictable behavior of pedestrians and of other drivers and the effects of changing weather conditions, is absolutely essential. At all times truck drivers must obey speed regulations, watch for streets or roads closed to heavy traffic, and have their vehicles under full control.

At the start of each trip, he reports to the dispatcher for his instructions and his bill of lading, the papers describing the nature and weight of the cargo he is to carry. He then carefully checks the tires, oil, water, and fuel and makes certain that the load is secure.

The driver is required to keep a daily log book of his stops, route, and driving hours for the Bureau of Motor Carrier Safety in the U.S. Department of Transportation and Federal Highway Administration.

History and Future--The job outlook for long-distance truck drivers is bright. Some increase in the number of jobs for truck drivers is expected as a result of several factors, among them the expansion of industrial activity, the widespread movement of industries from larger cities, and the continuing mobility of population.

Work Environment--A truck driver is not permitted to be on the road for more than ten hours, after which he must be off for eight hours. He may not have a total of more than fifteen hours of driving and other duties without eight hours off. He is limited to sixty hours in any seven day period or seventy in any eight consecutive days.

Training and Education--Some trucking companies will accept drivers with an elementary school education; others require at least two years of high school and prefer men with a high school diploma.

Qualifications--The truck driver must be at least twenty-one years of age, with good hearing and at least 20/40 vision with or without corrective lenses.

He must have sufficient command of the English language to understand traffic signs, converse with the public, and complete necessary reports.

Advantages and Disadvantages--Benefits are good. Vacations of one to five weeks are common, depending on the length of service. Some companies also offer meal allowances, insurance programs, and company-paid pension plans. Some truck drivers can earn bonuses for special loads; some receive layover expenses.

The tension of sustained driving and the constant pressure associated with driving safely and on schedule in difficult weather conditions and heavy traffic can produce a considerable strain. Too, drivers are often required to work holidays and weekends and must frequently be away from home for several days at a time.

DISPATCHER
(TRUCKING INDUSTRY)

The dispatcher coordinates the movement of trucks and freight into and out of terminals, makes up loads for specific destinations, assigns drivers, develops delivery schedules, handles customers' requests for pickup of freight, and provides information on delivery.

History and Future--Employment in the trucking industry is expected to grow rapidly through the 1970's. New jobs resulting from employment growth, as well as jobs that must be filled as experienced workers retire, die, or transfer to other fields, are expected to account for tens of thousands of openings each year.

Work Environment--The dispatcher's work is not physically strenuous. The dispatching areas are well lighted, heated, and ventilated.

Training and Education--Most employers prefer high school graduates. New employees work under the guidance of experienced workers and foremen while learning their jobs. This usually takes no more than a few weeks.

Qualifications--The dispatcher must be in good physical condition. He must also be able to read and speak English.

Advantages and Disadvantages--Dispatchers who demonstrate supervisory ability can become gang leaders or dock foremen.

MOTORCYCLE MECHANIC

The motorcycle mechanic finds the cause of a major mechanical or electrical problem on a cycle and then makes repairs quickly.

The mechanic first discusses the problem with the owner of the cycle and then runs the engine or test rides the machine. Once the defective parts are located, the mechanic repairs or replaces them. Some jobs require only the replacement of a single item such as a carburetor or electric starter and may be completed in less than an hour. In contrast, it may take several hours for the mechanic to overhaul an engine because he must disassemble and reassemble it in order to replace worn valves, pistons, bearings, and other important parts.

Mechanics use common handtools such as wrenches, pliers, and screwdrivers, as well as special tools designed for working on hard-to-remove parts such as flywheels and bearings. They also use compression gages, timing lights, and other testing devices. Hoists are used for lifting heavy motorcycles.

Most mechanics are expected to perform all kinds of repairs on motorcycles.

History and Future--Because the number of motorcycles on the road increased by about 300 percent between 1960 and 1970, employment in this occupation is expected to grow rapidly.

Many cycles are purchased to beat the high cost of transportation and parking. The cycle, like its four-wheeled counterpart, the automobile, requires periodic servicing.

Work Environment--Motorcycling activity increases sharply as the weather grows warmer. Consequently, during the summer most mechanics work more than forty hours a week.

Training and Education--Most employees prefer to hire high school graduates but will accept applicants with less education. High school or vocational school courses in small engine repair generally strengthen an applicant's qualifications, as do courses in automobile mechanics, science, and mathematics.

Qualifications--Trainees must have mechanical aptitude and show an interest in learning the work. Trainees must be free of any physical disabilities that would prevent them from obtaining a motorcycle driver's license.

Advantages and Disadvantages--Many employers of motorcycle mechanics provide holiday and vacation pay and additional benefits such as life, health, and accident insurance. Some also provide paid sick leave, contribute to retirement plans, and furnish laundered uniforms free of charge.

Although the work is not hazardous, mechanics sometimes suffer cuts, bruises, and other minor injuries.

TAXICAB DRIVER

The taxicab driver's job is transporting people. Delivering packages and performing a sightseeing service for those who request it are also in a day's work for him.

Cabdrivers have a number of ways of getting customers. The most common one in large cities is to pick up people on the street.

Some drivers use two-way radios to obtain most of their customers. When the dispatcher receives a call for a cab at a certain address, he radios the locality to his fleet. Cabs operating in the vicinity radio in their bids for the call, and the cab closest to the address is assigned to pick up the passengers.

Many companies have stations where cabs wait in line, either to pick up passengers directly or to be sent out on calls. Some drivers wait at cabstands strategically located in busy areas of the city or near theaters, hotels, railroad stations, or airports. Some cabstands are equipped with telephones that the dispatcher uses to send drivers out on calls.

History and Future--The service of transporting people is not new, and the idea did not originate in the United States. Japan has used the jinrikisha (a two-wheeled carriage pulled by a man) for hundreds of years. Ancient Rome had chariots and drivers for hire. Carriages or cabs drawn by horses have been common in large cities throughout the world for many years and still are used in some cities for drives in parks.

There has been a steady increase in the number of taxicab companies, taxicabs, and drivers in the suburban communities and smaller cities.

Work Environment--Cab drivers enjoy the freedom to organize their work pretty much as they want as long as they do enough business. However, the life is not an easy one. Many drivers have been robbed or injured by hoodlums posing as passengers. Drivers complain that some people call a cab and then leave before the cab can get to the address. Drunks may joyride without money to pay for the trip; passengers who refuse to pay the fare are not uncommon. Others may not tip.

Training and Education--A high school education is preferred. This education will help in handling finances and often gives a person confidence in talking with passengers. A high school diploma is almost essential for a driver who plans to have his own cab company. He must be able to run his business profitably, figure the earnings of those working for him, and fill out tax and insurance forms.

Qualifications--The most important requirement is the ability to drive extremely well. A beginning cabdriver should have at least three years of driving experience.

Advantages and Disadvantages--Most cabdrivers receive a percentage of their total fares, usually between forty and fifty percent. Some companies pay a small salary plus a commission based on the volume of business the driver does.

Besides the strain of being behind the wheel for long hours each day, driving in bad weather and rush hours add extra tension. Accidents are surprisingly few considering the number of miles driven, but many accidents count seriously against the driver's record.

TRACK WORKER

Trackmen construct, maintain, and repair railroad tracks and roadways. Many work in section crews which patrol a limited section of the railroad's right-of-way. Other track workers are employed with highly mechanized crews to cover longer stretches of the right-of-way. Still others are employed in "extra" crews performing seasonal maintenance and repair work, such as replacing rails.

After some track workers make regular inspections of the right-of-way, trackmen and portable equipment operators make necessary repairs. Roadway maintenance machines, such as multiple tie tampers, power wrenches, and ballast cleaners, have been displacing gradually the use of such handtools as picks, shovels, and spike hammers. In place of trackmen using hand or pneumatically-powered tools, more and more railroads are using roadway machines which require skilled operators.

History and Future--Several thousand new workers will be hired each year in track maintenance occupations, mostly for the seasonal rush during the summer months. Comparatively few openings will offer steady year-round employment.

Work Environment--Since most section men inspect and maintain only a few miles of track, they usually live at home.

Most trackmen work a five day, forty hour week. Time worked over eight hours a day is paid for at time and one-half rates.

Training and Education--Most track workers are trained on the job. To acquire the necessary skills requires up to two years. Machine operating jobs are assigned to qualified trackmen on the basis of seniority.

A high school education is desirable to advance to portable equipment operator and gang foreman.

Qualifications--Most railroads prefer workers between the ages of twenty-one and forty-five who must be able to read, write, and do heavy work. Applicants often are required to take physical examinations.

Advantages and Disadvantages--Trackmen who have the necessary seniority and qualifications may advance to gang or assistant foreman, then to a supervisory maintenance position, such as track supervisor.

Supervisors usually travel from place to place, generally living in camp cars or trailers provided by the railroad and paying for their own food.

LOCOMOTIVE ENGINEER

The engineer is responsible for running the locomotive safely and efficiently. He operates the throttle, air brakes, and other controls, and he supervises the work of the fireman (helper) who may work in the cab with him. Engineers work in railroad yards or on the road in passenger or freight service. The engineer in passenger or freight service operates the locomotive which moves trains over the road according to the train orders for each run or any instructions received en route through the conductor, the wayside signal system, or by train radio.

Before and after each run, the engineer checks on the condition of the locomotive and either sees that minor adjustments are made on the spot or reports to the engine foreman mechanical defects needing attention.

History and Future--Openings will arise from the need to fill positions left vacant by engineers who retire, die, or otherwise leave the occupation.

Work Environment--The engineer often is scheduled to work nights, weekends, and holidays at straight-time rates. Like other workers in road service, he must often lay over at the end of a run before he makes the return trip to his home terminal.

Training and Education--The applicant must pass comprehensive examinations on the train's mechanical and electrical equipment and on fuel economy, safety, timetables, train orders, and other operating rules and regulations. He also must be able to operate any kind of locomotive in service on his road.

Qualifications--Locomotive engineers must have good eyesight, hearing, mechanical ability, and eye coordination. They should be able to concentrate on detail in order to operate the complicated control system of a locomotive.

Advantages and Disadvantages--A newly promoted engineer starts out as an extra board man without any regular assignment. It may be several years before he receives such an assignment. During this period, he works on temporary assignments whenever an engineer is needed. An experienced engineer may advance to a supervisory position, such as foreman of engines for his road.

CONDUCTOR
(RAILROAD INDUSTRY)

The conductor is responsible for seeing that railroad trains are moved according to train orders or other instructions. Freight and passenger train conductors are the "captains" of their trains. They are responsible for the safety of their passengers and cargoes, and they supervise the work of the train and engine crews.

Before a freight or passenger train leaves the terminal, the conductor receives the train orders from the dispatcher and confers with the crew members to make sure they understand the orders. As the superior officer on the train, the conductor takes charge in any emergency that may occur while the train is on its run. All persons employed on the train are subject to his instructions.

On freight trains the conductor keeps a record of the contents and destination of each car and sees that freight cars are picked up and set out along the route. On passenger trains, the conductor collects tickets and cash fares.

History and Future--Conductors are one of the oldest age groups in the nation's work force and job openings will develop to replace those who retire, die, or leave railroading for some other reason.

Work Environment--Conductors in freight and passenger service often are scheduled to work nights, weekends, and holidays. Conductors on extra board work often have irregular hours. They also may work less time than conductors with regular assignments and, therefore, earn less.

Training and Education--Openings for conductors are filled on a seniority basis by promotion of qualified brakemen. To qualify for promotion, a man usually must have several years of experience as a brakeman and pass examinations covering signals, air brakes, timetables, operating rules, and related subjects.

Qualifications--The conductor must be able to act effectively as the railroad's representative. Conductors who show special ability of this kind may advance to managerial positions, such as trainmaster.

Advantages and Disadvantages--Conductors are often required to work nights, weekends, and holidays. Many are required to work away from home for days at a time.

PILOT

An airline pilot's pay is high, but the requirements are strict and the responsibilities are great.

The pilot's work includes preparing the airplane for flight and takeoff, including current and forecast weather en route and at the intended point of landing, and filing a flight plan.

Before a pilot takes off, he familarizes himself with the weather along his line of planned flight; he checks latest radio procedures and alternate airport conditions in the event he cannot fly to his original destination. He files his complete flight plan and is ready to check his airplane.

As the pilot prepares to start a trip he or the copilot inspects all parts of the aircraft, including instruments and controls. In scheduled airline and large corporate aircraft operation, a Federal Aviation Administration approved checklist is used for each phase, such as before starting engines, before takeoff, and during takeoff. At the start of each engine, he checks all its gauges to see that they are functioning properly and then starts the next engine using the same procedure each time.

He obtains permission from the control tower to taxi, where all engines and instruments are checked further. He requests takeoff clearance and taxis on the runway into takeoff position. Power is applied by advancing the throttles, and the aircraft begins to roll. Prior to takeoff he will have turned into the appropriate radio aids to navigation.

When he acquires sufficient speed, he smoothly lifts the airplane into the air with full power from his engines. The copilot raises the landing gear and flaps upon command by the pilot, and then they climb to cruising altitude.

As the plane approaches the airport to land, the pilot radios the air traffic controller to obtain letdown clearance and may prepare for an instrument letdown, working with his instruments and radio and radar navigation facilities on the ground.

A pilot's job is not finished when he gets out of the airplane. He must engage in ground and flight proficiency. This work includes study of all new materials on subjects ranging from new equipment on his airplane to rules, regulations, and new data on general flying.

History and Future--Though many women hold private pilot certificates, until quite recently commercial flying was still a man's world. In 1968, Turi Wideroe became the first woman commercial pilot for Scandinavian Airlines System (SAS). Her initial assignment was SAS domestic routes as a copilot or first officer.

Among the factors that will contribute to increased air travel are population growth, greater consumer purchasing power, the trend toward longer vacations, more frequent use of air travel by businessmen, faster jet flights, and more economy-class passenger service.

Work Environment--Pilots are limited to eighty flight hours per month. Not all of the pilot's working time is spent in the air. He has preflight and postflight duties to perform and he may be on duty between segments of a flight. The Airline Pilots Association estimates that the average pilot puts in about two total duty hours to one flight hour or overall about forty working hours per week.

Training and Education--A pilot must hold an airline transport pilot's certificate from the FAA. Applicants for the certificate must be at least twenty-three years old and have a minimum of 1500 hours of flying time, including night and instrument flying. The pilot must pass a thorough physical examination and written test given by the FAA, covering such subjects as the rules of safe flying, current air regulations, and principles of navigation. He must then pass a practical test of his flight skills and technical competence. His certification remains in effect as long as he can pass an annual physical examination and the periodic tests of his flying skills required by government regulations, until he reaches his sixtieth birthday.

Qualifications--The pilot must measure up to rigid physical standards. His vision must be at least 20/100 corrected to 20/20. He must have good hearing, outstanding physical stamina, and no handicaps that would prevent quick reaction. Because flying a large aircraft imposes great responsibility on a pilot, the airlines use psychological tests to determine an applicant's alertness, emotional stability, and maturity, as well as his ability to assume responsibility, command respect, and make decisions and accurate judgments under pressure.

Advantages and Disadvantages--Pilots with administrative ability sometimes can advance to chief pilot, flight operation manager, and other supervisory and executive jobs. A few who have sufficient experience and financial backing go into business for themselves operating air-taxi services or flying schools.

Most pilots, however, spend their careers flying. For them, advancement comes in the form of seniority, which enables them to obtain the routes and schedules that pay better salaries.

Although flying does not involve much physical effort, the pilot is subject to stress because of the responsibility of the job. He must be constantly alert and prepared to make decisions quickly. Bad weather, for example, can make a flight very difficult.

Another source of potential danger that has been highly publicized in recent years is the airline hijacker. Although preventive measures, such as screening devices that are used to detect weapons concealed on passengers and sky marshals who police flights, are being employed to combat this menace, the hijacker is still a very real threat to air safety.

AIRLINE DISPATCHER

Dispatchers, employed primarily at large airports, coordinate all scheduled flights operated by an airline with assigned geographical areas. They also supervise flights to insure that Federal Aviation Administration and airline flight and safety regulations are observed. They are responsible for canceling flights and for authorizing alternate plans of operation.

The dispatcher and the flight captain must agree on all details of the flight before a plane leaves an airport. The dispatcher studies reports from the meteorologist and informs the pilot of weather conditions before takeoff. The dispatcher keeps the pilot informed of changing weather conditions and other factors that relate to the safety of the flight.

The dispatcher confers with the captain on the estimated flying time, alternate landing fields en route in case of emergency, quantity of fuel needed, and the altitude at which the aircraft will fly.

The dispatcher is responsible for keeping records, checking availability of aircraft and equipment, and maintaining proper margins of safety for the weight and balance of loaded cargo.

History and Future--Expansion of the air transport industry increases the significance of the dispatcher's job. The field is highly competitive, but depending on the rate of growth of the respective parts of the air transport industry, assistant dispatchers and dispatch clerks are expected to be hired in growing numbers. Foreign airlines operating between overseas points and cities in the United States will also increase the number of entry jobs from which future dispatchers will be drawn.

Work Environment--Air transport is not a seasonal industry; therefore, the dispatcher is not subject to lay-off due to seasonal fluctuation.

Airlines operate on a round-the-clock basis; hence, dispatchers are required to work rotating shifts with periodic weekend and holiday duty. During busy periods they may work overtime in order to cope with unusually large numbers of travelers.

Training and Education--The dispatcher must have at least a high school education. A good background in social studies will provide good background for understanding modern air transportation. It is essential for a dispatcher to be able to express himself clearly and concisely.

Qualifications--The flight dispatcher must have good health, acceptable vision, normal hearing, and a distinct, well modulated radio voice. It is preferred that applicants be under thirty-five years of age. There is no prohibition against women working in this field, but there are very few in it.

The dispatcher should have an even, pleasant disposition and be tactful and courteous in all kinds of situations. The work requires an active, agile mind; the ability to concentrate regardless of distractions; and, of prime importance, dependability and precise judgment.

Advantages and Disadvantages--Dispatchers usually receive two weeks of paid vacation a year, three weeks after five years of service, four weeks after fifteen years, five weeks after twenty years, and six weeks after twenty-five years.

The most unfavorable aspect of this occupation is the nervous strain that results from great responsibility and irregular working hours. When one considers that the responsibility of the dispatcher routinely encompasses the safety of passengers in flight, quite apart from any emergency situation that may develop, it is obvious that the emotional stability of the dispatcher must be of the highest order.

TICKET RESERVATION AGENT

The reservation agent gives customers flight schedules and fare information over the telephone.

On some of the larger airlines, data processing systems quickly receive, record, and transmit flight space information to personnel at airports and reservations throughout the entire airline system. Ticket agents sell tickets and fill out ticket forms, including information such as the flight number and the passenger's name and destination. They also answer inquiries about flight schedules and fares and keep records of tickets sold.

History and Future--Most of the major airlines are installing new machines to record and process reservations, keep records, and perform a variety of other routine tasks. Mechanization will affect the reservation clerks in particular. The employment of reservation agents, however, whose main job involves personal contacts, will not be affected very much, although their paper work will be reduced considerably. The small group of traffic representatives probably will increase substantially as the airlines compete for new business.

Work Environment--Many reservation and transportation agents belong to labor unions. Four unions cover most of the organized agents: The Airlines Employees Association International; The Transport Workers Union of America; The Brotherhood of Railway and Steamship Clerks, Freight Handlers, Express and Station Employees; and the International Brotherhood of Teamsters, Chauffeurs, Warehousemen and Helpers of America.

Training and Education--High school graduation generally is required, and college training is considered desirable.

Qualifications--A good speaking voice is essential because reservation agents frequently use the telephone and public address system.

Advantages and Disadvantages--Reservation agents may advance to representatives or supervisors. A few may move up to city and district managers.

AIRPORT MANAGER

An airport manager must be a skilled and experienced executive; he must know the entire field of flying, especially the government regulations. It is no longer necessary, however, that he be a pilot.

An airport manager is often part landlord and part business executive. As a landlord, the safe condition and operation of the airport is his greatest responsibility. The maintenance of the airport buildings and land are also important. As a business executive, he is in charge of public relations, financial planning, profitable and efficient day-to-day operations, and coordination of airlines, concessions, and airport facilities to best serve the tenants and patrons.

His specific duties are many and exacting. He must formulate fiscal policy, secure new business, recommend and enforce field rules and regulations, make provisions for handling spectators and passengers, and see that the airport is adequately policed and that airplane and automobile traffic is regulated. Many airports offer flying instructions to the public, and the manager sometimes leases space to an independent flying school.

The airport manager must be able to serve as a businessman, safety expediter, landlord, and public relations man or woman.

History and Future--As the number of new airports increases and facilities of many existing airports expand, new managerial positions will be created. Many of these will not be top jobs. However, the airport of the future will require assistant managers or managers specializing in one part of the huge operation. Also, qualified people will replace those who retire.

The young person with determination, good college or university preparation, and varied experiences in the fields of aviation and business will find openings in this field of work.

Training and Education--A young person can begin preparing for a career in airport management in high school by taking college preparatory courses. English, mathematics, and social studies are the most important courses.

Qualifications--The major requirement for the job of airport manager is business and administrative ability. This includes the ability to make decisions, to coordinate details, to direct the work of others, and to work smoothly with many kinds of people.

Work Environment--The job of the airport manager is not one completed between nine and five. The hours are often irregular and most managers have some weekend and holiday work. They will often have to work at night. In emergency situations, they will usually work additional hours.

Advantages and Disadvantages--The position of the airport manager is the top job in most airports. An employee usually works his way up from managing various departments to becoming assistant manager and finally manager.

One disadvantage for some managers is being contacted if they are needed for consultation during their non-working hours.

PUMPMAN

The pumpman is in charge of various types of pumps. He performs several tasks including general pumping operations, transferring products to and from tank trucks and rail tank cars, pumping oil from wells, and various maintenance activities.

He maintains and operates power-driven pumps which circulate petroleum products, chemicals, and water through units during processing.

History and Future--Through the next decade, several thousand job openings are expected each year to replace workers who die, retire, or transfer to other fields.

Work Environment--The pumpman is on duty during the day shift. Work has little seasonal variation and most pumpmen have year-round jobs.

Training and Education--Most employers require pumpmen to have a high school or vocational school education.

Qualifications--Most employers prefer men who have mechanical ability and a knowledge of oilfield processes.

Advantages and Disadvantages--The work is not strenuous and offers the advantage of a fixed locale.

GAGER (PIPELINE TRANSPORT)

The gager's job is to test the amount of oil in storage tanks and to control the flow of oil from the well into the pipeline. He takes samples to test the quality of the oil for water and sediments and to remove these impurities by opening a drain at the base of the tank by using special chemical or electrical equipment.

History and Future--Most jobs created by turnover in pipeline transportation will be for professional, administrative, and technical workers, particularly chemical engineers and technicians for research and development.

Work Environment--Most gagers are on duty during the day shift; only a few work at night to handle emergencies. There is little seasonal variation and regular workers have year-round jobs.

Training and Education--Employers require new gagers to have a high school or vocational school education.

Qualifications--Companies generally hire persons who live near operating wells for well operation and maintenance jobs. They prefer men who have mechanical ability and a knowledge of oil field processes.

Advantages and Disadvantages--This type of work is not strenuous and offers the advantage of a fixed locale. Members of drilling crews or exploration parties who prefer not to travel often transfer to well operation and maintenance jobs.

ABLE SEAMAN (UNLICENSED)

The able seamen constitute about one-fiftieth of the seamen. Dry cargo and tanker vessels usually have six able seamen, two of whom are assigned to each watch. These skilled workers must have a thorough knowledge of all parts of the ship and be able to handle all gear and deck equipment. They act as helmsmen and quartermasters to stear the ship. Usually, they each take two hour turns at the wheel and, as lookouts, report sightings to the watch officer. Able seamen on passenger ships perform many of the same functions as those on freighters or tankers.

Able seamen are also responsible for rigging, overhauling, stowing, and handling cargo and other gear. They must be able to tie common knots and handle mooring lines when the ship is docking or departing. In addition to their more skilled tasks, they perform general deck maintenance work similar to that performed by ordinary seamen.

History and Future--Workers seeking employment as seamen will face keen competition for the jobs that will arise each year from the need to replace experienced seamen who retire, die, or quit the sea for other reasons.

Work Environment--Most seamen get a thirty day paid vacation each year. Some receive a longer vacation.

Accommodations for seamen are generally good but not luxurious. Meals are served in a mess hall, which often doubles as a recreation room where the crew can read, write letters, play cards, and socialize. Crewmen generally share quarters aboard older ships and have little privacy, but most new ships have single rooms.

Training and Education--No training is required to become an able seaman since the work is learned on the job. Regular and correspondence courses that may aid the worker are offered by shipowners' associations such as New York City's Seaman's Church Institute.

Qualifications--The applicant must be nineteen years of age and pass an examination to test his knowledge of seamanship and ability to carry out all the duties required of an able seaman.

Advantages and Disadvantages--Seamen who have the ability to supervise may advance to boatswain after years of service.

The seaman's days at sea are a mixture of monotony and adventure, hard work and boredom, loneliness and excitement.

MERCHANT SEAMAN (LICENSED OFFICER)

The licensed seaman is the shipowner's sole representative. He has complete authority and responsibility for the operation of the ship, including discipline, order, and the safety of the crew, passengers, cargo, and vessel.

While in port, the captain may function as the agent for the ship owners by conferring with customs officials. In some cases, he may act as paymaster for the ship. Although not technically a member of a specific department, he generally is associated with the deck department, from whose ranks he was promoted.

History and Future--Much has been acted, written, and told about the sea. It has been the setting for great romances, adventures, and mysteries.

The captain had power of life or death over his crew; his word was law. His mates administered that law in their own fashion, sometimes with the aid of belaying pins (wooden sticks shaped like policemen's clubs). Beneath the beautiful, white-spread sails of the famous clipper ships, many a seaman knew only brutality and never-ending toil.

The seaman's work today is a far cry from those of belaying pins and bullies. In clean, well-run ships seamen are protected from abuse by law and by union contract.

Some jobs for seamen will arise each year from the need to replace experienced officers who retire, die, or take shoreside employment.

Work Environment--Aboard ship, each licensed seaman has a private room with hot and cold running water, and his room is cleaned daily by a steward. The seaman eats in a dining salon separate from the mess hall in which other crewmen eat.

Training and Education--The licensed seaman must have a good background in navigation, mathematics, electronics, seamanship, propulsion systems, electrical engineering, language, history, and shipping management. He must receive a bachelor of science degree from a state merchant marine academy.

Qualifications--The applicant must present a U.S. Public Health Service certificate attesting to his vision, color perception, and general physical condition.

Advantages and Disadvantages--The life of a seaman on board ship is vastly different today from what it was thirty years ago. The modern seaman has clean, comfortable quarters and is given good substantial food. There is a union committee on every ship to arbitrate his complaints with the ship's officers. He receives fair wages, and his seniority and experience count in job and advancement priority.

Sometimes the work is hazardous because of weather conditions. Ships are lost in storms, collide in fog, or founder on rocks; seamen may be swept overboard. But for many men the lure of the sea outweighs the monotony and the danger. After a brief stay on land, they are anxious to sail again.

STEVEDORE
(CRANE LOADING)

The stevedore currently faces a period of change in the structure of his job. In the past, most cargo was stacked in break bulk form. This is cargo stacked individually on wood pallets to be stowed either by hand or lift truck inside the hold of the ship.

In recent years containerization has received more widespread use. A loaded truck trailer or rail car is detached from its chassis and attached to a winch. A loaded container can be hoisted directly aboard the ship, and the trailer or rail car is then refitted with a container of incoming goods.

Teamwork is important in this occupation. Stevedores are usually hired as members of a crew or gang under the direction of a gang boss. Having the same men work together daily increases output and decreases the chance of injury to any crew member. The size of the gang varies from area to area according to the type of cargo being handled, the machines and devices available, and the collective bargaining agreement governing work at that port.

History and Future--Among the first American stevedores were those who serviced Dutchman Henry Hudson's ship, *The Half Moon*, around 1614, The port of New Amsterdam, later called New York, was the first commercial port in America.

There are now approximately 55,000 stevedores in the United States. New York and New Orleans, the nation's two largest ports, employ the greatest number of stevedores. Other major American ports are Philadelphia, Boston, Baltimore, Los Angeles, Long Beach, San Francisco, Portland, Seattle, Chicago, Cleveland, and Buffalo.

As long as merchandise is shipped to and from our shores, men must load and unload the ships that carry it. While current employment seems fairly stable, competition for unskilled jobs of all kinds is increasing.

Work Environment--The job provides variety. The stevedore works on many different ships and may handle many kinds of goods.

The peak shipping point of early summer and early fall offers the most employment opportunities for stevedores. Some workers registered at ocean ports can expect year-round employment. Stevedores in the Great Lakes area and other inland ports face unemployment during the winter months when most shipping activity is halted by freezing conditions.

Training and Education--The work for stevedores requires no training or preparation. The job gives unskilled workers a chance to enter the labor market.

The stevedore learns his work on the job. He quickly becomes familiar with the stevedore's hook, a short, sharp tool used to manually maneuver heavy bulk cargo. Experienced workers explain the various rope and cable riggings that hoist large loads with ease. The new stevedore learns how and where to safely stow cargo in the ship's hold or on the wharf.

Qualifications--The most important characteristics the stevedore should have are alertness and a willingness to cooperate with his fellow workers. The stevedore gang members must coordinate their efforts and follow the leader's directions promptly if they are to function as a unit.

Advantages and Disadvantages--Stevedores with the talent to organize and supervise the work of others can advance to gang bosses. The boss who supervises others is normally chosen within the ranks of other stevedores.

Much of the work is done outdoors, a situation that may be pleasant in good weather and very unpleasant in bad weather. There is the ever present danger of accidents.

The U.S. Department of Labor has established safety regulations to help minimize the hazards involved in this work. These safety regulations have been supplemented on the West coast through union-employer negotiations in the form of the Pacific Marine Safety Code.

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ABSTRACT: THE PURPOSE OF THIS INSTRUCTIONAL UNIT IS TO HELP BUSY COUNSELORS UPGRADE THEIR KNOWLEDGE AND SKILLS. IT HAS BEEN DESIGNED TO PROVIDE A CLEAR, CONCISE OVERVIEW OF CAREER EDUCATION AND TO HELP THE COUNSELOR UNDERSTAND PRECISELY WHAT HIS OR HER DUTIES WOULD BE TO SUPPORT CAREER EDUCATION. EACH UNIT OF INSTRUCTION IS BASED ON PERFORMANCE OBJECTIVES. THE UNIT IS DESIGNED TO BE SELF-CONTAINED FOR USE IN INSERVICE WORKSHOPS OR BY INDIVIDUAL COUNSELORS WHO WISH TO GAIN MORE INFORMATION ABOUT THIS SUBJECT. THIS MATERIAL HAS BEEN FIELD TESTED IN THREE INSERVICE WORKSHOPS AND IN SEVERAL COLLEGE CLASSES. EVALUATIONS WERE COLLECTED AND REVISIONS WERE MADE AS RECOMMENDED. (AUTHOR)

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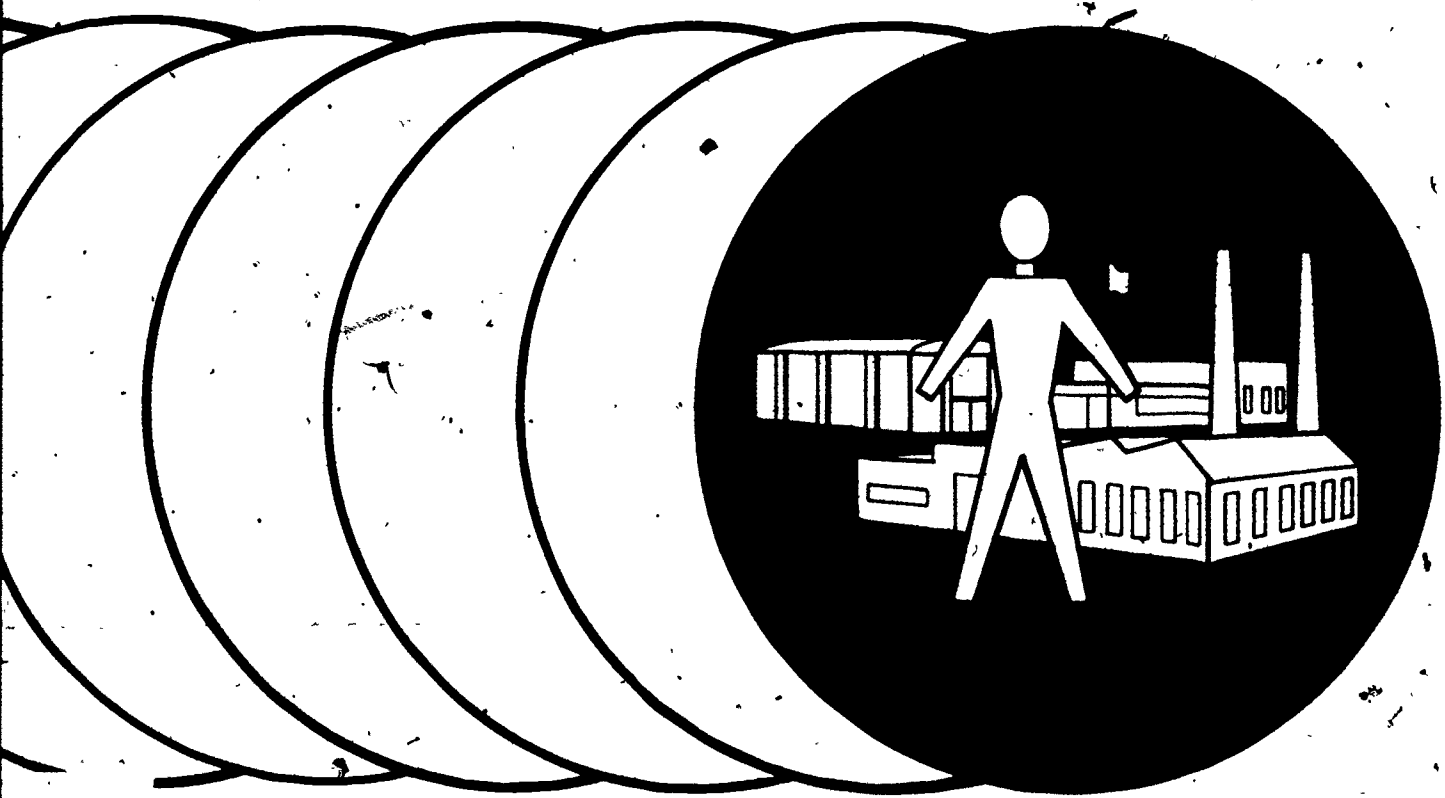
Career Education

A Counselor's Guide



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CAREER EDUCATION
A COUNSELOR'S GUIDE

An individualized instructional unit designed
for use in in-service or preservice
education of counselors

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Stillwater, Oklahoma

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INTRODUCTION

The purpose of this instructional unit is to help busy counselors upgrade their knowledge and skills. It has been designed to provide a clear, concise overview of career education and to help the counselor understand precisely what his or her duties would be to support career education.

Many people state that counseling is a vital part of career education. Many of the leading advocates of career education are counselors or former counselors. Yet I have been unable to find anyone who states clearly what the role of the counselor should be to promote and support career education in the local school setting. This instructional unit is designed to fill that void. Each unit of instruction is based on performance objectives. The unit is designed to be self-contained for use in in-service workshops or by individual counselors who wish to gain more information about this subject. Four to five hours should be set aside for use in an in-service workshop. For use in preservice education of counselors, it is suggested that it be used as a beginning unit with films, field trips, and supplementary reading. A suggested supplementary reading list is given at the end of the unit. New books and articles are appearing daily regarding this important concept so that a wealth of information should be available for additional student research.

This material has been field tested in three in-service workshops and in several college classes. Evaluations were collected and revisions were made as recommended. In addition to field testing, the unit was reviewed by recognized leaders in career education and in guidance and counseling, and changes were made in accordance with their suggestions. The National Institute of Education was contacted in March, 1974 for updated information on national models for implementation and that section was rewritten.

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WHY ME?

Your administrator has just said to you as a counselor: "We have decided to implement career education in our school system next year. We would like for the counseling staff to take the leadership in helping us to achieve this objective."

Do you know:

What he means by career education?

What your duties would be?

How to provide adequate leadership?

If not, then the following instructional unit is designed for you!

GOAL STATEMENT:

The participant will demonstrate an understanding of:

1. The basic concepts of career education.
2. The rationale for career education.
3. Four models for implementation of career education.
4. The structure of the school-based model.
5. Specific activities which the counselor can perform at each educational level to support career education.

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WHAT IS CAREER EDUCATION?
UNIT I

PERFORMANCE OBJECTIVE ONE:

The participant will be able to identify eight key concepts of career education.

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WHAT IS CAREER EDUCATION?

Career education could be termed a concept in search of a definition. Many definitions are emerging, but there is no single one which is universally accepted. It is a concept which has been under experiment and development for many years. An analysis of available literature indicates that career education is a natural outgrowth of widely accepted career development theories and that it has antecedents in the literature of guidance as well as in vocational education. Career education was first introduced on a large scale by the U.S. Office of Education in a speech by Dr. Sidney P. Marland "Career Education Now" given before the National Association of Secondary School Principals, Houston, Texas, January 23, 1971. From this speech and subsequent ones by Dr. Marland and others, the following key concepts for career education have emerged:

KEY CONCEPTS

1. Preparation for successful careers shall be a key objective of all education.

2. Career education is not synonymous with vocational education, but vocational education is an important part of career education.

3. Every teacher in every course will emphasize the contribution that subject matter can make to a successful career.

4. "Hands-on" occupationally oriented experiences will be utilized as a method of teaching and motivating the learning of abstract academic content.

5. Preparation for careers will include work attitudes, human relations skills, orientation to the nature of the work-a-day world, exposure to alternative career choices, and the acquisition of job skills.

6. In addition to the classroom, learning environments will be identified in the home, in the community, and in employing establishments.

7. Horizons extend K-Adult. Career education is a process of continuing education throughout a person's life extending from early childhood through adult life as people return for refurbishing of skills and for education in the use of leisure time.

8. Career education is the basic and pervasive approach to all education, but it in no way conflicts with other legitimate education objectives such as citizenship, culture, family responsibility, and basic education.

WOW'. Let's look at these concepts individually and try to digest them.

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1. Preparation for successful careers shall be a key objective of all education.

You are probably saying, "This has always been a goal of good education." But has it really? Ask a classroom teacher what her goals are. How many will tell you that it is to prepare for the next year's classes? Ken Hoyt, a leader in developing the career education concept, states, "The goal of education must not be more education."

Does career preparation include more than preparation for an occupation or a job? We define a career as:

The course of continued progress in the life of a person; thus, a career would include the educational experience, work, and continued choices which the individual has to make throughout his life. A career is progress along a pathway, not an arrival at a destination.

Therefore, career education would include all of those experiences which would enable the individual to be ready for economic self-sufficiency, for a personally satisfying life, and for new learning experiences appropriate to his vocational and avocational interests.

You are beginning to see why the concept of career education is so hard to define. Read on.

2. Career education is not synonymous with vocational education, but vocational education is an important part of career education.

There are two significant points here:

a. Career education is not just another word for vocational education and should not be the concern of vocational educators only.

Career education is an attempt to restructure all of education, to give it more meaning, and to make it more relevant. If career education is to succeed, it must be accepted and incorporated by all of education.

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b. Vocational education is an important part of career education. Dr. Marland stated in a speech to vocational educators: "Vocational education's sense of continuity should be extended to all education. The connection between education and a person's life work should be as obvious to others engaged in education as it is to you who are experts in the field." If the future economy is to require that only seventeen percent of our workers have college degrees, then we must expand vocational and pretechnical training to provide meaningful experiences for the majority of our secondary school students.

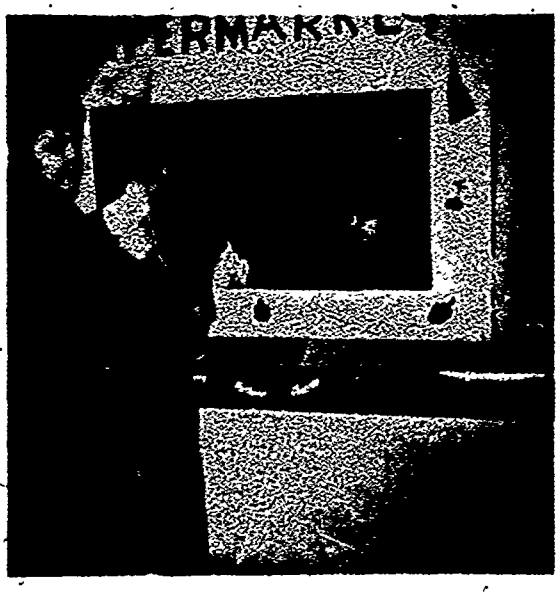
3. Every teacher in every course will emphasize the contribution that subject matter can make to a successful career.

Career education is not something to be "added on" to the existing curriculum, but is to be infused into the regular content of every course. This means that teachers must understand and emphasize the practical applications of their subject matter, freely utilizing role playing, field trips, and simulation to make abstract content more meaningful. New curriculum must be developed to help teachers make their curriculum more relevant to student's lifetime career needs.

4. "Hands on" occupationally oriented experiences will be utilized as a method of teaching and motivating the learning of abstract academic content.

Place an "X" in the front of the activities which would be considered "hands on" activities.

_____a. Playing store in kindergarten



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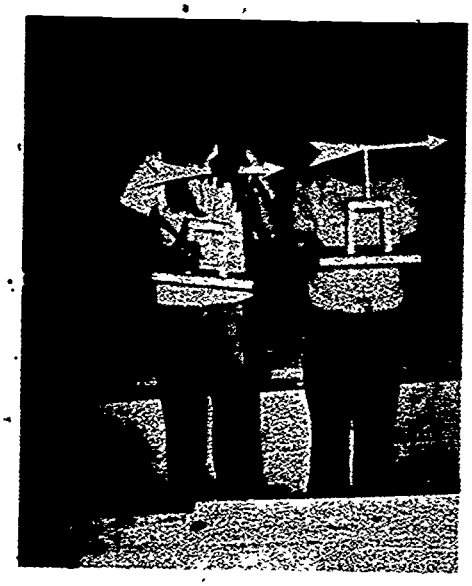
_____b. Constructing a weathervane in science class



_____c. Drawing maps in geography class

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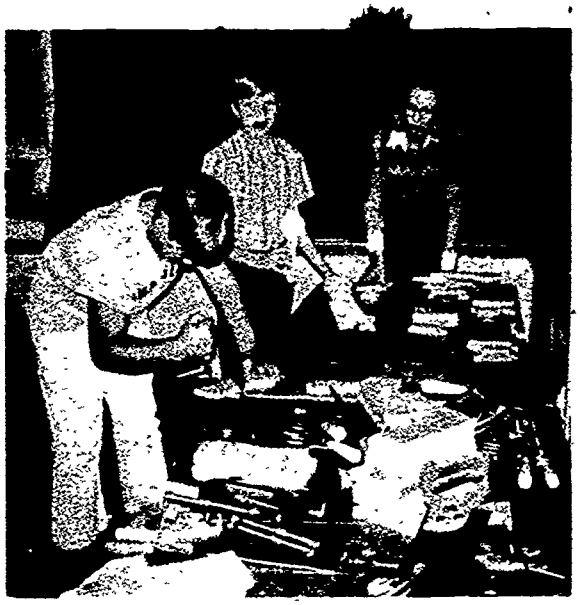
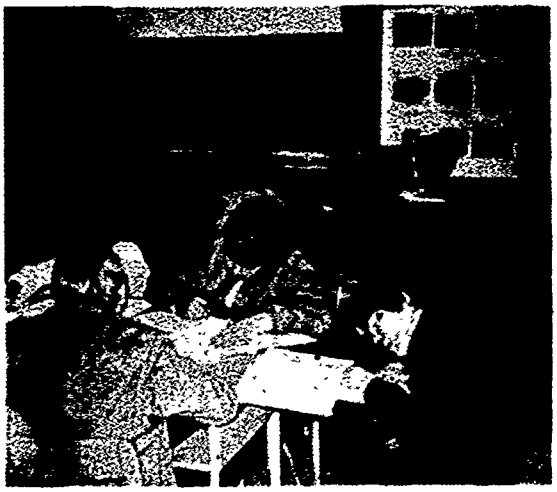
_____d. Setting up an assembly line



_____e. Answering questions at end of a unit of study



You are correct. Activities a, b, c, and d would be considered "hands on" activities.

5. Preparation for careers will include work attitudes, human relations skills, orientation to the nature of the work-a-day world, exposure to alternative career choices, practice in decision making, and acquisition of job skills.

We are all aware that most people do not lose their jobs due to lack of job skills. People lose jobs because their personal habits, work attitudes, and human relations skills are not acceptable to their employers. Teachers and counselors must see that experiences are provided for youngsters at an early age exposing them to a wide variety of work attitudes, values, and life styles. Students must be given practice to develop decision making skills at all ages and afforded the opportunity to acquire actual job skills in senior high school. Many experts maintain that every student should graduate from high school with a salable skill whether or not they plan to attend college.

6. In addition to the classroom, learning environments will be identified in the home, in the community, and in employing establishments.

Education must reach out from the classroom to take advantage of all resources and all learning situations. We need to increase involvement of parents and others in the community in all levels of education for a number of reasons. Some of these reasons are:

a. Parents can be a reliable resource within the classroom. They have a wide variety of skills and experiences which they are generally pleased to share.

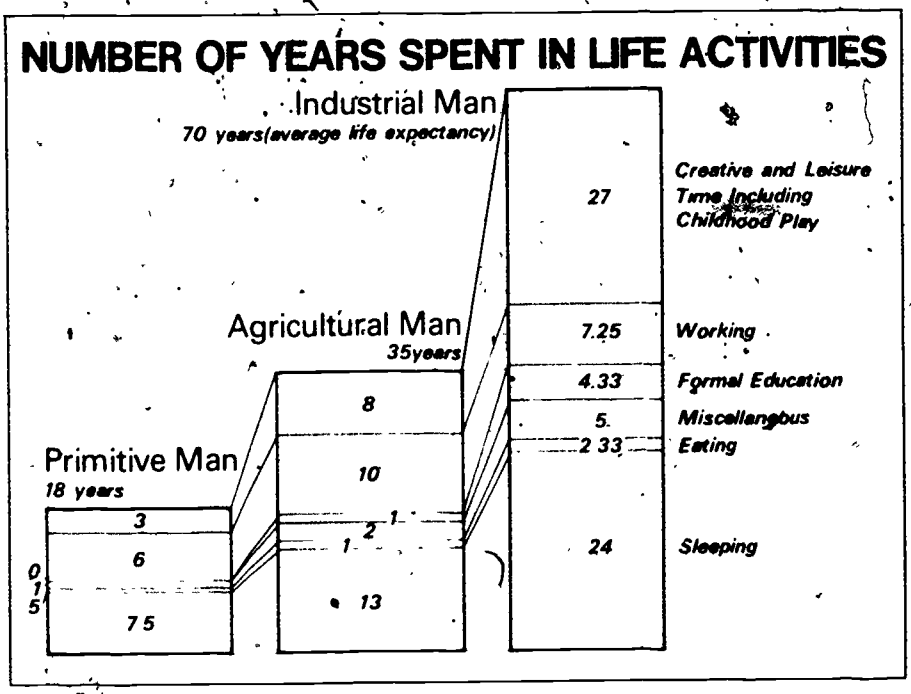
b. Parents will be re-educated as they are exposed to new ideas, new trends in education, and changes in peer group standards through their involvement in the classroom. We know that parents are probably the greatest single influence of student behavior. If students are to make wise career decisions, parents must be aware of changes in societal needs and educational training programs so they will understand and support the students in their decisions. Society is changing rapidly and we must utilize every means available to reduce the "generation gap" between parents and their children. Parent involvement in the classroom is one means of doing so.

c. The community and employing establishments are also a valuable resource. By involving them in education through hosting field trips or by bringing them into the classroom, we can make our content more exciting and more relevant.

d. As parents, community, and business become involved in education and understand more about our purposes and problems, we can hope to receive more support from them.

7. Horizons extend K-Adult.

Career education will provide a youth the flexibility to leave for a job or work experience and return to school for further education, including the opportunity for upgrading and continued refurbishing of adult workers as well as providing education for the productive use of leisure time and the retirement years. The following chart taken from "World Facts and Trends" shows that industrial man will spend almost four times more of his life in creative and leisure time than he spends working. Career education cannot afford to neglect this important segment of man's life; this is part of his career.



John McHale, World Facts and Trends. New York Collier Books, 1972, p. 44.

8. Career education is the basic and pervasive approach to all education, but it in no way conflicts with other legitimate education objectives such as citizenship, culture, family responsibility, and basic education.

If successful, career education will provide the relevance and motivation to make subject matter content more meaningful; therefore, the students' performance should complement the basic skills, not take away from the teaching of them.

Briefly review the concepts from the list on page three. Then proceed to exercise one on the next page.

EXERCISE ONE--KEY CONCEPTS

Directions: Carefully read each question. Write the correct letter in the space to the left of each question.

_____ 1. Career education is primarily the concern of:

a. Adult education

b. Secondary education

c. Elementary school

d. All of education

_____ 2. Vocational education:

a. Loses its identity in career education

b. Will need to expand to meet increased demands under career education

c. Is synonymous with career education

d. Includes more than career education

_____ 3. The content of career education will be the concern of:

a. Vocational teachers only

b. Counselors

c. Career education instructors

d. Every teacher in every course

_____ 4. The learning of abstract academic content will be made relevant through:

a. Field trips

b. Role playing

c. Simulation

d. "Hands on" activities

e. All of the above

_____ 5. Career preparation will not include:

a. Early tracking of students into a specific occupational choice

b. Human relations skills

c. Work attitudes

d. Acquisition of job skills

e. Practice in decision making

_____ 6. By extending learning to the home, the community, and employing establishments, we can:

a. Make content more relevant

b. Get more support for education

c. Increase parent involvement

d. All of the above

_____ 7. Career education should begin in:

a. Kindergarten or earlier

b. Junior high school

c. Senior high school

d. Adult education

_____ 8. Career education will:

a. Make all other goals of education obsolete

b. Complement the basic skills

c. Provide motivation for learning subject matter

d. Solve all the problems of education

ANSWER SHEET NUMBER ONE:

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1. d — Preparation for careers shall be a key objective of all education.

2. b — If the future economy is to require that only seventeen percent of our workers have college degrees, then we must expand vocational and pretechnical training to provide meaningful experiences for the majority of our secondary school students.

3. d — Every teacher in every course will emphasize the contribution that subject matter can make to a successful career.

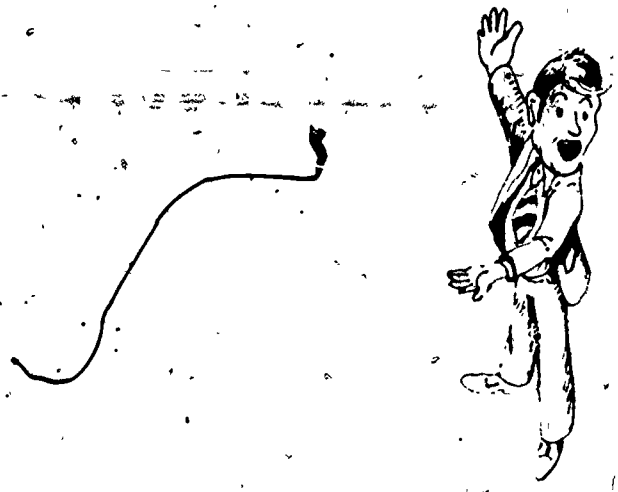
4. e — Teachers must understand and emphasize the practical application of their subject matter freely utilizing role playing, field trips, simulation, and "hands on" occupationally oriented experiences to make abstract content more meaningful.

5. a — Preparation for careers will include work attitudes, human relations skills, practice in decision making, and acquisition of job skills. We must be very careful to avoid early tracking of students and keep our programs flexible.

6. d — As education extends out from the classroom to take advantage of all resources and all learning situations, it can expect to receive many benefits in return.

7. a — Career education extends from early childhood throughout a person's life.

8. Aha! Either b or c is correct. Career education should complement the basic skills by making abstract content more meaningful, thus providing motivation for learning subject matter.



ENDNOTES:

1. Hoyt, Dr. Kenneth B., "Revival of the Work Ethic," Speech at Central State University, September 1971.

2. Marland, Sidney P., Jr. "Career Education: More Than A Name."Speech to State Directors of Vocational Education: Washington, D.C., May 1971.

3. U.S. Department of Labor. *Occupational Outlook Handbook*. Washington, D.C.: Government Printing Office, 1972-73.

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PERFORMANCE OBJECTIVE TWO:

The participant will be able to select three conditions which indicate that our educational system is inadequately meeting societal needs and to discuss the implications of these conditions for school curriculum.

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WHY CAREER EDUCATION?

What conditions in our society and in our educational system prompted Dr. Sidney P. Marland, then U.S. Commissioner of Education, to introduce the concept of career education as the major thrust for public education? The following facts illustrate some of the reasons why career education appears to be a concept whose time has come.

KEY FACTS:

1. Levels of training of students from Oklahoma schools are not consistent with labor needs; therefore, many of our exiting students are not employable.
2. Economic success is affected, but not determined, by educational attainment.
3. Jobs in the 70's demand specialized training, not necessarily a college degree.
4. The present secondary school curriculum is typically not realistic in terms of meeting student career needs.
5. Changes in occupations will be accelerated in the future.
6. Types of available jobs will change drastically in the future.
7. Inventions will be more frequent and jobs will change more rapidly.
8. Unemployment is a problem to the unskilled.

FACT 1 Levels of training of students from Oklahoma schools are not consistent with labor needs; therefore, many of our exiting students are not employable.

EDUCATIONAL GAP

NEEDS	LEVEL OF TRAINING	PRODUCTION
20%	College	17%
50%	Post High School	29%
25%	High School	23%
5%	Less Than High School	31%

Oklahoma State Department of Education, Finance Division

THEREFORE: We need career education to reduce the gap between educational products and labor needs.

FACT 2 Our high school training programs are not relevant to the needs of students or society.

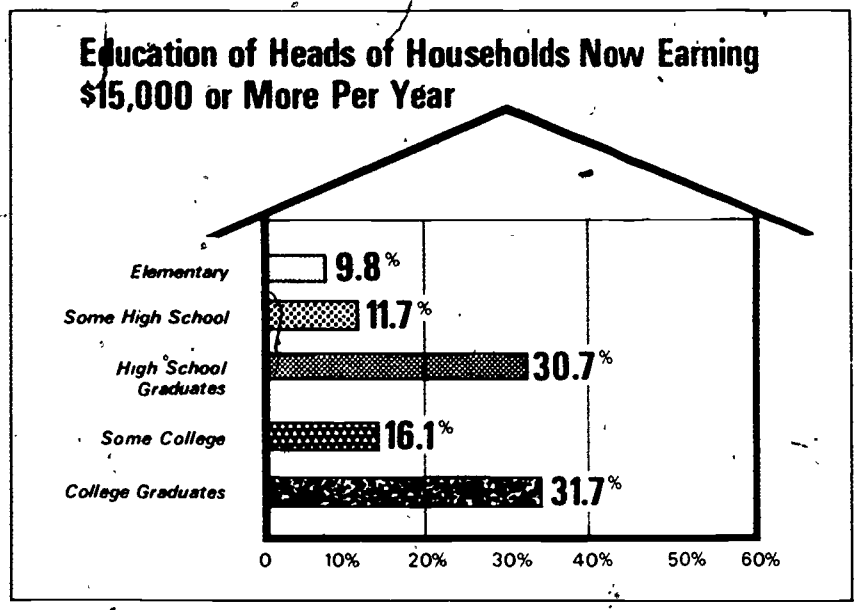
EDUCATIONAL GAP

NEEDS	HIGH SCHOOL TRAINING	PRODUCTION
20%	College Preparatory	66.5%
80%	Vocational or Pretechnical	33.5%

Oklahoma State Department of Education, Finance Division

THEREFORE: We need career education to help students plan realistic programs of training.

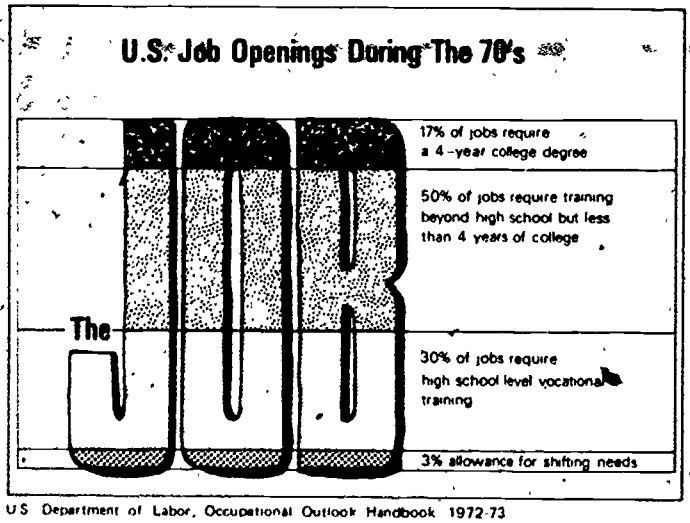
FACT 3 Economic success is affected, but not determined, by educational attainment.



The Linden Study as reported in U.S. News and World Report Dec 6, 1971, pp. 28-29.

THEREFORE: We need career education to orient all to the world of work.

FACT 4 Jobs in the '70's demand specialized training, not necessarily a college degree.



U.S. Department of Labor, Occupational Outlook Handbook 1972-73

THEREFORE: We need career education to provide students with insight, information, and motivation concerning specialized training as well as professional education.

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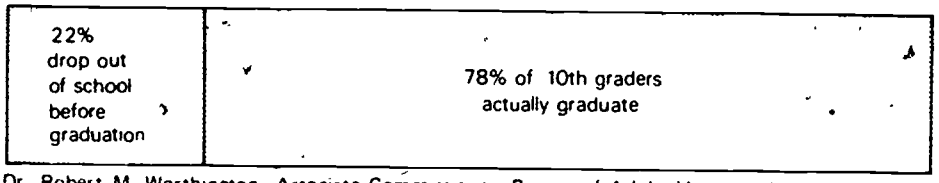
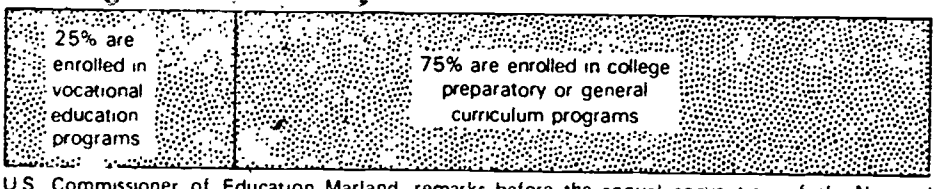
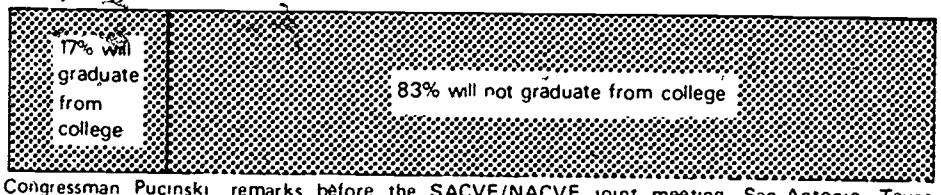
FACT 5 The present secondary school curriculum is typically not realistic in terms of meeting student career needs.



Dr Robert M Worthington, Associate Commissioner, Bureau of Adult, Vocational and Technical Education, U.S Office of Education, remarks before the Regional Industrial Development Corporation, St Louis, Missouri, October 13, 1971.



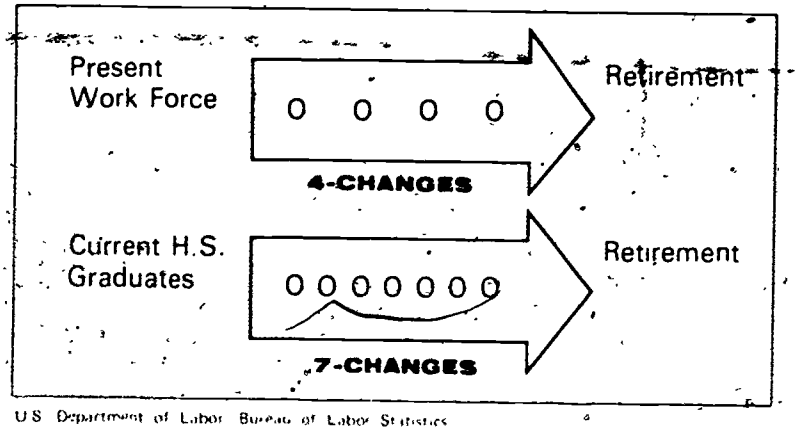
U S Commissioner of Education Marland, remarks before the annual convention of the National Association of Secondary School Principals, Houston, Texas, January 23, 1971.



Congressman Pucinski remarks before the SACVE/NACVE joint meeting, San Antonio, Texas, April 17, 1971.

THEREFORE: We need career education for all students to reduce the gap between unrealistic educational programs and career needs.

FACT 6 Changes in occupations (not just employers) will be accelerated in the future.



U S Department of Labor Bureau of Labor Statistics

THEREFORE: We need career education for all students to help them maximize their potential despite the many changes in their occupations.

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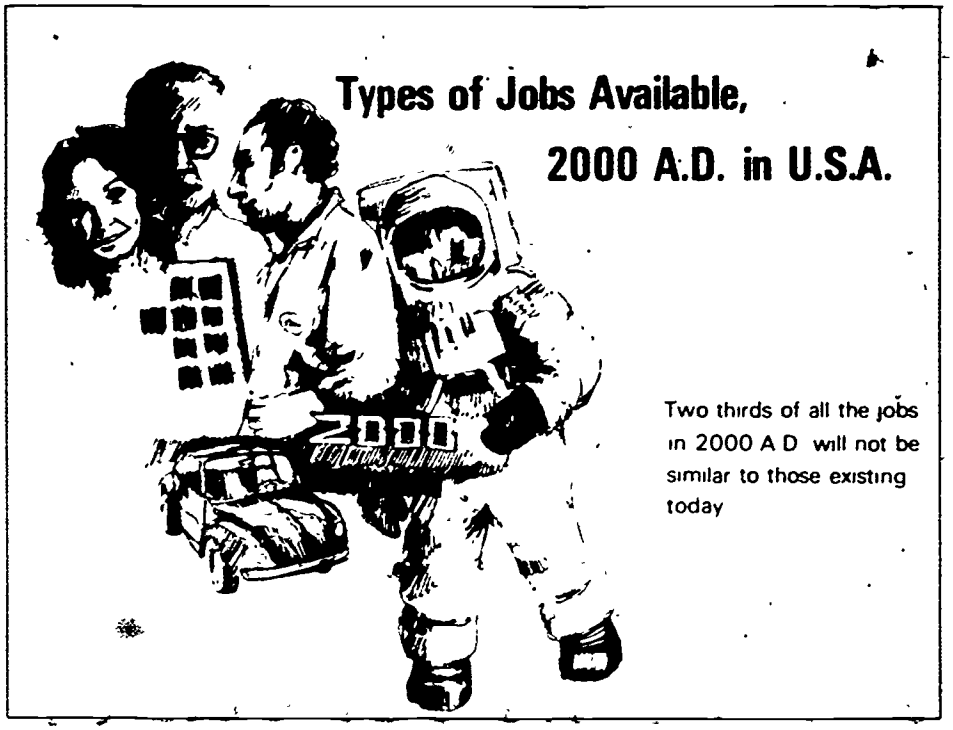
FACT 7 The types of available jobs will change drastically in the future.



Congressman James Symington, as cited in "Industrial Development and Career Education." St Louis Regional Industrial Development, Room 400, Pierre LaClede Building, 7701 Forsythe Blvd., St. Louis, Missouri 63105, October 11, 1971.

THEREFORE: We need career education to provide all students with broad career orientation, personal flexibility, and readiness for retraining.

FACT 8 In the future, inventions will be more frequent and jobs will change more rapidly.

60 percent of the products to be made in the U.S. in the 70's had not been invented in 1971.

Stanford Research Institute as cited in "Industrial Development and Career Education."

THEREFORE: We need career education to orient students toward the rapidly shifting employment picture.

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FACT 9 Unemployment is an overwhelming problem--not a five percent to twenty-four percent statistic--when there are many job vacancies but you are unemployed because you lack the necessary skills.

MANY IN THE U.S. WORK FORCE FACE UNEMPLOYMENT

In 1971 the unemployment rate was 5.9% the highest in a decade 4.9% in 1970 and 3.5% in 1969)

TEENAGERS OFTEN FACE UNEMPLOYMENT

In many parts of our country 1 out of 5 teenagers 16 19 Years old are both out of school and out of work

Dr Robert M Worthington, St Louis Missouri October 1971

HIGH SCHOOL GRADUATES ESPECIALLY THOSE WITHOUT JOB SKILLS OFTEN FACE UNEMPLOYMENT

graduates is the 18 to 24 year old group without vocational training have an unemployment rate of more than 24%* while those graduates with vocational training are unemployed at the rate of 5.2%

Dr Robert M Worthington, St Louis, Missouri, October, 1971

BLACKS ESPECIALLY FACE UNEMPLOYMENT

the ratio of black to white jobless rates is 1.8 to 1

US Department of Labor; Bureau of Labor Statistics.

VETERANS OFTEN FACE UNEMPLOYMENT

at the end of 1971 the unemployment rate of 5.2 million Vietnam veterans reached 8.2%

"Time" December 27, 1971, p 52

THEREFORE: We need career education for all students to reduce the gap between unfilled jobs and unemployed persons.

A major void in American life can be filled by career education. People--all our people--need self-fulfillment through self-support and satisfying, meaningful work. The tremendous shortage of qualified workers in certain fields must be met.

Career education requires a reform which allows all students the opportunities which the best education has always provided a few; an education which allows students to accept or reject lifestyles based on career choices and the chance to exercise some control over their own education.

EXERCISE TWO--WHY CAREER EDUCATION?

Directions: Place an "X" in front of the statements which indicate that our educational system is not adequately meeting the needs of society.

_____ 1. Most jobs require a college degree.

_____ 2. People can be expected to change jobs several times in a lifetime; often they are not prepared to do so.

_____ 3. The degree of financial success which a person obtains is directly related to the number of years of formal education completed.

_____ 4. Most of our high school students are in a college prep curriculum although eighty percent of the jobs do not require a college education.

_____ 5. Tomorrow's workers will need to be flexible individuals ready for frequent retraining.

ANSWER SHEET NUMBER TWO:

____1. Most jobs require more than high school training, but less than a college degree.

__X__ 2. Current high school graduates can expect to change jobs seven times before retirement.

____3. More than 50% of the persons earning $15,000 or more per year had a high school degree or less. Refer to Fact 3.

__X__ 4. 66.5% of our students in Oklahoma are enrolled in college prep programs.

__X__ 5. 60% of the products to be made in the U.S. in the 70's had not been invented in 1971.

EXERCISE THREE--WHY CAREER EDUCATION?

In a group or in a written paragraph, discuss the implications of statements 2, 4, and 5 from exercise two for school curriculum.

END NOTES:

U.S. Department of Labor. *Occupational Outlook Handbook.* Washington, D.C.: Government Printing Office, 1972-73.

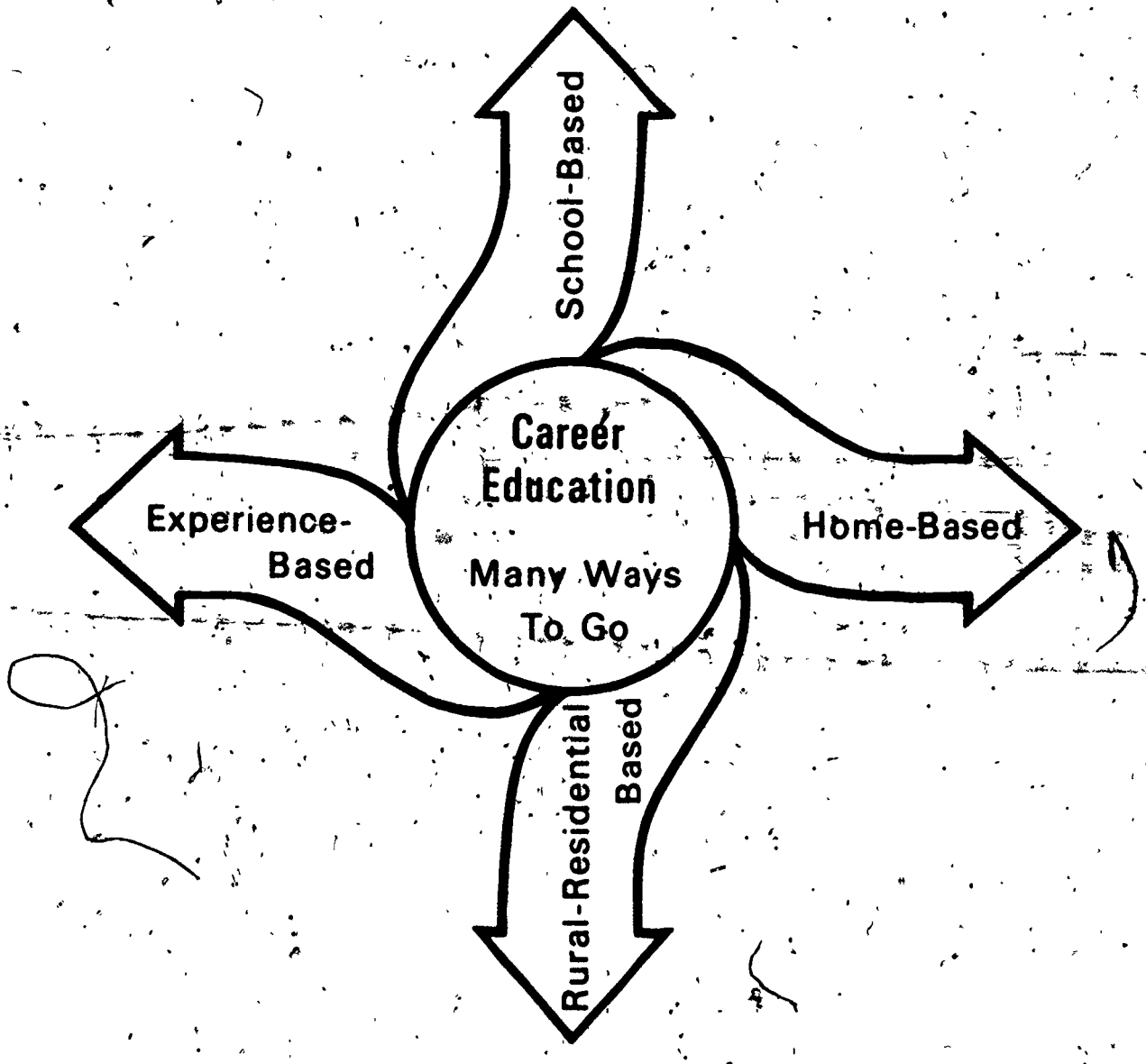
McHale, John. *World Facts and Trends.* New York: Collier Books, 1972.

Time Magazine, December 27, 1971.

CAREER EDUCATION MODELS
UNIT III

PERFORMANCE OBJECTIVE THREE:

The participant will be able to list the four national career education models, match each one to its description, and discuss implications for counseling programs.



CAREER EDUCATION MODELS

In 1971, the U.S. Office of Education implemented plans to develop and test four career education "models" or alternative ways of facilitating career education goals. In 1973, major responsibility for these four "models" was transferred to the National Institute for Education (NIE) for further research and development in its efforts to improve the relationship between education and work. The following is a brief description of these four models.

Model I: School-Based Comprehensive Career Education Model (CCEM)

The objective of this model is to develop and test an educational system (K-twelve) that will develop in students (1) a comprehensive awareness of career options; (2) a concept of self which is in keeping with a work-oriented society, including positive attitudes about work, school, and society, and a sense of satisfaction resulting from successful experience in these areas; (3) personal characteristics, such as self-respect, initiative, and resourcefulness; (4) a realistic understanding of the relationships between the world of work and education which assist individuals in becoming contributing members of society; and (5) the ability to enter employment in a selected occupational area or to go on for further education.

The Center for Vocational and Technical Education at The Ohio State University is the prime Model I contractor. Associated with the Center are six local school district sites that serve as focal points for the development and field testing of career education materials--curriculum units, guidance units, teacher training manuals, public information and administrative guidelines. The six local school districts are: Atlanta, Georgia; Los Angeles, California; Pontiac, Michigan; Hackensack, New Jersey; Mesa, Arizona; and Jefferson County, Colorado. The project attempts to reform the curriculum of the established public school system by infusing career development concepts into the entire K-12 curriculum. In grades K through six, career awareness is emphasized; in grades seven through nine, career exploration; and in grades 10 through 13, career preparation.

Approximately 200 curriculum units have been developed. All of these have been tried out in the various cooperating school districts and were more rigorously field tested by NIE in FY 74. Forty five of the units will be ready in the spring of 1974 and the rest in 1975. A staff development package to accompany the completed units, a guidance and counseling package, and a placement component also will be prepared for dissemination.

In addition to these projects, numerous pilot, exemplary, and curriculum projects exist within each of the states to develop materials and test ideas for implementation of career education in the public schools.

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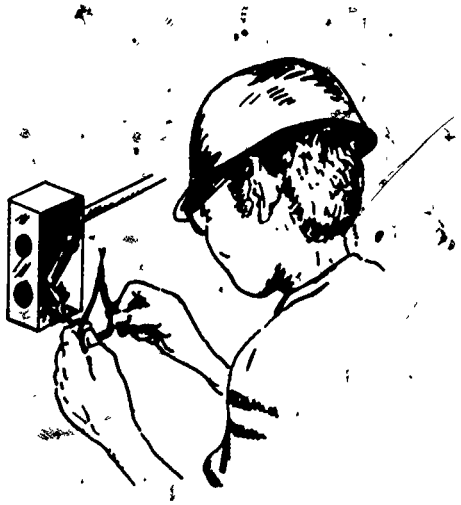
Model II: Experience-Based Career Education

This model is being created, developed, operated, and supported primarily by business in companionship with schools. The idea supports the proposition that a consortia of industrial, commercial, and other firms collaborate in developing the program for the benefit of the thirteen-twenty age group. The objectives of this model are (1) to provide an alternative educational program for students in an employer-based setting; (2) to unify the positive elements of academic, general, and vocational curricula into a comprehensive career education program; (3) to increase the relevance of education to the world of work; and (4) to broaden the base of community participation, particularly by involving public and private employers more directly and significantly in education.

There are four Model II contractors: Appalachia Educational Laboratory, Charleston, West Virginia; Far West Laboratory for Research and Development, Berkley, California; Northwest Regional Educational Laboratory, Portland, Oregon; and Research for Better Schools, Inc., Philadelphia, Pennsylvania. Because the laboratories work separately, progress on all points has not been uniform.

After two years of operation, these schools are becoming stable and results appear to be promising. Priorities for the next stage of this project will be:

1. Dissemination of procedures and materials.
2. Lowering the cost per student to make this plan practical.
3. Development of evaluation designs to determine the most effective elements of the program.



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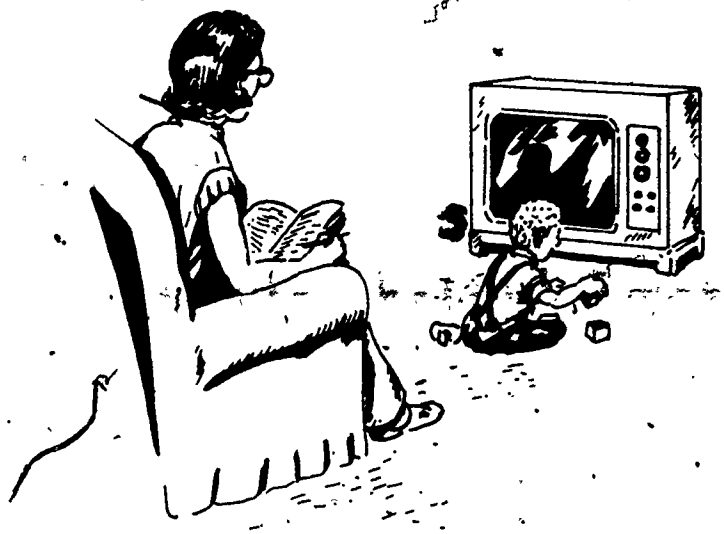
Model III: Home-Based Career Education

The Education Development Center, Inc. (EDC) of Newton, Massachusetts conducts the only Model III project. EDC is working in Providence, Rhode Island with the problems of adults and adolescents who are neither employed nor in school. Unlike the other models, this project is not attempting to teach skills and attitudes directly. Rather the project is designed to inform individuals about existing work and training opportunities in the community and to apply mass communications media to the outreach and assessment of the career interests of selected homebound populations.

Originally Model III was to provide an alternative, home-based delivery system for career training. This objective was postponed and planning studies are being initiated to examine the potential and the problems of a home-based educational delivery system.

As presently being implemented, this project is largely a counseling outreach program which is serving about 1700 subjects per year.



Model IV: Rural-Residential Career Education

The objectives of this model are to provide rural families with employment capabilities suitable to the area, to provide leverage on the economic development of the area, and to improve family living in general. The model might be conceptualized as a "socioeconomic development project" to serve disadvantaged families and some single persons drawn from a six state area.

The Rural-Residential Career Education Model is a research and demonstration project which will test the hypothesis that entire disadvantaged rural families can experience lasting improvement in their economic and social conditions through an intensive program at a residential center. The center is designing programs to provide services for the entire family. Services will include day care; kindergarten, elementary, and secondary education; career and technical education; young adult, adult, and parent education; family/living assistance; medical and dental services; welfare services; counseling; and cultural and recreational opportunities for single and married students and their families.

The Mountain-Plains Education and Economic Development Program, Inc. is responsible for developing and coordinating the various components of the Rural-Residential Model. The project is located in Glasgow, Montana, on a U.S. Air Force base and is being designed to serve the needs of target families in the six state region of Idaho, Montana, Wyoming, North Dakota, South Dakota, and Nebraska.

This project was funded for five years beginning in FY 72. The first families arrived on base in March of 1972. Economic costs for this project are, of course, quite high. Priorities for the project include:

1. Try to cut down on cost to make it duplicable.
2. Evaluation to determine what components of the program are most effective.

Viewed in total, these four models when fully developed will provide differing alternatives for individuals who have a variety of needs. The following quotations from Goldhammer and Taylor, *Career Education: Perspective and Promise,* reflect the comprehensive nature of these four models:

"The various models will provide a variety of options for individuals who, for one reason or another, need to recycle their career activities or who desire to advance in their career goals."

"As now conceived, the models should provide opportunities for career development and preparation for any person, regardless of his age, regardless of the circumstances under which he must work and live, and regardless of the social or physical barriers he might face."

"If career education is to fulfill its potential and capitalize on its dynamic qualities, several current concepts and assumptions inherent in the present "system" of education must be examined and restructured. We need to develop educational systems that parallel the lifelong educational needs of people. We need to evolve a new view and sense of purpose for the schools. Further, we need to distinguish between education and schooling. If career education is to deliver on its promise and potential, schools must become different kinds of institutions."

"We need to question some of our current beliefs and practices--to examine the implications of our heretofore unexamined assumptions, such as the belief in continuous, uninterrupted schooling K-12, the nine-month school year with its lock-step structure, compulsory attendance laws, child labor laws, and the assumption that learning takes place only in the school building."

In addition to these four models, the Career Education Program of the NIE is directing numerous smaller research and development projects. These projects are directed at questions related to career education for youth and midcareer adults, particularly women and low socioeconomic groups.

For further information on Career Education projects, you may contact the following:

Dr. Corinne Rieder, Director
Career Education Development
Task Force
Code 600, Room 612
Washington, D.C. 20202

Employer-Based Career Education
Appalachia Educational
Laboratory, Inc.
P.O. Box 1348
Charleston, West Virginia 25325

Curriculum and Instructional
Materials Center
State Dept. of Vocational-Technical
Education
1515 West Sixth Avenue
Stillwater, Oklahoma 74074

Comprehensive Career Education Model
The Center for Vocational and
Technical Education
The Ohio State University
Columbus, Ohio 43210

Mountain-Plains Education and Economic
Development Program, Inc.
P.O. Box 3078
Glasgow AFB, Montana 59231

EXERCISE FOUR--CAREER EDUCATION MODELS

1. List the four models for career education.

   a.

   b.

   c.

   d.

2. Beside each description, name the correct model:

   a. Counseling outreach program:

   b. A consortium of employers:

   c. K through 12 system:

   d. Total family involvement:

3. In a written paragraph or in a group, discuss the changes in counselor programs you see as a result of implementing career education with each of these models.

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ANSWER SHEET NUMBER FOUR

1. a. School-Based Model

   b. Home-Based Model

   c. Residential-Based Model

   d. Experience-Based Model

2. a. Home-Based Model

   b. Experience-Based Model

   c. School-Based Model

   d. Residential-Based Model

3. Your answers are great! If you are discussing with groups, exchange ideas among groups.

You are now ready to learn all about the school-based model!

ENDNOTES:

Goldhammer, Keith and Robert E. Taylor. *Career Education: Perspective and Promise.* Columbus, Ohio: Charles E. Merrill Publishing Company, A Bell and Howell Company, 1972, p. 10.

Budke, Wesley E., Glen E. Bettis, and Gary F. Beasley. *Career Education Practice.* Columbus, Ohio: ERIC Clearinghouse on Vocational and Technical Education, December 1972.

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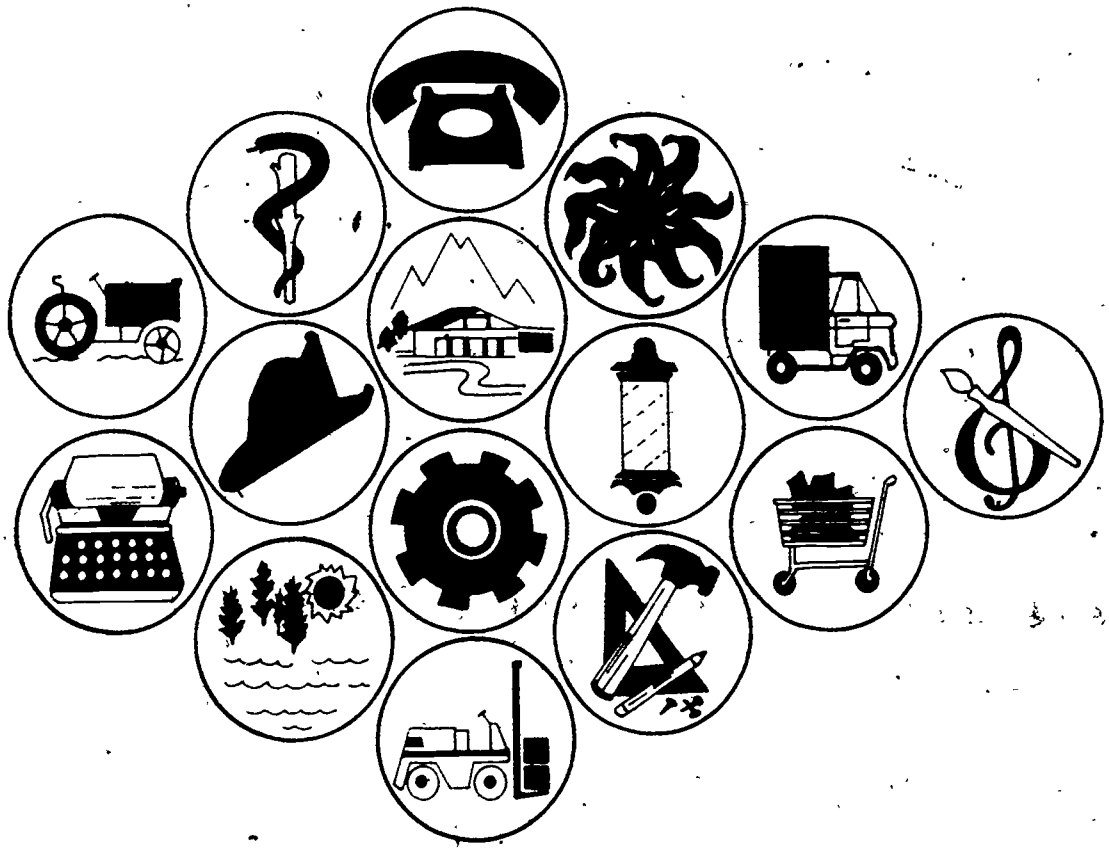
THE SCHOOL-BASED MODEL
UNIT IV

PERFORMANCE OBJECTIVE FOUR:

The participant will be able to match the eight basic elements of career education, as identified by the Ohio Center, with their expected outcomes, to identify the stages of career education for each level of education, and to select from a list the fifteen occupational clusters identified by the U.S. Office of Education.



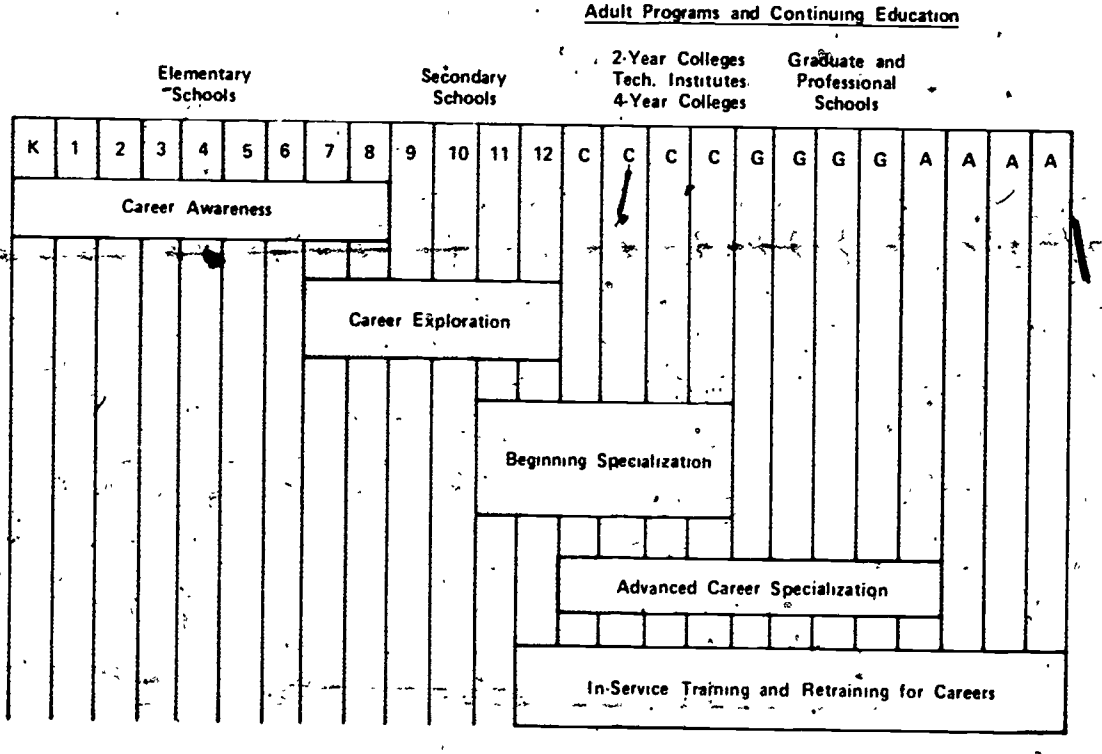
THE SCHOOL-BASED MODEL

The object of this model is to develop and test a system of career education, K through 12, which will help students develop:

1. An awareness of career options.
2. A self concept in keeping with a work-oriented society which includes positive attitudes about work, school, and society and a sense of satisfaction resulting from successful experiences in these areas.
3. Self-respect, initiative, resourcefulness and other personal characteristics.
4. An understanding of the relationship between school and the world of work.
5. Skills to enter employment in a selected occupational area and/or to go on for further education.

Many different illustrations exist for the career education concept. Figure 1 (below) is one illustration which fits most of the basic conditions.

FIGURE 1 THE CAREER EDUCATION CONCEPT



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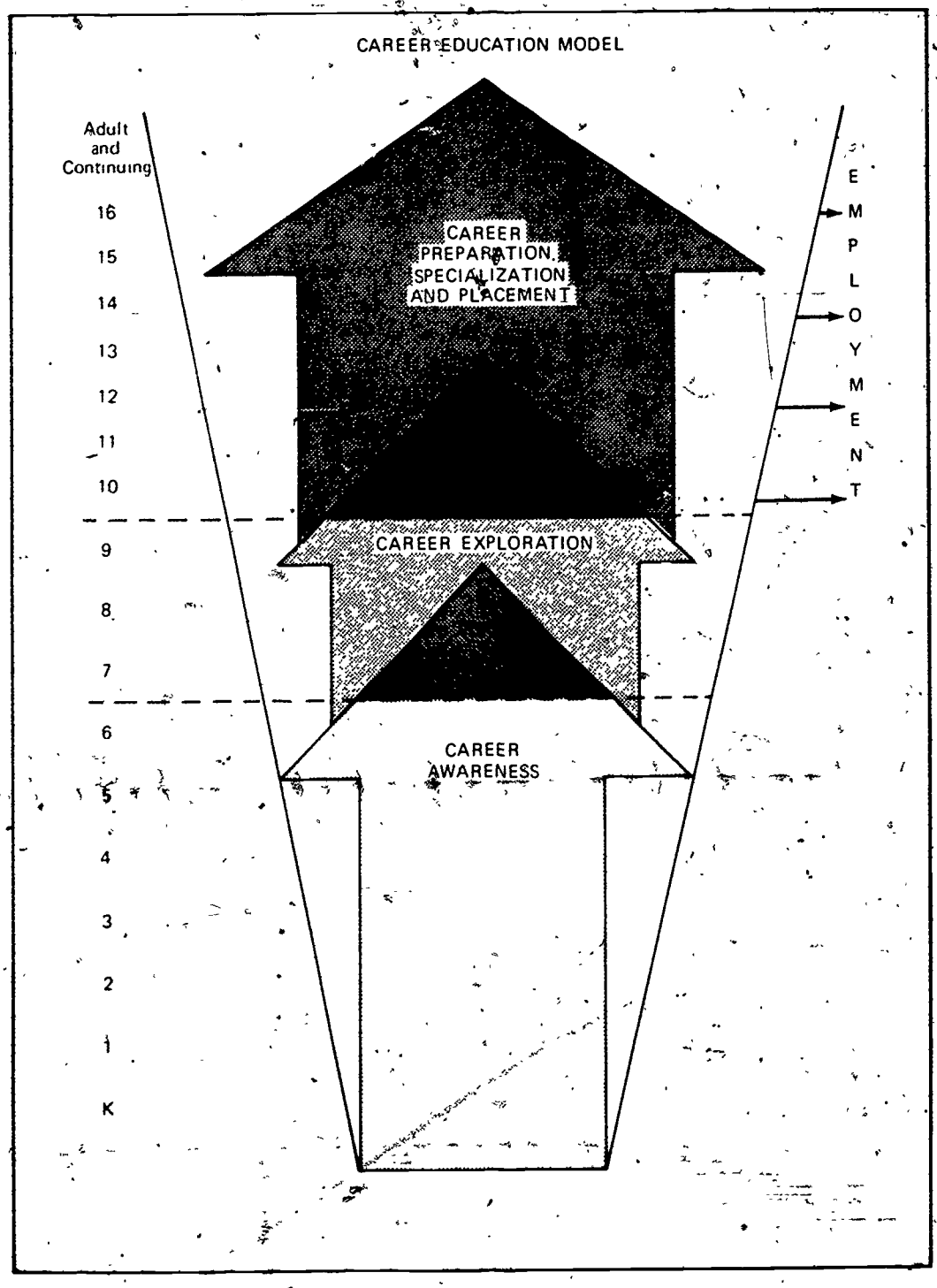
This model was developed by the Sand Springs Pilot program as a model for career education in Oklahoma.

FIGURE 2



We will emphasize the following four stages of career education which are similar to those illustrated in figures 1 and 2.

	Stage	Grade Level	Major Concepts
1.	Career awareness	K-6	Attitudes toward the world of work
			Awareness of the world of work through exposure to jobs in the fifteen job clusters
2.	Career exploration	7 and 8	Exploration of three or four job clusters through exploratory courses
3.	Prevocational	9 and 10	Indepth exploration of one or two job clusters
4.	Specialization	11 and 12	In one of three areas: Pretechnical, Vocational, College Prep

Note: You will get an explanation of job clusters soon!

One caution to any "model" of career education is that the divisions between the various stages are generally shown to be distinct and rigid. If schools are to be respondent to individual differences and needs, we must avoid the trap of such arbitrary, rigid divisions. For example, career awareness will have its greatest emphasis at the elementary level, but for most people will continue throughout life.

Let's look at some of the basic tenets of the school-based model as established by the Ohio Center:

1. Career education involves all students regardless of their post secondary plans.
2. It is to be infused into the regular curriculum, not another course to be "added to" the curriculum.
3. It makes career placement the responsibility of the school and provides for placement follow-through, including reeducation if desired. (This is quite a challenge for the guidance department!)

DO YOU AGREE?

The staff at Ohio State's Center for Vocational-Technical Education has identified eight elements as basic to career education. The following chart presents these elements along with their expected outcomes. See if you can match the basic element to its expected outcome.

Don't worry if you can't match them! Be brave, get the brain cells working, and try. The explanation will follow.

Career Education Elements	Element Outcomes
_____1. Career awareness--Knowledge of the total spectrum of careers	a. Employment skills--Competence in performance of job-related tasks
_____2. Self-awareness--Knowledge of the components that make up self	b. Career decisions--Career direction setting. A plan for career development
_____3. Appreciations, attitudes, life roles--Feeling toward self and others in respect to society	c. Career identity--Selection of a role or roles within the world of work
_____4. Decision-making skills--The ability to apply information to rational processes to reach decisions	d. Career placement--Ability to locate, obtain, and hold a job
_____5. Economic awareness--Perception of processes in production, distribution, and consumption	e. Educational identity--Ability to select educational paths to fulfill career plans
_____6. Beginning competency-Skill awareness--Skills--Ways in which man extends his behaviors	f. Self-identity--Knowledge of self
_____7. Employability skills--Social and communication skills (Ability to get along with people)	g. Self-social fulfillment--Actual and satisfying work role
_____8. Educational awareness--Perception of relationship between education and life roles	h. Economic understanding--Ability to solve personal and social problems in an economic environment

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Answers:

1. c
2. f
3. g
4. b
5. h
6. a
7. d
8. e

These are Ohio State's answers. Look back over them and see if you agree with their interpretation. The following descriptions give the rationale for Ohio State's definitions. If you had difficulty with any of these or disagree with their answers, read that section on the following pages to understand their rationale.

Got them all right? Good! Go to page forty-one.

A DESCRIPTION OF THE EIGHT MATRIX ELEMENTS

1. Self-Awareness

The child entering school has some knowledge and attitudes toward himself; what kind of a person he is and what he hopes to become. This can be titled self-awareness. Through career education and his home and community experiences, the student will become involved in a planned, sequential process of self-assessment and self-evaluation which results in self-identity. As he realizes who he is and what he is like, he will develop a reasonably consistent internalized value system.

2. Educational Awareness

The entering student has some awareness of the relationship between education and training, whether formal or experience-based, and the life roles assumed by himself and others. From this basic educational awareness the student will continue to develop and refine a thorough understanding of the part education and training plays in relation to the "real" and "now" world and the changing world in which he will assume a more complete productive participation. He will also come to recognize the need for specific education and training for specific career roles. This leads to educational identity. Educational identity combines an understanding of the relationship between education and training and life roles, the knowledge of himself as a participant in education and training, his learning style, pace, capabilities, and capacities, and the ability to select and evaluate educational avenues for the development of his career plans.

3. Career Awareness

The child entering school possesses some knowledge about attitudes toward and interests in some careers. He knows something about career performances, associated life-styles, rewards, leisure time, working conditions, and the education and training requirements possessed by some persons in some careers. That knowledge of careers can be referred to as career awareness.

Through career education, plus home and community life, the student should be helped to understand the broad range of careers which are available as they serve him, the community, or society at-large. He should also be aided in learning what is involved in the development, growth, behavior, training, and rewards of persons engaged in specific occupations. From this broad understanding of careers, the student should experience active career exploration and preparation which leads to career identity. Career identity is defined as the individual's selection of an appropriate role or roles within the world of work.

4. Economic Awareness

The child has observed and participated in the economic system to some extent prior to school entry. Building on this base of economic awareness, we wish to assist the student's through exploration of the economic system both as it relates to career development and the community and society at-large. Economic understandings are defined as those conceptual elements and networks which make it possible for the child or adult to "read" the economic environment and solve personal and social economic problems.

5. Decision-Making Skills

The entering child has some understanding of the decision-making skills and has come to accept the responsibility for the outcomes of his decisions.

The career decisions made during his involvement in the Comprehensive Career Education Program will move from very tentative and flexible career decisions to decisions which are increasingly irreversible or reversible only at some cost of time, effort, or money. He should reach a decision which represents a careers direction setting by grade ten, or early enough to provide for the development of entry level skill in a career plan prior to school exit. Career decisions are defined as a careers direction setting, the product of a rational process, a plan for immediate, intermediate, and long-term career development.

6. Beginning Competency -- Skill Awareness

The entering child is aware that some skills are required for engaging in occupations, and he may have some beginning skill competence. He is able to participate in some tool and process applications.

Tool skills are defined very broadly to include all of the ways in which man extends his behaviors. He extends his ideas by means such as language skills, drawings, drafts, and performance. He extends his ideas over time and space by the use of written communication, telephone, paintings, photography, and telescopes, and his physical ability by harnessing energy and the use of tools.

Man engages in process applications by creating or imitating individual group sequences for completing tasks. The career education program and its support systems will provide opportunities for the student to participate in tool and process application in order to provide for employment skills. Additionally, this development will feed into other elements of career education, such as career identity, self-identity, and economic understanding.

7. Employability Skills

Employability skills are those elements of career education which have to do with searching, locating, and obtaining career placement both on an initial and an advanced basis. Employability skills also deal with developing group participation and other social relation awarenesses and skills.

8. Attitudes and Appreciations

This element -- attitudes and appreciations -- was included as a means of focusing attention on the affective component of career education. Through career education and its supporting systems, the individual should develop an internalized value system which includes an estimation of his own career role and the roles assumed by others. These appreciations and positive attitudes toward his own career role and the roles of others in the society should lead to active and satisfying participation as a productive citizen and thus provide for both self-fulfillment and social fulfillment. Self-social fulfillment is defined as the internalization of a value system which motivates the student toward becoming a self-actualized, self-fulfilling member of the world of work with

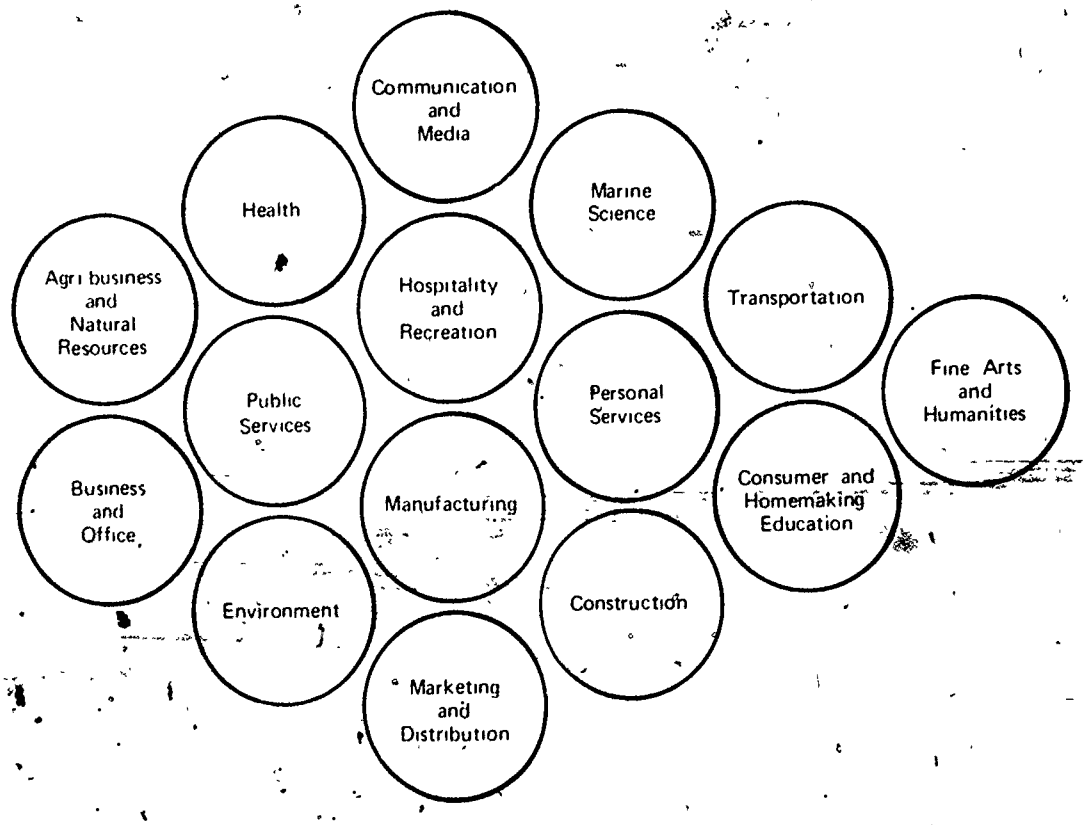
appreciations for his own role and the role of others.

Now look back to the career elements exercise, page 37, and see if you understand Ohio States interpretation. You don't have to agree with it.

Now for the promised explanation of job clusters!

THE CLUSTER CONCEPT

The *Dictionary of Occupational Titles* identifies approximately 25,000 jobs. In order to group these 25,000 jobs into manageable cluster, the U.S. Office of Education has identified fifteen job or occupational clusters which are:



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A cluster of occupations could be defined as a logical group of selected occupations which are related because they include similar teachable skill and knowledge requirements. Every cluster will include jobs which require a range of education levels all the way from minimal education to the top professional levels, from basic trade skills to a doctoral degree.

The theory behind the cluster concept is that most of the approximately 25,000 occupational titles can be grouped into a few cluster areas according to similar characteristics and purposes. For example, the construction cluster might include a study of the following occupations: architect, draftsman, contractor, foreman, soil tester, laborer, bulldozer operator, cement mason, bricklayer, brick cleaner, carpenter, painter, electrician, and many others.

Occupational cluster learning might include on-site observations, hands on experiences, role playing, simulation and other appropriate activities. It can provide a more systematic approach to studying careers. Clusters to receive curricular attention by school districts may vary somewhat because of community priorities.

After one more short exercise, we will be ready to look at an actual school program of career education and the counselor's role in it.

EXERCISE FIVE--THE SCHOOL-BASED MODEL

PART I

In front of each of the following career education stages, indicate the level of education that would be most appropriate. Use an E for the elementary, a J for grades 7 and 8, an M for grades 9 and 10, and an S for grades 11 and 12.

_____1. Career exploration

_____2. Specialization

_____3. Prevocational

_____4. Career awareness

PART II

From the following list, place an "X" in front of those titles which have been identified by the U.S. Office of Education as one of the fifteen job clusters:

_____Business and Office Occupations

_____Marketing and Distribution Occupations

_____Communication and Media Occupations

_____Home and Community Services Occupations

_____Construction Occupations

_____Manufacturing Occupations

_____Agribusiness and Natural Resources Occupations

_____Educational Occupations

_____Marine Science Occupations

_____Environmental Control Occupations

_____Public Service Occupations

_____Health Occupations

_____Government Occupations

_____Hospitality and Recreation Occupations

_____Personal Services Occupations

_____Fine Arts and Humanities Occupations

_____Consumer and Homemaking Occupations

_____Transportation Occupations

ANSWER SHEET NUMBER FIVE

PART I

J 1. The student will have the opportunity to explore three or four job clusters at seventh and eighth grade level.

S 2. By eleventh and twelfth grades, the student should be ready to specialize one of three ways: Pretechnical courses, vocational courses, or college preparatory.

M 3. At ninth and tenth grade levels, the student can enter into more indepth exploration of one or two job clusters.

E 4. At the elementary level major concepts to stress are work attitudes and an awareness of the world of work.

PART II

X Business and Office Occupations

X Marketing and Distribution Occupations

X Communications and Media Occupations

____ Home and Community Services Occupations

X Construction Occupations

X Manufacturing Occupations

X Agribusiness and Natural Resources Occupations

____ Educational Occupations

X Marine Science Occupations

X Environmental Control Occupations

X Public Service Occupations

X Health Occupations

____ Government Occupations

X Hospitality and Recreation Occupations

X Personal Services Occupations

X Fine Arts and Humanities Occupations

X Consumer and Homemaking Occupations

X Transportation Occupations

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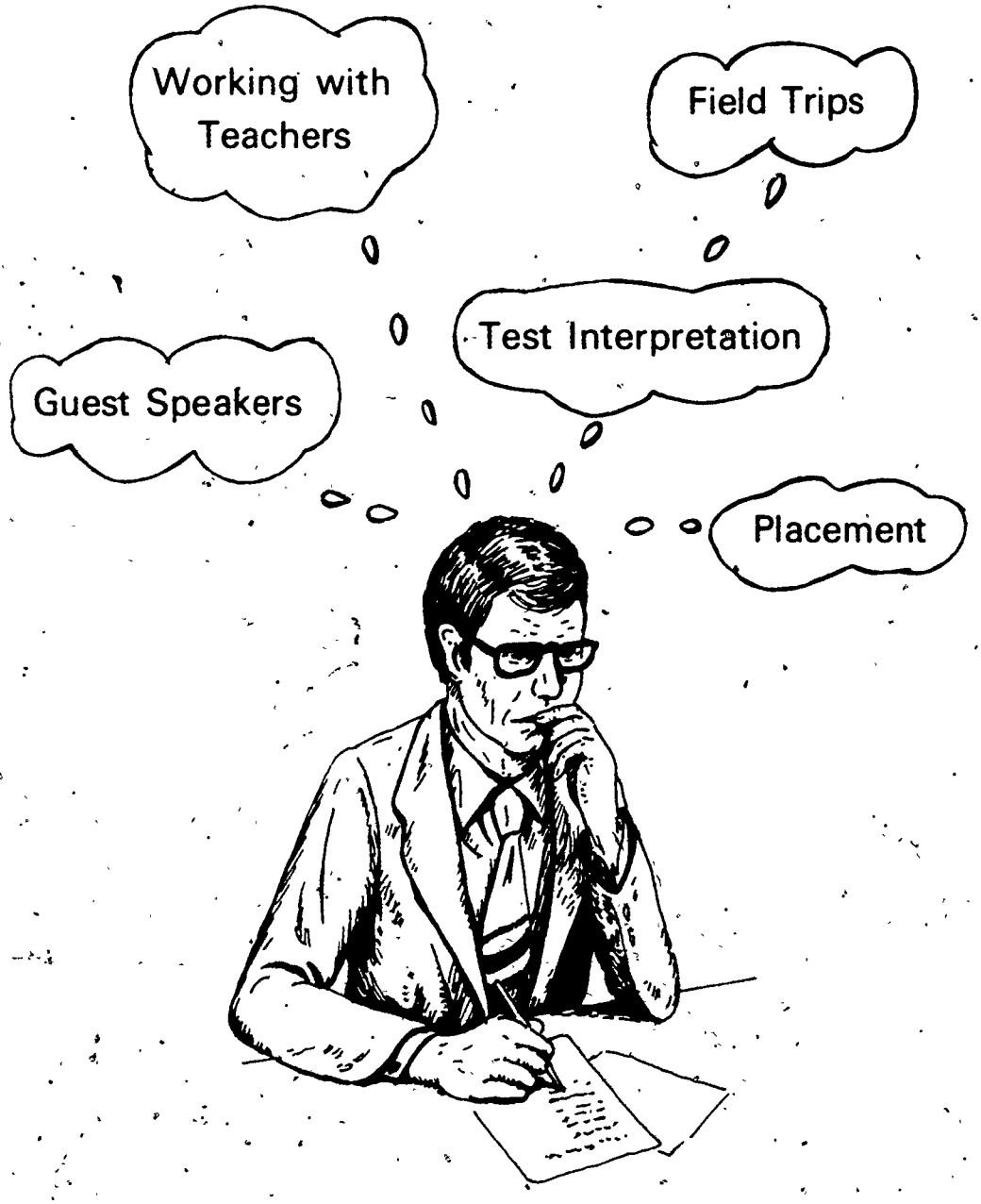
PERFORMANCE OBJECTIVE FIVE:

The participant will be able to select the statements which are true about the major concepts of the school-based model and to list four activities which could be performed at his level of counseling to support career education activities.



ROLE OF THE COUNSELOR IN CAREER EDUCATION

The guidance component permeates the entire spectrum of career education and is crucial to its success. If the school has no counselor, then someone must be designated to fulfill these functions if career education is to be successful.

Central to the career education concept is recognition that success in working life involves good mental and physical health, human relations skills, a commitment to honest work as the source of income, and a willingness to accept the discipline of the work place and to be motivated toward achievement in the work setting. All of these things have long been goals of guidance. The functions of guidance in career education would include:

1) Coordination of activities.

2) Providing leadership for career education.

3) Group and individual conferences.

4) Coordination of a career information system.

5) Coordination of the testing program.

6) A placement function.

This is not to suggest that one person can do all of this, but that all of these functions must be met and could fall into the realm of the guidance department. If a school has a person designated as career education facilitator, this person would rightly assume part of these duties. In some instances, the principal will assume most of the leadership function. However, the counseling staff should be qualified to assume any of these functions if called upon to do so.

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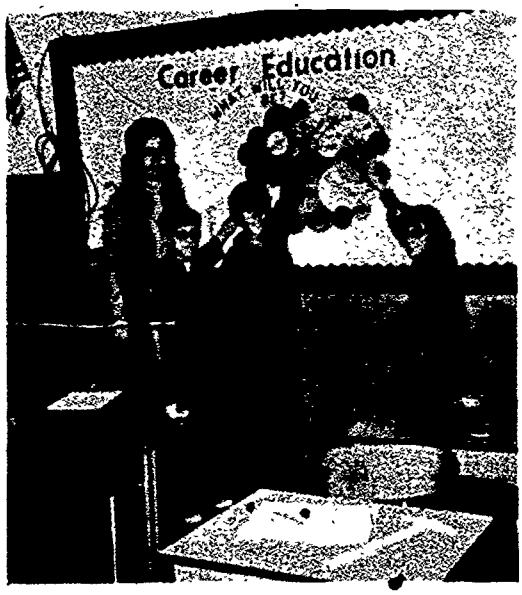
Activities: This section will identify the major concepts to stress at each grade level and the specifics of how counselors can support career education at all levels.



GRADES K THROUGH 6--CAREER AWARENESS

At the elementary level, the two major concepts to stress are attitude development and awareness of the world of work. Developing positive attitudes toward the world of work is a developmental process which should begin with self-awareness and gradually move to help each pupil formulate career thoughts so he will develop a positive attitude toward becoming an effective worker in a career oriented society. The child must first develop a positive attitude toward himself as a person and a worthwhile worker before he can develop a positive attitude toward work or other workers.

Awareness of the occupations included in the fifteen occupational clusters exposes individuals to a diversity of work values so they will know and understand those that exist. To familiarize children with work is similar to learning any subject matter. One must begin with the known and move to the unknown--a child must begin with family

workers and/or significant persons in his life, then advance to the community, national and international workers. Career awareness should be a part of the daily curriculum, integrated into the major subject areas to help students become aware of occupations that lead from the subject areas.

How would an elementary teacher go about implementing this philosophy?

Basically, it would involve a restructuring of some present activities. Field trips would focus upon the worker rather than the product and would be planned to expose the student to a variety of workers at various levels of expertise.

Resource people would be brought into the classroom to discuss their work, their accompanying life-style, and their feelings about the work. Subject matter skills, such as reading and math, would be structured to include the basic career education elements. For example, a reading lesson could focus upon a specific worker including the work setting, the worker's feelings and attitudes, and his life-style. A math unit could be structured around the math skills needed by a carpenter, a groceryman, or some other worker with whom the student could identify.

Role playing, simulation, and "hands on" activities would be planned to provide more concrete learning experiences.

Basic decision-making and problem-solving skills would be introduced and practiced.

Activities which the elementary school counselor could perform to facilitate attitude development and career awareness include:

1. Help to organize an advisory committee for career activities. This committee should be composed of classroom teachers, administrators, and community civic and business leaders.

2. Assist teachers with field trips related to occupational units. The counselor can be of assistance by helping to coordinate the trip, suggesting places to go, and going along to help focus emphasis of the trip upon career concepts. Students should be guided to seek information about types of workers, working conditions, training of workers, and duties of workers encountered on the field trip. In other words, the field trip should emphasize the worker rather than the product. The counseling staff could maintain a file of local companies willing to accomodate field trips with evaluations of the field trip as groups return and pertinent information about the company to help the teacher prepare the students for the visit. After an initial survey of the community, this file should not take much time to maintain and could be a valuable service to teachers. (See sample form at end of this unit which could be sent to local businesses as an initial survey.)

3. Maintain a file of guest speakers who are willing to speak to students about their jobs. A survey of parents who have students in your school is an excellent way to begin a guest speaker file. (See sample letter at end of this unit.) A survey of faculty expertise can also be helpful. Many teachers have held other full-time or part-time jobs and can share these experiences. Assist teachers in teaching interviewing skills to students prior to visits by resource people. (See sample list of interview questions at end of unit.)

4. Co-direct role playing situations and puppet activities related to interdependency of jobs, individual differences, the purpose of work and job interviews.

5. Assist and encourage teachers to conduct open discussion groups, such as class meetings, to deal with problem-solving and decision-making. (Relate to problems which might need solving and/or decisions to be made by a garbage collector, mailman, grocer, etc.)

6. Assist teachers in securing visual aids related to occupational education. This would include films, filmstrips, transparencies, movies, simulation games, comic books, reader printer, VIEW material, and career kits.

7. Assist teachers to develop methods for keeping parents informed of career activities at school, so parents can carry out the emphasis at home.

   Example: The student is assigned housekeeping chores at school. The parent should be encouraged to assign the student responsibility for similar chores at home.

8. Lead faculty discussion groups on how occupational material and ideas might be integrated into the curriculum.

9. Facilitate staff meetings and/or grade level meetings to coordinate activities between rooms and to encourage the sharing of ideas.

10. Arrange and/or conduct in-service training for teachers on career education concepts and to help familiarize teachers with the tools and techniques for "hands on" activities.

11. Assist teachers in setting up "hands on" activities within the classroom. This could include helping teachers formulate ideas for hands on activities, obtaining materials, learning how to use the tools and/or equipment, and arranging for student consultants to help.

    Example: Use of play telephone to simulate telephone operator; setting up a company and related working elements in the classroom aimed at having students do most of the planning, material building, resource gathering, and content input.

12. Take the lead in every way possible to encourage student participation in the decision-making process at students' level of sophistication.

    Example: Opening exercises within the room, rotating assignments of job for the day or the week, policy related to playgrounds, etc.

13. Administer career pretest and post test to evaluate success of programs and areas which need to be strengthened.

14. Publicize career awareness activities of the school through articles and photographs in local newspapers and through speeches to school professional meetings, PTA groups, and civic groups.

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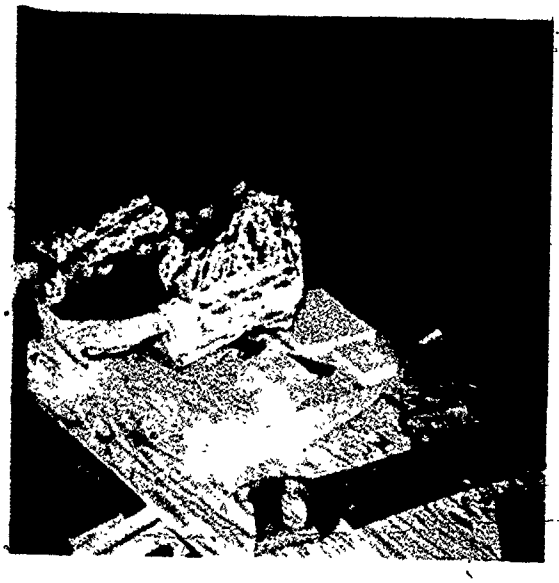

GRADES 7 THROUGH 10--EXPLORATION

In addition to continuing attitude development and awareness of career opportunities, exploratory activities would be appropriate at the seventh and eighth grade levels. Students would be given the opportunity to explore a wide variety of career clusters through "hands on" types of activities, f[illegible] trips, work observations, role playing, and simulation. Six to nine week exploratory [illegible]rses in each of the job clusters could be provided through industrial arts, home eco[illegible]s, and some of the other subject areas so that each student would have the opportunity [illegible] explore several of the job clusters at this level. The students would be exposed to basic concepts needed for success in the career clusters. This would help the students to understand themselves in relation to educational and occupational alternatives, including the occupational outlook available to them.

Every teacher in every classroom should be emphasizing the contribution that subject matter can make to a successful career.

Students who are potential junior high school dropouts can be identified and encouraged to develop job-entry-level competency in at least one specific occupational cluster.

Career guidance activities should be strengthened to assist the school staff in planning career related activities and to help individual students attain the knowledge and skills necessary for career decision-making. The student should be provided with activities to help him know himself and begin to assess his own strengths and weaknesses in relation to various careers. Emphasis should be placed on assisting each student in planning a high school program which will be of most benefit to him.

In grades 9 and 10, students are given the opportunity for in-depth exploration and training in one cluster leading to entry level employment in one occupational area and providing a foundation for further progress, leaving open the option to move between clusters if desired.

At these levels, the counselor could perform the following activities to support the career exploration philosophy:

1. Help to organize an advisory committee for career activities. This committee should be composed of classroom teachers, administrators, PTA representatives, and community civic and business leaders. An advisory committee is extremely helpful in getting business cooperation for field trips and guest speakers.

2. Assist teachers with field trips related to occupational units. (See item two for elementary counselors.) This field trip would be similar to those in the elementary grades but would be most advantageous if the student could be assigned some time to spend with an individual worker on the job.

   For group trips, students could be assigned specific things to look for on the trip and then exchange information and discuss implications when they return to the classroom.

   Example: One group of students could report on dress styles or dress codes in the business or factory visited. Another group could report on general working conditions and atmosphere (noise level, whether crowded, clean or dirty, safety conditions, etc.) Another group might interview a few workers, report on attitudes, likes and dislikes, etc.

   (See sample form at the end of this unit for conducting a survey of local businesses and industries.)

3. Coordinate speaker visitations to the school. (See item three for elementary counselors for suggestions on setting up a guest speaker file.) Speakers should be encouraged to relate to "human" aspects of their job--work hours, pay, their feelings about the job, and personal qualities needed for the job as well as educational requirements, skills needed, physical requirements, etc. The counselor should encourage student involvement in each activity.

   Example: Have students write letters, make phone calls, meet the person at main entrance, etc.

4. Collect career related materials across disciplines or set up a system to obtain materials relating to the disciplines and encourage teachers to use them by suggesting ways of integrating them into their curriculum.

5. Coordinate the exploration of occupational clusters by attending curriculum meetings to insure each student gets some exposure to all clusters through academic related curriculum and be a spokesman for setting up exploratory courses to meet the needs of the students in your school population. Ideally a student would have the opportunity to explore several career clusters in the seventh and eighth grades through exploratory courses which would be nine weeks or one semester in length. From these exploratory courses, it is just as important for a student to decide that he does not like a particular career cluster as it is to decide that he does like one. In the ninth and tenth grades, the student should be ready for a full year exploration of one or two career clusters.

6. Coordinate an information system (gathering, updating, and dissemination) related to career clusters in terms of descriptions, supply and demand, interests, and training and education requirements. Many schools are finding it is very functional to establish a "career corner" in the library. The counseling staff can work with the librarian to gather and update materials for this corner. Current career books, pamphlets, and media such as individual sound filmstrips can be gathered and attractively displayed in one quiet corner which would be designed to encourage student browsing. It is extremely helpful, but not essential, to have a paraprofessional or adult volunteer worker assigned to this area. Students who need further information or clarification could then be referred to the counseling staff.

7. Coordinate a program aimed at utilizing "hands on" experiences in ways for greatest exposure to the student population.

   Example: Students could develop movie film of work activities in the community. Have student discussions in various classes and take film to an elementary school to talk about what they did.

8. Provide in-service training for staff in leading and facilitating open discussion and problem solving groups. Topics to deal with could be: interests, life-styles, introduction to career decisions, decision-making related to peer and parental pressures, and values of work and leisure.

9. Get into community businesses, parent groups, and service clubs to lay ground work for cooperation and support of career education.

10. Lead counseling groups for those uneasy about: self-acceptance, career plans, acceptance of responsibility, and interpersonal relations. (Activities include: open discussion or role playing.)

11. Coordinate orientation to career preparation programs at high school.

12. Compile information concerning part-time jobs available in the community and sell the idea about the importance of gaining such experience. Support

the idea of making positions or work stations available to young teenagers. If the high school has a placement officer, he can be extremely helpful with this job.

13. Be a spokesman at staff meetings for student involvement in the decision-making process within the school. See that student government deals with worthwhile areas--i.e.: assemblies, speaker programs, school programs, and rules. Insure that every student has an opportunity for direct or indirect involvement in the school's decisions and the associated consequences thereof.

14. Suggest and have media available to complement classroom activities.

15. Help plan and supervise a testing program which will give students information about themselves for career decision-making. Conduct group and/or individual conferences with students regarding test results.

16. Conduct or supervise research studies to evaluate effectiveness of your career program.

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GRADES 11 AND 12--SPECIALIZATION

This is the level of specialization for most students. In these grades, the student would pursue his selected job area in terms of the following options:

a. Vocational education--Acquiring skills through vocational education that would enable him to take a job immediately upon leaving high school.

b. Pretechnical--Taking a combination of academic and on-the-job courses in preparation for entering a post secondary institution that would train him as a technician.

c. College preparation--Electing a similar combination of courses in preparation for a degree from a junior college or a four-year college or university and beyond.

d. Any combination of the above.

Intensified guidance services, including a placement service, become essential at the senior high school level. The placement service would include the following components:

1. Placement in part-time jobs
2. Placement of all students exiting from the school in one of three ways:
   a. A job
   b. A junior college or four-year college
   c. Post secondary vocational or technical training
3. Follow-up of students on the job

We hear a lot about accountability in education. As schools become responsible for placement of exiting students, they truly become accountable. Under career education, schools would be evaluated on the basis of how many students are successfully placed in one of the three areas listed above. As we all know schools are presently evaluated on the basis of how many students go to college with no emphasis on how many students are successful there.

As schools become accountable for all exiting students, we can expect that more sophisticated follow-up procedures will be implemented. This information will be available for program revisions to meet the needs of those exiting students. In other words, as schools accept responsibility for students who complete their program, we can expect to see modification and improvement of school programs.

The placement service will necessitate additional personnel, both professional and paraprofessional. Placement specialists will need to work closely with prospective employers, educational institutions, and employment services, as well as with the students to be placed. Our information system for student records will need to be improved if placement specialists are to help students assess their own strengths and weaknesses in order to make wise career decisions.

Placement in part-time jobs is considered an important part of career education for many students. A part-time job should give the student an opportunity to further explore a job cluster in which he is interested. For example, if a student is interested in the construction cluster, a part-time job as a carpenter's helper would give him the opportunity to explore that occupation in a real life setting. In addition to being an exploratory experience, a part-time job can give a student a feeling of self-worth and provide experiences in human relations and work habits on the job.

Counselors could best support career education at this level by performing the following:

1. Help to organize an advisory committee for career activities. This committee should be composed of classroom teachers, administrators, PTA representatives, and community civic and business leaders. Rather than having an advisory committee for each school, it may be advisable to help set up an advisory committee for the entire school system with subcommittees to work on various areas. It is essential to the success of a high school placement program to have a Placement Committee or subcommittee to help plan and carry out this function.

2. Attend administrative meetings, teacher staffings, or any school meeting related to career education. Push for more student responsibility and involvement in the decision-making process of the school, assist co-op work programs, facilitate problem solution processes in staff meetings, consider the learner in curriculum meetings, and take the lead to emphasize development or exposure to pleasurable leisure activities.

3. Give special attention to counseling dropouts or potential dropouts regarding their career goals. Support the open entry concept by assisting with screening and evaluating student's goals and commitments for re-entry. Follow-up such students as to how well they live up to their contract. If the school has a placement officer, refer dropouts to this office. If the school has no placement office, try to help the student get employment or placed in some other kind of education.

4. Supervise material gathering and updating relevant to: trade/technical schools, community college and university bulletins, employment service information, state and national employment trends, and training requirements for jobs and related information. Provide a plan for dissemination and integration of the materials into curriculum. See item six for Grades 7 through 10 for suggestions on establishing a career corner.

5. Assist the classroom teacher in administering, interpreting, and discussing personal profiles of career plans, including interests, strengths, and weaknesses.

6. Coordinate the testing program including selection, administration, and interpretation of tests. Interpretation of individual tests is of extreme importance under career education concepts. Students must have this information available to them to facilitate wise decision-making.

7. Meet individually or in small groups with students who seem immature and perplexed by career decisions. Group counseling sessions could be arranged for students with similar career goals or similar career problems.

8. Coordinate and suggest speakers for classes/assemblies to include out-of-town people, local businessmen, interested lay people, successful graduates, and retired folks who could relate to students concerning their life work cycle and leisure activities. See item three for elementary counselors concerning ideas for a guest speaker file.

9. Organize a cooperative program across disciplines for students to visit junior high students to relate work experiences and aspects of the high school's career planning program.

   Example: Communication class takes movies of school activities, photo lab develops the film, English class edits the film, speech class outlines the appropriate commentary, and student government decides who is to be on a committee to carry out the project.

10. Coordinate programs with business and office classes to conduct community surveys, compile the data, print it, and disseminate results. (Salaries, opportunities, follow-up on graduates, or student involvement.)

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11. Coordinate a program for high school students to serve as consultants to junior high and elementary school classes.

Example: High school journalism students could speak to English classes about their duties, ways they use English in their course, and demonstrate setting up a newspaper page. High school carpentry students could assist elementary teachers with "hands on" activities requiring sawing, hammering, etc., and help both students and teachers learn to use the tools.

12. Utilize college students to serve as consultants to high school students planning to go to college.

The placement officer will:

1. Canvas local business and industry for the purpose of:
   a. Informing them of the placement service.
   b. Soliciting jobs.
   c. Helping elementary and junior high schools establish files for guest speakers and field trips.
2. Fill out a form for each new job obtained.
3. Maintain files of these forms, separated by jobs filled and jobs still open. Keep records of persons referred to jobs and persons hired.
4. Complete work applications for students who want to work. Help students relate their abilities, availability, and interests to the types of jobs available to him.
5. Make appointments for students with employers.
6. Follow up student on-the-job to see if both student worker and employer are satisfied. Help to work out problems or to place student elsewhere if that is necessary.
7. Refer students to regular counseling staff for special problems or set up group counseling sessions if need arises.
8. Encourage students to look for their own jobs. Give them the information and encourage them to use newspaper ads, store window ads, and direct application for jobs, not to rely solely on the placement officers. This can be done through classroom talks and/or group or individual counseling.
9. Work closely with state employment agencies.
10. Encourage and plan public relations programs to promote cooperation between the school and business community. Write news items of activities for publicity.
11. Evaluate commercial employment agencies.

EXERCISE SIX--THE ROLE OF THE COUNSELOR

1. Place a "T" in front of those statements which are true about career education; an "F" in front of those which are false.

_____a. Career awareness will have its greatest emphasis at junior high level.

_____b. Career education is mainly for students who are potential dropouts.

_____c. A "careers course" is one of the best ways to include career education at the high school level.

_____d. Enrollment in college preparation courses would be one option open to a student in the eleventh and twelfth grades.

_____e. Decision-making skills are an important element of career education.

_____f. Field trips and role playing would be used extensively in the elementary grades.

_____g. Exploratory courses in junior high school would be primarily designed to give students job skills in a specific career cluster.

_____h. By ninth and tenth grades, most students will be ready for in-depth exploration and training in one career cluster.

_____i. The primary purpose of part-time job placement would be financial help for students.

_____j. By assuming placement responsibility, schools would become more accountable for their services.

2. If this packet is being completed in a workshop, discuss reasons why schools should or should not accept responsibility for placement of students.

3. List four activities which you could perform in your counseling program to support career education.

ANSWER SHEET NUMBER SIX:

1. a. F Career awareness receives its greatest emphasis at elementary level.

   b. F Career education is for all students.

   c. F Career education is to be infused into the regular curriculum, not just another course.

   d. T

   e. T

   f. T

   g. F Exploratory courses at the junior high level are designed to expose students to jobs within a cluster, emphasizing job setting, skills needed, and accompanying life-style; not to teach job skills.

   h. T

   i. F The primary purpose of part-time job placement would be further exploration of a job cluster and experience in employability skills.

   j. T

2 and 3. I am sure your answers are just great!

APPENDIX A
Sample Survey Form

1. What is the name of your business? _____

   A. Address _____

   B. Phone _____

2. Who should be contacted to arrange a visit to your business?

   _____

   A. Position with firm _____

   B. Phone _____

3. Would someone be able to visit the classroom to prepare for the trip or follow it up? _____

4. For what age children is the tour appropriate? _____

5. How many can be accomodated at one time? _____

6. How many school groups can be handled per year? _____

7. What is the best time of year to visit? _____

8. What is the best time of week to visit? _____

9. What is the best time of day to visit? _____

10. How much time is needed for the visit? _____

    What is the cost to the pupils? _____

    to the school? _____

11. Are there facilities for meals? _____

    Is there ample parking space? _____

    A. Bus _____

    B. Car _____

12. Do you have special exhibits, films, tapes, etc. that could be used for instructional purposes? If so, what are the subjects and how may they be secured?

    _____

    _____

Questionnaire (continued)

13. Brief description of the tour _____

14. Is guide service provided? _____

15. Are there any special safety precautions to be observed during the visit? _____

16. In what other ways can the business and industries of this area contribute to the education of our young? _____

17. What can the school community do for you? _____

APPENDIX B
Sample Parent Letter

Dear Parents,

As a part of our regular instructional program, we would like parents to come to our class and tell the students about their occupations or hobbies. Our children will benefit by contact with an adult who is contributing to himself and his society. We are sure they will have many important questions to ask.

Please fill out and return this form. You will be contacted to arrange a definite time and date. The general objectives of the program and suggestions for the things we would like to know about will be available. We are interested in all occupations.

Please return to the teacher.

Name_____ Phone_____

Address_____

Occupation or Hobby_____

Company or Firm_____

It would be convenient for me to be at your school on (days and times).

_____

_____

_____

_____

_____
Signature

APPENDIX C
Sample Student Interview

1. What is the name of your job?
2. What do you do on the job? What tools do you use?
3. What mental abilities do you need?
4. What physical abilities do you need?
5. Why did you take this job?
6. Was this your first job choice? How many times did you change your mind about what you wanted to be before you went to work? Why?
7. What do you like about your job? Why?
8. What do you dislike about your job? Why?
9. What kind of education is necessary for this kind of work? Are there any personal qualities for this job that are really more important than diplomas?
10. What school subjects have been most useful?
11. About how much money can a person earn in this kind of work? Is there a chance of getting a lot of money all at once? Of losing a lot of money quickly?
12. How does your job affect your personal life? Do you have to work nights? Are you tired when you get home? Do you have a job where you have to be nice to people all day--even people who are ill-mannered?
13. Do you have to dress a certain way? How do you feel about that?
14. Are people with your kinds of skills usually needed even when business may be bad? Is your work at all seasonal? Is it limited to a certain geographical area?

APPENDIX D
Resource Supplement

Additional materials which are recommended to supplement your knowledge of career education.

Books:

Goldhammer, Keith and Robert E. Taylor. *Career Education: Perspective and Promise.* Columbus, Ohio: Charles E. Merrill Publishing Co., A Bell and Howell Co., 1972.

Hoyt, Kenneth B., Rupert N. Evans, Edward F. Mackin, and Garth L. Mangum. *Career Education: What It Is and How To Do It.* Salt Lake City, Utah: Olympus Publishing Co., 1972.

Davenport, Lawrence and Reginald Petty. *Minorities and Career Education.* Columbus, Ohio: ECCA Publications, The House of Haynesworth, 1973.

U.S. Office of Education. *Career Education: A Handbook for Implementation.* Washington, D.C.: U.S. Government Printing Office, 1972.

Periodicals:

National Association of School Principals Bulletin. "Career Education: What It's All About." Number 371. Washington D.C., 1973.

American Vocational Journal. "Career Education." Volume 47. Washington D.C., American Vocational Association, March 1972.

Educational Leadership. "Career Education". Volume 30. Washington D.C.: Association for Supervision and Curriculum Development, December 1972.

Film:

"Career Education (U.S.O.E.) 1972"; 27 minutes, sound color. Two copies of this film are available, on a limited basis for loan without charge from the State Department of Vocational-Technical Education, Curriculum and Instructional Materials Center, 1515 West Sixth Avenue, Stillwater, Oklahoma 74074.

"Work Is Child's Play"; 27 minutes, sound, color. Also available on limited basis as above.

Filmstrip:

"Career Education (U.S.O.E.) 1972"; 20 minutes, color. Available on a limited basis for loan without charge from the State Department of Vocational-Technical Education, Curriculum and Instructional Materials Center, 1515 West Sixth, Stillwater, Oklahoma 74074.

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CAREER AWARENESS K-6

I Can Be Me — From A To Z

STATE DEPARTMENT OF VOCATIONAL AND TECHNICAL EDUCATION/STILLWATER, OKLAHOMA

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CAREER AWARENESS
K-6
COMPILATION OF MODULES

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FOREWARD

This publication has been developed as an aid to teachers in organizing appropriate career foundations for elementary pupils.

American education has traditionally given career guidance at the secondary level; little organized emphasis has been given at the elementary level.

The elementary years are the bedrock for later decision making and adjustment. These are the years of curiosity and inquiry, trial and exploration, and relative freedom from prejudice. The elementary grades encompass the natural years for developing appropriate career foundations. The school, home, and community must see that these opportunities are not lost.

The State Department of Vocational and Technical Education commend the teachers, counselors, and administrators for their services and help to make this a successful publication.

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Field testing sites in Oklahoma 1973-74

Anita Craig--First grade--Blackwell
Dorthy McClung--Second grade--Blackwell
Ofa Stephenson--Third grade--Blackwell
Pam Scott--Second grade--Bartlesville
June Hartpence--Third grade--Bartlesville
Don Owens--Fourth and fifth grades--Bartlesville
Elvia Edwards--Elementary Counselor--Millwood
Dorthy Resneder--Kindergarten--Mullhall
Lynn Bevill--Second and third grades--Norman
Kelly Taliaferro--Sixth grade--Oklahoma City
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INTRODUCTION

The major purpose of Career Awareness K-6 is to promote positive attitudes toward self and the world of work and to learn about the multitude of occupational opportunities in our career oriented society.

Learning activities that afford the opportunity for pupils to experience success is one way to improve self image and at the same time become aware of the existence of a diversity of work roles included in the fifteen occupational clusters* developed by the USOE.

Career Awareness should be infused into the major subject areas to help pupils become aware of the relationships between occupations and what is being learned in the classroom.

- Business and Office Occupations Clusters
- Marketing and Distribution Occupations Clusters
- Communication and Media Occupations Clusters
- Construction Occupations Clusters
- Manufacturing Occupations Clusters
- Agri-Business and Natural Resources Occupations Clusters
- Marine Science Occupations Cluster
- Environmental Control Occupations Cluster
- Public Service Occupations Cluster
- Health Occupations Cluster
- Hospitality and Recreation Occupations Cluster
- Personal Services Occupations Cluster
- Fine Arts and Humanities Occupations Cluster
- Consumer and Homemaking Occupations Cluster
- Transportation Occupations Cluster

"I Can Be Me From A to Z" is a set of multi-media modules, including a teacher's manual, slides, cassette tapes, interviewing techniques, and an elementary dictionary of occupational titles. The modules are designed to be infused into the ongoing curriculum rather than being added on.

The activities included in the modules should be used to focus on career awareness rather than choice, to generate excitement rather than product, and to be evaluated in ways that will not dampen enthusiasm.

The modules will expose elementary pupils to different life styles, careers, career patterns, and educational experiences that enhance the individual and bring meaning into his life.

USE OF THIS PUBLICATION

Instructional Units or Modules

Career Awareness modules consist of visual/sound, interviewing techniques, elementary dictionary of occupational titles, and instructional units. Each module includes slides, cassette tapes, and a unit of instruction. Each instructional unit includes behavioral objectives, suggested activities for teachers, information sheets, student activity sheets, student evaluation sheets, and teacher evaluations.

Careful study of each instructional module by the teacher will help him/her determine:

A. The amount of material that can be covered in each class period.
B. The skills which must be demonstrated.
    1. Supplies needed
    2. Equipment needed
    3. Amount of class time needed for demonstrations
    4. Information for field trip preparation
    5. Resource people that must be contacted
    6. Additions or deletions to be made in each module

Objectives

Each unit of instruction is based on behavioral objectives. These objectives state the goals of the module, thus providing a sense of direction and accomplishment for the student and teacher.

Behavioral objectives are stated in two forms: Terminal Objectives, stating the subject matter to be covered in a module, and Specific Objectives, stating the student performance necessary to reach the terminal objective.

Since the objectives of the unit provide direction for the teaching-learning process, it is important for the teacher and students to have a common understanding of the intent of the objectives. A limited number of performance terms have been used in the objectives for this curriculum to assist in promoting the effectiveness of the communication among all individuals using the materials.

Following is a list of performance terms and their synonyms which were used in this material:

Name	Identify	Describe
Label	Select	Define
List in writing	Mark	Discuss in writing
List orally	Point out	Discuss orally
Letter	Pick out	Interpret
Record	Choose	Tell how
Repeat	Locate	Tell what
Give		Explain

Order	Distinguish	Construct
Arrange	Discriminate	Draw
Sequence		Make
List in order		Build
Classify		Design
Divide		Formulate
Isolate		Reproduce
Sort		Transcribe
		Reduce
		Increase
		Figure

Teachers should feel free to add objectives which will fit the material to the needs of their students and the school setting.

Suggested Activities

Each unit of instruction has a Teacher Activities sheet outlining steps to follow in accomplishing specific objectives. The activities are listed according to whether they are the responsibility of the instructor or the student.

Teacher: Duties of the teacher will vary according to the particular unit; however, for best use of the material they should include the following: arrange for the use of audio/visual equipment and any other equipment or material needed to present the unit. Teachers are encouraged to use any additional activities and teaching methods to aid students in accomplishing the objectives.

Students: Students' activities are listed which will help the student to achieve the objectives for the unit.

Information Sheets

Information sheets provide content essential for meeting the cognitive (knowledge) objectives of the unit. The teacher will find that information sheets serve as an excellent guide for presenting the background knowledge necessary to develop the skills specified in the terminal objective.

The teacher should present the information sheet according to her class.

Audio-Visual Materials

Slides and cassette tapes provide information to pupils through seeing as well as hearing the material being presented, thus reinforcing the learning process. The tapes are also effective for developing listening skills.

Audio-Visual materials can be used to develop a career awareness center in the classroom. Students can work individually with occupations of their interest.

Student Activity Sheet

This should be reproduced and used by pupils to practice activities for developing skills to accomplish the objectives.

Evaluation (optional)

Teacher observation and performance tests are used to measure student achievement of each objective listed in the unit of instruction. The individual test may be used to help the teacher spot difficulties being encountered by students in their efforts to accomplish the terminal objective. If activities are added or deleted to accomplish the terminal objective, test items should be constructed relative to the change.

Interviewing Techniques

These will aid teachers in adequately preparing pupils for obtaining desired information at the resource site, for interviewing resource people in the classroom, and for interviewing by telephone.

DOT Pamphlets

The *Dictionary of Occupational Titles* for upper elementary pupils should be used for independent research.

INTERVIEWING TECHNIQUES

General questions for a resource site

1. Number of different jobs in existence at the resource site.
2. Number of people employed in each job.
3. Nature of the work done.
4. Whether a particular job is expanding or declining.
5. Educational and training requirements.
6. Route to getting a particular job.
7. Age requirements to work in different areas.
8. Physical requirements.
9. Hours per week workers are required to work.
10. Opportunities for advancement.
11. Whether union or other membership is required.
12. Vacation time allotted.
13. Whether or not there are health insurance and retirement or pension plans.

Specific interview questions for individual resource people

1. What do you do on the job?
   a. What time did you go to work this morning?
   b. What was the first thing you did?
   c. How long did that take (cover the entire day)?
   d. Did you do anything yesterday that was different from today?
2. Why did you take this job?
3. Was this your first job choice?
4. How many times did you change your mind about what you wanted to be before you went to work?

5. What part of your job do you like best? Is there a part of your job you do not like? Are there any hazards?

6. Who depends upon your work?

7. What experiences and training on this job might prepare you for some other kind of job should you ever want to change?

8. Do you work nights or days?

9. Are you tired when you get home? On your job do you have to be nice to people who are crabby and ill-mannered?

10. What inventions could put you out of work?

11. Are people with your kind of skills usually needed even when business may be bad? Is your work at all seasonal? Is this type of work limited to geographical areas?

12. What type of education is necessary for this work?

13. What classes did you have in the sixth (any) grade that help you now in your work?

14. Is there any personal quality required for this job?

15. Give us a general idea about the starting salaries in this type of work.

16. When does your boss compliment you or when do you compliment your employees?

17. When are people fired?

18. What school did you attend?

19. What changes have taken place recently?

20. Do you expect any changes in the near future?

21. What qualifications do you need to get your job, such as

    a. Age

    b. Height

    c. Weight

    d. Sex

    e. Marital status

    f. Veteran

g. Union

h. License

22. Is it permissible to get another employee to cover your job if you want time off?

23. Did any of your leisure activities increase your ability to obtain this job or help you to perform better on this job?

24. Did you have to make a decision between two or more jobs?

25. Is there anything we need to know about the job that has not been asked?

Interviews by telephone

1. What are the different types of workers found in this plant?
2. What type of work do the majority of employees do?
3. Is the work outdoors or indoors?
4. What are the job duties?
5. What are the educational and experience requirements for these jobs?
6. What are the physical requirements?
7. What are possible weekly or monthly earnings?
8. What are the future opportunities?
9. Approximately how many workers are in the plant?
10. What are some of their specific job titles?

Elementary pupils can be prepared for formal interviews through 1) role playing, 2) informal taped interviews with peers, 3) informal interviews with adults (teachers, parents, and community people).

Prior to a mock interview, it will be necessary for pupils to gather facts about the job to be discussed. The student who acts as an interrogator must know what questions to ask. The person playing the role of the worker must know enough about the occupation to reply.

The following is a list of helpful hints for teachers and pupils when preparing for interviews:

1. Teachers should be aware and make students aware that misinformation may result from an interview. The worker may misunderstand the questions, or he may not have the detailed information that the student is seeking.

2. It may be helpful to send the talent a list of questions the class is considering.

3. Familiarize pupils with questions and have them mark the questions they would like to ask.

4. Inform pupils before an interview that the resource person does not have to answer a question if he does not want to.

5. Teachers should be alert to step in and help facilitate communication if either the student or resource is not understanding what the other has said.

6. The teacher should feel free to clarify questions and answers whenever it is desirable to do so.

7. Pupils should be given the opportunity to discuss the reason why a worker may oversell or undersell his field, such as a need to impress his listeners, a lack of information due to limited experiences in the field, or a need to rationalize his own success or failure on the job.

(NOTE: These interviewing techniques may be deleted from or added to in any way to meet the needs of a given group of pupils.)

References:

Nelson, Richard C. *Guidance and Counseling in the Elementary School.* New York: Holt, Rinehart, and Winston Inc., 1972.

Norris, Willa A. *Occupational Information in the Elementary School.* Chicago: Science Research Associates, Inc., 1969.

Wernick, Walter. *Able Model Program.* Dekalb: Northern Illinois University Press, 1972.

CAREER AWARENESS
UNIT I

Suggested Subject Area:
Art and Music

Grade Level:
K-3

TERMINAL OBJECTIVE

After completion of this unit, the pupil should be able to describe a job he can do for himself and a job he can do for his family. He should be able to select and perform a classroom duty. This ability should be evidenced to the satisfaction of the teacher.

SPECIFIC OBJECTIVES

After completion of this unit, the pupil should be able to:

1. Describe one job he can do for himself when getting ready to come to school.
2. Draw a picture of his family and describe a job he can perform for his family.
3. Select a classroom duty and perform the duty independently for a definite period of time.

CAREER AWARENESS
UNIT I

TEACHER ACTIVITIES

I. Jobs he can do for himself:

A. Let each pupil discuss a job he can do for himself. (Information Sheet)

B. Let each pupil draw a picture showing himself performing a job.

C. Teach pupils words to song about jobs, "All By Myself." (Student Activity Sheet #1a)

II. Jobs he can perform for his family:

A. Let each pupil draw a picture of his family and use pictures for scrapbook.

B. Let each pupil tell about his responsibilities at home. (Information Sheet)

C. Teach pupils song about family jobs, "Take Your Little Hands." (Student Activity Sheet #1b)

III. Classroom duties:

A. List the duties to be performed and procedures for performing these duties. (Information Sheet)

B. Let each pupil select and perform a duty independently.

C. Teach song about duties in the classroom, "What Shall We Do?" (Student Activity Sheet #1c)

(NOTE: Teacher should decide the method to use in teaching the songs, based on pupils' ability. Musical instruments may be used, such as rhythm sticks, drums, cymbals, jingle bells, etc.)

INSTRUCTIONAL MATERIALS

I. Included in this unit:

A. Objectives

B. Information sheet

C. Student activity sheets

1. Student Activity Sheet #1a--"All By Myself"
2. Student Activity Sheet #1b--"Take Your Little Hands"
3. Student Activity Sheet #1c--"What Shall We Do?"

D. Evaluation

CAREER AWARENESS
UNIT I

INFORMATION SHEET

I. Jobs for himself

   A. Grooming

   B. Health

   C. Others

II. Jobs for family

   A. Making beds

   B. Getting ready for school on time

   C. Others

III. Classroom duties

   A. Distributing materials

   B. Collecting milk money

   C. Putting away class materials

   D. Caring for school pets

CAREER AWARENESS
UNIT I

STUDENT ACTIVITY SHEET #1a--"ALL BY MYSELF"

Sing this song lively.

Leader: Tell me, tell me, tell me true, one thing you can do all by yourself.

Children: I can brush my teeth, my teeth, my teeth,
I can brush my teeth all by myself.

Leader: Repeat.

Children: I can button my coat, my coat, my coat.
I can button my coat all by myself.

Leader: Repeat.

Children: I can zip a zipper, a zipper, a zipper.
I can zip a zipper all by myself.

Leader: Repeat.

Children: I can tie my shoes, my shoes, my shoes.
I can tie my shoes all by myself.

CAREER AWARENESS
UNIT I

STUDENT ACTIVITY SHEET #1b--"TAKE YOUR LITTLE HANDS"

Sing the following song lively and to the tune of "Here We Go Round the Mulberry Bush." Do actions with your hands.

Take your little hands and mow the lawn, mow the lawn, mow the lawn. Take your little hands and mow the lawn as we sing along this morning.

Take your little hands and rake the leaves, rake the leaves, rake the leaves. Take your little hands and rake the leaves, as we sing along this morning.

Take your little hands and shovel the snow, shovel the snow, shovel the snow. Take your little hands and shovel the snow, as we sing along this morning.

CAREER AWARENESS
UNIT I

STUDENT ACTIVITY SHEET #1c--"WHAT SHALL WE DO?"

Sing gaily and have children sing as a dialogue.

What shall we do? I say to you.

Let's find a broom today and sweep the trash away.

What shall we do? I say to you.

Let's find a nice green log for our little pet frog.

What shall we do? I say to you.

Let's build a house for our little white mouse.

(NOTE: Add stanzas to fit the context of the room.)

CAREER AWARENESS
UNIT I

EVALUATION
(Observation)

I. Describe orally one job he can do for himself when getting ready to come to school.

II. Draw a picture of his family and describe a job he can perform for his family.

III. Select a classroom duty and perform one duty for a definite period of time.

(NOTE: Teacher may observe the pupil for one week and later for another period of time.)

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CAREER AWARENESS
UNIT II

Suggested Subject Area:
Reading (Getting Ready to Read)

Grade Level:
K-3

TERMINAL OBJECTIVE

After completion of this unit, the pupil should be able to see himself as a worthwhile worker by identifying the concepts that relate to a child and an adult, demonstrating his ability to properly handle "Getting Ready to Read" books, and describing a job, such as one members of his family perform that he can also perform.

SPECIFIC OBJECTIVES

Upon completion of the unit, the pupil should be able to:

1. Identify the concepts large - small, tall - short, and child - adult.
2. Demonstrate the ability to handle and turn pages in "Getting Ready to Read" books.
3. Describe orally a job he can do that is similar to a job a member of his family performs.

   (NOTE: A child may describe the job of any person in his family.)

CAREER AWARENESS
UNIT II

TEACHER ACTIVITIES

I. Identifying concepts:

A. Discuss the concepts large - small, tall - short, and adult - child.

B. Let pupils distinguish the concepts.

C. Discuss the slides.

(NOTE: Slides are optional. Magazine pictures pertaining to the concepts and to family workers may be brought to school by the children.)

II. Skills in handling "Getting Ready to Read" books:

A. Demonstrate to students the procedures in turning pages in book.

B. Let each pupil turn pages by himself.

III. Family members' jobs:

A. Read to pupils stories about family members' work.

B. Show slides of family members at work.

C. Let each pupil tell what he can do that is similar to a family member's work.

D. Let students bring their own working tools to class to use.

(NOTE: Slides may be presented after the stories.)

INSTRUCTIONAL MATERIALS

I. Included in this unit:

A. Objectives

B. Information sheet

C. Student activity sheets

1. Student Activity Sheet #1a--My Dad a Carpenter
2. Student Activity Sheet #1b--My Brother a Truckdriver
3. Student Activity Sheet #1c--My Mom a Telephone Operator

D. Tape 1--Side #1a: Describes occupations of family workers

(NOTE: Tape is optional. Students may describe occupation of their own family workers.)

E. Slides (1-15)

1. Dog: Large - Small Concept
2. Adult: Child - Age Concept
3. Child With Book--A Child's Work
4. Weatherlady
5. Draftsman
6. Farmer
7. Ballet dance teacher
8. Newsreporter
9. Truckdriver
10. Line lady
11. Therapist
12. Auto mechanic
13. Desk clerk
14. Sales clerk
15. Home economist

F. Evaluation

CAREER AWARENESS
UNIT II

INFORMATION SHEET

I. Identifying concepts

A. Group discussions

1. Relate size concepts to himself
2. Relate size concepts to items in the classroom

B. Marking with chalk

1. Underline
2. Circle

II. Skills in handling "Getting Ready To Read" books

A. Big book for group demonstration

1. Demonstrate how to turn pages
2. Demonstrate how to find the correct page number

B. Observe each child

1. Handling pages
2. Turning to the correct page number

III. List jobs family members perform

A. At home

1. Mow lawn
2. Do laundry
3. Prepare lunch

B. To help others

1. Girl Scout sponsor
2. Coach of little league baseball
3. P.T.A. president

(NOTE: This sheet contains examples only; the teacher may add to or delete from this sheet according to her pupils.)

CAREER AWARENESS
UNIT II

STUDENT ACTIVITY SHEET #1a--MY DAD A CARPENTER

My dad is a carpenter. He wears overalls when he works. The overalls have many small pockets for tools. He wears an apron when he works.

He cuts wood with an electric saw-buzz, buzz, buzz.

He nails pieces of wood with a hammer-bang, bang, bang.

Sometimes Dad works with other carpenters. They build houses, stores, and many other buildings.

Dad is teaching me to use tools. I have a work bench. I have a saw and a hammer. Dad and I are building a playhouse for my sister.

CAREER AWARENESS
UNIT II

STUDENT ACTIVITY SHEET #1b--MY BROTHER A TRUCKDRIVER

My brother drives a big freight truck on long trips. The truck has a big trailer to carry all kinds of freight. It may carry toys, big machines, food, or furniture.

A truck driver has to be a safe driver. His truck is checked for safety before each trip.

Sometimes I do not see my brother for two weeks. He drives halfway across the country. Another man goes with him, and they take turns driving because they drive day and night.

I have a small red wagon, I can use for a truck to carry groceries home from the market for my mom.

CAREER AWARENESS
UNIT II

STUDENT ACTIVITY SHEET #1c--MY MOM A TELEPHONE OPERATOR

My mom helps people with calls they can't dial themselves.

My mom helps people make long distance calls and tells them the cost of calls.

My mom helps people call the police in an emergency.

My mom dials numbers for blind people.

I can find numbers in the telephone directory and make calls. I can also call the police, doctor, and fireman.

I can help my little brother dial numbers.

CAREER AWARENESS
UNIT II

EVALUATION

1. Identify the concepts large - small, tall - short, child - adult and select the one that is similar to him.

2. Demonstrate the ability to handle and turn pages in "Getting Ready to Read" books.

3. Describe orally a job he can perform that is similar to one a member of his family performs.

   (NOTE: A child may describe the job of any person in his family.)

CAREER AWARENESS
UNIT III

Suggested Subject Area:
Mathematics

Grade Level:
K-3

TERMINAL OBJECTIVE

After completion of this unit, the pupil should be able to use the basic skills of computation that are used by one school worker. He should also be able to describe the worker who uses such skills by completing the activity sheet.

SPECIFIC OBJECTIVES

After completion of this unit, the pupil should be able to:

1. Demonstrate the ability to:
   a. Sell lunch tickets and make correct change.
   b. Count the correct number of lunch tickets sold and count money collected for tickets.
2. Describe the school worker.

CAREER AWARENESS
UNIT III

TEACHER ACTIVITIES

I. Selling tickets

A. Make play money.

B. Let pupils add and subtract using play money.

C. Let each pupil tell how much he has paid for items in stores.

D. Role playing

1. Pupil as the school's secretary, selling tickets

2. Pupil as the buyer

3. Pupil computing on the chalk board the amount of change the buyer is to receive

II. Counting tickets

A. Make more lunch tickets than the amount of pupils in class. (Information Sheet)

B. Let pupils count the number of tickets sold to buyers.

C. Pupils count the amount of money collected.

III. Describe the school worker

A. Give pupils a riddle about the school worker. (Student Activity Sheet #1a)

B. Pupils complete Activity Sheet #1b.

(NOTE: Make tickets from construction paper.)

INSTRUCTIONAL MATERIALS

I. Included in this unit:

A. Objectives

B. Information sheet

C. Student activity sheets

1. Student Activity Sheet #1a--Riddle

2. Student Activity Sheet #1b--School Worker's Description Sheet

D. Evaluation

CAREER AWARENESS
UNIT III

INFORMATION SHEET

I. Selling lunch tickets

   A. Make correct change

   B. Count correct number of tickets sold

   C. Count money collected for tickets

II. Description of school worker

   A. Sells lunch tickets

   B. Collects lunch money

CAREER AWARENESS
UNIT III

STUDENT ACTIVITY SHEET #1a--RIDDLE

I work in the principal's office.
I answer the telephone.
I sell lunch tickets and count money.
I also listen to students when they come to the office.
Who am I?

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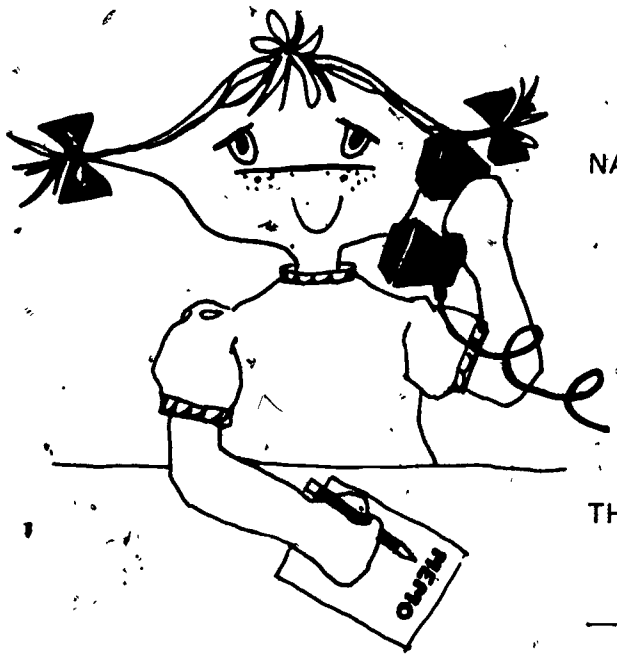
CAREER AWARENESS
UNIT III

STUDENT ACTIVITY SHEET #1b--SCHOOL WORKER'S DESCRIPTION SHEET



NAME_____

THE SECRETARY'S NAME IS

_____

_____

THE SECRETARY DOES THE FOLLOWING

_____

_____

CAREER AWARENESS
UNIT III

EVALUATION
(Observation)

I. Demonstrate the ability to:

A. Sell lunch tickets and make correct change.

B. Count the correct number of lunch tickets sold and count money collected for tickets.

II. Describe the school worker.

CAREER AWARENESS
UNIT IV

Suggested Subject Area:
Mathematics

Grade Level:
K-3

TERMINAL OBJECTIVE

After completion of this unit, the pupil should be able to use one basic skill of computation that is used by one school worker. He should also be able to describe the worker who uses such a skill by completing the activity sheet.

SPECIFIC OBJECTIVES

After completion of this unit, the pupil should be able to:

1. Measure ingredients for a cookie recipe.
2. Distinguish between a half size and a whole size.
3. Describe one school worker who uses measuring skills in his work.

CAREER AWARENESS
UNIT IV

TEACHER ACTIVITIES

I. Activities for recipe:

A. Write recipe on chart. (Student Activity Sheet #1a)

B. Let pupils read directions for recipe, measure ingredients, and mix cookies.

II. Distinguish size in measurement:

A. Let pupils distinguish between whole sizes and half sizes.

B. Let pupils separate the measuring equipment according to half and whole sizes.

III. Describe the school worker:

A. Discuss in writing or orally skills used by cooks to prepare lunches. (Information Sheet)

B. Pupils complete Student Activity Sheet #1b.

C. Teachers may substitute other recipes to include other units of measurements such as teaspoon, tablespoon, 1/4 cup, and 1/3 cup.

(NOTE: Teachers may need to arrange for electric hot plate and other cooking materials from kitchen cafeteria.)

INSTRUCTIONAL MATERIALS

I. Included in this unit:

A. Objectives

B. Information sheet

C. Student activity sheets

1. Student Activity Sheet #1a--Cookie Recipes

2. Student Activity Sheet #1b--School Worker's Description Sheet

D. Evaluation

CAREER AWARENESS
UNIT IV

INFORMATION SHEET

I. Measuring ingredients

A. Assemble ingredients

B. Spoon lightly into measuring cups

C. Level off ingredients in cups and spoons

D. Measure accurately

II. Distinguishing sizes

A. Whole sizes

B. Half sizes

III. Description of worker

A. Wears an apron

B. Reads recipes

C. Cooks lunch

CAREER AWARENESS
UNIT IV

STUDENT ACTIVITY SHEET #1a-COOKIE RECIPES

No-Bake Peanut Butter Cookies

1/2 cup Karo syrup, honey, or molasses
1/2 cup sugar
1 cup peanut butter
2 cups Special K cereal or other dry cereal

Bring syrup and sugar to boil. Remove from heat; stir in peanut butter. Add cereal. Drop by spoonfuls on metal tray or waxed paper.

Genie Bars

1 cup sugar
1 cup light Karo syrup
1 1/2 cups peanut butter
7 cups Special K cereal
1 small package butterscotch chips
1 small package chocolate chips

Place sugar and syrup in saucepan and bring to a rolling boil. Add peanut butter and mix thoroughly. Place cereal in a large mixing bowl which has been buttered; pour syrup mixture over cereal and mix well. Press into a cookie sheet 15 1/2 x 10 1/2 x 1 inch. Frost with butterscotch and chocolate chip mixtures which have been melted over hot water. Cut into bars before mixture is completely cool. Yield: 4 dozen.

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CAREER AWARENESS
UNIT IV

STUDENT ACTIVITY SHEET #1b-SCHOOL WORKER'S DESCRIPTION SHEET

NAME_____

THE COOK'S NAME IS

_____

_____

THE COOK DOES THE FOLLOWING

_____

_____

CAREER AWARENESS
UNIT IV

EVALUATION

1. Measure ingredients for a cookie recipe.
2. Place half size cooking equipment on the left side and whole size equipment on the right side of table.
3. Describe one school worker who uses measuring skills in his work.

CAREER AWARENESS
UNIT V

Suggested Subject Area:
Language Arts

Grade Level:
K-3

TERMINAL OBJECTIVE

After completion of the unit, the pupil should be able to describe terms associated with developing attitudes for effective employment. He should be able to evaluate his own personality and list ways to improve his strengths and weaknesses. He should also be able to identify positive character traits of effective workers in a teacher given situation.

SPECIFIC OBJECTIVES

After completion of the unit, the pupil should be able to:

1. Describe ten terms associated with developing attitudes for effective employment.
2. Identify positive character traits seen in himself and classmates.
3. Identify negative traits seen in himself.
4. List ways to improve strengths and weaknesses in his character.
5. Compare positive character traits in himself with character traits in other effective workers.

CAREER AWARENESS
UNIT V

TEACHER ACTIVITIES

I. Terms

A. Teachers and pupils discuss orally the meaning of terms. (Information Sheet)

B. Use terms in oral or written sentences.

(NOTE: Use two or three terms in each class session.)

C. Dramatize terms in class.

Examples:

1. Responsibility--Give a pupil the responsibility of delivering an oral message to the principal.

2. Grooming--Cleaning the nails; let the students show how to wash hands in warm water and soap and use orangewood stick to clean under the nails and around the cuticles.

3. Behavior (Role play)

Janet: (sitting in Tim's seat)

Tim: (shouting) Get out of my seat

Janet: (shouting back) Ok, I will.

II. Identify positive character traits

A. Teacher and pupils discuss positive character traits. (Information Sheet)

B. Pupils complete a personality inventory sheet. (Student Activity Sheet #1a)

C. Pupils give oral description of each other in the form of a guessing game. Description may include both physical and personality characteristics.

Example: He has red hair.
He plays with the Little League football team.
Guess who he is.

D. Each pupil names something he likes about another classmate.

III. Identify negative character traits

A. Teacher and pupils discuss negative character traits. (Information sheet)

B. Let each child select a trait or tell what he thinks may be a negative trait in himself.

IV. Improve strengths and weaknesses

A. Discuss or review the meaning of terms "strengths" and "weaknesses."

B. Pupils make word lists of good personality traits.

C. Pupils make a list of their own weaknesses and ask for classmates' suggestions to improve weaknesses. (Information sheet)

D. Read "situational story" about attitudes and let the students suggest ways to develop better attitudes. (Student Activity Sheet #1b)

V. Compare character traits

A. Listen to stories about successful workers. (Tapes provided in unit)

B. Identify positive character traits in the personalities of the characters.

C. Let pupil compare a positive character trait in himself with a character trait of one story character.

(NOTE: A tape recorder will be needed for this unit.)

CAREER AWARENESS
UNIT V

INSTRUCTIONAL MATERIALS

I. Included in this unit:

A. Objectives

B. Information sheet

C. Student Activity Sheets

1. Student Activity Sheet #1a--Personality Inventory

2. Student Activity Sheet #1b--Situational Story: "Building Courtesy Attitudes"

3. Student Activity Sheet #1c--Situational Story: "Accepting Responsibility"

4. Student Activity Sheet #1d--Situational Story: "What Does It Mean To Be A Friend?"

5. Student Activity Sheet #1e--Situational Story: "Discriminate Between Accidental and Purposive Behavior"

6. Student Activity Sheet #1f--Situational Story: "Good Sportsmanship"

7. Student Activity Sheet #1g--Situational Story: "Reasons for Taking Turns"

8. Student Activity Sheet #1h--Situational Story: "Treat Others Like You Want To Be Treated"

D. Tape 1

1. Side #2a--Mr. Carter's Job

2. Side #2b--Mrs. Smith, The Veterinarian

(NOTE: Tape is optional. Narration for teacher is provided in the student activity sheets.)

E. Evaluation

CAREER AWARENESS
UNIT V

INFORMATION SHEET

I. Vocabulary terms

A. Attitude--Position indicating action, feelings, or mood; a mental position of feeling regarding a fact or state

B. Ability--Physical, mental, or legal power to perform

C. Behavior--A way of conducting oneself

D. Courtesy--To perform with politeness and expression of respect

E. Dignity--The quality of being a worthy person

F. Grooming--To make neat and tidy

G. Habit--A custom or practice that could be good or bad

H. Involvement--To be a participant or occupy oneself

I. Interest--To give special attention to something

J. Leisure--Freedom from work or business

K. Negative--Always looking for the worst; never a bright outlook

L. Opportunity--A good chance or a favorable combination of time and place

M. Positive--Filled with confidence; admitting no doubt

N. Responsibility--To take charge or be trusted with important matters

O. Strength--Strong points; your best qualities; things one can do well

P. Success--Satisfactory completion of something

Q. Trait--A distinguishing quality of character

R. Weakness--Lacking in skills; lack of strength; faults or defects from lack of skill or organization

(NOTE: The teacher should change the meaning of the term to her pupils' level.)

INFORMATION SHEET

II. Positive character traits

A. Kindness

B. Appearance

C. Punctuality

III. Negative traits

A. Untidiness

B. Troublemaker attitude

C. Cheating

D. Disrupting class

E. Being mean

IV. Improve strengths and weaknesses

A. Strengths

1. Sharing with other students

2. Taking turns

B. Weaknesses

1. Inattentive (group discussion)

2. Adjusting to the environment (students give ideas)

(NOTE: These are suggested strengths and weaknesses. The students may name others.)

V. Compare positive character traits

A. Accepting responsibility

B. Working hard

C. Being happy to help others

CAREER AWARENESS
UNIT V

STUDENT ACTIVITY SHEET #1a--PERSONALITY INVENTORY

1. What I like best to do is--

2. What I like least to do is--

3. My favorite hobby is--

4. It makes me happy when--

5. A "neat" person is one who--

6. I am a good leader when we play--

7. I am disappointed when--

8. I like people who--

9. I dislike people who--

10. In my spare time I like to--

CAREER AWARENESS
UNIT V

STUDENT ACTIVITY SHEET #1b--SITUATIONAL STORY: "BUILDING COURTESY ATTITUDES"

Purpose: To help pupils build desirable attitudes toward courtesy in their relationships with their peers and others.

Situation: Bill always likes to be first; he pushes to be first in line. At the drinking fountain he pushes several other children out of line and gets in front of them. He wants to be first to recite, first to finish his assignments, first in all games, and first to finish any job.

Suggested discussion: Why do you think Bill is this way? How can we help Bill? Name some other ways Bill can feel worthwhile instead of by being first.

CAREER AWARENESS
UNIT V

STUDENT ACTIVITY SHEET #1c--SITUATIONAL STORY: "ACCEPTING RESPONSIBILITY"

Purpose: To help pupils become more cooperative, dependable, and willing to accept responsibility.

Situation: Lily bounced into the family kitchen, slamming the back door behind her, dropping her school books onto the table. "Hi Mom, I'm home!" she called out. "Jeanne's coming over to play."

"Oh no she's not," Lily's mother replied irritably. "How many times have I told you that you are not going to have your friends in to play until you clean up the mess in your room?"

Suggested discussion: How did Lily feel about Mother? How did Lily feel about cleaning her room? Do you think Mother was fair to Lily?

CAREER AWARENESS
UNIT V

STUDENT ACTIVITY SHEET #1d--SITUATIONAL STORY: "WHAT DOES IT MEAN TO BE A FRIEND?"

Purpose: To help pupils realize why they alienate their peers and to give them ideas for making friends.

Situation: "I think I'll see if Tommy will play with me," thought Brian. "There he is over by the jungle gym."

Brian ran over to Tommy. He grabbed Tommy's jacket and pulled him around.

"Look what you did! You tore my jacket," cried Tommy. "I'm going to tell the teacher."

"Golly, I guess I'll play by myself," thought Brian. "If you touch anyone he starts griping."

Suggested discussions: How does Brian feel? How does Tommy feel? Can you help Brian make some friends?

CAREER AWARENESS
UNIT V

STUDENT ACTIVITY SHEET #1e--SITUATIONAL STORY: "DISCRIMINATE BETWEEN ACCIDENTAL AND PURPOSIVE BEHAVIOR"

Purpose: To help pupils explore behavior which is accidental. Also to help them discriminate between accidental and purposive behavior.

Situation: During their play time, the children could play anything they wanted. Laurie and Pam decided to play hopscotch. Bobby and David were playing tag. They were running fast. David was determined to catch Bob. Bob was trying to get away. He ran right through Laurie and Pam's hopscotch game, kicking one of the rocks out of the squares.

Suggested discussions: How did the girls feel? What could the girls do? What could the boys do? Why did the boys do this?

CAREER AWARENESS
UNIT V

STUDENT ACTIVITY SHEET #1f--SITUATIONAL STORY: "GOOD SPORTSMANSHIP"

Purpose: This story is used with pupils who are not good sports. Pupils should have a better understanding of this behavior after discussion of the story.

Situation: During the noon hour the boys were going to play dodge ball. They had divided into teams. Danny's team was in the center first. This was Danny's favorite game and he just knew that he could stay in the game longer than any other boy.

The game had just begun. Kenny threw the ball low and hard. It hit Danny's leg.

"I wasn't ready," Danny shouted. "That doesn't count. You guys don't even know how to play."

Suggested discussion: Why does Danny behave this way? How do the boys feel? What does it mean to be a good sportsman?

CAREER AWARENESS
UNIT V

STUDENT ACTIVITY SHEET #1g--SITUATIONAL STORY: "REASONS FOR TAKING TURNS"

Purpose: This story and the discussion help the pupil who does not take turns to see alternate ways of behaving. Also other pupils will have a better understanding of why a pupil does not take turns.

Situation: It was recess time and the pupils were enjoying the warm weather. Some were playing tag; others, ball; and some were just visiting.

Cindy, Judy, Debbie, and Lisa were taking turns jumping rope. Kit came running up, waving, "I want to play."

The girls said, "All right."

When it came Kit's turn, she missed on her second jump. "That didn't count! You turned too fast! I get another turn!"

Suggested discussion: How could Cindy, Judy, Debbie, and Lisa react to Kit? How did Cindy, Judy, Debbie, and Lisa feel? How did Kit feel? In what other ways could Kit have behaved?

CAREER AWARENESS
UNIT V

STUDENT ACTIVITY SHEET #1h--SITUATIONAL STORY: "TREAT OTHERS LIKE YOU WANT TO BE TREATED"

Purpose: This story should help pupils understand the meaning of respect for others. Also, they should see the purpose behind this behavior.

Situation: "Get out of here. This is where we play dodge ball," shouted Jim. "Can't you see the circle?"

"We didn't know you boys were going to play ball," answered Janet. "We'll leave. But you don't have to yell at us."

Suggested discussion: How do the girls feel? How does Jim feel? Why would Jim shout at the girls?

CAREER AWARENESS
UNIT V

TAPE #2a--MR. CARTER'S JOB

Mr. Carter works for a telephone company. Mr. Carter's job is to install telephones in homes, offices, and stores throughout the city.

Mr. Carter must be at work at 8:00 o'clock in the morning, and he is always on time.

People all over the city want telephones. These people are called customers.

Every morning Mr. Carter stops at the telephone garage to get his truck and then to the warehouse to pick up telephones and his tools. Mr. Carter is responsible for his truck, all the telephones, and tools.

Mr. Carter has to be neat when he is working. He must not damage the places where he installs the telephones.

Mr. Carter has to work quickly and carefully to be sure each telephone is in working order.

Mr. Carter works 8 hours a day. Each week he works 40 hours.

Each week the telephone company gives Mr. Carter a pay check. An amount of Mr. Carter's earnings is paid to the United States government in the form of income tax.

The telephone company sends the tax money to the government in Washington.

The government uses the income tax to give services and help to all the people. Some of the money is used to defend our country.

It pays for the Army, the Navy, the Air Force, and the Marines. Some money is used to help poor people in many parts of the world.

Sometimes Mr. Carter works overtime. When he works overtime, he earns his regular pay for an hour plus one-half of his regular pay.

The more money Mr. Carter earns the more he must pay in income tax. But when he earns more his family can spend more.

Mr. Carter works hard to earn overtime pay. But he is happy to be able to work to earn extra money.

When Mr. Carter earns more money, his family can buy more of the things that they need and want.

It is only by working hard that most people like Mr. Carter can earn the money they need and want to spend and save.

CAREER AWARENESS
UNIT V

TAPE #2b--MRS. SMITH, THE VETERINARIAN

Johnny has a pet dog named Frisky. Frisky will not eat or play. "Frisky must be sick," says Johnny's mother. "Let's take him to the veterinarian." "What is a veterinarian?" asks Johnny. "An animal doctor," says Mother.

Johnny and Mother take Frisky to see Dr. Smith.

The doctor's waiting room is full of animals--Mary's swinging monkey, Grandma's noisy parrot, Billy's fighting cat. The doctor is kind to each animal. She takes care of the pets.

Polly's wing is broken. The doctor puts a splint on it. The doctor puts medicine on the cat's cut eye. She gives the monkey a shot to keep him from getting sick.

Dr. Smith put Frisky on a table. She listened to Frisky's heart. She looked into Frisky's eyes and mouth.

"Frisky needs an operation," says the doctor. Dr. Smith carried Frisky to the hospital.

Dr. Smith has a helper named Sally. Sally takes care of the hospital. She keeps the cages neat and clean. She is kind to each animal.

After a few days Dr. Smith operated on Frisky and made Frisky well. Johnny came to carry Frisky home. Frisky jumped up on Johnny. He was glad to see him. Dr. Smith was glad too. She is always happy to make animals well.

CAREER AWARENESS
UNIT V

EVALUATION

1. Describe ten terms associated with developing attitudes for effective employment.
2. Identify three positive character traits seen in himself and his classmates.
3. Identify three negative character traits seen in himself.
4. List two ways to improve strengths and weaknesses in his character.
5. Compare two character traits in himself with the character traits in one story character.

CAREER AWARENESS
UNIT I

Suggested Subject Area:
Mathematics

Grade Level:
Intermediate

TERMINAL OBJECTIVE

After completion of the unit, the pupil should be able to describe workers that use computation skills in their work. He should be able to perform one basic computation skill used by each worker.

SPECIFIC OBJECTIVES

After completion of the unit, the pupil should be able to:

1. Describe six workers who use computation skills in their work.
2. Perform one basic computation skill used by each worker.

CAREER AWARENESS
UNIT I

TEACHER ACTIVITIES

I. Presentation of workers

A. Arrange for the following equipment and materials before presenting the unit

(NOTE: In presenting this unit, make certain the children understand coin value, dimension measurement, and visual estimation of liquid measure.)

1. Carrousel slide projecter
2. Tape recorder
3. Film screen
4. Paper cup for each student
5. Twelve inch ruler
6. A sheet of paper and pencil for each student

B. Explain to the class the unit is an audio-visual exercise

(NOTE: The tape describes each worker.)

II. Performance skills

A. Have the pupils follow the directions on the tape

B. Encourage the pupils to interact with the teacher on the tape

(NOTE: The performance skills on the tape are illustrated in the student activity sheets.)

INSTRUCTIONAL MATERIALS

I. Included in this unit:

A. Objectives

B. Information sheet

C. Student activity sheets

1. Student Activity Sheet #1a--Short Order Shop Menu
2. Student Activity Sheet #1b--Figure the Groceryman's Profit
3. Student Activity Sheet #1c--Decision Making
4. Student Activity Sheet #1d--Figure the Cosmetologist's Profit
5. Student Activity Sheet #1e--Record and Total the Bank Receipts
6. Student Activity Sheet #1f--Mark Off Fractions on the Medicine Container
7. Student Activity Sheet #1g--Measuring a Piece of Board

D. Tape 2--Side 1a: Workers Using Computation Skills

(NOTE: Tape is optional. Narration is provided in student activity sheets.)

E. Slides (16-28)

16. Coins
17. Currency
18. Cashier
19. Menu
20. Groceryman
21. Farmer
22. Groceryman
23. Cosmetologist
24. Customers
25. Bankteller
26. Deposit slip
27. Pharmacist
28. Carpenter

(NOTE: Slides are optional. Magazine pictures of workers using computation skills may be used.)

F. Evaluation

CAREER AWARENESS
UNIT I

INFORMATION SHEET

Workers using computation skills:

A. Cashier--Figures the cost of an order, including tax

B. Groceryman--Figures the cost of items and the amount of profit made when selling to customers

C. Cosmetologist--Figures the profit a cosmetologist makes in one day

D. Bank teller--Adds the amount of money deposited in the bank for lunch checks

E. Pharmacist--Estimates a half-way mark on a glass or empty medicine container

F. Carpenter--Measures the length and width of the classroom floor

CAREER AWARENESS
UNIT I

STUDENT ACTIVITY SHEET #1a--SHORT ORDER SHOP MENU

The pupils make an order of foods from the chart and figure the cost, including tax.

SHORT ORDER SHOP MENU

Sandwiches		Beverages	
Cheese	25¢	Milk	12¢
Ham	30¢	Milk shake	25¢
Hamburger	30¢	Root beer	10¢
Peanut butter	20¢	Orange	10¢
Hot dog	20¢		
Tuna	25¢		

Desserts	
Ice cream	15¢
Cake	20¢
Pie	20¢

CAREER AWARENESS
UNIT I

STUDENT ACTIVITY SHEET #1b--FIGURE THE GROCERYMAN'S PROFIT

The groceryman purchased 10 pounds of peaches from the farmer at 40¢ per pound. The groceryman sold the peaches at 55¢ per pound. What was the groceryman's profit?_____

CAREER AWARENESS
UNIT I

STUDENT ACTIVITY SHEET #1c--DECISION MAKING

Pupils and teacher decide what the groceryman should purchase for his customers during each season of the year. Discuss what he should stock for people in different geographical areas.

CAREER AWARENESS
UNIT I

STUDENT ACTIVITY SHEET #1d--FIGURE THE COSMETOLOGIST'S PROFIT

The cosmetologist styled hair for six customers today and each customer paid the cosmetologist $8.00. How much money did the customers pay the cosmetologist?

The products used cost a total of $14.00. How much money did the cosmetologist have left for her own use?

CAREER AWARENESS
UNIT I

STUDENT ACTIVITY SHEET #1e--RECORD AND TOTAL THE BANK RECEIPTS

Record and total the amount of money deposited in the Lincoln Elementary bank.

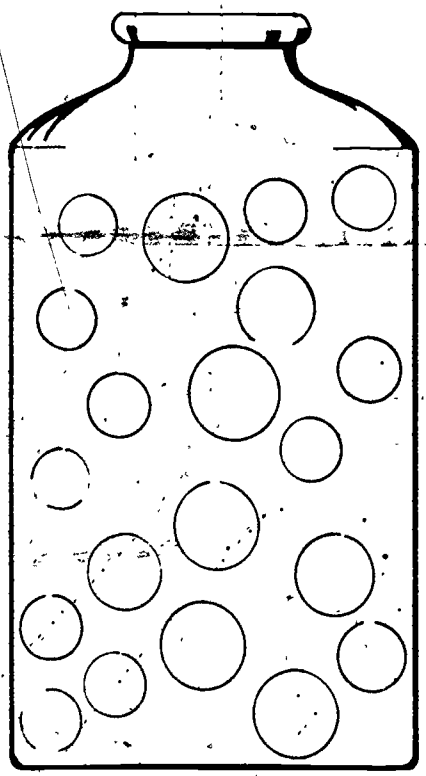
A check for $3.28
$5.00 in currency
$.90 in coins

CASH	CURRENCY		
	COIN		
CHECKS			
TOTAL			
LESS CASH RECEIVED			
NET DEPOSIT			

CAREER AWARENESS
UNIT I

STUDENT ACTIVITY SHEET #1f--MARK OFF FRACTIONS ON THE MEDICINE CONTAINER

Estimate the 1/4 and 1/2 mark on the medicine container.



CAREER AWARENESS
UNIT I

STUDENT ACTIVITY SHEET #1g--MEASURING A PIECE OF BOARD

Use your ruler and measure the length and width of the piece of board.

CAREER AWARENESS
UNIT I

EVALUATION

I. Describe orally six workers who use computation skills in their work.

II. Perform one basic computation skill that each worker used in his work.

CAREER AWARENESS
UNIT II

Suggested Subject Area:
Language Arts

Grade Level:
Intermediate

TERMINAL OBJECTIVE

After completion of the unit, the pupil should be able to identify ten workers from ten different job clusters and match each worker with a rhyme that describes him. He should also be able to develop a short paragraph about other workers in the same job cluster.

SPECIFIC OBJECTIVES

After completion of the unit, the pupil should be able to:

1. Name ten workers from ten different job clusters.
2. Match each worker with a rhyme that describes him.
3. Choose a related worker from each of the ten different job clusters and develop a written paragraph or rhyme about the worker.

CAREER AWARENESS
UNIT II

TEACHING ACTIVITIES

I. Matching workers with rhymes

A. Give each pupil a rhyme describing a worker to read silently (Information Sheet #1)

B. Let each pupil read his rhyme to the class

C. Pupils will guess which worker is being described

II. Developing paragraphs describing workers

A. Discuss with the class many other workers who perform similar work to the worker described in the rhymes

B. Write on the chalk board a short rhyme about a worker related to one of the job clusters (Information Sheet #2)

C. Give each pupil a student activity sheet to develop a paragraph or rhyme

D. Let each pupil read his paragraph or rhyme to the class and show his picture

(NOTE: The student activity sheet contains phrases and illustrations to help students develop the paragraphs or rhymes.)

INSTRUCTIONAL MATERIALS

I. Included in this unit:

A. Objectives

B. Information sheet

C. Student activity sheets

1. Student Activity Sheet #1a--Airline Ticket Agent
2. Student Activity Sheet #1b--Contractor
3. Student Activity Sheet #1c--Ship Navigator
4. Student Activity Sheet #1d--Advertising Salesman
5. Student Activity Sheet #1e--Painter

6. Student Activity Sheet #1f--Doctor

7. Student Activity Sheet #1g--Judge

8. Student Activity Sheet #1h--Librarian

9. Student Activity Sheet #1i--Landscaper

10. Student Activity Sheet #1j--Store Manager

D. Evaluation

CAREER AWARENESS
UNIT II

INFORMATION SHEET

I. Workers of ten different job clusters

A. Airplane pilot

I steer the plane, take off and land,
Watch weather, speed and height.
Up in the air I am the boss,
And safely guide each flight.

B. Cement mason

I mark the place for basement floors
With forms for width and length.
I make the walls with concrete blocks,
Check evenness and strength.

C. Fisherman

At the break of day I grab my coat
And take my crew out in the boat.
Dragging nets of heavy twine,
I catch food that's really fine.
I work hard as you can see
And make my living from the sea.

D. T.V. cameraman

I move the camera back and forth
And push it in and out,
Follow the action with the lens
As people move about.

E. Architect

I check the site, the laws, and codes,
Draw plans for building crews
To show them how the house will look,
And what materials to use.

F. Anesthetist

My job's to kill the patient's pain
When operations start.
I may use medicine or gas
And check the breath and heart.

G. U.S. soldier

I work to serve my country well
On land, on sea, in air.
I try to help my country fight
For freedom everywhere.

H. Football quarterback

I help to make each football play
And work hard to win each day.
But even if my team should lose,
Good sportsmanship I'll always use.

I. Forester

I study the soil and underground water, too
And figure out what is best to do
To control fires, insects, and disease
That destroy our beautiful trees.

J. Department store buyer

I buy whatever will be sold
In my part of the store.
I pick the colors, sizes, styles,
Know when to order more.

II. Rhymes describing related workers of the ten different job clusters

A. Airline ticket agent

I sell the tickets for the planes,
Tell when they come and go.
I tag the bags, tell passengers
The things they want to know.

B. Contractor

I hire men to do the work
For building, plumbing, light.
I tell them on what days to work,
See that the work's done right.

C. Ship navigator

I watch the sun and the stars.
I also watch the clocks.
I tell the crew what the weather will be
By making maps for the ship's path on the sea.

ERIC

INFORMATION SHEET

D. Advertising salesman

The T.V. time is what I sell,
One minute, two, or three.
The station will get paid to show
Commercials that you see.

E. Painter

I mix the paint and stir it well.
The color must be right.
I paint the ceilings and the walls
I make them clear and bright.

F. Doctor

I check to find out what is wrong.
Plan the treatment that is best.
I write my orders on a chart
For patient's care and rest.

G. Judge

In the courtroom of the town,
I wear a long black gown.
I work with lawyers and police
To guard the law and keep the peace.

H. Librarian

I work at my library; I try to know each book.
Then when a person wishes it, together we will look
For story books, picture books, and reading books, too.
We look until we find the book
That we both think will do.

I. Landscaper

I check the soil and sun and shade.
To see where things will grow.
Then plant the bushes and the trees
Lay sod down row by row.

J. Store manager

To manage means to be in charge.
I manage the whole store.
I have to know what work is done
On every single floor.

CAREER AWARENESS
UNIT II

STUDENT ACTIVITY SHEET #1a--AIRLINE
TICKET AGENT

Use the phrases below to develop a short paragraph or rhyme describing the worker.

1. Sells tickets
2. Tags bags

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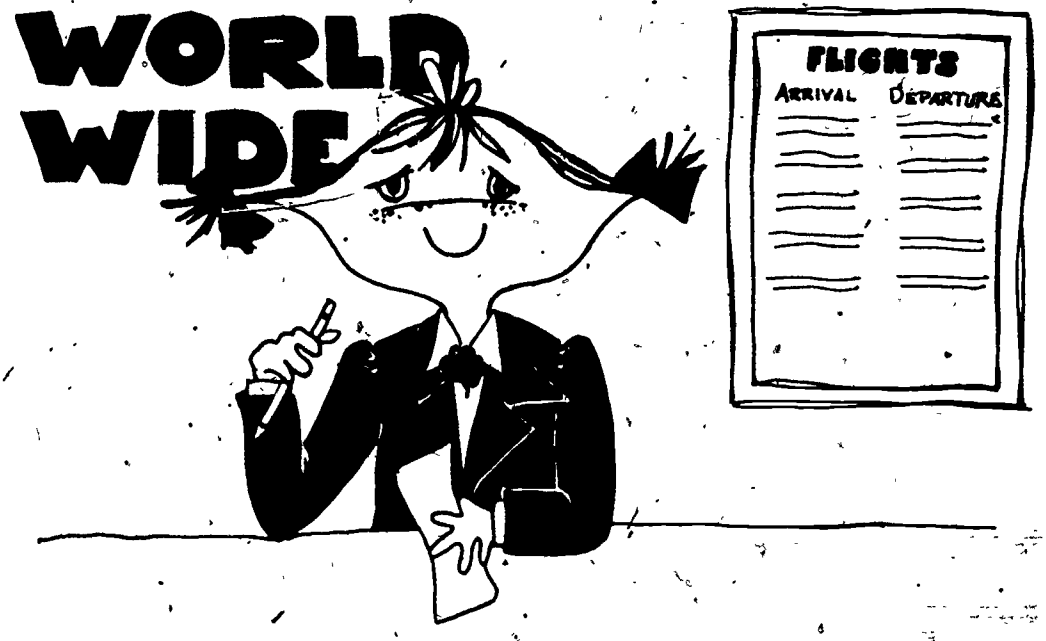

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CAREER AWARENESS:
UNIT II

STUDENT ACTIVITY SHEET #1b-CONTRACTOR

Use the phrases below to develop a short paragraph or rhyme describing the worker.

1. Hires men to do work
2. Tells them on what days to work

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CAREER AWARENESS
UNIT II

STUDENT ACTIVITY SHEET #1c--SHIP NAVIGATOR

Use the phrases below to develop a short paragraph or rhyme describing the worker.

1. Watches the weather
2. Makes a map for the ship's path

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CAREER AWARENESS
UNIT II

STUDENT ACTIVITY SHEET #1d--ADVERTISING SALESMAN

Use the phrases below to develop a short paragraph or rhyme describing the worker.

1. Sells television time
2. Finds commercials that stations will show

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CAREER AWARENESS
UNIT II

STUDENT ACTIVITY SHEET #1e--PAINTER

Use the phrases below to develop a short paragraph or rhyme describing the worker.

1. Mixes and stirs paint
2. Paints ceilings and walls

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CAREER AWARENESS
UNIT II

STUDENT ACTIVITY SHEET #1f DOCTOR

Use the phrases below to develop a short paragraph or rhyme describing the worker.

1. Plans the treatment
2. Writes orders for patients

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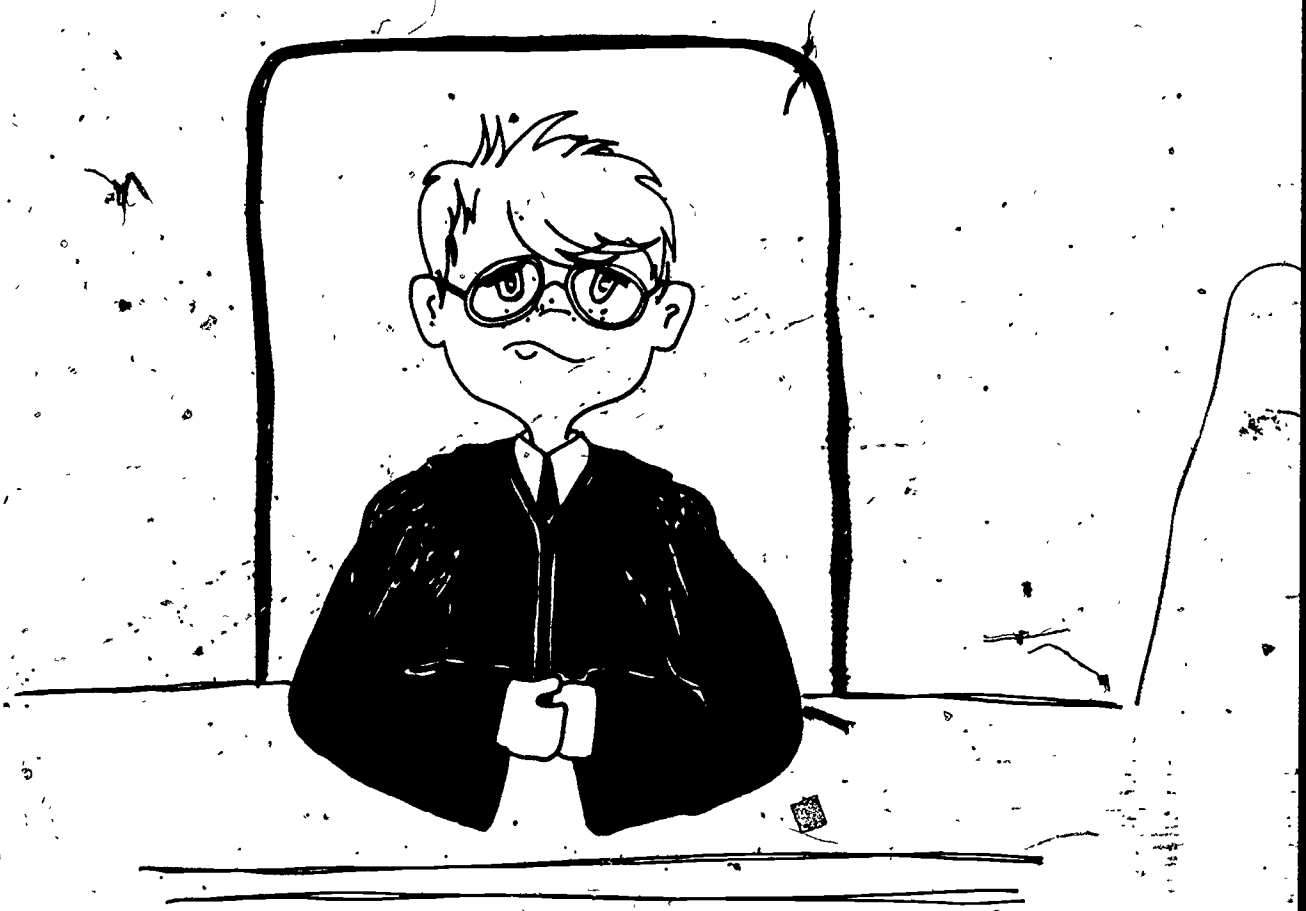
CAREER AWARENESS
UNIT II

STUDENT ACTIVITY SHEET #1g-JUDGE

Use the phrases below to develop a paragraph or rhyme describing the worker.

1. Wears a long black gown
2. Works with lawyers and police



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CAREER AWARENESS
UNIT II

STUDENT ACTIVITY SHEET #1h--LIBRARIAN

Use the phrases below to develop a short paragraph or rhyme describing the worker.

1. Knows each book
2. Looks for picture books, story books, and reading books

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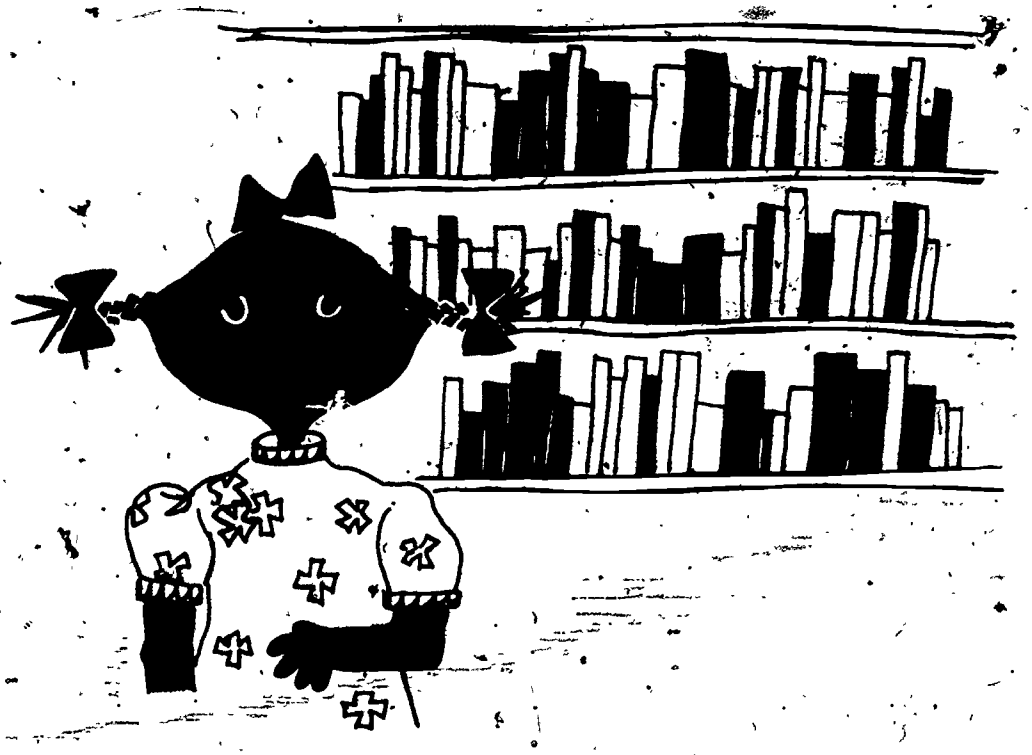

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CAREER AWARENESS
UNIT II

STUDENT ACTIVITY SHEET #1i--LANDSCAPER

Use the phrases below to develop a short paragraph or rhyme describing the worker.

1. Checks soil, sun, and shade
2. Plants bushes and trees

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CAREER AWARENESS
UNIT II

STUDENT ACTIVITY SHEET #1j-STORE MANAGER

Use the phrases below to develop a paragraph or rhyme describing the worker.

1. Is in charge
2. Manages the whole store

CAREER AWARENESS
UNIT II

EVALUATION

1. Name ten workers from different job clusters.
2. Match each worker with a rhyme that describes him.
3. Choose a related worker from each of the ten different job clusters and develop a written paragraph or rhyme about the worker.

CAREER AWARENESS
UNIT III

Suggested Subject Area:
Language Arts

Grade Level:
Intermediate

TERMINAL OBJECTIVE

After completion of this unit, the pupil should be able to select the correct topic sentence in short paragraphs that describe workers in individual job families of the health cluster. He should be able to perform independent research of other job families in the health cluster.

SPECIFIC OBJECTIVES

After completion of this unit, the pupil should be able to:

1. Select the correct topic sentence in each short paragraph that describes each worker.
2. Perform independent research of other job families in the health cluster in the *Elementary Dictionary of Occupational Titles.*

(NOTE: The *DOT* pamphlet is included in this module. Other resource books may be used.)

CAREER AWARENESS
UNIT III

TEACHER ACTIVITIES

(NOTE: In presenting this unit, make certain the pupils understand that a topic sentence tells what the paragraph will be about and gives the main idea of the paragraph.)

I. Presentation of workers

A. Arrange for the following equipment and materials before presenting the unit.

1. Carrousel slide projector
2. Tape recorder

B. Explain to the class--The unit is an audio-visual exercise, and the tape describes each worker in the form of a short paragraph.

C. Encourage the pupils to listen for the topic sentence.

D. After each worker is described, stop the tape and let the pupils state the topic sentence. (Information Sheet)

E. Let the pupil give the reason for his selection.

(NOTE: The paragraphs are also provided in the student activity sheets. Copies may be reproduced for hand-outs on which the pupils may underline the topic sentence.)

II. Independent research

A. Explain the use of *Elementary Dictionary of Occupational Titles*.

1. Contains occupational clusters
2. Includes individual job families with a listing and discussion of the function of individual occupations

B. Let each pupil choose an occupation from the list, (Information Sheet)--Find the occupation in the *Elementary DOT* and read the description of the occupation.

C. This unit should be concluded with a field trip to a health clinic or some other area of health.

(NOTE: Refer to the field trip preparations and interviewing techniques.)

CAREER AWARENESS
UNIT III

INSTRUCTIONAL MATERIALS

Included in this unit:

A. Objectives

B. Information sheet

C. Student activity sheets

1. Student Activity Sheet #1a--Public Health Nurse
2. Student Activity Sheet #1b--Public Health Laboratory Worker
3. Student Activity Sheet #1c--Dentist
4. Student Activity Sheet #1d--Microbiologist
5. Student Activity Sheet #1e--Medical Social Worker

D. Tape 2--Side 1b: Describes occupations in the health cluster

(NOTE: Tape is optional. Narration is provided in the student activity sheets.)

E. Slides (29-33)

29. Public health nurse
30. Public health laboratory worker
31. Dentist
32. Microbiologist
33. Medical social worker

(NOTE: Slides are optional. Magazine pictures of health workers may be used.)

F. Evaluation

G. Resource materials

CAREER AWARENESS
UNIT III

INFORMATION SHEET

I. Topic sentences describing workers

A. Public health nurse--Has many duties; she or he may work with people in their homes, schools, or clinics

B. Public health laboratory worker--Works in a laboratory; he or she tests samples of food, water, and sewage

C. Dentist--Does many things to help take care of people's teeth

D. Microbiologist--Studies tiny organisms that cause people to be sick

E. Medical social worker--Helps a person who is handicapped to learn to like himself and his new way of life

II. Health related occupations

A. Mental health and mental health services

1. Psychiatrist
2. Psychologist
3. Psychometrist

B. Medical and biological science services

1. Medical technologist
2. Medical assistant
3. Veterinary lab technician

C. Dentistry and dental science services

1. Dental assistant
2. Dental laboratory technician
3. Dental hygienist

INFORMATION SHEET

D. General hospital and medical office related occupations

1. Nursing aid
2. Receptionist
3. X-ray clerk

E. Personal and community health services

1. School nurse
2. Sanitarian
3. Public health educator

CAREER AWARENESS
UNIT III

STUDENT ACTIVITY SHEET #1a--PUBLIC HEALTH NURSE

Select the topic sentence in the following paragraph describing the public health nurse.

A public health nurse has many duties. She works with people in their homes, schools, and clinics. The public health nurse gives medicine to people in their homes if the doctor asks her to do it. She teaches people about better health habits such as brushing their teeth everyday. The public health nurse may work in a school and take care of children when they get sick or hurt. She also helps with shot clinics where people can get shots for their children free of charge.

CAREER AWARENESS
UNIT III

STUDENT ACTIVITY SHEET #16-PUBLIC HEALTH LABORATORY WORKER

Select the topic sentence in the following paragraph describing the public health laboratory worker.

A public health laboratory worker is a person who works in a laboratory. He or she tests samples of food, water, and sewage. He uses his test results to point out diseases. He does research such as finding ways of controlling diseases. He also makes vaccines which, when taken, keep a person from getting certain diseases. As you can see, the public health laboratory worker has many tasks that are important to health in the community.

CAREER AWARENESS
UNIT III

STUDENT ACTIVITY SHEET #1c--DENTIST

Select the topic sentence in the following paragraph describing the dentist.

A dentist does many things to help take care of people's teeth. He fills teeth when they are decayed and pulls teeth that are no longer good. He cleans teeth by scraping off all the materials that are not part of the enamel of the tooth. He makes false teeth for people who must have all of their teeth pulled. He may also speak to school children about the proper way to care for their teeth. He may help with dental clinics where children's teeth are checked free of charge.

CAREER AWARENESS
UNIT- III

STUDENT ACTIVITY SHEET #1d--MICROBIOLOGIST

Select the topic sentence in the following paragraph describing the microbiologist.

A microbiologist is a person who studies tiny organisms that cause people to be sick. He tries to find out what will keep these organisms from making people sick. He also tries to find out how to get rid of them once they are in a person's body and to do what he can to make people well. As we can see, a microbiologist's work is very important to our health.

CAREER AWARENESS
UNIT III

STUDENT ACTIVITY SHEET #1e--MEDICAL SOCIAL WORKER

Select the topic sentence in the following paragraph describing the medical social worker.

A medical social worker helps a person who is handicapped to learn to like himself and his new way of life. (An example of a handicapped person is a person who loses a leg or arm in an accident.) Many times, a handicapped person feels useless and does not believe in himself. At such times, the medical social worker will try to show this person that he is worthwhile and help him learn to trust himself again. The medical social worker also helps the family of a handicapped person get used to their new way of living. Sometimes, this may mean that the family may have to move to a new town. As you can see, a medical social worker has many important tasks.

CAREER AWARENESS
UNIT III

EVALUATION

I. Select the correct topic sentence in each paragraph that describes each of five workers in the health occupation cluster.

II. Select a health occupation in the *Dictionary of Occupational Titles* and read the description or function of the occupation.

CAREER AWARENESS
UNIT III

RESOURCE MATERIALS

Books

Come Work With Us
Sextant Systems
3448 North 34th Street
Milwaukee, Wisconsin 53210

I Want To Be
(36 titles)
Childrens Press
Chicago, Illinois

Filmstrips

"Workers For the Public Welfare"

"Social Service and the Social Worker"

"Sanitation and the Sanitation Worker"

"Some Neighborhood Workers"

"The Neighborhood Doctor"

"The Neighborhood Nurse"

"The Neighborhood Pharmacist"

"The Neighborhood Optometrist"

(NOTE: Filmstrips may be obtained from Children's Press in Chicago, Illinois.)

CAREER AWARENESS
UNIT IV

Suggested Subject Area:
Math and Social Studies

Grade Level:
Intermediate

TERMINAL OBJECTIVE

After completion of the unit, the pupil should be able to describe workers in individual job families in the marketing and distribution cluster. He should be able to perform computation skills used by the workers. He should also be able to perform independent research of other job families in the marketing and distribution cluster.

SPECIFIC OBJECTIVES

After completion of the unit, the pupil should be able to:

1. Describe the occupations of six workers in the marketing and distribution cluster.
2. Perform a computation skill used by each worker.
3. Perform independent research of other job families in the marketing and distribution cluster in the *Elementary Dictionary of Occupation Titles.*

   (NOTE: The *DOT* pamphlet will be included. Other resource books may be used.)

CAREER AWARENESS
UNIT IV

TEACHER ACTIVITIES

I. Presentation of workers

(NOTE: Make certain the pupils understand fractions and the *Elementary DOT* material.)

A. Arrange for the following equipment and materials

1. Carrousel slide projector
2. Tape recorder
3. Hand-out copies of student activity sheets
4. Sheet of paper and pencil for each pupil

B. Explain to the class the unit is an audio-visual exercise

II. Performance skills

A. Have pupils follow directions on the tape

B. Encourage the pupils to interact with the tape commentary

(NOTE: The tape describes each worker and the activities of each. The performance skills are illustrated in the student activity sheets.)

III. Independent research

A. Explain the use of *Elementary DOT* pamphlet

1. Pamphlet contains occupational clusters
2. Individual job families with a listing and discussion of the function of individual occupations

B. Let each pupil choose an occupation from the list (Information Sheet)--Find the occupation in the *Elementary DOT* and read orally the description of the occupation

C. Encourage the pupils to do further independent research in the *DOT*

D. This unit should be concluded with a field trip to a privately owned business, a local company, or some area of marketing and distribution to find out about purchasing, selling, and research

(NOTE: Refer to the field trip preparations and interviewing techniques.)

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CAREER AWARENESS
UNIT IV

INSTRUCTIONAL MATERIALS

Included in this unit:

A. Objectives

B. Information sheet

C. Student activity sheets

1. Student Activity Sheet #1a--Salesman/Saleslady
2. Student Activity Sheet #1b--Bookkeeper
3. Student Activity Sheet #1c--Store Manager
4. Student Activity Sheet #1d--Model
5. Student Activity Sheet #1e--Stock Clerk
6. Student Activity Sheet #1f--Timekeeper

D. Tape 2--Side 2a: Describes occupations in the marketing and distribution cluster

(NOTE: Tape is optional. Narration is provided in the student activity sheets.)

E. Slides (34-40)

34. Saleslady
35. Accountant
36. Fabric salesman
37. Store manager
38. Model
39. Stock clerk
40. Timekeeper

(NOTE: Slides are optional. Magazine pictures of marketing and distribution workers may be used.)

F. Evaluation

G. Resource materials

CAREER AWARENESS
UNIT IV

INFORMATION SHEET

I. Description of workers

A. Salesman--Usually contacts customers by telephone for appointments; he or she gives information and prices, demonstrates products, helps customers make selections, and writes up sales for customers

B. Bookkeeper--Compiles records showing the cost and amount of merchandise sold; keeps file copies on buying and selling, such as a record of the amount of money paid to the company and the amount of money the company pays out

C. Store manager--Manages retail businesses; hires, discharges, and plans work schedules for employees

D. Model--Wears, uses, or demonstrates products of a company; also sells products he or she demonstrates

E. Stock clerk--Counts, sorts, and weighs merchandise, fills orders, prepares inventories, keeps a record of goods received and issued

F. Timekeeper--Keeps a daily record of arrival and departure time of employees; he or she also calculates time worked and the amount of wages to pay employees

II. Performance activities

A. Salesman/saleslady--Compute a discount on a sale

B. Bookkeeper--Compute the amount of sales in March

C. Store manager--Compute the fraction of a work day

D. Model--Find the sizes nearest to six and one-fourth and seven and three-fourths

E. Stock clerk--Compute the amount of tables issued and the amount left in storage.

F. Timekeeper--Calculate Jim's pay for two weeks

III. Marketing and distribution related occupations

A. Marketing management

1. Supervisor
2. Floor manager
3. Research director

INFORMATION SHEET

B. Marketing research and analysis
   1. Statistician
   2. Scientist (chemist, physicist)
   3. Survey worker

C. Purchasing
   1. Broker
   2. Foreign-language stenographer
   3. Jobber

D. Sales promotion and training
   1. Recruiter
   2. Teacher
   3. Advertising assistant

E. Selling
   1. Sales engineer
   2. Splicitor
   3. Pawnbroker

F. Physical distribution
   1. Warehouseman
   2. Inspector
   3. Deliveryman

ERIC
Full Text Provided by ERIC

CAREER AWARENESS
UNIT IV

STUDENT ACTIVITY SHEET #1a--SALESMAN/SALESLADY

Jana began working as a saleslady for a ladies apparel company. The spring hats were marked one-third off the regular price. Dresses were one-fourth off the regular price. Jana sold the following items:

1. A spring hat, regular price $15.00

2. A spring dress, regular price $40.00

Pretend you are Jana and then figure the cost of each item. How much did the hat cost?_____ How much did the dress cost?_____ What would the total bill be?_____

CAREER AWARENESS
UNIT IV

STUDENT ACTIVITY SHEET #1b-BOOKKEEPER

Tom is a bookkeeper for a small fabric company. Tom records the amount of money paid out. In February, the company sold 40 yards of corduroy at $1.75 per yard. How much money did Tom record for February?_____

In March the company only sold two-thirds the amount of corduroy. How much money did Tom record for the month of March?_____

Thought questions

1. Why do you think the sale of corduroy decreased in March?_____
2. What type of fabric will sell better in March?_____

CAREER AWARENESS
UNIT IV

STUDENT ACTIVITY SHEET #1c-STORE MANAGER

Peter is a store manager. He plans the work schedule for each employee. He planed a work schedule for John, a student at the university. Using the chart below, answer the following questions: (A full work day is eight hours.)

1. What fraction of the day did John work on Monday?
2. What fraction of the day was John not at work on Monday?
3. What fraction of Tuesday did John work?
4. What fraction of Wednesday did John work?

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Weekly Time Sheet

Date	Monday		Tuesday		Wednesday		Thursday		Friday	
	In	Out	In	Out	In	Out	In	Out	In	Out
March 5-9	8:00 AM	10:00 AM	9:00 AM	10:00 AM	8:00 AM	10:00 AM				
	1:00 PM	3:00 PM	3:00 PM	4:00 PM	12:00 PM	4:00 PM				

Thought question: John did not go to work on Thursday and Friday. If you were Peter, what would you do about John?

CAREER AWARENESS
UNIT IV

STUDENT ACTIVITY SHEET #1d--MODEL

Kay is a model for a large hat factory. She travels, models, and sells hats for the factory. Last summer a department store wanted to purchase two hats of the following sizes:

1. Hat size 6 1/4
2. Hat size 7 3/4

The following sizes were available in the styles the buyer wanted to purchase:

1. 1 7/8, 6 1/2, 6 3/4
2. 7 5/8, 7 3/8, 8 1/4

If you were Kay, what sizes would you suggest to the buyer?_____

Tell the reason for your suggestion.

CAREER AWARENESS
UNIT IV

STUDENT ACTIVITY SHEET #1e--STOCK CLERK

Sam is a stock clerk in the Golden Furniture factory warehouse. Sam must know how many goods are received, stored, and issued. He counts, sorts, and weighs merchandise and determines the methods of storage.

During the month of April, Sam stored 260 dinette tables. He issued three-fourths of the total amount of dinette tables stored to a deliveryman. How many tables did Sam issue?_____ How many tables did he have left in storage?_____

CAREER AWARENESS
UNIT IV

STUDENT ACTIVITY SHEET #1f--TIMEKEEPER

Kim is a timekeeper for the Osage Company. Kim keeps a daily record of the arrival and departure times of employees. She also pays employees for the time they work.

Kim had to calculate Jim's pay for two weeks from the chart below:

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Monthly Time Sheet

	Monday	Tuesday	Wednesday	Thursday	Friday	Total Days Worked
1st Week	8:00AM-	8:00AM-		8:00AM-		
	5:00PM	5:00PM		5:00PM		3 Days
2nd Week	8:00AM-	8:00AM-	8:00AM-	8:00AM-		
	5:00PM	5:00PM	5:00PM	5:00PM		4 Days

The company pays the employees $100.00 per week for fulltime employment, which is $20.00 per day. Pretend you are Kim and use the above chart to answer the following questions.

1. What fraction of the first week did Jim work?
2. How much money will you pay Jim for the first week?
3. What fraction of the second week did Jim work?
4. How much money will you pay Jim for the second week?
5. How much would you pay Jim for the total two weeks?

CAREER AWARENESS
UNIT IV

EVALUATION

I. Orally describe six workers in the marketing and distribution cluster.

A. Salesman

B. Bookkeeper

C. Store manager

D. Model

E. Stock clerk

F. Timekeeper

II. Perform a computation skill used by each worker.

III. Choose a marketing and distribution occupation in the *DOT* pamphlet and read the description or function of the occupation.

CAREER AWARENESS
UNIT IV

RESOURCE MATERIALS

Books:

Come to Work With Us
Sextant System
3448 No. 34th Street
Milwaukee, Wisconsin 53210

I Want to Be
(36 titles)
Children's Press
Chicago, Illinois

"Employment Outlook for Bookkeeping Workers, Office Machine Operators"
Bulletin No. 1550-19
U.S. Department of Labor
Bureau of Labor Statistics
U.S. Government Printing Office
Washington, D.C. 20402

CAREER AWARENESS
UNIT V

Suggested Subject Area:
Social Studies

Grade Level:
Intermediate

TERMINAL OBJECTIVE

After completion of this unit, the pupil should be able to describe workers in individual job families in the construction cluster. He should be able to describe how the workers determine their activities and manner of living. He should also be able to perform independent research of other job families in the construction cluster.

SPECIFIC OBJECTIVES

After completion of the unit, the pupil should be able to:

1. Describe six workers in the construction cluster.
2. Describe the activities and manner of living of the workers, such as
   a. History and future
   b. Work environment
   c. Training or education
   d. Qualifications
   e. Advantages and disadvantages
3. Perform independent research of other job families in the construction cluster in the *Elementary Dictionary of Occupational Titles.*

CAREER AWARENESS
UNIT V

TEACHER ACTIVITIES

I. Presentation of workers

A. Reproduce the student activity sheets for hand-outs

B. Read the short story about each worker in the student activity sheets

C. Let pupils list unfamiliar words on the chalk board and find the definition in the dictionary

D. Encourage pupils to develop an occupation notebook, including

1. Pictures of construction workers

2. Articles about construction sites

II. Description of activities and manner of living

A. Continue to use the student activity sheets

B. Let pupils read orally or use tape and slides of construction workers and then discuss the following:

1. History and future

2. Work environment

3. Training or education

4. Qualifications

5. Advantages and disadvantages

(NOTE: The information is provided in the student activity sheet.)

III. Independent research

A. Explain the use of *Elementary DOT* pamphlet

1. Contains occupational clusters

2. Gives individual job families with a listing and discussion of the function of individual occupations

B. Let each pupil choose an occupation from the list, (Information Sheet) find the occupation in the *Elementary DOT*, and read orally the description of the occupation

C. Encourage the pupils to do further research in the *DOT*

D. This unit should be concluded with a field trip to a construction site indoors or outdoors

(NOTE: Refer to the interviewing techniques for field trip preparation.)

INSTRUCTIONAL MATERIALS

Included in this unit:

A. Objectives

B. Information sheet

C. Student activity sheets

1. Student Activity Sheet #1a--Construction Laborer
2. Student Activity Sheet #1b--Tool and Die Maker
3. Student Activity Sheet #1c--Cement Mason
4. Student Activity Sheet #1d--Bricklayer
5. Student Activity Sheet #1e--Glazier
6. Student Activity Sheet #1f--Plumber

D. Tape 2--Side 2b: Describes occupations in the construction cluster

(NOTE: Tape is optional. Narration is provided in the student activity sheets.)

E. Slides (41-46)

41. Construction laborer
42. Tool and die maker
43. Bricklayer
44. Cement mason
45. Glazier
46. Plumber

(NOTE: Slides are optional. Magazine pictures of construction workers may be used.)

F. Evaluation

G. Resource materials

CAREER AWARENESS
UNIT V

INFORMATION SHEET

I. Description of workers

A. Construction laborer--Performs much of the manual work around construction sites

B. Tool and die maker--Specializes in making jigs and fixtures which are devices required to hold metal while it is being shaved, stamped, or drilled

C. Cement mason--Finishes and smooths the surfaces of concrete on many types of construction projects

D. Bricklayer--Skilled craftsman who does most of his work outside; the bricklayer usually works with a crew under the supervision of a construction superintendent or contractor

E. Glazier--Cuts, installs, and replaces glass in such structures as office buildings, residences, stores, and factories

F. Plumber--Works with equipment and tools; he/she installs plumbing systems in new buildings, adds new plumbing fixtures to old buildings, and repairs plumbing in old buildings

II. Activities and manner of living

A. History and future

B. Work environment

C. Training or education

D. Qualifications

E. Advantages and disadvantages

(NOTE: The information is provided in the student activity sheets.)

III. Independent research in the construction cluster

A. Wood construction

1. Carpenter foreman

2. Hotel carpenter

3. Carpentry laborer

INFORMATION SHEET

B. Metal construction

1. Welder
2. Pipe fitter
3. Sheet metal worker

C. Masonry construction

1. Marble setter
2. Soft tile setter
3. Plasterer

D. Electrical construction

1. Electrician
2. Lineman
3. Construction checker

E. Finishing

1. Cabinetmaker
2. Carpet layer
3. Painter

F. Equipment operator

1. Core-driller foreman
2. Bulldozer operator
3. Blaster

G. Engineering and support occupations

1. Surveyor
2. Construction engineer
3. Clearing foreman

CAREER AWARENESS
UNIT V

STUDENT ACTIVITY SHEET #1a--CONSTRUCTION LABORER

The construction laborers work in many areas of the construction field. They assist skilled workers and do much of the manual work around construction sites. Their job includes duties such as loading and unloading material, hauling and hoisting, digging ditches, wood chopping, mixing concrete, clearing grounds, driving stakes, and laying ties and rails. Laborers are a necessary part of the construction industry, the largest single industry in the United States. The construction laborer is a major contributor to our national economy and also a vital part of our national defense.

History and Future--Laborers appeared when man first began gathering and using materials to build shelters. The builders of the pyramids utilized many laborers. Throughout the years the construction industry has increased steadily.

Many job openings will arise from the replacement of construction laborers who transfer to other occupations, retire, or die.

Work Environment--Most of the work is done outside or in semi-enclosed structures.

Training or Education--No formal training is required of the construction laborer. Further training is required for those who want to advance or better themselves.

Qualifications--Laborers must enjoy working with their hands and must be physically fit. They must be reliable, competent, and enjoy working in the outdoors.

Advantages and Disadvantages--Mechanization is making the job easier. The pay is generally good and the benefits of the construction laborers are reasonable.

Some jobs are often of short duration and the work of the construction laborer is seasonal.

CAREER AWARENESS
UNIT V

STUDENT ACTIVITY SHEET #1b--TOOL AND DIE MAKER

Tool and die makers are highly skilled, creative workers whose products such as tools, dies, and special guiding and holding devices are the basis of mass production.

The largest number of tool and die makers are employed in plants producing manufacturing, construction, and farm machinery and equipment, automobiles, aircraft, and other transportation equipment. Some tool and die makers work for non-metal working industries and some even work independently.

History and Future--Employment of tool and die makers is expected to increase slowly during the 1970's.

Work Environment--Tool and die makers are employed in plants producing manufacturing, construction, and farm machinery, and some transportation products.

Training or Education--On-the-job training is from four to five years.

Qualifications--A good working knowledge of math and a mechanical dexterity is necessary. One must have the ability to do very precise work. Most employers prefer high school or trade graduates for tool and die makers.

Advantages and Disadvantages--Tool and die makers are among the highest paid machinery workers. They may advance to supervisory and administrative positions.

After four or five years of on-the-job training, several years of experience is needed to qualify for more difficult tool and die work.

CAREER AWARENESS
UNIT V

STUDENT ACTIVITY SHEET #1c--CEMENT MASON

Cement masons are engaged in many different projects ranging from small jobs such as finishing patios, floors, and sidewalks to working on huge dams and bridges, concrete highways, and foundations and walls of large buildings.

The main work of the cement mason is to finish the exposed concrete surface on many types of construction projects.

History and Future--Cementing materials were known in the earliest civilizations. The Romans built the famous "Apian Way" using a mixture of lime, volcanic ash, sand, gravel, and water. The American cement industry began in New York state in 1818 with the discovery of natural cement rock.

The future looks bright for the cement mason although technological change may have some effect on long-range employment.

Work Environment--Cement masons work concrete. Their work is active and strenuous and much of it is done outside.

Training or Education--Most employers prefer high school graduates and recommend on-the-job instruction and classroom courses.

Qualifications--Cement masons must know the different materials essential to the quality of their work. Good physical condition is important in this occupation.

Advantages and Disadvantages--Larger-than-normal paychecks frequently result from long periods of work when good weather prevails. The work is active and strenuous. The weather may hamper the mason's work since most of the work is done outdoors.

CAREER AWARENESS
UNIT V

STUDENT ACTIVITY SHEET #1d--BRICKLAYER

A bricklayer is a skilled craftsman who can take pride in a structure he has helped build. Before he/she can start work, another worker must have put in a cement base called a footing. Before laying any brick, the bricklayer must check the previous work carefully to make certain that he has an even base on which to start and that the corners are square. Bricklayers usually work in crews under the supervision of a construction superintendent or contractor.

History and Future--Brick has been used longer than any other building material. Bricks were made in the United States in 1612. Employment of bricklayers is expected to rise moderately through the 1970's.

Work Environment--The bricklayer does most of his work outdoors.

Training or Education--A three or four year on-the-job training program is preferred for the bricklayer.

Qualifications--A bricklayer must have good eyesight, good physical coordination, and good physical condition.

Advantages and Disadvantages--The bricklayer can find employment almost anywhere in the United States.

Bricklayers are subject to certain hazards because so much bending and standing are required. The work is seasonal.

CAREER AWARENESS
UNIT V

STUDENT ACTIVITY SHEET #1e--GLAZIER

The majority of glaziers are employed by independent glazing contractors. He or she works on new building construction, building alteration and modernization, and replacement of broken glass, particularly on store windows and other large windows. Glaziers work in all sections of the country. Most jobs are found in cities. In small towns, the job is sometimes done by painters and paperhangers.

History and Future--Archaeologists have evidence of glass objects manufactured as far back as 3000 B.C. by glaziers.

A very rapid increase in the employment of construction glaziers is expected through the 1970's.

Work Environment--The glaziers cut the class and put it into work.

Training and Education--Most employees prefer high school graduates and recommend the completion of three years of on-the-job training.

Qualifications--The glazier must be able to work in all kinds of weather and work well with his hands.

Advantages and Disadvantages--There are good benefits and wages although glaziers are exposed to hazards at certain times.

CAREER AWARENESS
UNIT V

STUDENT ACTIVITY SHEET #1f--PLUMBER

The plumber is engaged in many different projects. He or she puts in water heaters, tanks, bathtubs, sinks, and drainage systems. The plumber studies building plans and working drawings to determine work aids required and sequence of installations. The plumber works with metals such as iron, steel, brass, lead, and nonmetals such as glass, clay, and plastic.

History and Future--Plumbing has not always been a part of America's way of living. Some parts of the country where people still do not have water piped into their homes are known as poverty areas. Private and public agencies are hard at work to change this condition.

Work Environment--The plumber works without direct supervision, works indoors or out, and works from awkward positions.

Training or Education--Employers prefer a high school graduate. On-the-job training is available.

Qualifications--Good hand and eye coordination, full use of the arms, hands and fingers, and normal vision are necessary qualifications.

Advantages and Disadvantages--Plumbers are less affected by seasonal slowdown than other construction tradesmen. Salaries are continuing to rise.

The plumber may work around dirty, unpleasant odors.

CAREER AWARENESS
UNIT V

EVALUATION

I. Orally describe six workers in the construction cluster.

A. Construction laborer

B. Tool and die maker

C. Cement mason

D. Bricklayer

E. Glazier

F. Plumber

II. Orally describe the activities and manner of living of the workers, such as

A. History and future

B. Work environment

C. Training or education

D. Qualifications

E. Advantages and disadvantages

III. Choose an occupation from one of the job families in the construction cluster and read the description or function of the occupation.

CAREER AWARENESS
UNIT V

RESOURCE MATERIALS

Books:

Come to Work With Us
Sextant System
3448 North 34th Street
Milwaukee, Wisconsin 53210

I Want to Be
(36 titles)
Children's Press
Chicago, Illinois

Tape recordings of occupations:

American Occupation Series
Jonesboro, Arkansas
Educational Sensory Program

1. Bricklayer--Carpenter
2. Cement Mason--Construction Laborer
3. Plasters--Plumbers--Pipefitters
4. Tool and Die Maker

ACCESSION NUMBER: VT101409

PUBLICATION DATE: JUL74

TITLE: DEVELOPMENT OF OFFICE SIMULATION PROGRAMS FOR ACCOUNT CLERK AND CLERK TYPIST PROGRAMS.

DESCRIPTOR: *SIMULATION; *SIMULATED ENVIRONMENT; *CLERICAL OCCUPATIONS; POST SECONDARY EDUCATION; BUSINESS EDUCATION; OFFICES (FACILITIES)

EDRS PRICE: MF AVAILABLE IN VT-ERIC SET.

DESCRIPTIVE NOTE: 10P.

ABSTRACT: THIS DOCUMENT REPORTS THAT AFTER CONSIDERATION OF SEVERAL COMMERCIALLY AVAILABLE SIMULATION PACKAGES, APEX, BY THE 3-M COMPANY, WOULD BEST MEET THE NEEDS OF POST-SECONDARY VOCATIONAL EDUCATION. APEX IS PARTICULARLY APPLICABLE TO CLERICAL PROGRAMS SUCH AS THE ACCOUNT CLERK AND CLERK TYPIST PROGRAMS. OTHER ACTIVITIES IN THE DEVELOPMENT OF OFFICE SIMULATION PROGRAMS INCLUDED STUDYING AND PURCHASING OFFICE FURNITURE AND EQUIPMENT. (LJ)

INSTITUTION NAME: GATEWAY TECHNICAL INST., KENOSHA, WIS.

101 409

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REPORT

PROJECT NO. 06-187-151-314

DEVELOPMENT OF OFFICE SIMULATION PROGRAMS FOR ACCOUNT CLERK AND CLERK TYPIST PROGRAMS

July, 1974

GATEWAY TECHNICAL INSTITUTE
VOCATIONAL, TECHNICAL AND ADULT EDUCATION
KENOSHA, WISCONSIN

101 409

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DEVELOPMENT OF OFFICE SIMULATION PROGRAM FOR ACCOUNT CLERK AND CLERK TYPIST PROGRAMS

This is a report of the activities completed under Phase I and Phase II of Project 06-187-151-314, "Development of an Office Simulation Program for the Account Clerk and Clerk Typist Programs of Gateway Technical Institute, Kenosha Campus."

PHASE I: Investigation and development of existing materials. Plans for equipment and office environment.

There are currently several commercial simulation packages available on the market. After reviewing the available simulations, it was felt that APEX by 3-M Company would best meet the needs of post-secondary vocational education. APEX is particularly applicable to clerical programs such as the Account Clerk and Clerk Typist programs. The "Office Simulation" course will serve as a culminating course, as well as provide simulated office experience, for the above mentioned programs.

The curriculum sheets for the Account Clerk and Clerk Typist programs were examined and the following revisions made after Curriculum Committee and Advisory Committee approval:

Clerk Typist	omit	Office Practice Copy & Material Reproduction Machine Transcription
	add	Office Simulation
Account Clerk	omit	Office Practice Job Orientation Copy & Material Reproduction
	add	Office Simulation

The "Office Simulation" course will be offered each semester for 8 credit hours. The course will meet for a two-hour block daily. Appendix A and Appendix B show the revised curriculum sheets to be used in 1974-75.

Visits and conferences were held with schools currently using APEX in both Wisconsin and Minnesota. Emphasis of these meetings was on actual office layout and discussion of problem areas in APEX.

During the first week of June, five instructors from the Business Education Department of GTI participated in a workshop at the University of Wisconsin--Eau Claire. During this workshop, the instructors examined and worked with the APEX simulation kit. An in-service for the business education department of GTI will be held by the 3-M Company during the third week of August. During this time, the entire staff will learn more about the simulation and how APEX will operate.

Also during Phase I, different types of equipment, furniture, and the office environment were studied. Purchases of the necessary items were made. The office furniture to be used includes: 15 secretarial desks with typing returns, 6 double-pedestal desks, 21 posture chairs, 2 side chairs, and files (3-drawer lateral file and 5-drawer vertical file).

Appendix C and Appendix D list the major equipment and supplies which will be used in the APEX simulation.

PHASE II: Further development of materials and office environment. Physical set up of simulation office.

After receiving the APEX kit, it was examined further and additional materials and supplies were prepared. After working with APEX at UW-EC, the committee decided to develop a vocabulary list of technical terms used at American Paper Exporters Association. (See Appendix E.) All dictation of letters and reports in the simulation have been dictated on magnetic belts. Stencils or offset masters of the forms needed for initial operation of APEX have been prepared.

The office layout was completed and necessary facility changes made. Facility changes included rewiring, painting, and carpeting. The simulation facility is Room 242-242A on the Kenosha Campus. Set up of the office is in the final stage and will be ready for operation August 1. (See Appendix F for office layout.)

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GATEWAY TECHNICAL INSTITUTE

Gateway Technical Institute ☐
Elkhorn Campus
E. Centralia St. & Hwy. H
Elkhorn, Wisconsin 53121
Telephone: 723-5390

Gateway Technical Institute ☒
Kenosha Campus
3520 30th Avenue
Kenosha, Wisconsin 53140
Telephone: 658-4371

Gateway Technical Institute ☒
Racine Campus
1001 South Main Street
Racine, Wisconsin 53403.
Telephone: 637-9881

The following program of study is offered at the above checked campus(es).

ONE YEAR DIPLOMA - CLERK TYPIST PROGRAM

using office simulation option (approval of Business Education Department required)

COURSE NUMBER	COURSE TITLE	CREDIT HOURS	CONTACT HOURS	MATERIAL FEES
	FALL SEMESTER (Fall 74)			
106-350	*Office Simulation	8	(7-3)	$ 5.00
106-301	*Clerical Typing I or (106-131 Typing I)	3	(1-4)	2.50
105-315	*Filing/Elementary	1	(0-2)	1.00
101-301	*Record Keeping	3	(1-4)	
105-302	Business Arithmetic	3	(3-0)	
		18	25	
	SECOND SEMESTER (Spring 75)			
106-302	*Clerical Typing II or (106-133 Typing II)	3	(1-4)	2.50
103-317	*Calculator	2	(0-4)	1.00
801-301	Communication Principles I (written)	2	(2-0)	
801-302	Communication Principles II (oral)	2	(2-0)	
809-306	Social Behavior	3	(3-0)	
	or			
809-151	Psychology of Human Relations	3	(3-0)	
	Elective	2	(2-0)	
		14	18	

Requirements for Graduation:

1. 32 credit hours with average of 2.0 or above.
2. Average of 2.0 or above for courses marked *

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approval on pilot basis only
1974-75 school year

HHB/5-74

GATEWAY TECHNICAL INSTITUTE

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Gateway Technical Institute ☐
Elkhorn Campus
E. Centralia St. & Hwy. H
Elkhorn, Wisconsin 53121
Telephone: 723-5390

Gateway Technical Institute ☒
Kenosha Campus
3520 30th Avenue
Kenosha, Wisconsin 53140
Telephone: 658-4371

Gateway Technical Institute ☐
Racine Campus
1001 South Main Street
Racine, Wisconsin 53403
Telephone: 637-9881

The following program of study is offered at the above checked campus(es).

ONE YEAR DIPLOMA - ACCOUNT CLERK PROGRAM

using office simulation option (approval of Business Education Department required)

COURSE NUMBER	COURSE TITLE	CREDIT HOURS	CONTACT HOURS	MATERIAL FEES
	FIRST SEMESTER (Fall 74) student must have basic typing skills for entry			
106-350	Office Simulation	8	(7-3)	$ 5.0
101-307	Basic Accounting I	5	(2-6)	
105-315	Filing/Elementary	1	(0-2)	1.0
106-301	Clerical Typing I	3	(1-4)	2.5
	or			
106-131	Typing I	3	(1-4)	
		17	25	
	SECOND SEMESTER (Spring 75)			
101-308	Basic Accounting II	5	(2-6)	
101-317	Calculators	2	(0-4)	1.0
105-302	Business Arithmetic	3	(3-0)	
801-301	Communication Principles I (written)	2	(2-0)	
	or			
801-302	Communication Principles II (oral)	2	(2-0)	
102-360	Commercial Law	3	(3-0)	
809-306	Social Behavior	3	(3-0)	
	or			
809-151	Psychology of Human Relations	3	(3-0)	
	Elective	2	(2-0)	
		20	25	

Requirements for graduation:

1. 37 credit hours with an average of 2.0 or above.
2. Average of 2.0 or better in all 101, 103, 105 and 106 courses.

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approval on pilot basis only
1974-75 school year

HHB/5-74

APPENDIX C

LIST OF MAJOR EQUIPMENT TO BE USED

15 electric typewriters

9 calculators or adding machines

7 6-button telephones

5 transcribing machines

1 Thermo-fax

1 Mimeograph

1 Fluid Duplicator

1 Postal Scale

1 Paper Cutter

1 Offset

APPENDIX D

LIST OF SUPPLIES NEEDED

- 21 In/Out Baskets
- 1 Bottle Stencil Correction Fluid
- 2 Boxes Paper Clips
- 10 Gal. Duplicator Fluid
- 10 Boxes Thermo-fax Stencils
- 5 Boxes Thermo-fax Spirit Masters
- 10 Reams Duplicator Paper
- 20 Reams Onionskin
- 20 Pairs of Scissors
- 1 Box Colored Pencils
- 20 Rolls Scotch Tape
- 10 Boxes Staples
- 2 Stamp pads
- 2 Moisture Dispensers
- 5 Letter Openers
- 10 Rubber Fingers
- 2 Boxes Copy Paper
- 1 Bottle Rubber Cement
- 1 Desk Calendar
- 200 Hanging Folders
- 10 Boxes File Folders
- 21 Rulers
- 40 Blank Magnetic Belts
- 2 Dater Stamps
- 3 Dozen Typewriter Ribbonds
- 21 Staplers
- 4 Boxes Typing Erasers
- 1 Can Hand Cleaner
- 10 Boxes Stencils
- 10 Boxes Spirit Masters
- 10 Reams Mimeograph Paper
- 10 Reams Bond Paper
- 8 Boxes Carbon Film
- 1 Box Pencils #2
- 21 Red Pencils
- 7 Tape Dispensers
- 22 Staple Removers
- 1 Stamp Pad Inker
- 10 Packages 3 x 5 Index Cards
- 1 Box Rubber Bands
- 1 Box Thumb Tacks
- 1 3-Hole Punch
- 2 Packages Legal Pads
- 7 Telephone Directories
- 200 Labels for Hanging Folders
- 10 Boxes of File Labels
- 7 Scratch Pad Holders
- 10 Tubes Black Ink
- 21 Wastebaskets
- 3 Boxes Storage Folders for Magnetic Belts

APPENDIX E

VOCABULARY LIST FOR APEX

acetate
aggregate
alpha
bagasse
boxboard
category
cellophane
coarse paper
commodities
containerboard
containerization
converted
corrugated
corrugating
creped
de-inking
dissolving pulp
domestic
entity
expenditures
fibrous
filament
fluctuate
foreign
glassine
grease proof
groundwood pulp
kraft
linage
linerboard
logging
long-fibered softwoods
mechanized
media
metric
newsprint
nitro-cellulose
nonsupervisory
paper base stock
paperboard
paperstock
percent
plummeted
polyolefins
profit-to-sales ratio
pulp
species
statistics
subgroup
sulfate pulp
sulfite pulp
synthetics
tonnages
utilization
vertical integration
virgin pulp
waste fibrous materials
wastepaper
wet machine board
wood chips
woodpulp

APPENDIX F

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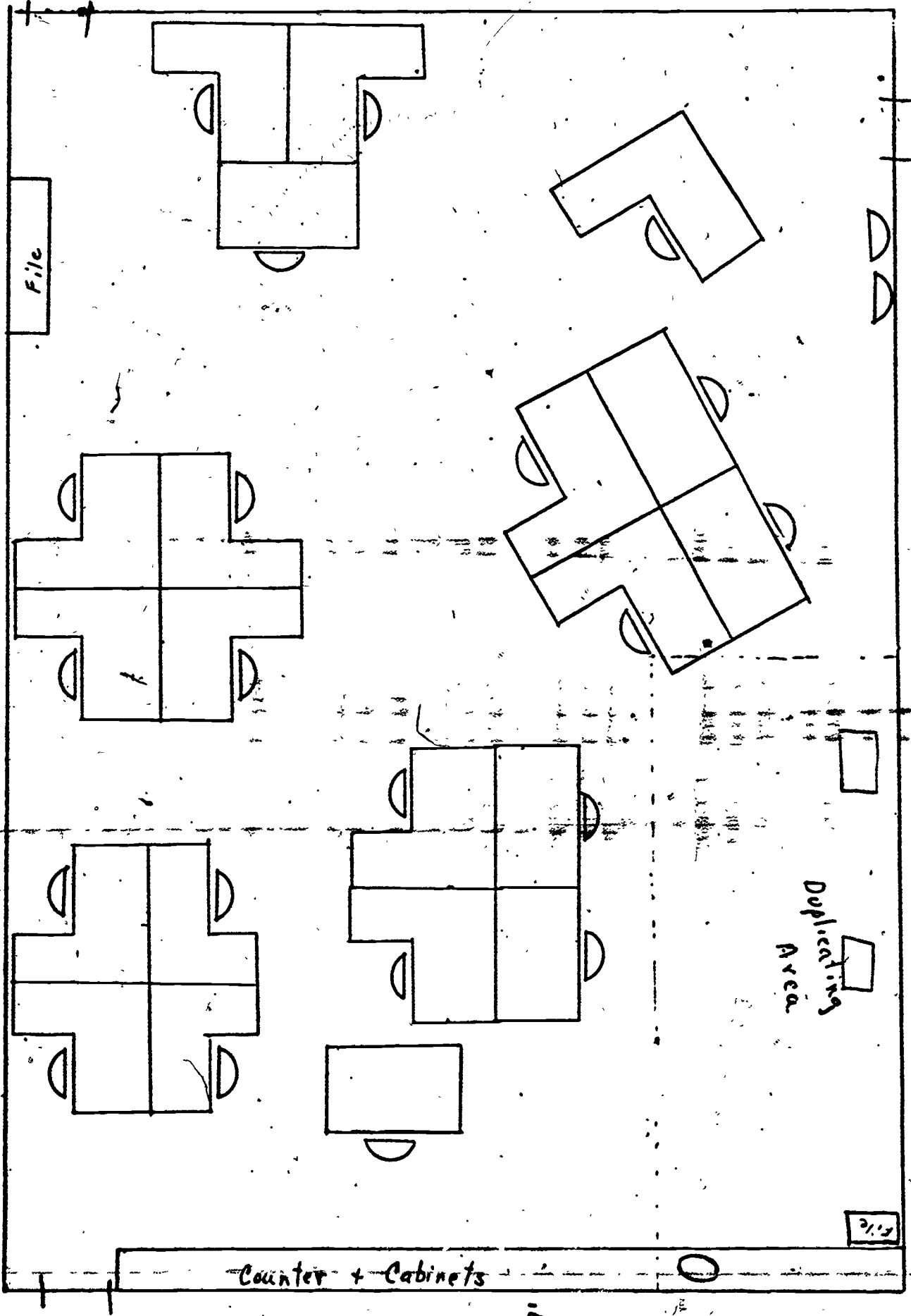

ACCESSION NUMBER: VT101410

PUBLICATION DATE: 30JUN74

TITLE: NATIONAL INSTRUCTIONAL TELEVISION CAREER EDUCATION PROJECT. PHASE I. FINAL REPORT.

DESCRIPTOR: *CAREER EDUCATION; *INSTRUCTIONAL TELEVISION; *VOCATIONAL EDUCATION

EDRS PRICE: MF AVAILABLE IN VT-ERIC SET.

DESCRIPTIVE NOTE: 16P.

ABSTRACT: THIS FINAL REPORT SUMMARIZES THE "BREAD AND BUTTERFLIES" PROJECT WHICH WAS ORIGINATED BY THE NATIONAL INSTRUCTIONAL TELEVISION CENTER WITH THE DEVELOPMENT OF A PROPOSED CAREER INSTRUCTIONAL PLAN. THE CONSORTIUM, CONSISTING OF 32 STATE AGENCIES AND TWO LOCAL AGENCIES, WAS FORMED TO SUPPORT AND PARTICIPATE IN THE DEVELOPMENT AND PRODUCTION OF THE PROPOSED NEW CURRICULUM. THE 15-PROGRAM SERIES ON CAREER DEVELOPMENT CONSISTED OF THE FOLLOWING COMPONENTS: (1) 15 COLOR TELEVISION PROGRAMS FOR 9 TO 12 YEAR OLDS, (2) A TEACHER CURRICULUM GUIDE, (3) AN IN-SERVICE COLOR TELEVISION PROGRAM FOR TEACHERS, (4) AN INFORMAL INFORMATIONAL COLOR TELEVISION PROGRAM FOR THE GENERAL PUBLIC AND FOR EDUCATORS, AND (5) WORKSHOP LEADER MATERIALS FOR TEACHER IN-SERVICE TRAINING. IT WAS SUGGESTED THAT A COMPREHENSIVE AND INTEGRATED APPROACH BE CONSIDERED FOR CAREER EDUCATION DRAWING UPON THE STRENGTH OF GENERAL EDUCATION, VOCATIONAL EDUCATION, AND GUIDANCE TO CREATE A SEQUENTIAL, COMPREHENSIVE AND INTEGRATED CAREER EDUCATION PROGRAM FOR EACH EDUCATIONAL LEVEL. PART II OF THE REPORT IS ADDRESSED TO THE TASK OF DEVELOPING AN INSTRUCTIONAL PLAN FOR CAREER EDUCATION FOR CHILDREN 9 TO 12 YEARS OF AGE WITH INSTRUCTIONAL TELEVISION AS A MAJOR COMPONENT. PART III DESCRIBES THE PROJECT OUTCOMES AND MATERIALS WHICH INCLUDE INSTRUCTIONAL, IN-SERVICE, AND TELEVISION MATERIALS. (AUTHOR/LJ)

INSTITUTION NAME: MAINE UNIV., ORONO. COLL. OF EDUCATION.

SPONSORING AGENCY NAME: BUREAU OF OCCUPATIONAL AND ADULT EDUCATION (DHEW/OE), WASHINGTON, D.C.

101 410

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FINAL REPORT

NATIONAL INSTRUCTIONAL TELEVISION
CAREER EDUCATION PROJECT
PHASE I

Conducted under
Part C of Public Law 90-576

Charles W. Ryan, Project Director
College of Education
University of Maine
Orono, Maine 04473

June 30, 1974

101 410

SUMMARY OF THE PROJECT

The "bread and butterflies" project was originated by the National Instructional Television Center (NIT), the predecessor of AIT, in the summer of 1972 with the development of the proposed career development instructional plan. The consortium, consisting of thirty-two state agencies and two local agencies, was formed to support and participate in the development and production of the proposed new curriculum. The fifteen-program series on career development is the fifth major classroom series originated by AIT/NIT.

The project consists of the following components:

1. The fifteen color television programs, each fifteen minutes long, for students aged nine-to-twelve.

2. A curriculum guide for the teacher, which will emphasize the "doing" aspect of learning and will contain many activities for relating affective television programs (designed to promote "feelings," attitudes, and beliefs regarding the careers subject matter) to specific curriculum areas and social activities.

3. A twenty-minute in-service color television program for teachers, which will include model teacher behavior in the utilization of the instructional plan.

4. A twenty-minute informational color television program for the general public and for educators, which will introduce the new approach this project takes for career education.

5. Workshop leader materials for teacher in-service training.

The budget of $488,650 was provided for the planning, development, and production of this program, from funds provided by thirty-four state and local agencies of the consortium. Maine provided $10,828 in Phase I.

FINAL REPORT

PART I

A. It is suggested that a comprehensive and integrated approach be considered for career education. Such an approach would draw upon the strength of general education, vocational education, and guidance approaches in creating a sequential, comprehensive, and integrated career education program for each educational level (K-3; 7-9; 10-12; and post-secondary.) It seems likely that the task of career education can best be accomplished by leadership teams composed of vocational educators, counselors and academic teachers. The separate approaches when integrated into a single approach would offset many of the present limitations of each.

Objectives of the comprehensive and integrated approach stress broad goals essential to the facilitation of self-development. The NIT goals included:

1) Developing a positive self-concept;
2) Developing basic interpersonal and job career skills;
3) Developing an awareness of the career decision-making process;
4) Developing a sense of community involvement;
5) Developing a sense of agency or destiny control;
6) Developing work attitudes and worker discipline;
7) Developing employment-seeking skills; and
8) Integrating self-knowledge with environmental knowledge.

The overall thrust is the development of individuals as they interact with the family, school, and community in relation to career management. This approach melds the strengths of general education, vocational education, and guidance. The comprehensive and integrated approach gives balance to learning activities that relate to cognitive, psychomotor, and affective situations. It offers each student opportunity to clarify his feelings, motives, and desires based on experiences that are closely tied to the real world. The interaction of environmental and self information should result in more accurate and effective learning when acquired together, than when acquired separately.

Developmental goals for career education: A comprehensive approach to career education should be designed to facilitate the individual's mastery of career development skills. Tennyson, Klaurens and Hansen (1970), after an extensive review of child development, career development, developmental psychology, and self-concept development literature, identified a series of major career development goals for the primary, intermediate, junior high, secondary, and immediate post-high grade levels. A listing of these career development goals is presented in Chart 1.

The mastery of the career development goals presented in Chart 1 will enable the individual to develop some control of his career choices and work behavior. Althqugh normative developmental tasks are presented, it should be remembered that mastery of these goals proceeds at different rates for different individuals.

Further, the career development goals are not independent entities. Rather,

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CHART 1

MAJOR CAREER DEVELOPMENT GOALS

PRIMARY YEARS - K-3	INTERMEDIATE YEARS - Grades 4-6	JUNIOR HIGH YEARS - Grades 7-9	SECONDARY YEARS - Grades 10-12
Awareness of self	Developing a positive self-concept	Clarification of self-concept	Reality-testing of a self-concept
Acquiring a sense of control over one's life	Acquiring a discipline of work*	Assumption of responsibility for career planning	Awareness of preferred life-style
Identification with worker	Identification with the concept of work as a valued institution	Formulation of tentative career goals	Reformulation of tentative career goals
Acquiring knowledge about workers and their life style	Increasing knowledge about workers	Acquiring knowledge of occupations and work settings	Increasing knowledge of and experience in occupations and work settings
Acquiring interpersonal skills	Increasing inter-personal skills	Acquiring knowledge of educational and vocational resources	Acquiring knowledge of educational and vocational paths
The ability to present oneself objectively	Acquiring a sense of control over one's life	Awareness of decision-making process	Clarification of decision-making process as related to self
Acquiring respect for other people and the work* they do both for remuneration and non-remuneration	Valuing human dignity	Acquiring a sense of independence	Tentative commitment within a changing world
			Acquiring job entry skills

Source: Tennyson, W. Wesley, Mary K. Klaurens, and Lorraine S. Hansen. The Career Development Program. Unpublished paper, College of Education, University of Minnesota, October 1970

*Note: The word "work" will be used in the remainder of this prospectus to mean any purposeful activity, whether for remuneration or not.

they interrelate both horizontally and vertically. Awareness of self at the primary level is related to acquiring a sense of control over one's life, as well as developing and clarifying a positive self-concept at the intermediate and junior high levels.

Career development stages, like physiological and intellectual development stages, are sequential but cannot be directly tied to chronological age. As students move from one educational level to the next, they face new demands and must be taught how to deal with them. While it may be possible to accelerate or deaccelerate the accomplishments of these developmental goals, this may not necessarily be desirable. There is what Piaget terms "optimum time" for mastering goals, and a time when learning is easiest and most efficient.

Integrating learning: School life for many young persons today is characterized by discontinuity -- by a series of experiences which never merge together in the development of a meaningful sense of self. Through the comprehensive approach to career education, the three kinds of learning--cognitive, experiential, and affective, are to be integrated. It is important that the developing young person be provided experiences in which the knowing, doing, and feeling components progress simultaneously.

The world of work and community offers a rich resource for learning. If "world of work" experiences are properly selected, they can serve to facilitate the student's mastery of cognitive learning appropriate for a given grade level. The student would be allowed to make application of math, science, and communication skills in designing, planning, selling, making, organizing, repairing, and other such activities that are work related. Instead of solving hypothetical reading problems in a strict intellectual approach, the student will actually use academic concepts and skills in solving a simulated or actual "real world" problem. For many this may very well open a new vista that connects school and life. Furthermore, experiential based learning can serve to facilitate the discovery of self, provided students are given the opportunity, assistance, and encouragement needed to personalize and interpret such experiences in terms of their own self. The comprehensive approach to career education facilitates the relating of both cognitive and experiential learning to the student's personal concerns.

Self-development: The comprehensive career education approach places a major stress on the development of the career-self-concept. Career education should not be limited to the traditional concept of awareness, orientation, exploration, etc., as they relate to work, but should include awareness, orientation, exploration, and progressive practice in developing the career aspect of self. At each educational level, the work setting and community can be utilized to help students explore and clarify themselves. Experiences in these settings must be followed with appropriate feedback to give the student the understanding and the vocabulary he will need to clearly define his career self.

It is vital that the feedback allow the student to analze the experiences rather than having these experiences analyzed by someone else.

Through career development the developing young person will form and reform a picture of himself as a student and as a worker. In time he will make finer judgments regarding his picture of himself as a student. He will define and discriminate in greater detail his self characteristics relating to work. For example, at the elementary level one student might describe himself as being more capable with the use of his hands than with learning from books. A secondary student might picture himself as better at problem-solving than at rote learning. He may also begin to picture himself as a person who likes, for example, to work creatively and independently with his hands. The instructional plan developed by NIT will give considerable emphasis to the development of the career self. The comprehensive approach to career development, as presented in the television series and curriculum guide is intended to:

1) Help students clarify their own values;

2) Help students consider the social, economic, and personal significance of work;

3) Enable the student to develop his abilities to analyze the work world;

4) Broaden the student's perceptions of options available by aiding students to penetrate occupations that have traditionally been barred from their consideration;

5) Assist the student in developing skills necessary for coping with an ever-changing society;

6) Recognize the talents and uniqueness of all students; and

7) Enable each student to discover his unique sense of vocation in a context in which he is allowed to go beyond the limitation of his socio-economic and psychological orientations.

PART II An Instructional Plan for Career Education that Includes Television and Instructional Guides

At the beginning of this report, the definitions of career education that were presented, implied a concern with a variety of roles throughout the life span of individuals. The NIT "Bread and Butterflies" approach to career education narrows the focus by dealing primarily with the life role of work in its broadest possible context. The primary thrust of the proposed instructional plan will be on the career development of the individual as it relates to the work role. Other life roles will be considered only when they are a necessary and integral part of this role.

This part of the report is addressed to the task of developing an instructional plan with instructional television as a major component for career education for children nine-to-twelve years of age. Several factors contributed to the decision to make the initial effort at this age level. Among those were:

1) According to educational specialists, there is a need for a greater emphasis on career education in the elementary grades because students at this age are in the process of forming attitudes about life styles and work.

2) Instructional television can be more effectively utilized as a mass media delivery system at the elementary grades than at the junior high and senior high levels, because of more flexible classroom scheduling.

3) Instructional television can regularly, economically, and conveniently provide generally unavailable career education resource materials for elementary classroom teachers.

4) Instructional television can provide elementary classroom teachers with support material for career education instruction that incorporates the combined approaches of general education, vocational education, and guidance specialists.

5) Regular career education instruction is generally unavailable at the elementary level. By initiating instruction for nine-to-twelve-year-olds, a continuing educational experience would be provided inasmuch as most career education instruction now begins at junior high and senior high levels.

In designing this instructional plan, the planning committee examined the emerging United States Office of Education models for career education. It was felt that all or part of the proposed instructional plan resulting from this project, could complement whatever model a state or local system was following. For those that do not have a career education program, this could provide the necessary input to initiate one.

The instructional plan was designed to insure the inclusion and integration of the "knowing," "doing," and "feeling" aspects of learning.

This will be accomplished through the two major components that make up the instructional plan. Each component was selected so that each aspect of learning was included and integrated with the other. They are:

1) The television series which has the primary focus on the "feeling" aspect of learning; and

2) Instructional guides for age levels (9; 10; 11; and 12) that will provide the teacher with print simulation materials which will have a major emphasis on the "doing" aspect of learning; and with teacher suggestions which will have as a major focus the relating of "knowing" to the "feeling" and "doing" aspects of learning.

Instructional Television

The content of the television series: a) emphasizes those career development concepts that have to do with attitudes, values, self-understanding, interpersonal skills, self-discipline, and reasons for working; b) illuminates the possible conflicts that can occur between one's work and other life roles; c) provide knowledge about work and how it integrates and influences other life roles; d) allow students to see how individuals of different abilities, interests, and values, express themselves through different types of work -- such as serving others, organizing people to do activities, influencing others, manufacturing articles, repairing items, expressing ideas, etc.; and e) seek to overcome occupational stereotypes pertaining to sex, socio-economic levels, race, and geographical areas.

Transcending physical, psychological, and sociological barriers

This television series can compensate for the environmental limitations of both the school and the community. One of the major problems encountered across the country in implementing a career education program, is that of bringing a representative cross-section of the outside world and the school world together. In many communities it is not feasible for youth to go into a variety of manufacturing and service industries, and to identify with a cross-section of workers in terms of their varied life roles. The problems of safety, of handling large groups of youth, of transportation to the business and industry, along with a whole host of other problems, serve to make this impractical on a very wide scale. This instructional television series will bring the attitudes and values of a representative cross-section of the community into the school.

Even if it were possible for most elementary youths to visit major industrial business complexes, or if it were possible to bring large numbers of these workers into the schools, it is unlikely that youngsters would fully comprehend the psychological and sociological climate that really exists. The peculiar nature of television makes

it possible not only to reveal the feelings and the expressions of a variety of workers in a variety of work settings, but also to reveal workers in other life roles which could not be done through the traditional tour or through classroom speakers.

As our society becomes increasingly mobile, it becomes even more important for students to realize the total range of available options. This series will enable students to become aware of the different kinds of workers and their life styles. It will be possible for students through this series to transcend physical limitations and to visit people at work, at leisure, and at home.

Television is capable of overcoming social and psychological barriers that serve to limit the career development of many youths. These barriers include:

a) Society expectations that are reinforced by the school, that minority and poor students are expected to enter lower-level jobs, and that certain occupations are for males, and others for females;

b) Psychological limitations that prevent many students from perceiving that it is possible for them to consider particular work roles and life styles; and

c) Lack of knowledge about themselves, about options available, about why people work, and about how one can express himself through his work.

Through this television series it will be possible to:

a) Introduce the rural, the minority, and the disadvantaged student to such worlds as that of the executive, stockbrocker, accountant, engineer, data processing programmer, machinist, electrician; and to allow them to see that people like themselves are in these particular work roles. This will serve to broaden elementary students' horizons so that they can begin to imagine themselves in an increasingly broader range of adult activities;

b) Show males and females in occupations not normally thought appropriate for the opposite sex;

c) Show people who are gaining satisfaction from low-status activities; and

d) Illustrate a variety of ways in which persons express themselves through their work.

The medium of television offers exceptional opportunities for attacking the physical, psychological, and sociological barriers that limit the career development of youth.

Through television students can, for example, perceive the psychological, social, and economic shock that occurs as an individual moves from a state of employment to unemployment; can depict conflict between one's work roles and other life roles; and can depict how individual values and abilities find expression through work for both remuneration and non-remuneration. In essence, this series will zero in on those aspects of affective learning that are too often ignored in current career education efforts.

Compensating for curriculum weaknesses: Instructional television can compensate for the present curriculum weaknesses in career education which are too often just the giving of information to students about occupations. The information that is given is usually limited to traditional information about the functions performed, requirements for entrance, future demands, and salary.

PART III Project Outcomes and Materials

The television material enables the teacher to go beyond typical classroom information to other considerations that allow the student to understand and grasp the social and psychological significance of work. Further, it will be possible for students to observe interpersonal skills in operation, to see contrasting life styles of workers, to see how people maintain control over their lives, to trace longitudinally the decision-making process of individuals, and to begin to draw conclusions about the particular ways in which people pattern their lives. In addition, it will be possible for the student to relate the school work he does in math, English, science, and social science to a variety of life activities. The material enables the student to begin to see the similarity between the classroom environment, and the environment outside the school.

Instructional Guides

An instructional guide was developed for the major age levels (9-10; 10-11; 11-12), that make up grades four through six. The guide makes it possible for the television series to be utilized sequentially through the intermediate grades for meeting career education goals. The instructional guide consists of two major parts: print simulation materials and teacher suggestions.

The print simulation materials section in the instructional guide consists of one or more fully developed resource units and additional skeleton outlines for other units. Each simulation project provides a "hands on" and "minds on" activity. Students will make appropriate application of the basic skills in all subject matter areas. The "hands on" activities will provide the experiential base upon which further affective learning can occur.

The print simulation materials for the instructional guide are organized around a "hands on" project, such as banking, manufacturing, journalism, construction, etc. Students can experience the process of working together toward a common goal. As a minimum, each resource unit contains a listing of:

a) Career development goals and other educational objectives;
b) A description of simulation activities;
c) A list of materials and tools needed to carry out the project;
d) A list of preparatory activities necessary for initiating the project activities, and follow-up activities; and
e) A list of related source materials and persons who might be of help.

The teacher suggestion section in the instructional guide provides information dealing with the lesson's goals, class preparation, and follow-up activities for the television programs. Many of the activities will stimulate further experiential learning that will meet the needs of each individual. The teacher can use these activities to help the students relate the television series to their own experiences and feelings.

Stimulating experiential learning: The teacher suggestions included in the instructional guide will encourage the teacher to provide learning experiences that address a variety of learning styles. Further, the instructional guide suggests a variety of learning activities that enables students to explore more deeply activities observed as part of the television series. The guide provides suggestions for students to role-play situation examples of conflict between work role and other life roles; between society expectations and individual desires; and within the individual himself.

Stimulating affective learning: Through the instructional guide, teachers are provided ways to facilitate students' achievements of career development goals in the affective domain. For example, teachers receive instructions on ways in which they can help students begin to verbalize their own self-awareness. Through such experiences, the student is encouraged to develop a sense of inquiry about how he differs from others, what he likes and dislikes, what he does best, and what he values. Increasingly, he will develop the ability to clarify himself in relation to several life roles.

Stimulating integration of learning: The instructional guide suggests to the teacher ways in which students can acquire appropriate basic educational skills through applied career-oriented learning activities. An integration of experiential and cognitive modes of learning should enable the school to assist a broader range of students to acquire essential basic educational skills.

Stimulating use of community resources: Through both the print stimulation materials and teacher suggestion sections of the instructional guide, the teacher has many suggestions as to how community resources might be related to the television series. Related community resource people could be invited to the school for traditional purposes such as to display their tools, to talk about their jobs, and to show how they use math and communication skills in their jobs. In addition, they could be selected to help overcome societal stereotypes. Further, students might be encouraged to interview workers as part of a related class activity.

Field trips to visit a local bank or newspaper, are only one suggested means to initiate a project. On such field trips students would be allowed to observe and talk with the workers. Through the instructional guide, teachers are encouraged to: a) make greater utilization of community resources for achieving desired educational outcomes; b) enable students to know how people express themselves through their work; c) learn about the unusual occupations; d) understand why people work for reasons other than pay; e) see possible conflict between one's work role and community welfare; f) identify with an increasing range of role models; and g) recognize how the work roles influence other life roles. Further, this should open up to the teacher a great many options for increasing the amount of individualized learning. The increased communication established between the community and school will create greater credibility for education.

PART IV - Project Information

Project Time-Line (25 months)

Prospectus:	July 1, 1972-January 31, 1973
Curriculum design:	February 1, 1973-June 30, 1973
Development of related materials:	July 1, 1973-June 30, 1974
Production	July 1, 1973-August 1, 1974

Television Materials

Intended audience:	Nine-to-twelve-year-olds
Length and number of programs:	Fifteen 15-minute color programs for students

Instructional Guides

An instructional guide was developed for the major age levels (9-10; 10-11; 11-12). This provides the teacher with print simulation materials which will have a major emphasis on the "doing" aspect of learning; and with teacher suggestions, which will have as a major focus, the relating of "knowing" to the "feeling" and "doing" aspects of learning.

In-Service Materials

1) A 20-minute in-service color program for teachers which includes model teacher behavior in the utilization of the instructional plan;

2) A 15-minute informational color program for the general public and educators, which introduces the new approach the project takes for career education; and

3) A master plan for teacher training workshops, along with a variety of support items and a workshop leader's handbook.

(See "PROJECT PRODUCTS" Chart on following page)

Availability of Television Materials:

The student programs, the in-service program, and the informational program were available for use beginning in September, 1974.

Use of Television Materials:

High-band two-inch color video tape or other television tape formats. Materials will also be available on 16mm color film, and U-Matic videocassette. Tele-course will be available to each charter participant for instructional use by all school systems -- local and county, public and private, in classroom or at home -- within the charter participants' legal jurisdictional and/or normal boradcast area. Instructional use of the telecourse may be continued at least through the 1978-79 academic year and thereafter so long as NIT continues distribution of the

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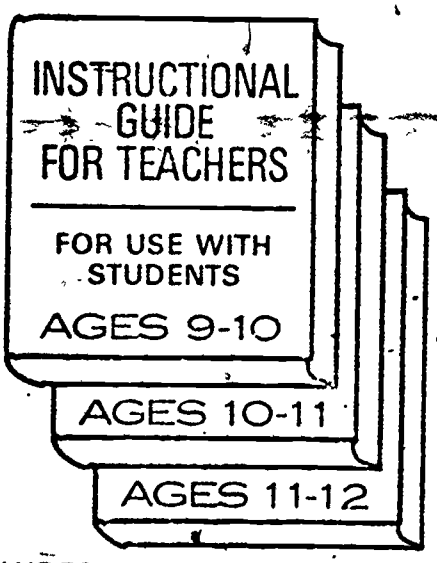
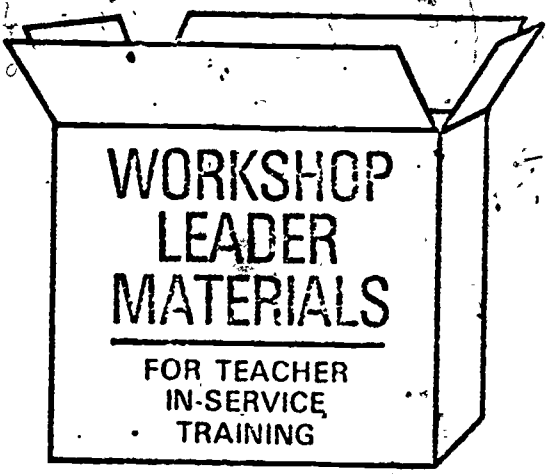
PROJECT PRODUCTS

15
INSTRUCTIONAL TV PROGRAMS

1-IN-SERVICE &
1-INFORMATIONAL
TV PROGRAM

FOR





INCLUDES:

1. Program information and Teachers' suggestions for classroom activities.
2. Print simulation activities.

telecourse. The content of the telecourse will be planned, so far as possible, to permit the above long-term use by charter participants without post-production charges or additions. NIT will, nevertheless, review the entire telecourse annually after the third year of its use and make every effort within its financial capacity to keep the telecourse lessons up-to-date at all times. Any such updating expenses will be NIT's sole responsibility, but re-recording for charter participants will, as in the case of the initial recordings, be at the charter participants' own cost.

Consortium Involvement and Participation:

On at least three occasions during the telecourse design and production period, organizations will be invited to send participants to program planning, utilization, evaluation, and review conferences. In addition, there will be periodic progress reports in writing to keep each agency advised. Each organization will pay its participants' travel and expenses for these meetings. Maine was represented at 3 out of 4 consortium meetings during the development of "Bread and Butterflies."

Video Tape and Film Costs and Duplication

The cost of video tape and dubbing, 16mm color film prints, U-matic video cassette, and handling and shipping will be paid by each charter participant. Charges will be consistent with NIT regular tape purchase and/or dubbing charges. Charter participants may purchase any number of copies of all or part of the series. Charter participants may supply their own video tape stock for dubbing by NIT.

Evaluation:

Formative evaluation procedures were emphasized during the developmental stages of this series. An evaluation team worked with content designers and instructional designers in the development of program and series goals. Various evaluative techniques were used during the early stages of program development to provide information to the content and design staff. Completed programs were field tested in representative classrooms with both teachers and students to determine the effectiveness of the material in reaching its stated goals. Two to three years after the project has begun, field evaluators will broadly survey utilization patterns and examine the total effectiveness of the series for the purpose of updating it.

Project Staff

NIT will select a project staff that will include professional career education specialists and specialists in instructional design and writing. In addition, there will be full-time producers, editors, cinematographers, and other specialists necessary to the project. This project staff will be under the direction of an NIT executive producer.

Producing Agencies:

Selected by NIT from a variety of education television stations.

Proposed Budget for National Consortium:

Project development, prospectus, and curriculum design:-	$ 43,000
Direct production costs:-	219,300
Project travel & expenses:-	23,350
Consultants:-	16,000
Evaluation & Revisions:-	57,000
Communications:-	4,500
Manuscript development for related materials:-	15,000
Utilization, planning and development:-	27,400
Meeting expenses:-	1,700
Project supervision and general administrative services:-	81,400
Total Cost:-	$488,650

Maine Career Education Consortium budget was $10,828, which includes $2,500 from Part C Vocational Education Act, Amended 1968 funds. The remaining funds were secured from four agencies (3 private and one public) to raise Maine's share required for participation in "Bread and Butterflies.".

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IDENTIFIER: ROOSEVELT HIGH SCHOOL

EDRS PRICE: MF AVAILABLE IN VT-ERIC SET.

DESCRIPTIVE NOTE: 289P.

ABSTRACT: THIS CURRICULUM GUIDE FOR THE HEALTH AND HEALTH-RELATED CAREER EXPLORATION PROJECT WAS DESIGNED TO INTEGRATE CAREER EDUCATION MATERIALS PERTINENT TO: (1) STUDENT UNDERSTANDING OF THEMSELVES AND THE DECISION-MAKING PROCESS, AND (2) TO INFORM YOUNG ADULTS OF THE NUMEROUS CURRENT HEALTH ISSUES WHICH EXIST INDIVIDUALLY, COMMUNITY-WIDE AND WORLD-WIDE. CAREER INVOLVEMENT, ON THE EXPLORATORY LEVEL, IS COMPRISED OF THREE PRIMARY AREAS--SELF-CONCEPT, DECISION-MAKING, AND EXPLORATION. THIS COLLECTION OF MATERIALS HAS BEEN ORGANIZED AROUND THESE PRIMARY AREAS. THE ACTIVITIES INCLUDED ARE DESIGNED TO: (1) SUPPLEMENT AN OVERALL HEALTH EDUCATION COURSE, AND/OR (2) ADD NEW IMPETUS TO CURRICULAR AREAS GENERALLY CONSIDERED DIFFICULT TO TEACH. TEACHER DIRECTIONS, ASSIGNMENT, AND VARIATIONS ARE PROVIDED FOR EACH ACTIVITY. (KB)

INSTITUTION NAME: ROOSEVELT HIGH SCHOOL, PORTLAND, OREG.

SPONSORING AGENCY NAME: PORTLAND PUBLIC SCHOOLS, OREG.; OREGON STATE DEPT. OF EDUCATION, SALEM.

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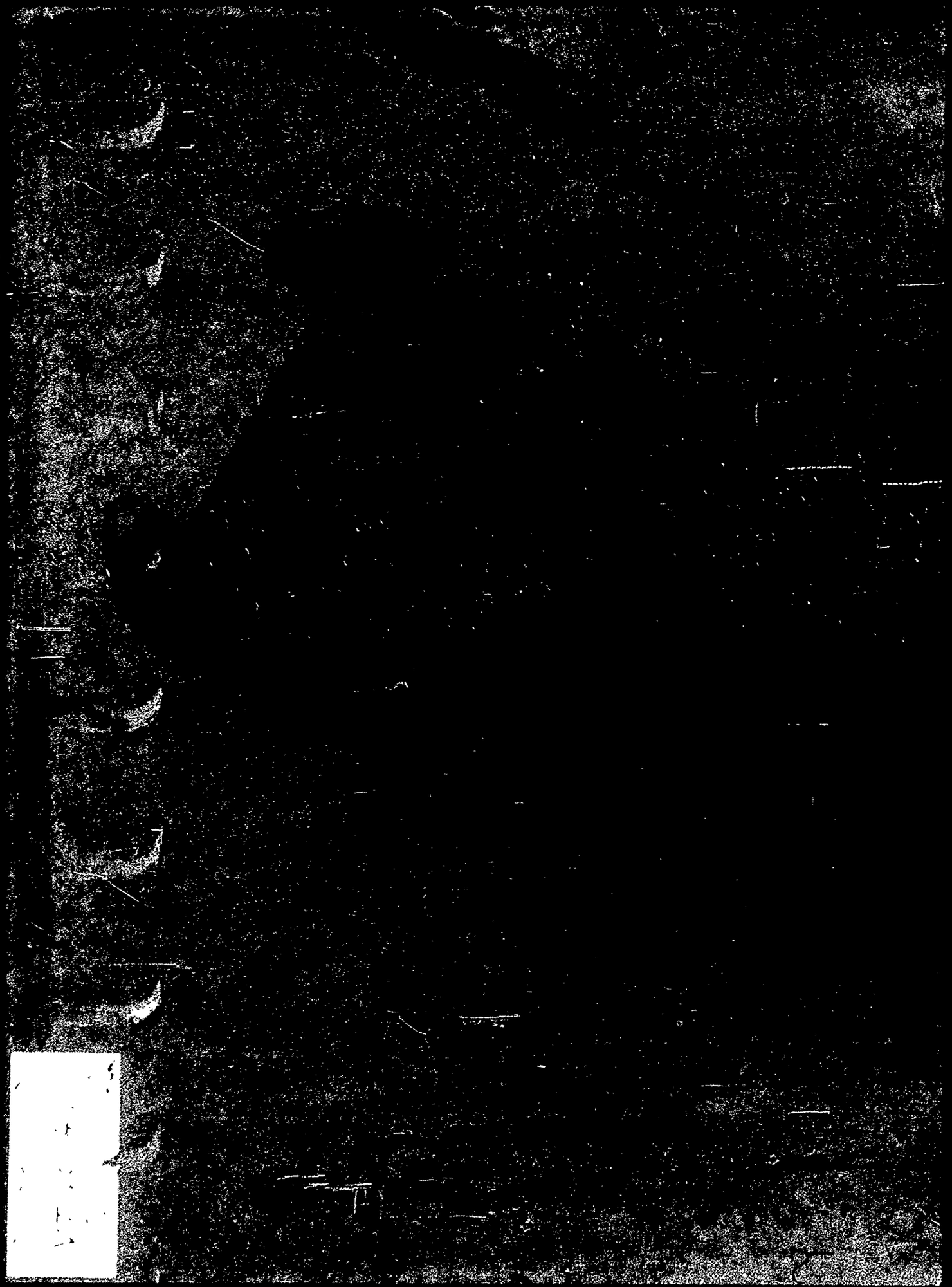

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HEALTH AND HEALTH RELATED CAREER EXPLORATION

EXEMPLARY PROJECT
#26-001-217

ROOSEVELT HIGH SCHOOL
6941 N. Central Street
Portland, Oregon

June 1974

MARGARET SMITH
PROJECT DIRECTOR

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OREGON STATE DEPARTMENT OF EDUCATION

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HEALTH & HEALTH RELATED CAREER EXPLORATION

ABSTRACT OF PROJECT #26-001-217

ROOSEVELT HIGH SCHOOL - PORTLAND, OREGON

The Health and Health-Related Career Exploration Project, an examplary program, is designed to integrate career education materials: (1) pertinent to student understanding of themselves and the decision-making process (applicable to all areas of career selection), and (2) those specific to the health area into the existing health education program.

The Roosevelt Health Education program, a state requirement for all high schools, has two primary objectives:

1. to equip young adults in skills which can be utilized in personal decision-making, and
2. to inform young adults of the numerous current health issues which exist individually, community-wide and world-wide.

Therefore, it becomes obvious that the required health course should include the area of career exploration as the basic ingredient of its curriculum.

It has been necessary to develop devices which allow every student to begin functioning at whatever point he is. In most cases, it has been essential to help the student understand his own concepts of himself. Until a student can identify his self-concepts and test their validity, he cannot move to any type of successful decision-making, including career decisions.

Once a student knows "where he is at", it then becomes necessary for him to develop skills in decision-making, so things don't "just happen". Rather, he can begin to control his own destiny. Therefore, it is required that a student know what the decision-making process includes and that a student can successfully use the tools of decision making.

The third area which must be included is career exploration, the actual observation and analysis of information specific to career areas. These include integrated career roles in pertinent curricular areas, use of the Career Information System (computer), field experience exposures, guest speakers, interest surveys (GATB), individual interviews with practicing professionals, use of resource materials, independent and individualized projects and practical activity involvement.

Career involvement, on the exploratory level, is comprised of three primary areas -- self concept, decision-making and exploration. These areas are directly involved and aligned with the total concept of health education.

As health educators, we believe the exploration level of HEALTH CAREERS is appropriate and imperative; we believe it is a professional obligation.

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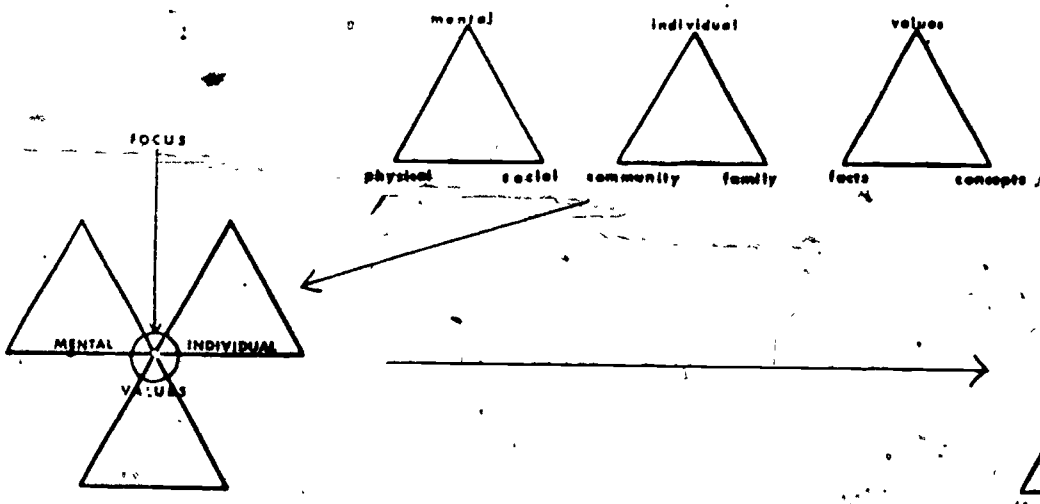
SIGHTS ON STUDENTS

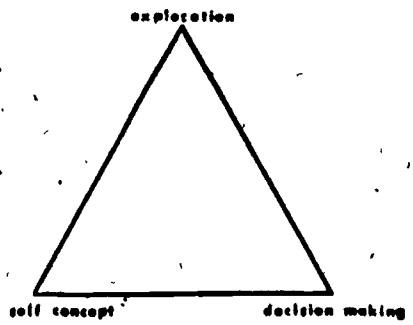
Graphically the integrated career education/health education project at Roosevelt High School has as its base three health education components. From those components the project has developed as illustrated below.

HEALTH EDUCATION



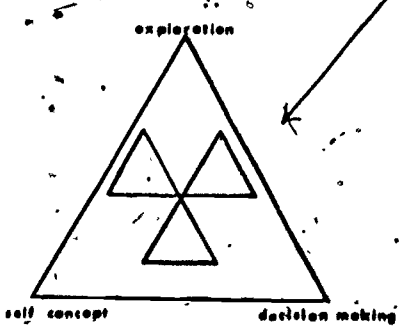
THREE TRIANGLES FROM ROOSEVELT'S PLAN FOCUS ON THE INDIVIDUAL STUDENT, THE DEVELOPMENT OF A VALUING SYSTEM AND MENTAL HEALTH FACETS.

CAREER EDUCATION



CAREER EDUCATION, on the exploratory level, is based on three facets: self concept, decision making and exploratory experiences.

HEALTH EDUCATION/CAREER EDUCATION



When the three career education facets are superimposed upon the health education facets the program becomes an integrated whole. This is what we call the Roosevelt face of Health.

HOW TO USE THIS COLLECTION OF MATERIALS

This collection of materials has been organized according to project components: self concept, decision-making, and exploration. The activities included here are only samples (tools) which have been successful in developing the above areas.

The activities included here are not designed as 'one shot' attempts. Rather, they are designed to: (1) supplement an overall health education course, and/or (2) add new impetus to curricular areas generally considered difficult to teach.

This collection can be utilized in two ways. First, a simple 'run through' approach can be used. Examine the table of contents and locate a topic which interests you. Directions or explanations for your particular selection can be found by identifying the underscored number accompanying it or the underscored heading directly preceding it. For example:

> Letter to a Friend. 15
> (Directions and explanations for Letter to a Friend can be found on page 15; the activity itself can also be found on page 15)
>
> Gambling Experiment 158
> (Directions and explanations for the Gambling Experiment can be found on page 158; the experiment itself follows on page 159 through 165).
>
> I Want To Lean. 58
> (directions and explanations for I Want To Learn can be found on page 57; the activity itself can be found on page 58.

Secondly, a thorough reading approach can be used. This approach will develop a more comprehensive understanding of the philosophy and curricular models utilized in this project as developed by the staff at Roosevelt High School. It is suggested that if you select the second approach, your reading be directed in the following order:

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Overview . . . . . 1 - 2

How to Use This Collection of Materials . . . . . .4 - 5

Sights on Students 3

Self Concept . . . . . 6 - 8

Decision Making . . . . . 54 - 56

Exploration . . . . . .177 - 179

Perusal of the Table of Contents

Use First Approach (suggested on page 4)

It should be noted that on the upper right corner of most pages two numbers will be found. The upper number is the book page number. The number in parentheses denotes the page number of that particular activity.

NOTE: This collection of materials does not attempt to imply that activities alone are the end goal of health education. Activities without clearly defined objectives (fitted to your particular course content) are meaningless and time consuming to both students and teachers.

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SELF CONCEPT

To be nobody but yourself in a world which is doing its best, night and day, to make you everybody else --- means to fight the hardest battle which any human being can fight, and never stop fighting.

e. e. cummings

The true value of the human being is determined primarily by the measure and the sense in which he has attained liberation from the SELF.

Albert Einstein

The little urchin makes a couple of feeble hops on one leg without falling down. And is filled with admiration at his dexterity, doubly so, because there are onlookers. Do we ever grow up?

Dag Hammarskjöld

SELF CONCEPT

Who am I? Where am I going? Why?

These century old questions are exceedingly difficult to answer. They are question of a complexity matched only by our society.

In educational circles, these questions are translated into more 'meaningful idioms' such as self awareness, personal growth, self identity and, most commonly -- self concept.

At no point in the development of the exemplary project at Roosevelt has our staff attempted to set a clear, closely worded statement of what we feel 'self concept' might mean. Rather we choose to develop for ourselves a workable, flexible definition as follows:

> To us at Roosevelt, 'self concept' means those aspects which deal with sense of self -- recognition of strengths and weaknesses -- defining of values and goals -- feelings for and about ourselves and others and all those items which significantly contribute to the development of a mentally healthy person.

We at Roosevelt believe that these issues are the first embarking point of health education. To explain more thoroughly, knowledge in health education is not directly translated into behavior. Cognitive (fact) knowledge alone is not adequate. But as cognitive knowledge is integrated into our personal frames of reference: attitudes, beliefs and values (those ingredients of the affective and action domains), then and only then will health education begin to 'take' and begin to 'make' markable change. Value building, value assessment and value change, in relationship to health education, only become possible when we allow ourselves the risk of confronting our sense of ourselves.

Perhaps some specific examples might explain:

> Cognitive, fact laden, tobacco education is meaningless to a fifteen year old if he sees himself as a 'tough teenager' lacking personal goals and only marking time until the day he becomes eighteen and the rights of custom require that his parents kick him out.

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Water pollution experiments on local tap and recreational waters are meaningless to a fifteen year old who sees herself destined to have kids, keep house, make ends meet and accept the fact that people downtown or down state must know best when it comes to political pollution issues.

Birth control information (the where's, what's and how's) is meaningless to adolescents of both sexes as long as their cultural surroundings sell the idea that marriage or abortion will correct all mistakes; or as long as their cultural surroundings fail to accept the fact that adolescents are sexual beings with emerging identities, confronted daily by a multitude of conflicting values.

Careers, occupational possibilities, knowledge of the world of work are meaningless to students lacking goals or ideas about their future. Further, for students with unclear present concepts of themselves, projection into the future is frightening and frustrating and often responded to by resentment or indifference.

So then, how does a group of health educators grasp the issues implicit in self concept?

First, by looking at ourselves; seeing what we want; deciding what we're about, setting goals for ourselves and then by taking action. The action steps are risks -- risks that contain elements of both success and failure. But change does not occur or does not begin without the element of risk.

Second, by looking at what we do know about students, we realize: students should be allowed to help set their educational goals; positive attitudes and approaches encourage the learning process; students should be able to meet goals and achieve success; individual student concerns should be encouraged.

Third, by creating a liveable environment with students. The environment should encourage value assessment and clarity. In so doing, it should encourage self examination, motivation, creativity and success. The environment should not be a wonderland where failure is impossible.

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It should not be one designed to evade truth, or anxiety, rather, it should be one which is real, practical and, at times, frustrating. We believe that 'to live successfully' means one must put forth personal effort.

Some practical examples are:

1. Positive reinforcement (e.g. grades given by symbols or points instead of letters).

2. Value clarification techniques (e.g. forced choice rankers, value grids).

3. Communication skills and techniques (e.g. simple--to--complex listening tapes, one-way, two-way communication games).

4. Assessment of personal strengths and weaknesses for creation of realistic positive self-concepts (e.g. attitude inventories, maturity questionnaires, health-directed autobiographis).

5. Death as a reality (e.g. obituaries, "The Right to Die", "In My Memory", euthanasia).

The following single page activities (pp. 10 through 24) are classroom projects which are designed for a student to begin thinking about himself.

After completion, they are returned to the student. They are ungraded but marked *, √ or --. Additionally, the teacher writes a comment on each sheet.

These are not intended as an assignment only -- classroom discussion precede and follow each.

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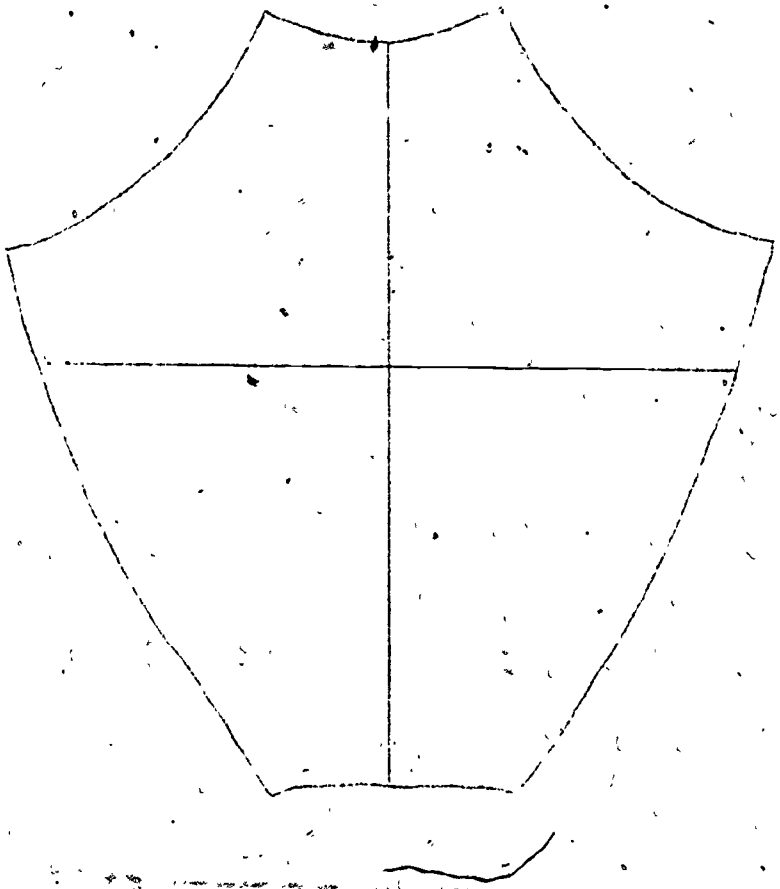
PERSONAL COAT OF ARMS Name _____



Answer each of the following questions by drawing, in the appropriate area on the coat of arms, a picture, design or symbol.

1. What do you regard as your greatest personal achievement to date?
2. What is the one thing that other people can do to make you happy?
3. What do you regard as your own greatest personal failure to date?
4. What three things would you like to be said of you if you died today.?

ONE WORD DESCRIPTION Name_____

What one word describes you? Do not use nick name or gender.

Explain.

UNFINISHED SENTENCES Name_____

1. People can hurt my feelings most by...

2. In a group I am....

3. When people depend upon me, I ....

4. People who expect a lot from me make me feel....

5. In school I do best when....

6. People who know me well think I am....

7. I need to improve most in.

8. When people first meet me, they....

9. I have never liked....

10. I used to be....

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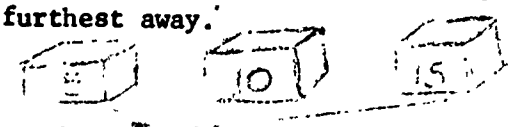
BEAN BAG EXPERIMENT

Teacher Directions: Place three equal sized boxes (orange boxes are ideal) in an area outside the view of your classroom. Mark one box with a 5, another with a 10 and the third with a 15. Position the boxes so that 5 is closest to the participant and 15 is furthest away.



about 15 feet

Procedure: Students do this experiment one at a time out of view of classmates. Give them a bean bag. Tell them to toss it into any box they wish. They get only one toss, and no further directions. After they have completed the experiment have them individually fill out the response sheet below.

Follow-up: Use the following questions to guide the class discussion toward goal setting concepts and personal importance concepts. (1) What meaning did the number have for you? (i.e. was 15 the best?) (2) Do big numbers always mean the most? (3) Do you think people who choose 5 are the kind who choose small goals for themselves? (4) Would you call those that choose 10 middle of the roaders? (5) Would you call those that choose 15 dare devils? (6) Would you think it would be better to toss the bean bag successfully into 5 or aim at 15 and take the risk of missing?

Variation follow-up: After the experiment is completed give students grades for the day according to their success in performance (e.g. 30 points or an A for successfully getting it into box 15; 25 points or an A for aiming and missing box 15; 20 points or a B for successfully getting it into box 10; 10 points or a D for successfully getting it into box 5; 5 points or an F for aiming and missing box 5.) Tell them that 'that's the way like is' --- you get paid for how you succeed. Such a teacher approach should set the scene for discussions such as 'lack of directions', 'importance of the skill', 'individual differences measured by one standard', etc..., What really is success???

BEAN BAG EXPERIMENT Name _____

1. Which box did you aim at? 5_____ 10_____ 15_____

2. Did you get the bean bag into the box? yes_____ no_____

3. What do you think this experiment might tell you about yourself?

LETTER TO MYSELF

Write a letter to yourself. It should be about a page or so long so that it can include what you think are important ideas or feelings about yourself. Make certain to date it with today's date.

So that you can get started perhaps you might include some of the following ideas or feelings:

1. How are things today? How do you feel -- what's going good, what might be going bad.

2. What things have you been doing lately. Some special interests--new hobbies --- unusual happenings.

3. Who is important in your life right now? Family -- friends --- yourself.

4. Where would you like to be right now? Be as descriptive as you can.

5. When will you achieve just one goal for yourself? What is it?

6. Why are some things special to just you? Music---- hobbies --- sports.

Fold your letter. Seal it, or staple it shut. On the ouside make a unique symbol that means you. You will use the symbol later in the year to identify your letter, so mark it down or make certain you remember.

LETTER TO A FRIEND OR RELATIVE

Teacher Directions: Most students have concerns for and about people who are close to them. Frequently they see people whom they care about making decisions or following courses of action which are disturbing to them. Students are often hesitant to discuss how they feel with their friends because they fear that their friends may "turn them off" or think that they are "playing God". However, after thinking about the situation, students frequently realize that they must explain their concerns to their friends without being judgmental.

Sincere caring about another person is a deep human element. Caring is often passed over in education; many teachers rarely give students an opportunity to clearly express how they feel towards another person. Try the suggested letter below -- it is an excellent teaching tool when associated with areas in addiction education.

NOTE: Offer students a free envelope and a stamp if students wish to mail their letter.

Assignment: Most of us are close to people and are concerned for and about them. Sometimes the people we care most about use a 'crutch' which we feel is or could become harmful to them. You may know someone like this -- a person you care about; a person you worry about.

Let them know what you think. Let them know how you feel. Write them a letter. Explain to them the point you want to make or the point you want them to understand.

QUOTES

Teacher Directions:

For some students it is difficult to create or explain ideas which are close to them. It often helps students if they are given a beginning or starting point. Ask students to (1) explain the meaning they get from the quote and/or (2) establish comparisons with the meaning they receive themselves. The quotations below are samples of many which can be used to help students to clarify ideas and feelings about themselves.

"To be nobody-but-yourself in a world which is doing its best, night and day, to make you everybody else -- means to fight the hardest battle which any human being can fight, and never stop fighting."

e.e.cummings

"The little urchin makes a couple of feeble hops on one leg without falling down. And is filled with admiration at his dexterity, doubly so, because there are onlookers. Do we ever grow up?

Dag Hammarskjold

"If a man does not keep pace with his companions, perhaps it is because he hears a different drummer. Let him step to the music which he hears, however measured or far away."

Henry David Thoreau

"In a poker game, no man discloses the content of his hand to the other players. Instead, he tries to dissemble and bluff.... (and) in a society which pits man against man, as in a poker game, people do keep a poker face; they wear a mask and let no one know what they are up to....

Sidney Jourard

"You are a child of the universe, no less than the sea and the stars. You have a right to be here.

Celestial Arts

QUOTES Name_____

The following are quotes of people speaking to YOU. Choose one and write about it -- what is the person saying to you?

1. "Sometimes I feel as if somebody is always talking about me. I feel as if I weren't wanted. When I walk down the street the kids are always yelling as they play. There are also some dogs."

John

2. "I am not like all the other children. I'm different because I like to hear birds singing, but I don't like to hear people shouting. It is not nice to hear people yelling or shouting in the street."

Isaac

3. 3. "I have felt lonely, forgotten, or even left out, set apart from the rest of the world. I never wanted out. If anything, I wanted in."

Arthur

4. "The turkey walks in the kitchen not knowing the thing that will happen. He walked in and got cooked and the chicken still waits."

M.B.

5. "to day I saw a very butiful pigen. It landed on top of a fence I tried to grab it with my hand but it flew befor I could grasp it. I saw it fly off and it look butiful."

A.P.

Perhaps one of the best vehicles for student involvement is music. Aside from use of atmosphere setting, music can be used as a significant tool to get listeners involved in real life emotional and social issues which most clearly involve the scope of health education (e.g. companionship, loneliness, drug use). The following records, lyrics and accompanying discussion question are useful samples. The records should be listened to; lyrics are included here only for teacher use.

OLD FRIENDS/Simon and Garfunkel

Old friends,
old friends
Sat on their park bench
Like bookends.
A newspaper blown through the grass
Falls on the round toes
On the high shoes
Of the old friends.

Old friends,
Winter companions
The old men
Lost in their overcoats,
Waiting for the sunset.
The sounds of the city,
Sifting through trees
Settle like dust
On the shoulders
Of the old friends.

Can you imagine us
Years from today,
Sharing a park bench quietly?
How terribly strange
To be seventy.

Old friends,
Memory brushes the same years.
Silently sharing the same fear....

1. How does a "newspaper blown through the grass" compare with old people?

2. What does it mean to grow old?

3. Can you put yourself in their place? What would it be like?

4. Does growing old have to be lonely? How can we cure loneliness?

5. Why does out society put old people on a bookshelf?

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WITH A LITTLE HELP FROM MY FRIENDS/Lennon & McCartney

What would you think if I sang out of tune,
Would you stand up and walk out on me?
Lend me your ears and I'll sing you a song
And I'll try not to sing out of key:
Oh, I get by with a little help from my friends,
Hm, I get high with a little help from my friends,
Hm, gonna try with a little help from my friends.
What do I do when my love is away?
(Does it worry you to be alone?)
How do I feel by the end of the day?
(Are you sad because you're on your own?)
CHORUS
Do you need anybody?
I need somebody to love.
Could it be anybody?
I want somebody to love.
Would you believe in a love at first sight?
Yes, I'm certain that it happens all the time.
What do you see when you turn out the light?
I can't tell but I know it's mine.
CHORUS

1. What does it mean to be "insecure?"
2. Why and how do people "reach out" to others?
3. What does "love" mean in a friendship?
4. If a person is lonely, how can friends help? Should they help a person who refuses help?
5. Why do people struggle away from loneliness? Is loneliness necessarily bad, or do we make it that way? Why?

SIMON AND GARFUNKEL/Bridge Over Troubled Water

"When you're weary, feeling small,
When tears are in your eyes, I will dry them all;
I'm on your side, When times get rough
And friends just can't be found,
Like a bridge over troubled water
I will lay me down
Like a bridge over troubled water
I will lay me down.

When you're down and out,
When you're on the street,
When evening falls so hard
I will comfort you.
I'll take your part.
When darkness comes
And pain is all around,
Like a bridge over troubled water
I will lay me down.
Like a bridge over troubled water
I will lay me down.

Sail on silvergirl,
Sail on by.
Your time has come to shine.
All your dreams are on their way.
See how they shine,
If you need a friend
I'm sailing right behind
Like a bridge over troubled water
I will ease your mind.
Like a bridge over troubled water
I will ease your mind."

1. What does it take to offer yourself completely to someone?

2. Does our society allow the attitude in this song? Why or why not?

3. How does the last verse fit in with the first two verses?

4. Can anyone be a "bridge over troubled water"? How?

5. Have you ever been down? If so, could you accept someone's offer to help on these terms?

THE PUSHER / Hoyt Axton

You know, I smoked a lot of grass;
Oh Lord, I popped a lot of pills;
But I never touched nothing that my spirit could kill.
You know, I've seen a lot of people walking 'round with tombstones in their eyes.
But the pusher don't care if you live or if you die.

God damn the pusher, God damn the pusherman.

You know, the dealer is the man with enough grass in his hand;
But thepusher is a monster, good God! he's not a natural man.
The dealer, for a nickel, will sell you lots of sweet dreams,
But the pusher, when you buy it, loves to leave your mind to scream.

Chorus

Well now, if I were the president of this land,
You know, I'd declare total war on the pusherman.
I'd cut him if he stands and shoot him if he's run;
And I'd kill him with my Bible, my razor and my gun.

Chorus

1. What is the difference between a dealer and a pusher? Is one better than the other?

2. Does this song encourage or 'put down' drug usage? In what direction is our society moving? Why?

3. This song advocates violence to put an end to the pusher. Will that work? What do you suggest?

4. Do drugs kill the "spirit" of life? Or is there something more involved? If so, what?

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A MOST PECULIAR MAN / Simon & Farfunkel

He was a most peculiar man.
That's what Mrs. Rierdan says,
And she should know.
She lived upstairs from him.
She said he was a most peculiar man.

He was a most peculiar man.
He lived all alone
Within a house,
Within a room,
Within himself.
A most peculiar man.

He had no friends,
He seldom spoke.
And no one, in turn, ever spoke to him,
Because he wasn't friendly
And he didn't care
And he wasn't like them.
Oh no, he was a most peculiar man.

He died last Saturday.
He turned on the gas, and he went to sleep,
with windows closed, so he'd
never wake up...
And all the people said, "What a shame
that he's dead. But..."

1. Do you think Mrs. Rierdan really knows him? Why?
2. Why is he considered "peculiar?"
3. Because a person is alone or quiet, does that mean he is peculiar? Why?
4. Was it really a shame he died?
5. Were all the people sincere about his death? Why?

MUSIC

SOUNDS OF SILENCE / Simon & Garfunkel

Hello darkness, my old friend
I've come to talk with you again
Because a vision softly creeping
Left it's seeds while I was sleeping.
And the vision that was planted in my brain
Still remains within the sound of silence.

In restless dreams I walked alone:
Narrow streets of cobblestone
'Neath the halo of a street lamp.
I turned my collar to the cold and damp
When my eyes were stabbed by the flash of a neon light.
It split ~~the night and touched~~ the sound of silence.

And in the naked light I saw 10,000 people, maybe more:
People talking without speaking, people hearing without listening,
People writing songs that voices never shared....
No one dared disturb the sound of silence.

Fool said, 'Aye, you do not know:
Silence like a cancer grows.
Hear my words that I might teach you,
Take my arms that I might reach you.
But my words, like silent raindrops, fell
And echoed the wells of silence."

And the people bowed and prayed
To the neon gods they made.
And the sign flashed out it's warning
In the words that it was forming
And the sign said:
"The words of the prophets are
written on the subway walls
and tenement halls
And whispered in the sound of silence."

1. Why is the author talking to 'darkness'? Why is it an "old friend"?

2. Can you imagine what the 'sound of silence' might be like? What does it mean to you?

3. Do you ever feel frustrated when people won't listen to you? Have you ever felt foolish when you "reached out" to someone? Why?

4. What do the "neon gods" stand for? Do you have any?

5. Pick out words that show loneliness. Why is "loneliness" to important to people?

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The following long term activities (pp. 26 through 40) are designed to be used as mean of looking at oneself.

What's In A Name? is a short worksheet adapted from ideas included in Jongeward's Born To Win.

Jonathan Livingston Seagull is a short worksheet appropriate for use after a student reads the book or listens to the record.

Two Ideal Days, Cave In, Obituary and Epitaph are adapted from Simon's Value Clarification.

The Facade is a short evaluation suited for use following the reading of Cole's book The Facade. (This book is most useful for non-readers or low-readers).

Leo Beuerman is a short worksheet designed to follow film viewing of Leo Beuerman. The film is a product of Centron Corp., Inc.

WHAT'S IN A NAME - A Sense of Identity Name _____

1. Write your full name in the space below.

2. If you don't have a middle name; do you know why? Explain.

3. If you have more than one middle name, do you know why? Explain.

LOOK AT YOUR FIRST NAME. THINK ABOUT IT FOR A MOMENT, THEN ANSWER THE FOLLOWING QUESTIONS.

4. Who named you? Do you know why they named you? Do you know why they choose the name they did?

5. Were you named after someone else? (A relative or famous person). If you were, did that name hold special expectations for you? (Were you expected to live up to something about that person?)

6. Do you like your name? _____

7. Is your name so common that you have felt like part of a mob? _____ Explain if you wish.

8. Is your name so uncommon that you have felt odd in a group? _____ Explain if you wish.

9. FEMALES: How do you think you would feel if your parents had named you Bobby or Jo?

MALES: How do you think you would feel if your parents had named you Carrol or Gale?

10. Were you ever called a name that invited ridicule? _____ Explain if you wish.

11. Do you have a nickname? _____ How did you get it?

12. Are you called one name at home and another name at school? _____ Explain if you wish.

13. What name do you prefer to be called?

14. How do your names, or nick names, influence your self image? (the way you look at yourself)

WHAT'S IN A NAME - A sense of Identity (continued)

15. Would you rather have a different name? _____
Why? _____
Would it be worth the trouble to get it legally changed?

16. If you had to name a son today, what name would you give him? _____

If you had to name a daughter today, what name would you give her? _____

Explain if you wish.

ERIC
Full Text Provided by ERIC

JONATHAN LIVINGSTON SEAGULL Name_____

1. How do you think it would "feel" to be able to fly like a seagull?

2. How is Jonathan like all the other seagulls?

3. How are you like all other people?

4. What makes Jonathan different from the other seagulls?

5. What makes you different from all others?

6. What do you like to do as much as Jonathan liked to fly?

7. How do you think it "feels" to be really free?

8. In Jonathan's world, what is heaven?

9. Why was Jonathan an Outcast?

10. Do you feel you could ever dedicate yourself to something as much as Jonathan was dedicated to flying?

What?

If not, why not?

TWO IDEAL DAYS Name _____

"Project yourself into the future, anytime from tomorrow to several years from now, and imagine two days that would be ideal for you. Imagine 48 hours of what for you would be the best possible use of that period of time. You can fantasize whatever you want; the only limit is the time limit of 48 hours.

Write about your perfect, ideal two days. Talk about where you could be, what you would be doing, who else might be there, and so on. Try to picture what you would be doing for the full 48 hours. Go into as much detail as you can picture in your fantasy -- smells, sounds, the weather, if they play a part."

CAVE IN

Teacher Directions Most students do have at least a vague idea of what they would like out of life. However, rarely do they have opportunities to compare, clarify and solidify their ideas. Education for life requires that teachers assist students in this area. The following exercise is altered and adapted from Larry Krafft, Department of Psyco-Educatinnal Processes, Temple University. It can be done verbally (after considerable group trust is built) or it can be done in written form early in the year.

Assignment The teacher should explain the following simulated situation to students:

Our class is on an outing to some near caves. We have been trapped hundreds of feet below the ground by a cave-in. There is a narrow passageway leading up and out of the cavern where we are trapped. Night is coming fast and there is no one around for miles to help. We decide that we will form a single file and try to work our way out of the cave. But at any moment there might be another rock slide. Those people nearest to the front of the line will have the best chances for survival. Each one of us should be able to give reasons why we should be at the head of the line. Our reasons can be of two kinds: What we want to live for; what we have not yet gotten out of life that is important to us or what we have to contribute to others in the world that would justify our being near the front of the line.

Variations:

1. Students can be asked the same questions but allowed to choose their place in line and explain it.

2. Students can be asked to verbally explain their reasons to fellow classmates. The class as a whole could then determine the order by which they would file out. (This approach could only be used if a great deal of group trust existed)

3. Students frequently enjoy hearing explanations and justifications made by fellow classmates. Portions of written explanations and justifications can be shared with the class if the teacher reads them anonymously.

THE FACADE Name_____

The Facade says a lot about seeing ourselves as we really are. Our facade has a lot to do with "open-ness" and other people. Read the book -- think awhile -- and communicate your thoughts about it..

LEO BEUERMAN Name_____

How would you describe the kind of life which Leo Beuerman led?

What important things did Leo Beuerman have to say about his life?

Describe Leo Beuerman self-concept.

Compare Leo Beuerman's self-concept to your own.

TEACHERS DIRECTIONS:

THIS GAME IS DESIGNED TO: (Do not tell students this until the game is over.)

- Show students how effectively they cooperate in a communication situation with fellow classmates and --

- Show students that non-verbal communication is possible although perhaps frustrating.

INSTRUCTIONS

1. Have students form groups of 6. (Five participants and one observer)

2. Instruct students that verbal communication will not be allowed.

3. Take observers outside the room for their instructions.

   A. They are to observe how the group works - for example:
      - How students communicate with one another.
      - How students cooperate with one another
      - How students react when they are finished, but other members of their group are not.
      - How students react when everyone in their group is finished but they are not.

4. As observers are passing out pieces, instruct the class:

   A. They may not talk or make any verbal sound.

   B. They may not point

   C. They may not take

   D. The only form of communication can be giving a piece to another person.

EVALUATION

Once students have their squares completed, class discussion can begin.
1. Was this non-verbal communication difficult? Frustrating? Why? or Why Not?

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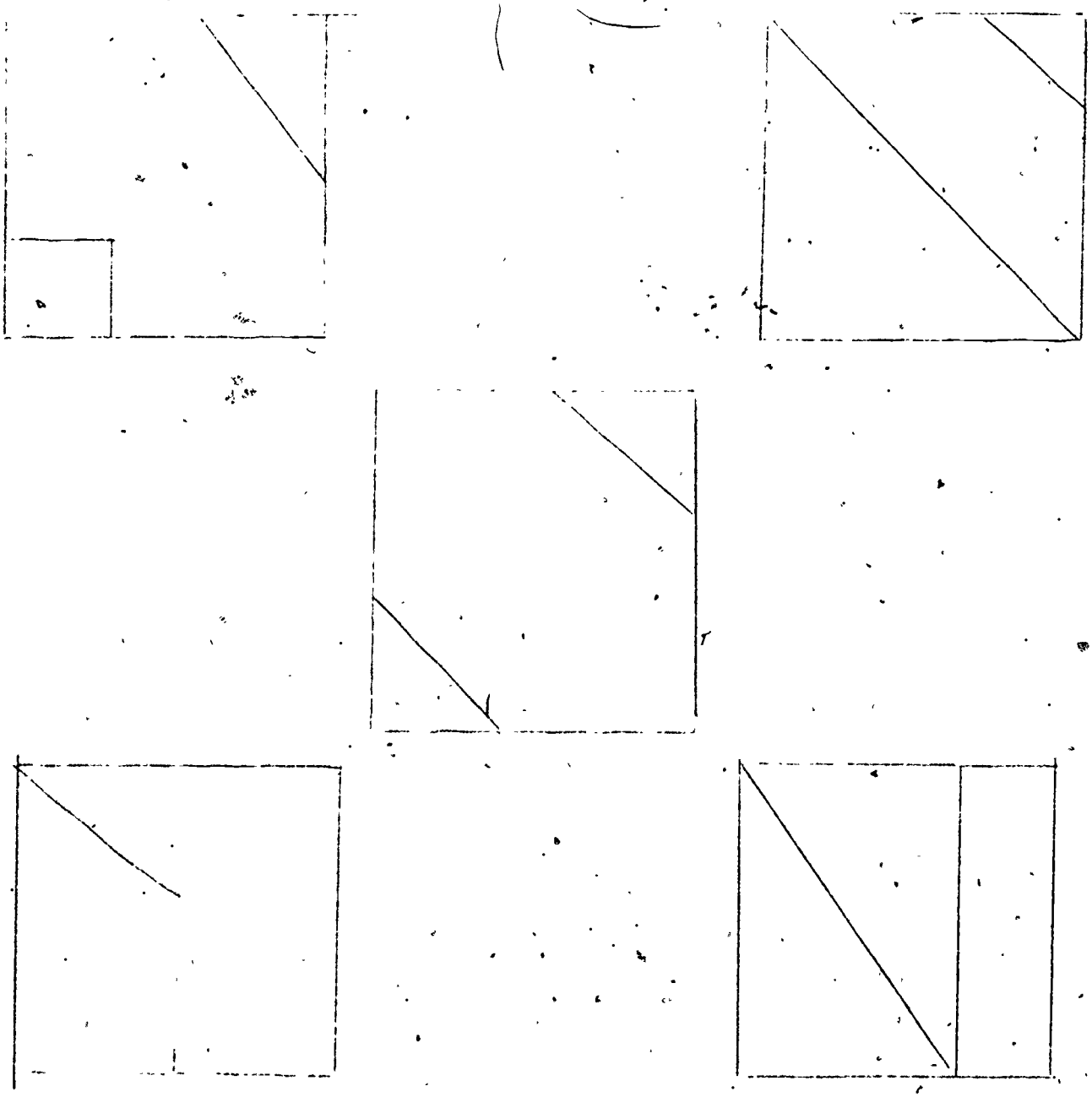
2. Did everyone in your group cooperate with other members? Equally? Why? or Why not?

3. What did the first one finished do? How did the other members of the group feel?

4. What did the last one finished do? How did the other members feel?

* The observers comments should be of particular importance, during the evaluation, since members of the group may have been unaware of their interaction while the game was in progress.



OBITUARY

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Teacher Directions: Give students the following directions. Write your own obituary as if you were to die today. You can use any form you wish. Most obituaries include items such as the examples listed below:

James Clark, age 15, died yesterday from....
He was a member....
He is survived by....
At the time of his death he was working on becoming....
He will be remembered for....
He will be mourned by ..... because....
The world will suffer the loss of his contributions in the areas of....
He always wanted, but he never got to....
The body will be....
Flowers may be sent....
In lieu of flowers,....

Variations:

1. Have students read their obituaries to the class or share them in small groups.
2. Write your obituary as if it would appear in the school newspaper.
3. Write your obituary as you believe it would appear in a local newspaper ten - fifteen years from now.

Note: Some students may well need verbal supportative help in this exercise. Most would profit from teacher remarks on their papers.

EPITAPH

Teacher Directions:

Explain to students that epitaphs are simply inscriptions on tombstones. One might ask students if any of them have ever walked through a cemetary and read the inscriptions. Give instructions to students that they are to write their own epitaph. It should represent ones life in just a few short words. Perhaps it would have illustrations or decorations. The epitaph should be drawn out to that tombstone shape and type of lettering is visible.

Considerations:

1. A sample or two may be helpful for students to look at.
2. A handy book of quotations may be helpful to some students as long as it does not stifle their own creative effort.
3. Students should be encouraged to share their epitaphs with classmates.
4. The teacher should have one ready to share with the class.

WHAT'S YOUR PREFERENCE? Name _____ (1)

A. Which do you like best?
1. winter in the mountains
2. summer by the sea
3. autumn in the country

B. Which would you rather be?
1. an only child
2. the youngest child
3. the oldest child

C. Which would you least like to be?
1. very poor
2. very sick
3. disfigured

D. Which would you most like to improve?
1. your looks
2. the way you use your time
3. your social life

E. Pretend you are married and have your own family. Your mother has died and your father is old. What would you do?
1. invite him to live in your home
2. place him in a home for the aged
3. get him an apartment for himself

F. You are well off financially and you inherit $10,000. What would you do?
1. put it all in a savings bank
2. invest it all in the stock market
3. spend it all

G. Which would be your job preference?
1. hard and dirty work at $80 per week
2. clean and easy work at $40 per week
3. dirty but easy at $60 per week

H. Whic do you like best?
1. jello
2. pie
3. ice cream

I. Whom do you like least?
1. a shoplifter
2. a drug pusher
3. a confidence man

J. Which would you least like to be?
1. deaf
2. an amputee
3. blind

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K. If you were stranded on a deserted island which would you rather have with you?
1. the Bible
2. the complete works of Shakespeare
3. the history of civilization

L. If you were with your family in a boat that capsized far from shore and there were only one life preserver would you
1. save your wife or husband
2. save one of your children
3. save yourself

M. Which would you least like your son or daughter to do?
1. marry out of necessity
2. marry outside of his/her race
3. smoke marijuana once a week

N. Which would you like to take a course in?
1. sex education
2. race relations
3. ecology

O Which best describes the way you handle money?
1. spend freely
2. always look for bargains
3. budget carefully

P. Which do you think is worse?
1. to become (or get someone) pregnant (unwed)
2. to be dependent on hard drugs
3. to date someone from another race

Q. Which do you least like to do?
1. get up in the morning
2. go to bed at night
3. keep your room neat

R. Which would be hardest for you to do?
1. show a bad paper to your parents
2. walk away from a fight
3. wait your turn when you have something exciting to say

S. What kind of person do you least like to sit next to? Someone who--
1. talks a lot
2. looks at your paper
3. can't sit still

T. Which animal would you like to be?
1. tiger
2. monkey
3. snake

U. Where would you prefer to sit?
1. near the window
2. near the door
3. in front of the room

V. Which would be hardest for you?
1. to admit you told a lie
2. to tell someone you broke his window
3. to admit you cheated

W. What is hardest for you to do?
1. be quiet
2. talk in front of the group
3. talk to the teacher

X. If you were to be born with a great gift, which would you prefer ?
1. a beautiful singing voice
2. great artistic ability
3. skill with your hands

Y. Which is most important?
1. to work hard for your future
2. to love others
3. to really know yourself

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The following self evaluation activities (pp. 42 - 53) are intended to quite simply be self evaluation tools.

How Do You Feel About Work? is a Cal Young (Springfield, Oregon) developed activity.

The Self Esteem Inventory is adapted from Coopersmith's text The Antecedents of Self-Esteem.

The Maturity Questionnaire is an inventory assessment from Barron's Teen-age Sex Counselor. It is an excellent lead into a class discussion on maturity and responsibility. "If you have answered all questions in A, B and E with yes and all questions in C and D with no you are making good progress toward becoming an adult."

FIND YOUR OWN INTERESTS Name_____

I. What does the school record show?

A. Average grades in English___Math___Science___and in Social Studies___.

B. Two favorite school subjects and give average grade for each:

1._____Grade____ 2._____ Grade_____

2. School activities (sports, plays, club work, etc.) are important:

A. Favorite School activity_____

1. It is interesting because_____

_____

2. Major offices held, if any, in this organization_____

_____

B. Another favorite school activity is_____

because it_____. Offices held in that organization have been_____

C. Other school activities that would be nice to be a part of are:

_____

3. Three favorite hobbies outside of school are: 1._____

2._____ 3._____

4. The skill that I feel best qualified to perform is_____

_____

5. The course of study or special training that appeals most to me is

_____

6. I have been told by my_____ that I was especially good at

_____ and _____

7. Member of my family and/or friends have suggested a career as _____ to me, and I feel it would be _____

8. The work I would really like to do for a living is _____. Why? _____

9. Members of my family who have done this kind of work are _____

_____

10. My parents urge me to complete at least ____ years of school.

11. Their schooling consisted of grade school, _____ and _____

12. I have held part-time and/or summer jobs as 1. _____ 2. _____ 3. _____

I like job number ___ the best. Job number ___ paid the best.

It seemed I was most useful and learned the most on job _____

13. Reading:

A. My favorite newspaper is _____. The part I enjoy most is _____

B. The magazines I read most often for pleasure are: 1. _____ _____ 2. _____ and 3. _____

C. The book I most recently read for pleasure was _____. That was _____ months ago.

14. The TV (or radio) programs I prefer are: 1. _____ 2. _____ and 3. _____

MY ABILITIES Name _____

ACTIVITIES	What Do I Do Well?	What I Have Accomplished So Far . . .	I Am Good At This Activity Because . . .
HOBBIES			
SCHOOL SUBJECTS			
SPORTS			
COMMUNITY (Church, Clubs, volunteer work)			
SCHOOL ACTIVITIES (Projects, Clubs, etc.)			
OTHER TALENTS			

HOW DO YOU FEEL ABOUT WORK? Name _____

Circle the letter which corresponds closest to how you feel about these statements:

A Agree N Neutral D Disagree

A N D 1. All young people need to work to learn the "real value of money."

A N D 2. Parents expect their children to be interested in the occupations they (the parents) like or approve of.

A N D 3. It would not be acceptable to me to go into an occupation with no chance for advancement.

A N D 4. A wealthy person still needs to work to feel worthwhile.

A N D 5. Only a few very lucky people enjoy their work.

A N D 6. A man's whole life revolves around his work.

A N D 7. A woman's life can revolve around her occupation.

A N D 8. A woman's place is in the home.

A N D 9. I would not feel right being financially supported by my parents after I am 21.

A N D 10. I would not feel right being financially supported by the government after becoming an adult. (welfare or unemployment)

A N D 11. I am concerned about what type of work I will do.

A N D 12. The choice of one's work is one of the most important choices in one's life.

A N D 13. When an adult is out of work, he really begins to question his worth as a person.

A N D 14. One of my main concerns is to get a high paying job.

A N D 15. I could accept the idea of the set up where the man stays home and takes care of the kids and the house while his wife is the breadwinner.

A N D 16. I expect to work until I retire at 60 - 65.

A N D 17. I am aware of the job opportunities that are available to me.

A N D 18. Most adults I know work only for money.

HOW DO YOU FEEL ABOUT WORK? (continued)

A N D 19. In this society at this time one of my choices (a real possibility) is for me to not have a job.

A N D 20. In my community it is becoming more acceptable for boys to be artists, musicians, or craftsmen.

A N D 21. I would have to work to feel like I was contributing to society.

A N D 22. If you make enough money to provide food, clothing, and shelter, you would be satisfied with your job and not try to move to a higher paying job with more prestige.

A N D 23. The work that you do at 25 is probably the same type of work that you will do at 45.

A N D 24. Society places greater value on work that contributes to the welfare of people such as a social worker, than it places on work that produces a product such as a mill worker.

A N D 25. After establishing myself in one job I would change jobs in order to continue to be challenged.

A N D 26. An adult that changes jobs often is considered unstable or immature by society.

A N D 27. Individual work done with one's hands is the most personally rewarding work.

A N D 28. I want to have a better paying job than my parents.

A N D 29. I want to have a higher status job than my parents.

A N D 30. The people I work with are more important to me than the actual jobs I perform.

A N D 31. I know enough about myself to be able to choose the type of work I would be successful in.

A N D 32. I don't feel I have to decide on one occupation to do for the rest of my life -- I want to have different types of jobs throughout my life.

A N D 33. Work is something that you spend time doing and you may or may not get paid for doing.

A N D 34. Crafts and making things with your hands are becoming more popular but they will remain hobbies and not become actual jobs which people earn their living by.

HOW DO YOU FEEL ABOUT WORK? (continued)

A N D 35. If the United States goes to a guaranteed annual income, I would choose to stop working.

A N D 36. Most people would work at a paying job even if they didn't have to support themselves by working.

A N D 37. If a healthy man doesn't work, he is classified as lazy, worthless, or a parasite by American society.

A N D 38. Most persons work only to earn money to do the things they enjoy doing in their leisure time.

A N D 39. All persons have an obligation to work at a job that contributes to society.

A N D 40. If people weren't working, they wouldn't know what to do with themselves.

A N D 41. Women have more freedom in their choice of work because they can just do what they want, whereas, men must worry about getting a job that will support their families.

A N D 42. Hippies are just taking time out from living mature, productive lives. They will eventually settle down.

A N D 43. The purpose of all education is to give people skills that they will need for meaningful employment in the future.

A N D 44. If I were assured of a job that I would enjoy doing and could make a living at, I would quit school before high school graduation.

A N D 45. Teachers, counselors and school courses are among the most important influences in my decision of choosing a job.

A N D 46. School only prepares people to go to college.

A N D 47. I feel there is a direct relationship between how well I do in school and how well I will do when I start working.

A N D 48. The purpose of high school education is not job training but training in how to understand and adjust to life in such a complex society as ours.

A N D 49. I understand the relationship between what I am learning in school now and the kind of person I'll be in the future.

A N D 50. High School students are under a great deal of pressure to decide what type of occupation they will go into.

HOW DO YOU FEEL ABOUT WORK (continued)

A N D 51. School is to young people as work is to older prople -- drudgery.

A N D 52. It is more important that a man get job training than a woman.

A N D 53. I have an idea about the type of work I want for the rest of my life.

A N D 54. Preparation for a better job is the only reason to go to school after high school.

A N D 55. High schools could be improved by making them more directly related to job training.

A N D 56. It is important for the future of my family to have two cars, a boat, and a big house.

SELF-ESTEEM INVENTORY Name _____

Please mark each statement in the following way:
If the statement describes how you usually feel, put a check in the column, "Like Me."

If the statement does not describe how you usually feel, put a check in the column "Unlike Me".

There are no right or wrong answers.

	Like Me	Unlike Me
1. I spend a lot of time daydreaming.		
2. I'm pretty sure of myself.		
3. I often wish I were someone else.		
4. I'm easy to like.		
5. My parents and I have a lot of fun together.		
6. I never worry about anything.		
7. I find it very hard to talk in front of the class.		
8. I wish I were younger.		
9. There are lots of things about myself I'd change if I could.		
10. I can make up my mind without too much trouble.		
11. I'm a lot of fun to be with.		
12. I get upset easily at home.		
13. I always do the right thing.		
14. I'm proud of my school work.		
15. Someone always has to tell me what to do.		
16. It takes me a long time to get used to anything new.		
17. I'm often sorry for the things I do.		
18. I'm popular with kids my own age.		
19. My parents usually consider my feelings.		
20. I'm never unhappy.		

SELF-ESTEEM INVENTORY (continued)

	Like me	Unlike Me
21. I'm doing the best work that I can.		
22. I give in very easily		
23. I can usually take care of myself.		
24. I'm pretty happy.		
25. I would rather play with children younger than me.		
26. My parents expect too much of me.		
27. I like everyone I know.		
28. I like to be called on in class		
29. I understand myself.		
30. It's pretty tough to be me.		
31. Things are all mixed up in my life.		
32. Kids usually follow my ideas.		
33. No one pays much attention to me at home.		
34. I never get scolded.		
35. I'm not doing as well in school as I'd like to.		
36. I can make up my mind and stick to it.		
37. I really don't like being a boy - girl.		
38. I have a low opinion of myself.		
39. I don't like to be with other people.		
40. There are many times when I'd like to leave home.		
41. I'm never shy.		
42. I often feel upset in school.		
43. I often feel ashamed of myself.		
44. I'm not as nice looking as most people.		
45. If I have something to say, I usually say it.		

SELF-ESTEEM INVENTORY (continued)

46. Kids pick on me very often. _____ _____
47. My parents understand me. _____ _____
48. I always tell the truth. _____ _____
49. My teacher makes me feel I'm not good enough. _____ _____
50. I don't care what happens to me. _____ _____
51. I'm a failure. _____ _____
52. I get upset easily when I'm scolded. _____ _____
53. Most people are better liked than I am. _____ _____
54. I usually feel as if my parents are pushing me. _____ _____
55. I always know what to say to people. _____ _____
56. I often get discouraged in school. _____ _____
57. Things usually don't bother me. _____ _____
58. I can't be depended on. _____ _____

MATURITY QUESTIONNAIRE

A. WHAT DO YOU THINK ABOUT YOURSELF?

/ /Yes / /No 1. Do you believe that you are a good, fine person?

/ /Yes / /No 2. Do you recognize that you have certain abilities and capacities?

/ /Yes / /No 3. Do you make a continuous effort to live up to the limits of these abilities and capacities?

/ /Yes / /No 4. Are without jealousy toward those whose abilities and capacities seem greater than yours?

/ /Yes / /No 5. Do you take pride in numbering them among your friends?

/ /Yes / /No 6. Do you respect yourself?

/ /Yes / /No 7. Do you have pride in yourself without being proud?

B. WHAT DO YOU DO WHEN YOU SUCCEED?

/ /Yes / /No 1. Do you accept success with becoming humility?

/ /Yes / /No 2. Do you feel good about your success without being conceited?

/ /Yes / /No 3. Do other people share in your happiness over your success?

C. WHAT DO YOU DO WHEN YOU FAIL?

/ /Yes / /No 1. Do you assume the attitude that "this proves I'm no good?"

/ /Yes / /No 2. Do you quit or give up or stop trying?

/ /Yes / /No 3. Do you believe it is impossible that you can ever succeed?

/ /Yes / /No 4. Do you believe that you can not profit from a failure?

D. WHAT DO YOU DO ABOUT TENSION WORRIES?

/ /Yes / /No 1. Are you the only human being who has worries?

/ /Yes / /No 2. Do anxieties frequently upset you?

/ /Yes / /No 3. Do you fret when it will do you no possible good?

/ /Yes / /No 4. Does your stomach often feel as if it were tied up in knots or full of butterflies?

/ /Yes / /No 5. Are you afraid to talk out your real feelings?

/ /Yes / /No 6. Do you let worries keep churning inside of you?

/ /Yes / /No 7. Do you expect everyone to like you?

E. HOW DO YOU GET ALONG WITH OTHER PEOPLE?

/ /Yes / /No 1. Do you respect most, if not all, other people?

/ /Yes / /No 2. Do you do your share of the work in your own home?

/ /Yes / /No 3. Do you feel that your house is really a home?

/ /Yes / /No 4. Are you comfortable with most, if not all, people you know?

/ /Yes / /No 5. Do you make other people comfortable with you?

/ /Yes / /No 6. Are you getting over your shyness with the opposite sexed person?

/ /Yes / /No 7. Do you share in good times with both sexes?

/ /Yes / /No 8. Do you feel that you belong to your crowd?

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DECISION MAKING

Man becomes truly human only at the moment of decision.

Tillich

Not to decide is to decide.

Harvey Cox

A person's ability to choose, as well as his right to choose, is the essence of freedom. How well he learns the skills involved in the process of choosing well determines his power of self-determination, his freedom of choice.

Paul Woodring

DECISION MAKING

The average citizen would define decision making as the process of selecting from two or more possible choices. Such a definition, although true, is both narrow and naive.

Decision making is a complex process unique to man. It is a valuing, reasoning, solving and behavior directing process. Most importantly, decision making is a personal process.

We, at Roosevelt, believe decision making issues are the second embarking point of health education. To explain more thoroughly, every individual is confronted daily by decisions. These decisions can not be avoided, one can not escape from them. Since health education is, in fact, a cross disciplinary study and an applied field of learning which focuses on human concerns and values, 'deciding' is an essential base. 'Deciding' centered on the person and his environs implies both affective and action domains. When decision making operates with skill and relative ease, satisfaction will be reached and individuals will be moved toward purposeful behavior. Behavior of this type is certainly a suitable and desired goal of health education.

How then does a group of health educators set forth a plan to improve decision making skills?

First, by looking at ourselves: seeing that we are confronted daily with decisions; realizing that our decisions are sometimes clouded by value confusion; and by realizing that the process of valuing is in fact a process of constant growth.

Second, by looking at what we do know about students, we realize: students are confronted daily by decisions; they are frequently asked to

make decisions for which they have no clearly formed values; they are confronted through mass media by a multitude of diametricially appossed values; as persons they wish to make decisions regarding the purpose and direction of their own lives.

Third, by creating a real life environment with students. The environment should encourage questioning, confrontation, and a fair share of the decisions to be made and lived with. The environment should also encompass the elements of personal values, acquisition of information and practice.

> The making of decisions begins, first and foremost, with the individual --- by a recognition, evaluation and assessment of personal values. Since people are individuals who possess a variety of personal values, many times on the same topic or issue, the decision achieved will at times differ. Thus the individual person who is able to use personal clarity of values will make unique decisions suited to him or her.
>
> In addition to clarity of values, the process of decision making requires the acquisition of information. That is, acquisition in the form of (1) gathering information and (2) evaluating the credibility of information.
>
> And finally decision making requires the use of practice. Such practice should follow the course of identifying reasonable alternatives, appraising (or estimating) probabilities, or assumptions, ultimately choosing and subsequently evaluating.

These steps lay the groundwork for personal, human decisions. They are the methods of directly addressing ourselves to the issues and long time problems of health-related behaviors.

Some practical examples are:

1. Student written objectives at the beginning of each unit. This normally guarantees that class activities will be relevant. It also 'forces' students to accept responsibilities for their own education.

2. In-class environments are created in order to practice decision-making skills as they develop, (e.g. tobacco experiments, gambling, family experiments by creating 'classroom families')

3. Students are encouraged to utilize decision-making skills and valuing systems to resolve personal daily problems, (e.g. family and dating relationships, in-school difficulties).

4. Analysis and evaluation of products and services specific to health as ongoing techniques utilized throughout the course, (e.g. newspaper reports, advertising claims, consumer selection of across-the-counter drugs).

5. Students are encouraged to use the 'outside world' as a classroom specific to health careers, (e.g. identify resources available in the communities; ambulance services, VD clinics, Family Planning center.)

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Information gathering is a primary step in the decision making process. When centered on a fact level it can easily become simply a matter of true or false, blank or completed answers.

The brief activities contained here, pp. 58 through 63, step slightly beyond the mere fact level. They provide students an opportunity to respond by utilizing both information and personal values. The valuing activities contained here are not designed to be heavily weighed. They are rather beginning points in the process of making decisions.

The 'I Want To Learn' sheet (p. 58) is designed to provide students an opportunity to set objectives for each unit. This is an information gathering tool for the teacher. It also insures that student goals will be met. Further it forces students to accept responsibilities for the education process.

Name _____

Period _____

My objectives for the COMMUNICATION unit

1. I want to learn

2. I want to learn

3. I want to learn

4. I want to learn

Teacher Directions:

This simplified type of personal assessment allows students to: (1) identify what they eat, (2) pin point the circumstances surrounding their eating habits and (3) begin to evaluate the relationship between circumstances and food content and nutritional content.

Since food content and nutritional content is often dry material to cover the idea of utilizing 'circumstances' becomes a more interesting vehicle for introduction.

The teacher can simply introduce the project by explaining -- the reason for eating is basic; we need to eat to live. Each day, however, a wide variety of choices is presented to us as to what we eat and how we eat. For example, when was the last time you had an apple for lunch because you only had a dime? Or, when was the last time you ate lunch standing up either because that was what your group was doing or because you had no place to sit? Habits, customs, tastes and economics for the most part determine the ways we eat and our menus.

Procedure
For the next three days, record everything you eat and explain the circumstances surrounding the snack or meal. Use a piece of paper divided into three columns and leave the third, or far right column, blank. See the example below:

Food	Circumstances	
orange juice 1 piece of toast	late for school	
turkey dressing mashed potatoes squash cranberries pumpkin pie milk	our family always has turkey for thanksgiving	

Follow-up
When students return with their sheet for class evaluation and discussion the third element can be added. In the right column they need to mark which food group they used -- milk, meat, bread and cereal, vegetables and fruit, empty and extra. Empty (food containing nothing but calories; e.g. pop)

Extra (food containing more calories than anything else; e.g. chocolate pie).

NUTRITION I.Q. How much do you know? Name_____

True - False

___1. All diseases may be due to faulty diets.

___2. Soil depletion causes malnutrition.

___3. Our food supply is overprocessed.

___4. Many foods help prevent and treat diseases.

___5. Nutrients (food substances needed by the body for heat and energy, maintenance, building and repairing -- proteins, fats, carbohydrates, vitamin, minerals, water) are scattered throughout our food supply and need not be chemically added to food.

___6. People get more of a psychological (mind) benefit from vitamin pills than a physiological (body) benefit.

___7. One never outgrows the need for milk.

___8. The easiest way to lose weight is to skip meals.

___9. You are what you eat.

___10. There is a difference between hunger and starvation.

___11. Fruits and vegetables should be eaten raw.

___12. Margarine and butter contain the same number of calories.

___13. People on diets to lose weight should not drink water.

___14. Nutrition is the way the body uses food.

___15. There are six basic food groups.

___16. People who are on diets to lose weight should not eat bread or potatoes.

___17. By exercising people can lose weight.

___18. Muscle weighs more than fat.

___19. Vitamin D is produced in the body when the sun shines on the skin.

___20. Chocolate causes acne.

WHAT DO YOU WANT OUT OF LIFE? Name_____

Deciding what we want out of life and the kind of quality we want to put into life takes some thought on our part. This thought, and the answers that stem from it, is really based on our attitudes, beliefs and values which help make up our opinions about things (such as what we want out of life).

The kinds of choices we make about life are important and should be based on our values, because if they are not, then we would feel uncomfortable or uneasy about ourselves. Therefore, the first thing we have to do is to really be clear about what our values are.

Below is a list of 10 values arranged in alphabetical order. Your task is to arrange them in order of their importance to you as guiding principles in your life:

_____ A COMFORTABLE LIFE (a prosperous life filled with luxury)

_____ EQUALITY (brotherhood, equal opportunity for all)

_____ AN EXCITING LIFE (a stimulating, active life)

_____ FAMILY SECURITY (taking care of loved ones)

_____ FREEDOM (independence, free choice)

_____ HAPPINESS (contentedness)

_____ INNER HARMONY (freedom from inner conflicts)

_____ MATURE LOVE (sexual and spiritual intimacy)

_____ NATIONAL SECURITY (protection from attack)

_____ PLEASURE (an enjoyable, leisurely life)

_____ SALVATION (deliverance from sin, eternal life)

_____ SELF RESPECT (self-esteem)

_____ A SENSE OF ACCOMPLISHMENT (making a lasting contribution)

On the back side of the page then explain your top four choices

DRUG QUESTIONNAIRE

Name _____

1. How would you define drug use?

2. How would you define drug abuse?

3. How might drug abuse affect one's future?

4. Why do people take illegal drugs in spite of laws against them?

5. Do you believe the government, through laws, has the right to control drug use by the private citizen?

   If your answer is YES, why?

   If your answer is NO, why not?

6. What might be some alternatives to drugs?

7. Is there a perfect drug?
If YES, what is it?

Why do you think it's a perfect drug?

If you don't think there is a perfect drug, why not?

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Pages 65 through 70 are designed as skill builders. Page 65 presents a problem situation. Page 66 presents the same problem and shows students how a decision (in this case a problem solution) could be reached. Pages 67 - 70 represent sample situations for students to work through. Resource: Critical Issues in Health.

The Forced Ladder and Values Grid are excellent tools to assist students in ranking items and in clarifying their values. Both can be utilized in the classroom for discussion purposes; they help point up the idea that many people can reach different, valid decisions on the same issue.

Twenty Things I Love To Do is a Signey Simon strategy. If the last column is used for a drug inquiry it becomes a unique opening approach to drug discussion.

Masculinity and Femininity asks students to identify the five most important components of both males and females. Comparisons and rankings can then follow. This is an excellent introductory tool to sex role stereotyping.

I Can Make Things Happen is self-explainatory.

Alligator River and Fall Out Shelter are Sidney Simon strategies. Alligator River is most appropriate in a sexuality unit. The Fall Out Shelter is most appropriate in a personality unit.

NAME _____

SITUATION: John was discussing a problem with one of his classmates. He said, 'I am a heavy smoker but wish I could give it up because I feel my health might be in danger. It is a real habit with me and I wake up coughing most mornings and my chest constantly feels congested."

L. What do you think the best solution to this problem is?

2. Explain why you think your solution is best.

3. Explain step-by-step the way you solved this problem.

The purposes of problem solving questions are to provide you with an opportunity to systematically examine health problems. You will think these problems through clearly, and then propose solutions together with their justifications.

These are the terms which you will use:

1. Situation - a brief description or identification of a health problem.

2. Assumption- several statements suggested by the situation that can be considered true without verifying or examining.

3. Solutions - alternative solutions or decisions that can be considered to alleviate the problem.

4. Justification - reasons why the best solution is chosen.

SAMPLE PROBLEM:

1. Situation John was discussing a problem with one of his classmates. He said, "I am a heavy smoker but wish I could give it up because I feel my health might be in danger. It is a real habit with me and I wake up coughing most mornings and my chest constantly feels congested."

2. Define the problem (possible answer: The problem is for John to find out if his smoking has caused a respiratory health problem.)

3. What assumptions are made? (possible answers:
   a. John assumes there is a relationship between smoking and health.
   b. John assumes he is not a light or moderate smoker.
   c. John assumes his coughing and congested chest are due to his smoking.
   d. John's smoking habit is causing an emotional conflict.)

4. What are the possible solutions to this problem? (possible answers:
   a. Get a medical examination to rule out any serious health problem.
   b. Give up smoking completely.
   c. Have a chest X-ray.
   d. Learn more about the relationship between smoking and health.
   e. John can ignore his fears and accept the consequences of smoking.)

5. Choose the best solution and tell why it is justified. (possible answer: a. best answer. John should get a medical examination to rule out the possibility of a serious health problem. Since any smoking is injurious to health, John should either eliminate smoking or cut down on his tobacco consumption. The other solutions are important, but less urgent than getting a medical examination.)

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1. DESCRIBE THE SITUATION: Catherine 'hitched' a ride with a fellow student in order to get home on time after school. There are two fellows, out of school, and three teenage girls in the car whom she does not know. The driver is far exceeding the speed limit, and she knows he had a few alcoholic drinks a short time ago.

2. DEFINE THE PROBLEM.

3. LIST THE ASSUMPTIONS:

4. LIST ALTERNATIVE SOLUTIONS:

5. CHOOSE THE BEST SOLUTION:

6. JUSTIFY YOUR CHOICE

7. EVALUATE YOUR CHOICE:

NAME _____

1. DESCRIBE THE SITUATION. John has just returned from his blind (arranged) date with Mary. John is speaking to his friend and says, 'Somehow I feel she didn't understand me and some of the things I was trying to say about myself. My understanding of her is not very good either because she never did say very much during the course of the evening. I like her but I doubt if she feels the same. Do you think she will go out with me again?'

2. DEFINE THE PROBLEM

3. LIST THE ASSUMPTIONS:

4. LIST ALTERNATIVE SOLUTIONS:

5. CHOOSE THE BEST SOLUTION

6. JUSTIFY YOUR CHOICE

7. EVALUATE YOUR CHOICE

Name _____

SITUATION: Bob is convinced that he deeply loves Susan. He feels she feels the same way towards him. She believes love is demonstrated by sexual relationships. He disagrees, but does not want to terminate the relationship. How should he resolve this conflict.

1. Describe the situation:

2. Define the problem

3. List the assumptions:

4. List alternative solutions

5. Choose the best solution

6. Justify your choice

7. Evaluate your choice

NAME _____

SITUATION: Your parents are elderly and able. They have lived in the same house for 40 years and it needs much costly repair to be made safe for them. You do not have the financial ability to repair the house for them. Also, the bathroom and bedrooms are upstairs. Your father is very deaf and your mother has a heart condition which makes stair climbing difficult. You feel you have some responsibility toward them and in this situation is a critical problem that must be resolved quickly. How are you going to solve the problem?

1. Describe the situation:

2. Define the problem:

3. List the assumptions

4. List alternative solutions

5. Choose the best solution

6. Justify your choice

7. Evaluate your choice

FORCED LADDER CHOICE

71

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Strongest Feelings
Pro and Con

8

7

6

5

4

3

2

1

Weakest Feelings
Pro and Con

50

Ranking of Values Concerning the Sex Scene

1. Premarital sex is acceptable for the guys but not for the girls.
2. Unmarried pregnant girls should complete their pregnancies and have their babies.
3. Unmarried pregnant girls should have abortions.
4. Pregnant high school girls (unmarried) should be allowed to stay in their own high school throughout their pregnancy.
5. Families should be planned. They shouldn't just happen.
6. Premarital sex is acceptable if birth control methods are used.
7. Teachers who are embarrassed by students questions concerning sex and sexuality should not be teaching it.
8. When pregnancy occurs before marriage, the father is responsible for marrying the girl.
9. Sex education should be taught in the home.

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RANKING OF VALUES OR ATTITUDES

Instructions: Read accompanying statements, place the number of a statement in the box that best expresses how strongly you feel about that statement. There is to be only one number per box. Put a (+) if you feel positive, (-) if you feel negative about the statement.

7	4	1 (strongest)
8	5	2
9 (weakest)	6	3

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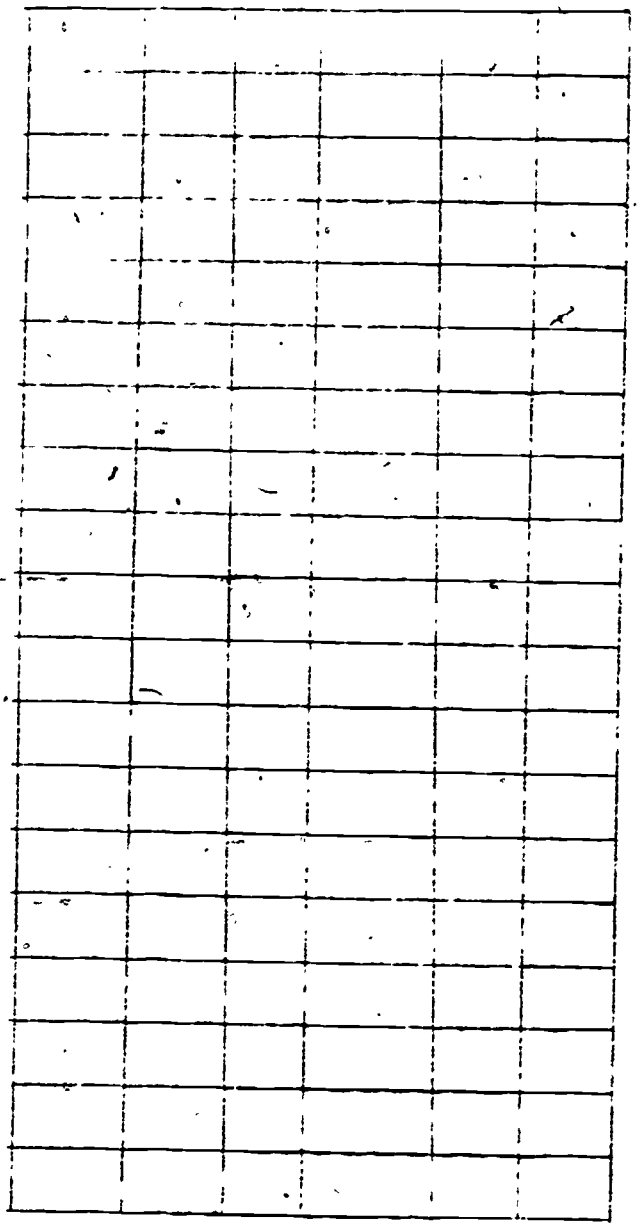
TWENTY THINGS I LOVE TO DO:



1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____
13. _____
14. _____
15. _____
16. _____
17. _____
18. _____
19. _____
20. _____

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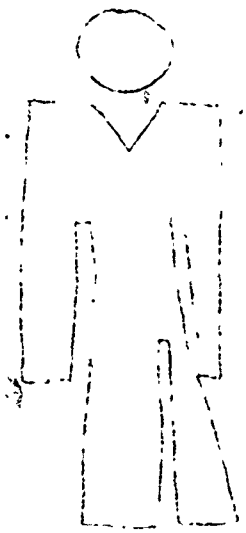
MASCULINITY AND FEMININITY

/ / Male

/ / Female



		Rank
1.		
2.		
3.		
4.		
5.		

1.		
2.		
3.		
4.		
5.		

MONEY CAN MAKE THINGS HAPPEN Name_____

Emphysema
Quackery
Population Control
Venereal Disease
Heart Disease
Leukemia
Kidney Disease
Planned Parethood
Arthritis
Health Education
Epilepsy
Cancer
Red Cross
Cerebral Palsy
Hunger and Poverty
Pollution Control
Drugs
Cystic Fibrosis
Tobacco
Alcohol
Health Service Clinics
Mental Health and Illness

We have discussed either in depth or briefly, all of the areas of health concern listed above. Each area is, in some way, involved in research, education and treatment. Each area needs and deserves money to continue their programs. Let us say you have $50,000.00 that you want and must give to one of these areas.

1. Which area would you choose?
2. Why do you think that particular area is most important?
3. How would you wish the people in that area to spend your money?
4. What are you hoping the money will do for others?

REMEMBER: The decision you are to make is a big one. It requires thought and consideration. It may be a decision you will face in the future.

ALLIGATOR RIVER

Teacher Directions: Alligator River gives students an opportunity to react to characters in simulated situations. At first the stories appear to be 'make believe'; as students begin to evaluate their attitudes and ideas -- Alligator River approaches realism. Read the stories to your students. A discussion can follow: students can do individual rank orders or group rank orders. Are both the X-rated and G-rated story the same???

X-RATED STORY

Once upon a time there was a woman named Abigail who was in love with a man named Gregory. Gregory lived on the shore of a river. Abigail lived on the opposite shore of the river. The river which separated the two lovers was teeming with man-eating alligators. Abigail wanted to cross the river to be with Gregory. Unfortunately, the bridge had been washed out. So she went to ask Sinbad, a river boat captain, to take her across. He said he would be glad to if she would consent to go to bed with him preceding the voyage. She promptly refused and went to a friend named Ivan to explain her plight. Ivan did not want to be involved at all in the situation. Abigail felt her only alternative was to accept Sinbad's terms. Sinbad fulfilled his promise to Abigail and delivered her into the arms of Gregory.

G-RATED STORY

Once there was a girl named Abigail who was in love with a boy named Gregory. Gregory had an unfortunate mishap and broke his glasses. Abigail being a true friend, volunteered to take them to be repaired. But the repair shop was across the river and during a flash flood the bridge was washed away. Poor Gregory could see nothing without his glasses, so Abigail was desparate to get across the river to the repair shop. While Abigail was standing forlornly on the bank of the river, clutching the broken glasses in her hands, a boy named Sinbad glided by in a rowboat.

She asked Sinbad if he would take her across. He agreed to on condition that while she was having the glasses repaired, she would go to a near-by store and steal a transistor radio that he had been wanting. Abigail refused to do this and went to see a friend named Ivan who had a boat.

When Abigail told Ivan her problem, he said he was too busy to help her out and didn't want to be involved. Abigail, feeling she had no other choice, returned to Sinbad and told him she would agree to his plan.

When Abigail returned the repaired glasses to Gregory, she told him what she had had to do. Gregory was appalled at what she had done and told her he never wanted to see her again.

Abigail, upset, turned to Glug with her tale of woe. Slug was so sorry for Abigail that he promised her he would get even with Gregory. They went to the school playground where Gregory was playing ball and Abigail watched happily while Slug beat Gregory up and broke his glasses again.

FALL OUT SHELTER

Class Directions

"Your group are members of a department in Washington, D.C. that is in charge of experimental stations in the far out posts of civilization. Suddenly the Third World War breaks out and bombs begin dopping. Places all across the glove are being destroyed. People are heading for whatever fallout shelters are available. You receive a desperate call from one of your experimental stations, asking for help.

It seems there are ten people but there is only enough space, air, food, and water in their fall-out shelter for six people for a period of three months -- which is how long they estimate they can safely stay down there. They realize that if they have to decide among themselves which six should go into the shelter, they are likely to become irrational and begin fighting/ So they have decided to call your department, their superiors, and leave the decision to you. They will abide by your decision.

But each of you has to quickly get ready to head down to your own fall-out shelter. So all you have time for is to get superficial descriptions of the ten people. You have half an hour to make your decision. Then you will have to go to your own shelter.

So, as a group you now have half an hour to decide which four of the ten will have to be eliminated from the shelter. Before you begin, I want to impress upon you two important considerations. It is entirely possible that the six people you choose to stay in the shelter might be the only six people left to start the human race over again. This coice is, therefore, very important. Do not allow yourself to be swayed by pressure from the others in your group. Try to make the best choice possible. On the other hand, if you do not make a choice in a half-hour, then you are, in fact choosing to let the ten people fight it out among themselves, with the possibility that more than four might perish. You have exactly one half hour."

Ten sample people:

1. Policeman with a gun (they cannot be separated.)
2. Olympic athlete (all sports)
3. Sixteen year old girl (a high school drop out; pregnant with questionable I.Q.)
4. An architect (homosexual)
5. A clergyman (seventy-five years old)
6. A thirty-nine year old prostitute (retired for our years)
7. A twenty-six year old make law student
8. The male law student's wife (she is twenty-five and has spent the last nine months in a mental hospital; she is still heavily sedated she refuses to be separated from her husband)
9. A thirty-six year old female physician (unable to have children)
10. A forty-six year old male violinist (served seven years for pushing narcotics; has been out of jail for the last six months.

Practical Applications pp. 80 - 176 are designed to set the decision making process in motion. The activities involve students in subject areas of personal concern to them and in areas of significant social health concern.

All activities which follow are teacher directed or guided. None are intended as independent projects.

The Body System worksheets included here, pp. 81 through 140, are not intended to be the only tool whereby a student gains access to such information. They are intended to accompany class discussion, experiments and resource readings.

Each worksheet includes a base of information on structure and function. Each worksheet includes specific information in the area of complication, problems, and in vocabulary building. Each worksheet further includes the health specialists and health care workers involved. In some cases information concerning health care equipment, tools and machines are also involved. These worksheets do give students a perameter in which to work. They have been designed with essentially the same format to assist in continuity.

Resources: Your Health and Safety

You Can Work in the Health Services

The Human Body (Milliken Transparency)

Personal and Community Health

CIRCULATORY SYSTEM

The function of the circulatory system is to carry food and oxygen to every cell in the body and remove wastes from these cells. This system is made up of the heart, blood, and blood vessels.

The three main parts of the circulatory system are the heart, blood and approximately 100,000 miles of blood vessels. The heart, receiving blood from veins, pumps blood to the lungs where an exchange is made - carbon dioxide for oxygen. The blood returns to the heart and is pumped to the body through arteries. Arteries carry blood away from the heart and connect with tiny blood vessels called capillaries. Capillaries carry blood to all parts of the body - skin, muscles, brain, bones, and etc. Capillaries unite to form large vessels called veins. The veins carry carbon dioxide and waste materials away from the body cells. Blood carrying CO_2 is bluish-red in color as it travels to the heart and lungs. After the CO_2 is exchanged for oxygen in the lungs, the color of the blood is bright red.

Blood testing - one of the physicians's most important tools:
One of the most important tests your doctor may use in detecting a health problem is the blood test. Many doctors send their 'lab' work out to a specialized laboratory. In these laboratories the hemocytometer method or an electronic particle counter will be used to count your white and red blood cells. Other blood tests are also useful to your physician in that they can detect infections, hemoglobin levels, antibodies or the presence of particular elements. Blood tests for example help the physician to determine whether you need thyroid or whether you may have mononucleosis.

Complications, Problems and Personnel:
Defects, disorders and diseases of the circulatory system are many. Anemia is one of the most common defects of the blood. Disorders of the blood vessels include arteriosclerosis, varicose veins and hemorrhoids. Diseasesof the heart come under three main types: 1. those associated with infection 2. those associated with high blood pressure and 3. those associated with diseases of the coronary arteries.

A person with heart disease needs moderation in physical effort, plenty of rest, sensible eating, a limited amount of smoking, if any, and the avoidance of infection and medical supervision.

An electrocardiogram is a personalized reading of an individuals heart functioning. The electrocardiogram is made on a machine called an electrocardiograph. The machine is frequently operated by a specialized electrocardiograph technician. Readings from the machine are used to detect heart disorders. The physician specialist in the field of diagnosing and treating heart disease is called a cardiologist.

A medical technologist, perhaps assisted by a lab aide, performs many tests such as sophisticated blood tests to aid the physician.

Review:

The heart is a double pump. The right side receives blood from the body and pumps it to the lungs for a fresh supply of oxygen. The left side receives the blood from the lungs and pumps it to all parts of the body.

The circulatory system consists of the heart, arteries, capillaries, veins and the lymph system. Arteries carry blood away from the heart. Veins carry blood back to the heart. Microscopic capillaries connect the arteries and veins and allow useful substances to pass through the capillary walls to supply the cells. Whole blood never leaks out into the tissues unless a blood vessel is injured, but some plasma and white blood cells escape from the capillaries to form the lymph that bathes your body-cells and contains fresh supplies of food and oxygen.

Good posture, proper exercise, correct clothing, sufficient rest, and avoidance of bottled-up emotions will help to protect your heart. Your heart and your 100,000 miles of blood vessels have great reserve power and can perform duty throughout a long lifetime.

To help you understand the circulatory system, define the following words:

1. Antibodies
2. Aorta
3. Arteries
4. Auricle
5. Blood Pressure
6. Electrocardiogram
7. Compatable blood
8. Coronary
9. Hemoglobin
10. Pulmonary
11. Serum
12. Stethoscope
13. Stroke
14. Transfusion
15. Valve
16. Varicose Vein
17. Veins
18. Ventricle

The circulatory system is made up of the blood, the heart and three types of blood vessels; arteries, veins and capillaries. This system has two major functions: (1) to carry food, oxygen and other essential materials to all tissues of the body; and (2) to carry carbon dioxide and other cell wastes away from these tissues.

There are chiefly four main blood types — A, AB, B and O. These types of blood differ in chemical composition: they are determined by heredity. In transfusing blood from one person to another it is essential that the blood type of the donor be matched, or 'compatible' with that of the recipient. Exactly matched blood types are best. Sometimes however, it is impossible to locate exact blood types. Using the chart below and to the right, answer the following questions:

	Recipient	Donor
Type AB can receive blood from _____	A	A or O
Type B can donate blood to _____	B	B or O
Type A can receive blood from _____	AB	Any type
Type O can donate blood to _____	O	O

Use the blood typing experiment.

What type of blood do you have?

To what blood groups can you donate?

From what blood groups can you donate?

Blood is composed of plasma, red corpuscles, white blood corpuscles and plateets. Describe each and explain their role.

1.

2.

3.

4.

Lymph is a colorless, watery fluid much like plasma. What role does it play in the circulatory system?

Blood tests are frequently used to determine a variety of conditions. Some of them are: (1) the number of red and white corpuscles - to determine the general state of health (2) the number of white corpuscles --- to determine the severity of infection (3) the amount of sugar - to detect disorders such as diabetes.

Blood, like all of the parts of the body is attacked by disease, Anemia is a deficiency of red blood corpuscles or a lack of hemoglobin in them.

What is hemoglobin?

What are the following types of anemia?

Iron deficiency (nutritional)

Pernicious

What are some symptoms of an anemic person:

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1.

2.

3.

4.

What is Leukemia

What is hereditary hemophilia?

The heart is the most powerful muscle in the body. It is cone shaped and is located near the middle of the chest cavity with its broad end (base) up and its pointed end (apex) down. It is about the size of a clenched fist.

Some circumstance or conditions can affect the functioning of the heart. Others are very minor in effect.

What is rheumatic fever?

What is a congenital heat defect?

Do you have or have you had any of the above? Has it made changes in your life necessary?

Arteries are thick-walled and elastic because they carry blood away from the heart.

What type of blood is carried in arteries?

Do arteries lie below veins in body tissue or above?___ Why?

Veins are thin-walled vessels because they carry blood to the heart.

What type of blood is carried in veins?

Do veins lie below arteries in body tissue or above?____ Why?

Capillaries are small microscopic vessels

What type of blood is carried in capillaries?

Why are capillaries so small?

Cardiovascular diseases are ones which attack the heart and or the vessels. Cardiovascular diseases are the leading cause of death and the major cause of disability in the United States.

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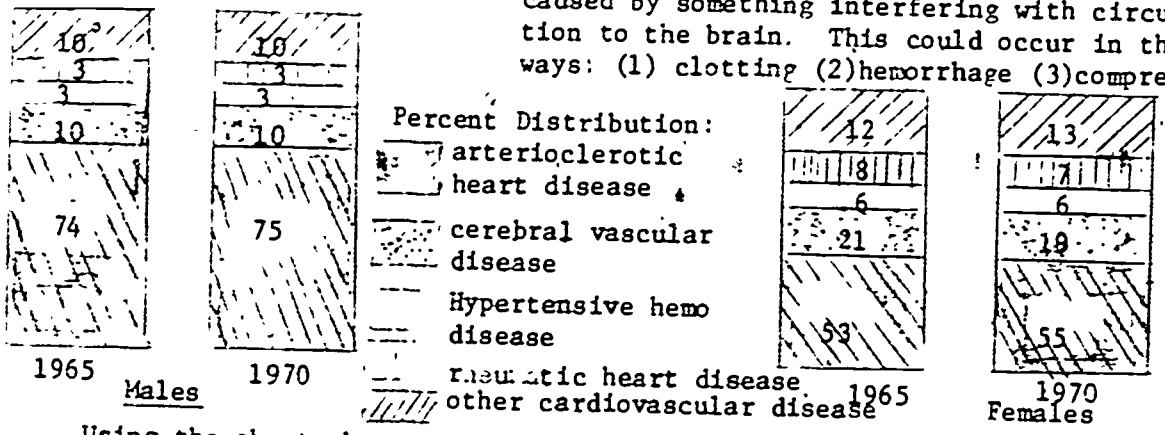
Arteriosclerosis: Means hardening of the arteries. In this condition arteries become less elastic and rigid. This slows down and impedes circulation.

Atherosclerosis: Means small deposits of cholosterol have developed on the artery walls. These deposits can either block the artery or injure the blood cells as they pass through. When these blood cells are injured they form a blood clot known as a 'thrombus'. If the thrombus breaks away it can circulate in the blood stream and block an artery.

Primary Hypertension: means that arteries remain in a state of constriction and therefore cause high blood pressure. Obesity and emotional upsets increase the chance of having hypertension.

Cerebrovascular Accidents are also known as apoplexy or stroke. They are caused by something interfering with circulation to the brain. This could occur in three ways: (1) clotting (2)hemorrhage (3)compression.



Using the chart above answer the following questions:

Who has the greatest chance of having heart disease related to arteriosclerosis? _____

In what two areas do females outrate males? _____

In what one area do males outrate females? _____

Cardiovascular diseases can be prevented.

What are three warning signs?

1.
2.
3.

What three things can you do now to prevent developing cardiovascular diseases?

1.
2.
3

On Diagram 1:

1. Label the following parts of the circulatory system.
   (a) heart (b) arteries (c) diaphragm (d) aorta (e)veins (f)capillaries

2. To prevent the backflow of blood, veins have small _____ which arteries do not have.

3. _____ are small tubes that carry blood to every part of the body.

On Diagram II:
Label the following:

(a) Aorta
(b) Pulmonary artery
(c) Right auricle
(d) Left Auricle
(e) Right Ventricle
(f) Left Ventricle
(g) Vena Cava
(h) Pulmonary Vein
(i) to body, arteries
(j) to lungs
(k) from lungs
(l) Body Vein From Body

On Diagram III:

By looking at Diagram III identify the following:

(a) Help fight infection
(b) Most numerous of cells
(c) Release CO_2 in lungs
(d) Gives blood its red color
(e) Helps form a network of fibers near wounds
(f) Liquid part of blood
(g) Formed in lymph tissue
(h) Smallest of blood particles.

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CIRCULATORY SYSTEM

Illustration 1

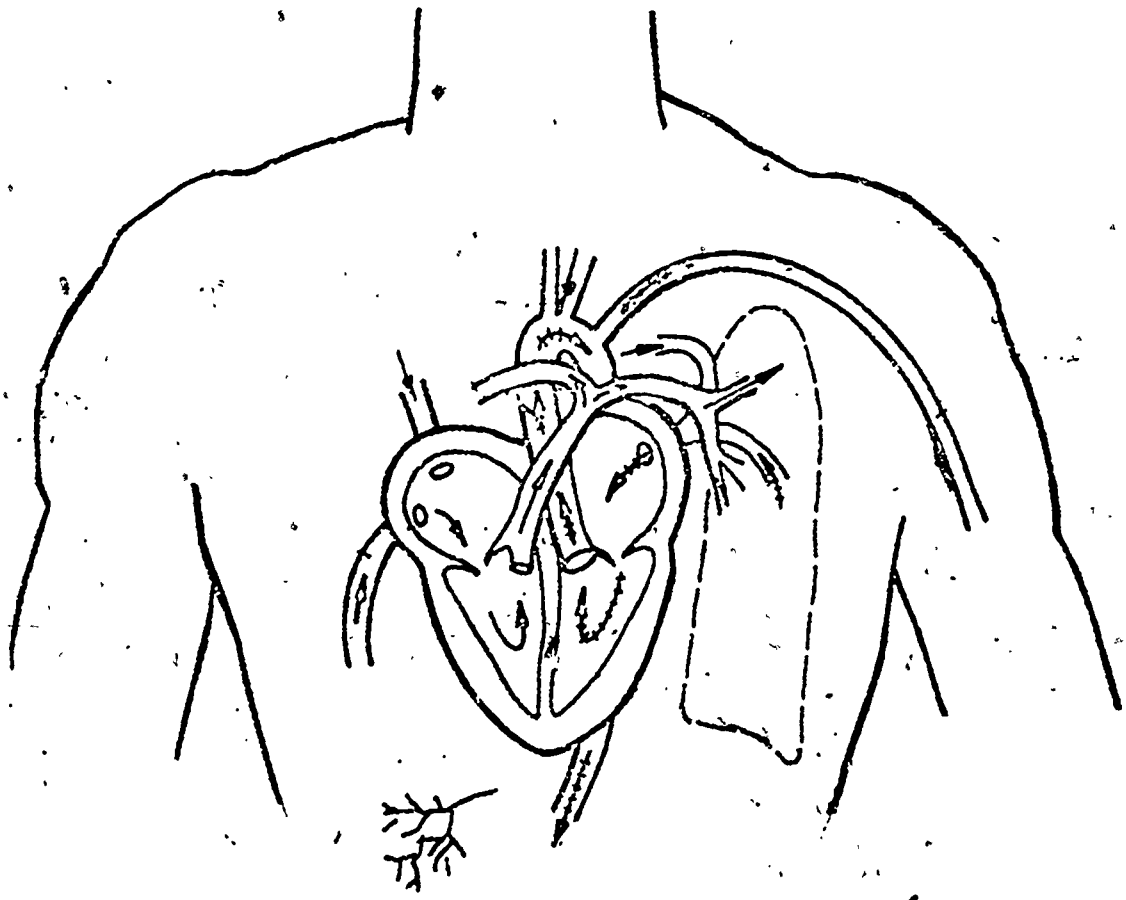
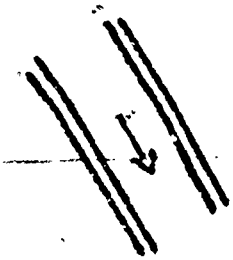
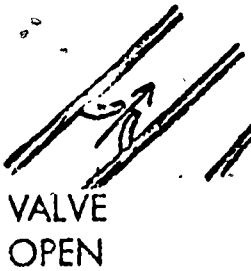


FIG. A

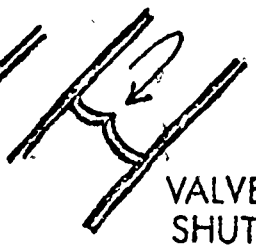


ARTERY —
Away from heart

CAPILLARIES —
Tiny network of blood vessels



VALVE
OPEN



VALVE
SHUT

VEINS — To heart

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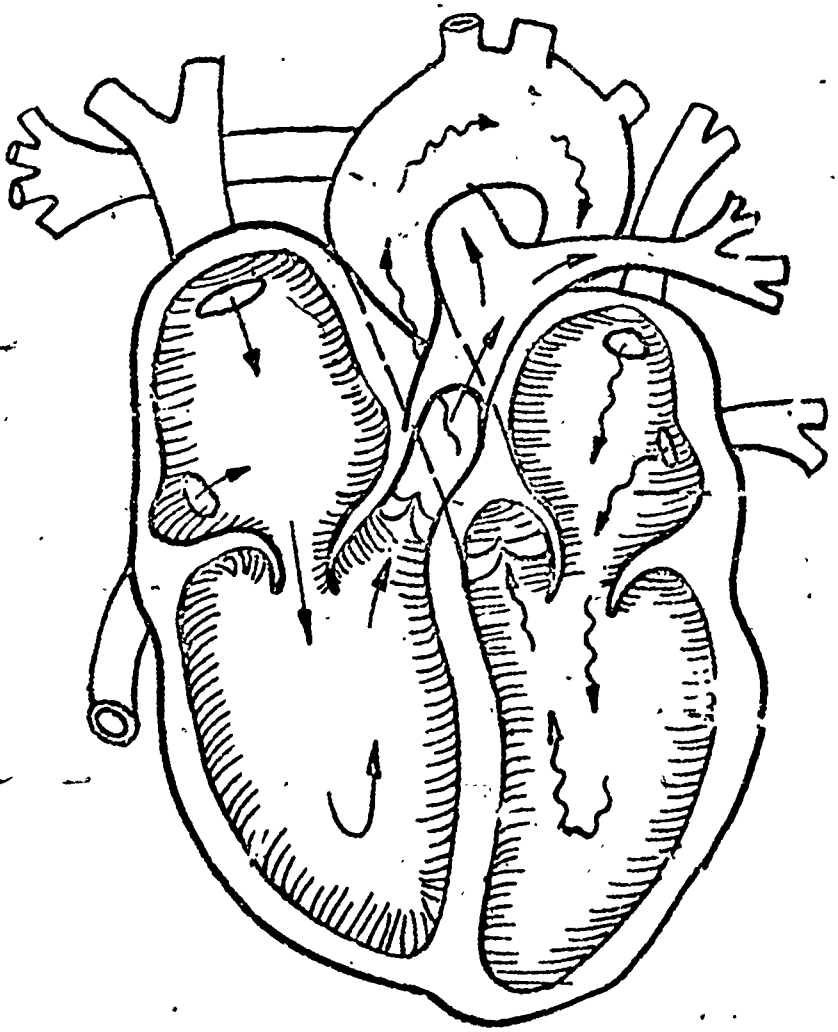
HEART

Illustration 7



——→ = blood from veins ~~~→ = blood to arteries

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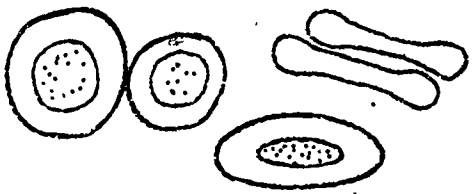
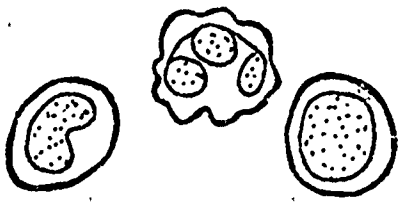
BLOOD

Illustration 3



SIDE VIEW

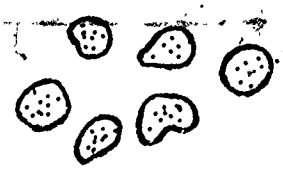


RED BLOOD CELLS

5,000,000 per cubic millimeter
Carry oxygen and carbon dioxide
Manufactured in bone marrow

WHITE BLOOD CELLS

6,000 per cubic millimeter
Destroy bacteria
Manufactured in lymph nodes

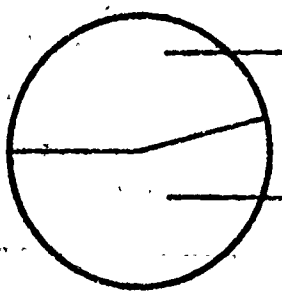


BLOOD PLATELETS

300,000 per cubic millimeter
Help blood clotting
Formed from bone cells in bone marrow

FIG. A PARTICLES FOUND IN BLOOD
(A cubic millimeter is approximately the size of two pin heads.)

FIG. B PERCENT COMPOSITION OF BLOOD



45% CELLS

55% PLASMA (Water, proteins, other substances)

DIGESTIVE SYSTEM

Digestion begins in the mouth. Food is bitten into small pieces and chewed by the teeth. The salivary glands add secretions to moisten the food. The tongue moves the food around and to the back of the mouth. After swallowing, a muscular tube, the esophogus, moves the food to the stomach. The stomach churns the food and mixes it with gastric juices which cause food chemicals to change. The small intestine receives the partially digested food. Here more digestive juices are added by the liver and pancreas. Digestion is completed in the small intestine. The villi of the intestine walls absorb the food material, and blood vessels carry it to all parts of the body. Wastes are removed by the large intestine. The rectum controls the release of solid wastes from the body. Wastes are removed by the large intestine. The rectum controls the release of solid wastes from the body.

COMPLICATIONS, PROBLEMS AND PERSONNEL

The avoidance of disorders and disease emphasizes the need for (1) a well balanced diet, (2) proper eating habits, (3) proper diet as for ones own needs, (4) control of ones emotions, (5) the use of good health procedures, (6) getting medical advice when needed.

1. Eat a good normal diet.

2. Be sure that you eat enough bulky foods, or roughage. Roughage, as you know, if food that has fibers in it that you cannot digest. (Too much roughage, however, sometimes makes constipation worse instead of better).

3. Have regular habits. This is important. The bowels can be trained. One should have a set time and enough time for the colon to act naturally.

4. Exercise the muscles of the abdomen. This helps stimulate normal peristalsis in the colon.

5. Take plenty of drinking water and other liquids. This will insure that you mix enough water with the solid parts of your food.

The digestive tract suffers from both disorders and diseases. Disorders are disturbances of function and the structures remain essentially normal. Digestive disorders include constipation, diarrhea, halitosis, and indigestion. Diseases and inflammations such as ulcers, colitis, gastritis, enteritis, hepatitus and appendicitis involve a definite change in the organs or tissues. Medical advice may be needed in either conditions if symptoms are persistent or serious.

Since the digestive system is one of the largest body systems the disorders which are specific to it are most serious to the health. Indigestion is probably the most common. Generally it is caused by eating too much, eating too rapidly, poor chewing, diseased teeth or gums or emotional upsets. Indigestion symtoms are nausea, heatburn andflatulence (excessove gas).

An ulcer is an open sore in the lining of the digestive tract -- it can be located in the lower end of the esophagus, the stomach, duodenum or at the junction of the deudenum and jejunum.

The appendix is normally about two to six inches long. Sometimes it becomes inflammed and full of pus -- appendicitis. Symptoms are lasting pain in the abdomen, nausea and fever. If an appendicitis is suspected, never use a laxative or heat. Both may cause peritonitis. Contact a physician.

Laxatives may sometimes be needed and useful. However, making a habit of laxative use actually rushes food through the stomach and intestine and consequently prevents proper digestion and assimilation of food value. Excessive use of laxatives can in fact cause the colon to lose its elasticity and muscular strength. If constipation is persistent you should consult your physician.

A gastroenterologist is a specialist in the diagnosis and treatment of diseases of the digestive system.

A proctologist is a specialist who deals with the diagnosis and treatment of the colon, rectum and anus. The proctoscope is an instrument which a proctologist may use to examine the interior of the rectum.

A dietician is a specialist who directs the preparation of well-balanced and prescribed menus for individuals. An example might be salt free diets or high protein diets. Dieticians are frequently employed in areas where large numbers of persons are to be served -- hospitals, nursing homes, the military. Any school which has a cafeteria has many food workers, and one of these may be a dietitian or nutritionist.

Review:

Although limited digestion occurs in your mouth and stomach, most digestion and absorption occur in the small intestine. Enzymes from your mouth and stomach have already acted upon your food. Intestinal juice, bile, and pancreatic juice work on the food in the small intestine. When digestion is completed here, the digested foods are absorbed through the lining of the small intestine.

The appendix is of no known value, but it often causes serious trouble. If you have symptoms that lead you to suspect appendicitis, contact your doctor.

Digestion will go on best when you are calm, happy and not too tired. You should try to establish pleasant, relaxed conditions for yourself and others at mealtime. Worry, anger and fear hinder digestion.

Cooking makes some foods more digestible. It is not necessary with others, although it is wise to cook food that may contain germs. Be sure to wash thoroughly any foods that you eat raw.

To help you understand the digestive system define the following wprds:

Appendix

Chyme

Colitis

Colon

Constipation

Diabetes

Diarrhea

Dietician

Digestive Juices

Duodenum

Enteritis

Esophagus

Epigloitis

Feces

Gastric Juices

Gastritis

Gastroenterologist

Gullet

Halitosis

Hepatitis

Hypoglycemis

Laxitives

Matabolism

Pancreas

Peristalsis

Peritonitis

Proctologist

Proctoscope

Rectum

Saliva

Salivary Glands

Ulcer

Villi

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DIGESTIVE SYSTEM

Man needs food to live--to acquire the energy necessary for life. In the human, food is digested in the alimentary canal which consists of the mouth, throat, esophagus, stomach, small intestine and large intestine.

What are the three parts of the alimentary canal in which the actual digestion of food occurs?

1.

2.

3.

Food is broken down in two ways--by mechanical action and by chemical action. Explain both actions.

1. mechanical action:

2. chemical action:

What muscle action makes it possible for humans to be able to eat and digest food in an upside down position?
Name and explain the action.

The stomach is a muscular pouch that can hold up to two quarts. There are three gastric juices in the stomach -- name them.

1.

2.

3.

What is an ulcer?

Which of the gastric juices causes ulcers?

Explain the total cause of ulcers (the chemical action of the gastric juice and any other things that lead to the cause of ulcers?

Explain what happens to shells when hydrochloric acid is dropped on them?

After the food has been processed in the stomach it moves into the small intestine which is a hollow tube about 20 feet long. Because it is so long it needs muscular support from the abdominal wall to prevent "a bulge". What are three things that can be done to strengthen these abdominal muscles to help keep a flat, trim abdomen?

1.

2.

3.

In order for food to support the body's needs it must first be digested and then absorbed by the blood stream which then carries the nutrients to all the cells of the body.

Through what wall does the absorption of digested food by the blood stream take place?

Can you explain how the shortening of this wall might aid a person who is extremely overweight?

The large intestine is the final section of the alimentary canal--what are the two functions it performs?

1.

2.

DIGESTIVE SYSTEM

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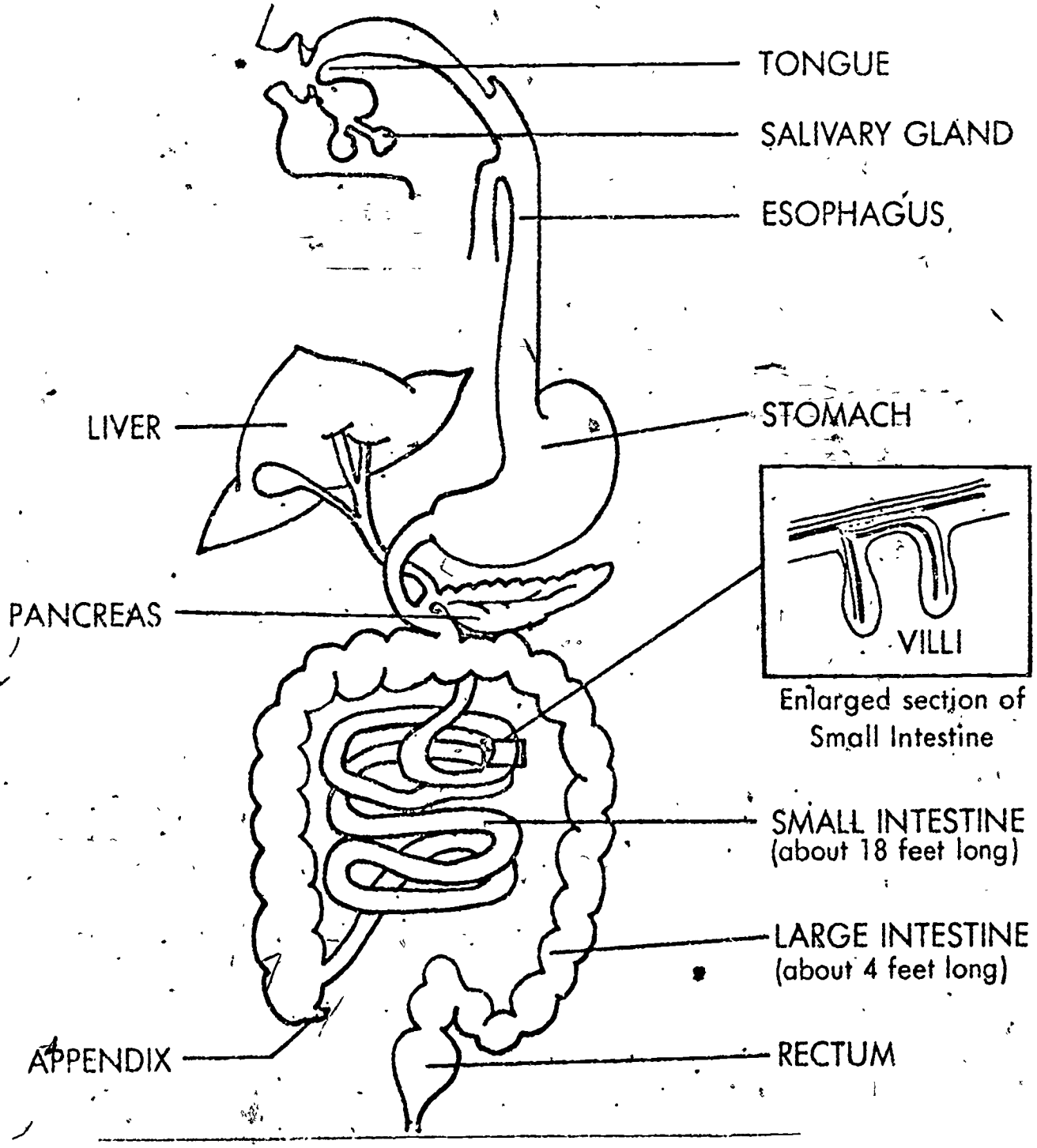

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ENDOCRINE SYSTEM - GLANDS

Glands are organs whose cells give off juices with chemicals that have special uses in the body. There are two kinds of glands: duct glands give off juices through tubes, and endocrine glands give off juices without tubes -- flow directly into the blood stream.

Duct glands have openings through which pour out the juices they make and give off. These juices travel through the ducts or tubes to the part of the body they affect. Salivary glands in the mouth, sweat glands in the skin, the pancreas and liver are examples of duct glands. Endocrine glands (without ducts) produce chemicals called hormones. Since endocrine glands have no openings or tubes to release the hormones, the blood absorbs the hormones directly through cell walls. The blood stream carries the hormones to the parts of the body that they affect. The tiny pituitary gland, master gland of the body, is found in the brain. It regulates the growth of the skeleton and body. The thyroid gland, located below the voice box in the windpipe, controls the speed or rate at which the body burns or uses food (metabolism). The Islands of Langerhans, found in the pancreas, regulate the use and storage of sugar in the blood. The adrenal glands, located atop the kidneys, help control digestion, regulate the balance of salt and water, and assist the body to meet emergency situations. There are many other glands within the body, but some have functions that are still unknown today.

HORMONES FOR THOSE WHO NEED THEM

It is a good thing for us that many animals have glands much like those of man. Since these glands produce hormones like ours, we use some animals as a source of hormones for medical treatment. As an example, ground-up thyroid gland from sheep is a source of thyroxin for people whose thyroid gland is not active enough. We also use hormones of animals to find out the effect of too much or too little of the same hormones in our bodies. Many experiments have been performed with sheep and dogs. Curiosity concerning the reason why dogs died after their thyroid glands were removed -- even though they were given injections of thyroxin -- led to the discovery of the four vital parathyroid glands which lay hidden in the thyroid.

A good supply of hormones obtained from the endocrine glands of other animals is a great help to persons who lack certain of them. However, extreme care must be exercised in hormone treatment. Nothing about you is balanced with finer precision than the work of your endocrine glands, and nothing can ruin your life more quickly than mistaken juggling of the balance of the hormones that help control your physical and mental growth, your sexual characteristics, and your very life. Never -- under any circumstances -- try to treat yourself! Always consult a doctor.

COMPLICATIONS, PROBLEMS AND PERSONNEL

heredity plays a part in certain glandular disorders. This is most clear in the case of diabetes, where a tendency toward the disease is inherited. Dwarfs have also occured in several generations of the same family.

The lack of proper food can make the glands function improperly. The thyroid cannot develop properly without enough iodine. Vitamin C seems to be needed to make cortisone and other hormones of the cortex of the adrenals.

Constant strain and stress, whether from disease, worry, exhaustion, or exposure, may injure the endocrine glands. A gland may fail to function well if overstimulated by any of these means over a period of time. The glands are stimulated normally. (1) by nervous impulses, as when anger or pain stimulates the adrenals or excitement affects the thyroid; (2) by chemicals in the blood, as when a pituitary hormone stimulates the adrenal cortex to make corisone.

Since the endocrine system exerts such a profound influence on all body functions specialists are often required for consultation, diagnosis and treatment. An endocrinologist specializes in the treatment of diseases arising from disturbances of the secretions of the endocrine or ductless glands.

REVIEW

Your endocrine, or ductless glands secrete hormones directly into your blood stream. A delicate balance in gland output is necessary for physical, mental, and emotional health, since your hormones affect your growth, mental efficiency, sexual maturity, muscle control, nerve stability, and the rate at which you oxidize the sugar in your blood.

Your endocrine glands are affected by your thoughts, by chemicals in your blood (either natural body chemicals or injected drugs,) by sensations from the skin and other sense organs, and by disease and injury. Continued overstimulation by stress or any other means may lead to poor functioning of the glands. The hormone balance may be upset by taking gland medicine or treatments. Never take such treatments except as advised by your doctor.

TO HELP YOU UNDERSTAND THE ENDOCRINE SYSTEM DEFINE THE FOLLOWING WORDS:

Adrenalin

Adrenals

Basal Matabolism

Cortisone

Cretin

Diabetes

Duct Gland

Estrone

Goiters

Hypoglycemia

Insulin

Islands of Langerhans

Parathyroids

Pineal

Pituitary

Testosterone

Tetany

Thymus

Thyroid

Thyroxin

Tell which gland is used:

a) a midget or giant _____

b) suffers from body overheating _____

c) constantly eating food but remaining thin _____

d) makes food soft for swallowing _____

e) suffers from diabetes (too much blood sugar) _____

f) need of sudden burst of power to win the race _____

TELL WHICH GLAND IS USED

a) a midget or giant _____

b) suffers from body overheating _____

c) constantly eating food but remaining thin _____

d) makes food soft for swallowing _____

e) suffers from diabetes (too much blood sugar) _____

f) need of sudden burst of power to win the race. _____

The Islands of Langerhan is found within the _____ gland.

Your endocrine glands and what they do. Fill in the correct answer:

Gland	Processes it regulates	Effects of regular excess of hormones	Effects of regular shortage of hormones
thyroid			
parathyroids			
adrenals			
pancreas			
pituitary			
sex gland			
thymus			

What is the largest gland in your body?

What is jaundice?

What are the four important kinds of liver enemies?

How can the doctor check to find out how active your thyroid gland is?

How can tetany be relieved?

What are the glands of combat?

What gland is called the master gland and why?

What gland is small when you are born but shrinks and becomes much smaller when you are an adult?

GLANDS

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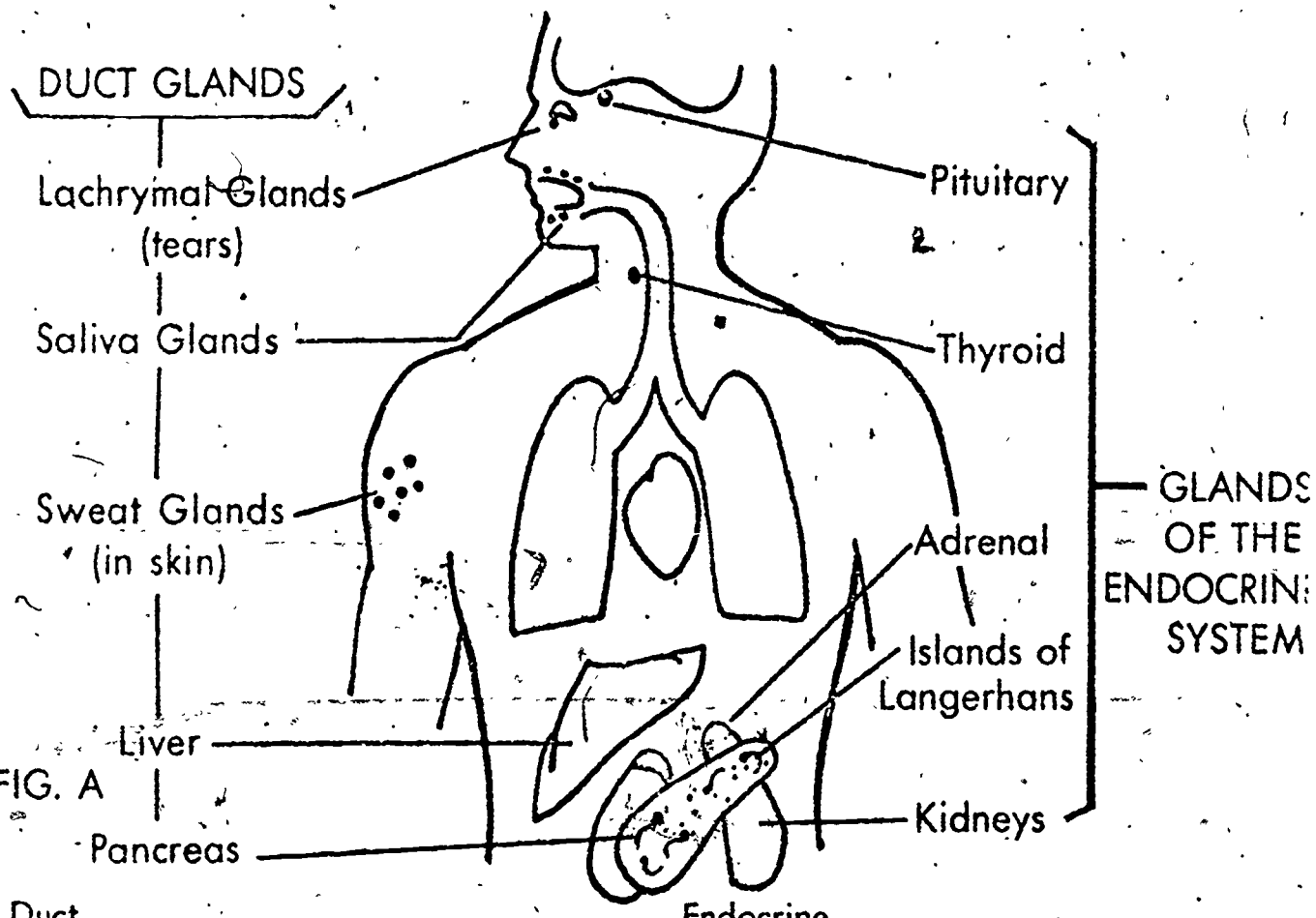

FIG. A

Duct Glands	Product	Function
Lachrymal	tears	clean eyes
Salivary	saliva	moisten food
Liver	bile	aid digestion
Pancreas	digestive juice	aid digestion
Sweat	perspiration	cool body

Endocrine Glands	Product	Function
Pituitary	various harmones	body size
Thyroid	thyroxin	rate of using food
Adrenal	adrenalin	extra strength for stress and emergency
Is. of Langerhans	insulin	regulates body sugar

FIG. B

EXCRETORY SYSTEM (1)

The fuction of the excretory system is to remove wastes from the body. The kidneys are the main part of the excretory system. Other organs in the body also remove wastes -- the lungs, skin and liver. The rectum of the large intestine removes food wastes that cannot be digested.

The main organs of the excretory system are the kidneys. The kidneys (two reddish-purple organs located in the lower part of the back) consists of millions of tiny tubes and cells. These tubes and cells withdraw liquid wastes from the blood. This waste is passed on to and stored in the bladder until it is released from the body. Getting rid of body wastes helps regulate body functions. As we breathe, the lungs remove carbon dioxide and water from the blood. The liver filters out solid particles of waste floating in the blood. The skin, through sweat glands, gives off perspiration, which contains water and some dissolved mineral salts. The large intestine, a part of the digestive system absorbs water from undigestible food wastes. This water is removed by the excretory system and solid wastes are moved along for release by the rectum. Proper foods, exercise, and good posture help the excretory system function properly.

CARE AND MAINTENANCE:

To keep the kidneys healthy, avoid infections, chilling, and undue exhaustion. Germs from other parts of the body may settle in the kidneys, just as they may settle in the lungs.

Drink plenty of water. The kidneys do not seem to be injured by the quantity of water that they have to eliminate, but they may be hurt by a large amount of wastes in only a little water. A healthy adult should drink from six to ten glassfuls a day, or somewhat less when other liquids are taken, too. You need more water when you perspire, or when you have a fever, a cold, or other disease in which the kidneys have to get rid of an unusual amount of wastes and poisons.

Don't try to doctor yourself by taking advertised kidney remedies. These may have no effect, and only a doctor could tell whether a certain drug would be likely to help in your case.

URINALYSIS--one of the physician's most important tools:

Among the most important tests given to everyone who takes a physical examination is the urinalysis, or anlysis of urine. This anlysis will usually show if there is any kidney disease, even in the early stages. It also helps to bring to light abnormal conditions in other parts of the body. This is because the liver, digestive organs, and spleen may cause changes in the blood and consequently in the urine. As a result, urinalysis often shows how these other organs are working.

Like all medical tests, the urinalysis needs to be studied by a physician who knows his patient. Sugar in the urine often indicates diabetes. Sometimes, however, sugar may appear because of excitement or of having recently eaten a large amount of sweets. Protein in the urine may mean infection or kidney disease, but sometimes it is found as a result

///

Urinalysis (continued)

of perfectly normal conditions. Cloudiness may be the result of infection, or it may merely show the presence of normal salts in the urine. Color may very a good deal without indicating that anything is wrong. In any case, a urinalysis is an important part of a general physical examination, which adolescents and adults should have at least once a year.

COMPLICATIONS, PROBLEMS AND PERSONNEL:

The kidneys are often blamed for conditions which have nothing to do with them. Many backaches, for example, are due to muscular strains and sometimes to trouble in the backbone. However, anything that poisons the rest of the body is likely to injure the kidneys. Mercury, other poisons large amounts of alcohol, and bacteria may damage the kidneys. The bacteria may come from infected tonsils, gall bladder, or teeth, from boils, or from diseases like scarlet fever. Hardening of the arteries and high blood pressure are both likely to lead to damage to the kidneys. It is hard to say, however, whether the kidney damage is due to these conditions or whether they and the kidney damage are both symptoms of an underlying disorder.

Sometimes, stones form in the kidneys. These may reach large size without pain if they stay in one place. They may cause great pain if they slip into the ureter and block the passage of urine.

A diseased kidney may have to be removed. If the other kidney is in good condition, the patient may live in good health to a ripe old age. In the same way, a large part of the liver may be removed without injury. As soon as the wound has healed, the liver cells start growing and dividing (provided there is no serious disease in what is left of the liver). Soon there is enough new liver tissue to carry on all of the liver's normal work.

A urologist is a physician who specializes in the study, diagnosis and treatment of diseases of the genitourinary tract. Your regular physician will send you to a urologist if he or she anticipates that a specific problem concerning your excretory system exists.

REVIEW:
Your life depends upon a fresh supply of blood all the time. The same blood is used over and over, but it is conditioned and guarded by the liver and kidneys (as well as by the lungs and skin).

The liver makes bile, stores food, destroys poisons, and prepares certain waste products so that the kidneys can get rid of them. The kidneys secrete urine in order to get rid of surplus water and wastes. They leave the proper amount of salt and other chemicals in the blood, and get rid of the surplus.

To protect your liver and kidneys, eat a properly balanced diet with enough protein and vitamins, drink enough water, and avoid infections and undue exposure. Have a urinalysis as a part of your medical examination every year.

To help you understand your urinary system define the following words:

1. bladder
2. excrete
3. kidney
4. liver
5. lungs
6. sweat glands
7. ureters
8. urethra
9. urinalysis
10. large intestine
11. urologist

Why is it important to drink plenty of water?

Why do we need roughage foods?

Using the illustration of the excretory system, tell which figure helps the body get rid of waste.

1. Perspiration is given off by _____
2. Carbondioxide and water vapor is breathed out through _____
3. This filters out solid particles in the blood _____
4. Liquid wastes are removed from the blood by the _____
5. Undigested solid foods are removed by the _____
6. Liquid wastes are stored until released from the body by the _____
7. These are connecting tubes between the kidney and the bladder. _____

EXCRETORY SYSTEM

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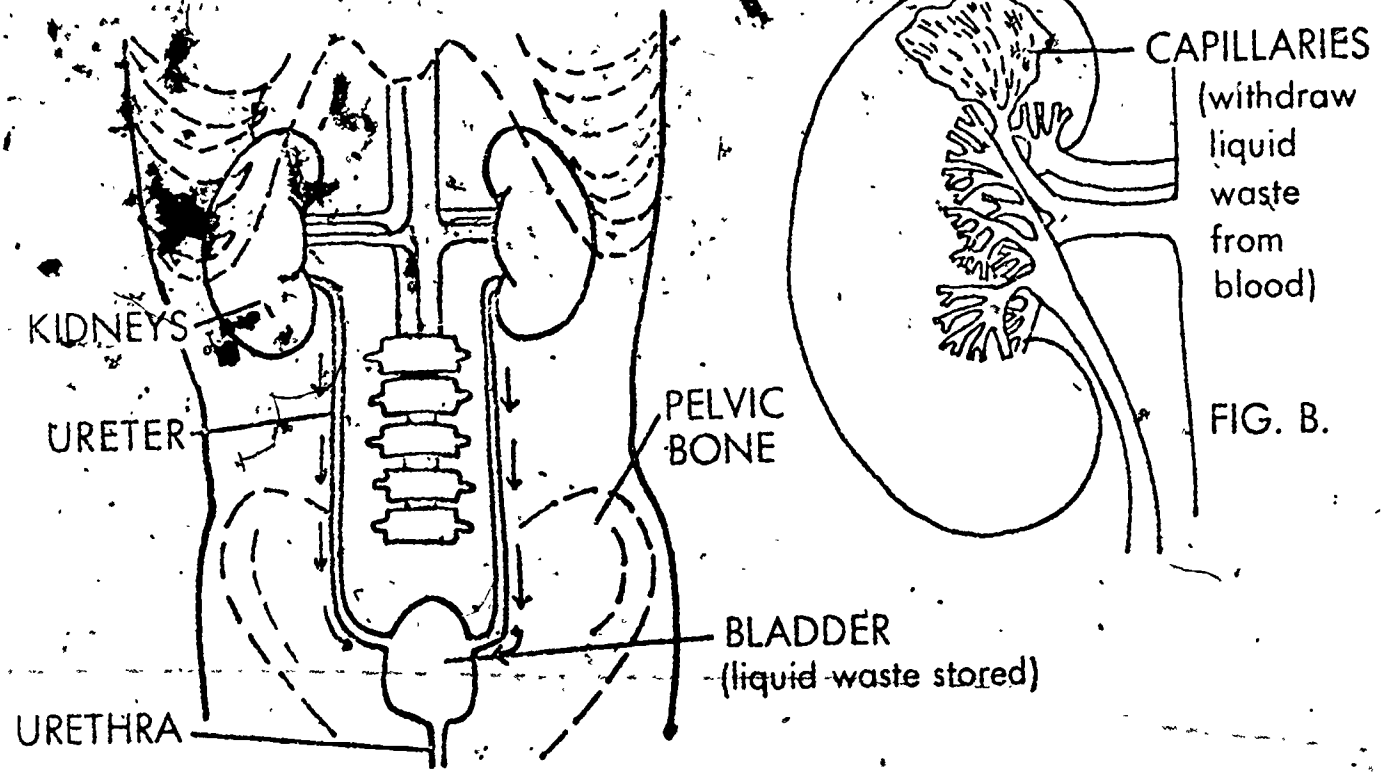


FIG, A. ORGANS OF THE EXCRETORY SYSTEM

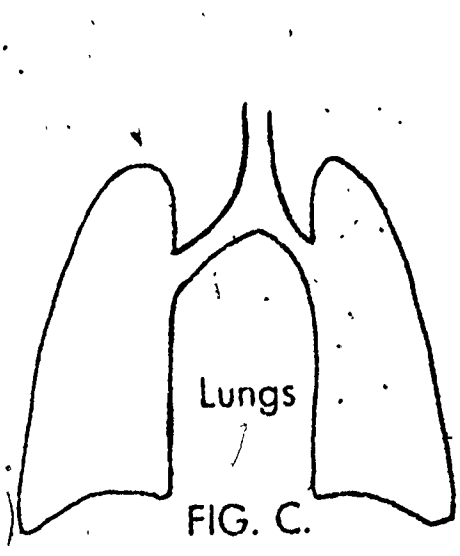
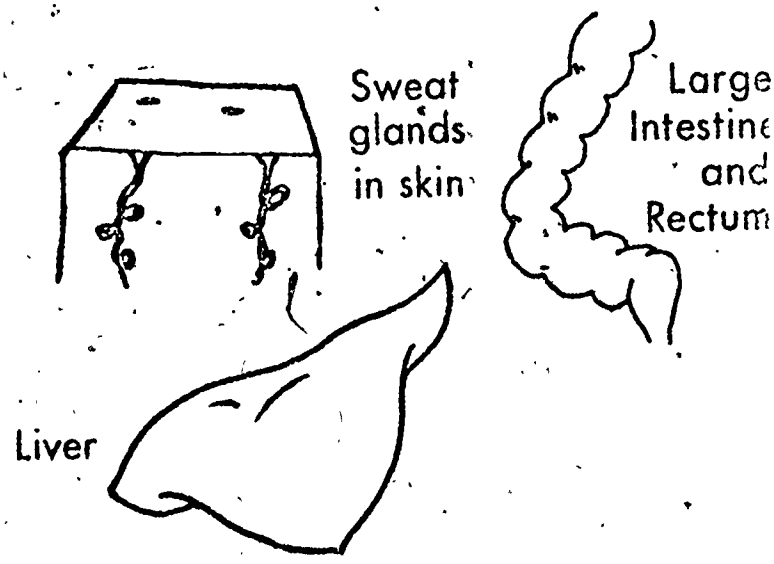


FIG. C.



MUSCULAR SYSTEM (1)

The muscular system is concerned with movement. Muscles, when stimulated by nerves, move our body. About one half of the body is muscle.

Muscles work in only one way -- they contract (become shorter and thicker). When muscles attached to bones contract, they pull on the bones and cause them to move. Most muscles work in pairs. There are two kinds of muscles-voluntary and involuntary. Voluntary muscles work when we want them to. The arm, leg, and neck muscles are examples of voluntary muscles. Involuntary muscles keep on doing their work whether we think about them or not. The heart, stomach, and intestines are examples of involuntary muscles. The work of some involuntary muscles such as the eyelids and diaphragm can sometimes be regulated. Through regular exercise, muscles increase in size and are ready for work.

Why Exercise?

You might answer, "I enjoy it." That's one good reason. Here are others:

1. Exercise strengthens the heart. A normal heart is weakened by lack of exercise.

2. It makes you perspire. This opens your pores and gives your heat-regulating mechanism a workout.

3. It increases circulation. This brings all of your cells the rich supply of food and oxygen they need.

4. It speeds up oxidation of fuel in the cells. This helps your appetite directly and your digestion indirectly.

5. It ventilates the lungs.

6. It strengthens your muscles. If you don't use your muscles, they grow weak they may even shrink in size.

7. It trains your mind and body to act as a team. You learn to use your muscles with skill and grace.

8. It stimulates growth, if you don't overdo it.

9. It makes you feel better. It helps you to face your troubles and keep a cheerful outlook.

How can you gain all the benefits mentioned above? Choose activities to suit your likes and needs. Each person will have to decide just how vigorously and how long they should exercise. Anyone whose health is impaired should have his physician recommend the type and amount of activity.

These rules will help in selecting suitable activities:

1. The activity should be brisk and strenuous enough to speed your heartbeat and make you breathe faster.

2. The activity should never exhaust you. If it makes your heart pound and leaves you quite breathless, avoid it. These are warning signals. You make a serious mistake if you try to keep up with the other fellow when the effort overstrains you.

3. Your activities should use many muscles. The best are those in which you have to make many types of movements. Walking, jogging, running, swimming, and active games are especially good.

4. Exercise out of doors if you can. If you can't, make sure that you have good ventilation wherever you are.

5. Try to plan "carry-over" sports or activities that you will enjoy and continue to play for many years. Dancing, bowling, golf, tennis, skating, and swimming are good carry-over activities.

COMPLICATIONS, PROBLEMS AND PERSONNEL

Muscles are often strained, sprained and even bruised. Although these injuries sound minor it is not uncommon for a severe sprain to take as long or longer to heal than a bone break.

Muscular dystrophy is a neruological disease which causes a gradual wasting of muscle tissue. Most victims of this disease are children; many die before they reach adulthood.

Health care workers are available for patients with short term and long term muscle difficulties and diseases. Physical therapists work with handicapped children, temporarily injured persons, arthritis, stroke and heart patients and with the elderly in order to heal or to treat injuries and disabilities by physical means. The therapist uses heat, light, water, sound, electrical, exercise and energy saving techniques. Also working with licensed physical therapists are physical therapy assistants. Closely associated with the physical therapist is the occupational therapist. The occupational therapist assists in retraining skills required in areas such as work or recreation. Orthotists make and fit braces which help to support disabled limbs. Orthopedic surgeons work closely with muscle disease deformities and problems associated with bones. Sometimes a plastic surgeon may be involved in specialized cases.

REVIEW:

Everyone needs a daily program that includes a proper amount of physical exercise. Exercise is necessary for good circulation and good muscle tone; these, in turn, are essential to the health of every organ in your body. Your daily program of exercise should include "carry-over" activities that you will still enjoy later in life.

We have three types of muscle: (1)skeletal (2) heart (or cardiac) and (3) smooth. All your muscles have only one job to cause movement. They work only by pulling; they never push.

The more oxygen your muscles get while they are working, the better and longer they can work. You will get more work done in less time and with less fatigue if you work rhythmically, work at a fair pace without hurry, maintain good posture, get plenty of fresh air, and take frequent short rest periods. With practice, you can learn to perform any activity with the least amount of effort.

To help you understand the Muscular Sustem define the following words:

1. Achilles tendon
2. Bicep
3. Bruise
4. Cranium
5. Diaphragm
6. Dislocation
7. Extensor
8. Flexor
9. Involuntary muscle
10. Ligament
11. Muscular dystrophy
12. Muscle cramp
13. Occupational therapist
14. Orthotist
15. Periosteum
16. Physical therapist
17. Sinuses
18. Skeleton
19. Strain
20. Suture
21. Tendon
22. Tricep
23. Voluntary muscle

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Muscle is a specialized type of tissue which can expand and contract like a rubber band. Because muscle tissue has this 'elastic' quality the body can move. The muscular system performs two other functions; (1) it protects internal organs and (2) it gives form and beauty to the body.

There are three types of muscle tissue.

1. Striated which is found chiefly in the arms and legs, these muscles are called voluntary because they are under the control of our will.

2. Unstriated: which is smooth and is found chiefly in the walls of arteries, veins and the alimentary canal these muscles are called involuntary because they cannot be controlled by our will.

3. Cardiac which is found only in the heart.

What type of muscle makes your foot move?_____

Is cardiac muscle voluntary or involuntary?_____

What do you think would cause a voluntary muscle to twitch?_____

_____

What kind of muscle action is used in each of the following:

a. lifting

b. digestion

c. running

d blinking eyes

e. breathing

f. heartbeat

g. swallowing

h. singing

Activity, or lack of it exercise, or lack of it, effect the condition of muscle tissue.

What is muscle tone?

Name two benefits of exercise on muscle tissue.

1.

2.

What precautions would be taken when exercising?

What is the object of physical fitness programs in schools?

What is the effect of labor saving devices upon muscles? (give examples)

Muscles are sometimes injured or damaged. Like other body tissues muscles sometimes become diseased.

What is a sprain?

What is a dislocation?

What is a strain?

What is a muscle cramp?

What is muscular dystrophy?

Using the arm muscles, as an example, answer the following questions.

Where is your bicep?

Where is your tricep?

What happens to the bicep when your arm extends?

What happens to the bicep when your arm flexes?

What happens to the tricep when your arm extends?

What happens to the tricep when your arm flexes?

Examine the chicken leg.

Find the muscle tissue, tendons and ligaments. Describe each as to texture, shape and color.

Muscle:

Tendons:

Ligaments:

Move the lower portion of the leg by pulling on first one tendon, then on the other. Describe what happens.

Move the leg, at the joint, from side to side. Ligaments are involved in joint action. What do ligaments have to do with this type of movement in the chicken leg?

MUSCULAR SYSTEM

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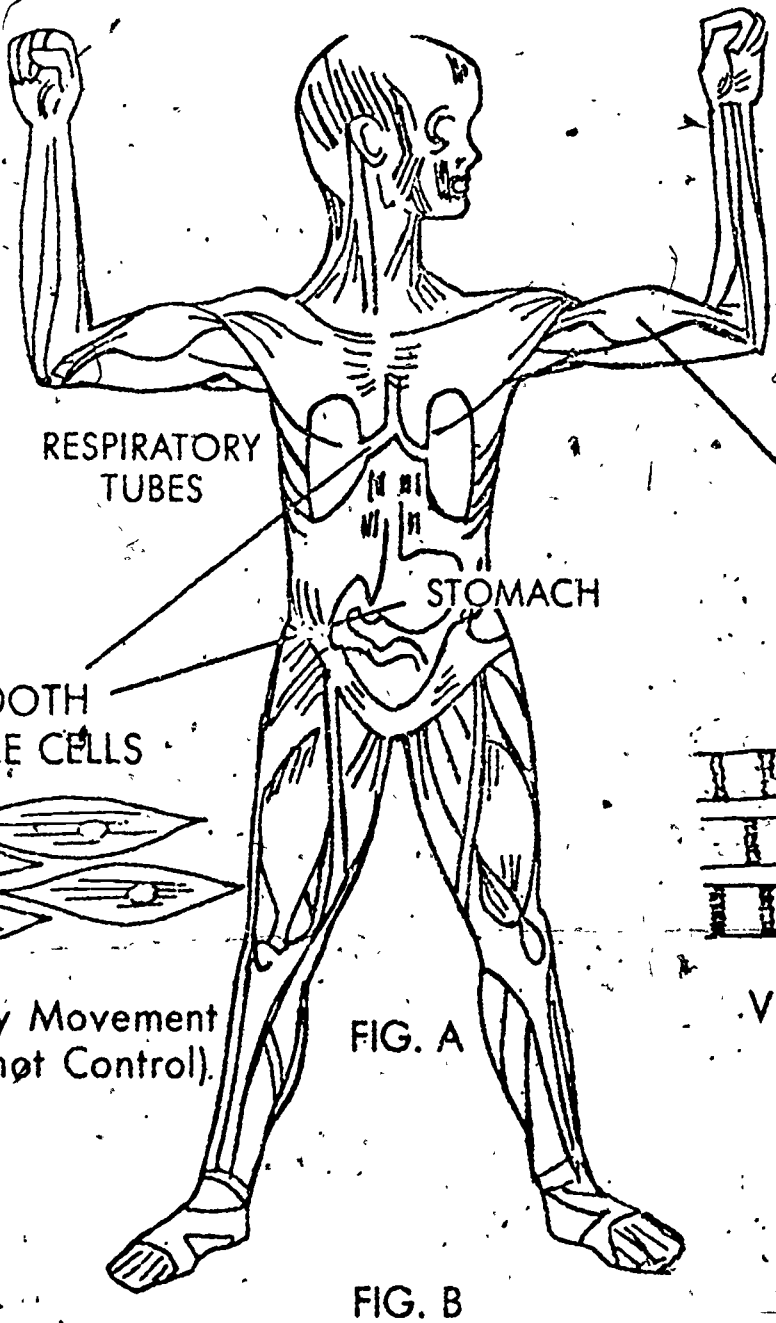
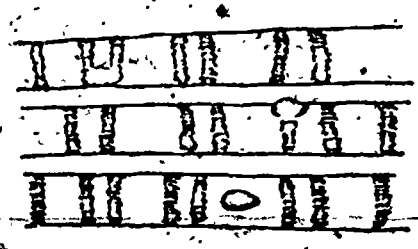


Involuntary Movement
(You Cannot Control)

FIG. A



Voluntary Movement
(You Control)

FIG. B

1. LIFTING _____
2. DIGESTION _____
3. RUNNING _____
4. BLINKING EYES _____
5. BREATHING _____
6. HEARTBEAT _____
7. SWALLOWING _____
8. SINGING _____

The nervous system enables us to react to our environment. The unit of structure of the nervous system is the neuron, the nerve cell.

The nervous system has two main divisions - the central nervous system and peripheral nervous system. The central nervous system consists of the brain and the spinal cord. The peripheral nervous system consists of the cranial (in head) and spinal nerves and the autonomic nerve structure. This structure serves the internal organs and controls such activities as digestion, circulation, respiration, excretion, reproduction, and endocrine gland activity. The parts of the nervous system are composed of neurons. Nerves are really bundles of axons.

Nerve Impulse Pathway:
The synapse is the gap over which a nerve impulse must pass. Reflex actions are the responses of the nervous system to stimulus. Reflexes may be involuntary or voluntary.

Stimuli are received by specialized structures known as receptors. Electrical and chemical changes in the neuron transmit the nerve impulse from the dendrite receiving and stimulation to the axon. The gap from the nerve endings of the axon to the dendrites of the next neuron is known as the synapse. The impulse is able to pass through this gap. The next neuron may pass on this impulse to another neuron or to a structure capable of reacting to the stimulus, such as a muscle or gland. These are known as effectors. This pathway of the impulse is known as the reflex arc. Some reflex actions such as breathing, pulling a hand away from a hot object, and digesting food are involuntary. Others are voluntary such as recognizing a printed word and being able to pronounce it.

COMPLICATIONS, PROBLEMS AND PERSONNEL:

Many infectious diseases produce injurious effect upon the nervous system. There are four diseases in which a virus attacks the nervous tissue specifically. They are rabies, poliomyelitis, encephalitis and meninigitis. Syphilis, a bacterial disease, can directly attack the nervous system in its late stages. Several other common disorders of the nervous system are epilepsy, multiple sclerosis and cerebral palsy, also Parkinson disease.

Medical personnel who work with the nervous system are many. Electroencephalograph technicians operate a machine called an electroencephalograph commonly known as an EEG. The machine records brain waves so that abnormalities and disorders can be detected.

An anesthesiologist is a doctor who specializes in administering anesthetics so that surgical patients can be put to sleep so that no sense of pain is felt. Certified nurse anesthetists also work in the area of administering an anesthetic.

Neurologists and specialized physicians who diagnose and treat diseases of the nervous system. Neurosurgeons diagnose and surgically treat the nervous system.

REVIEW:

You are "perfect" without practice -- in some ways. You were born with a set of built-in nerve pathways that help to make your body work just as it should -- without your knowing or thinking about it. Your built-in pathways are working for you now. Your conscious self couldn't attend to a fraction of the jobs that your nerves and the rest of your body carry on.

Your automatic reactions are called reflexes. Your nerve pathways for your reflexes are inborn. Simple reflexes take place without your thinking about them.

Your central nervous system consists of your brain and spinal cord (which is continuous with the lower part of the brain). The central nervous system sends nerves to your skeletal muscles and sense organs.

The parts of the brain that you should remember are the cerebrum, the cerebellum, and the medulla. You need your cerebrum to learn, decide, remember, speak, see and hear. The cerebellum controls balance and the way your muscles work together. You need the medulla in order to live at all, since it controls heartbeat, breathing, and other important functions.

Your autonomic system sends orders to your heart, your smooth muscles, and your glands -- all the organs over which you do not exercise conscious control.

To help you understand the nervous system define the following:

Anesthesiologist

Autonomic Nervous System

Axon

Brain Waves

Central Nervous System

Cerebral Palsy

Dendrites

Electroencephalograph

Encephalitis

Epilepsy

Ganglia

Gray Matter (Cortex)

Meninigitis

Moter Nerve

Multiple Sclerosis

Nerve

Neuron

Neurology

Neurologist

Paraplegic

Poliomyelitis

Rabies

Receptors

Reflex

Reflex Arc

Sensory Nerve

Spinal Column

Spinal Cord

Stinulus

Synapse

NERVOUS SYSTEM - THE BRAIN

Our brain is the most complex, imaginative and smartest think tank ever created. Each of us has our own little "IBM" machine inside our skull that controls all of our thoughts and actions.

There are three major areas of the brain--what are they and what do they do?

1.

2.

3.

A fourth part of the nervous system is the spinal cord--what is its function?

We spend about one-third of our lives sleeping (20 out of 60 years) Why?

1.

2.

3.

4.

5.

Fatigue from over-work, either physical or mental, causes nerve cells to shrink so they will not work as they should. What might you do to prevent fatigue?

1.

2.

There are two systems at work in the nervous system--the autonomic nervous system and the central nervous system.

Which of the two systems (autonomic and central nervous sytem) controls the things you do of your own free will?

What part of the total body do these nerves go to?

What areas of the body does the autonomic nervous system go to?

BODY

The nervous system is built up of microscopic nerve cells or neurons.

What are the two things that make up neurons?

1._____locate in the brain or spinal cord.

2. _____which lead to skin, muscles, bones and organs.

What does the central nervous system control?

Describe the impulse action from the eyes to the brain and back when you see something flying through the air toward your eyes.

1.

2.

3.

4.

Name one reflex we perform constantly.

What is the difference between a sensory nerve and a motor nerve?

1. Sensory:

2. Motor:

The meninges are membranes that cover the brain and spinal cord.

What is spinal meningitis?

Define neurology

What kind of a doctor is a neurologist?

What parts of the body might a neuro-surgeon perform surgery upon?

NERVOUS SYSTEM

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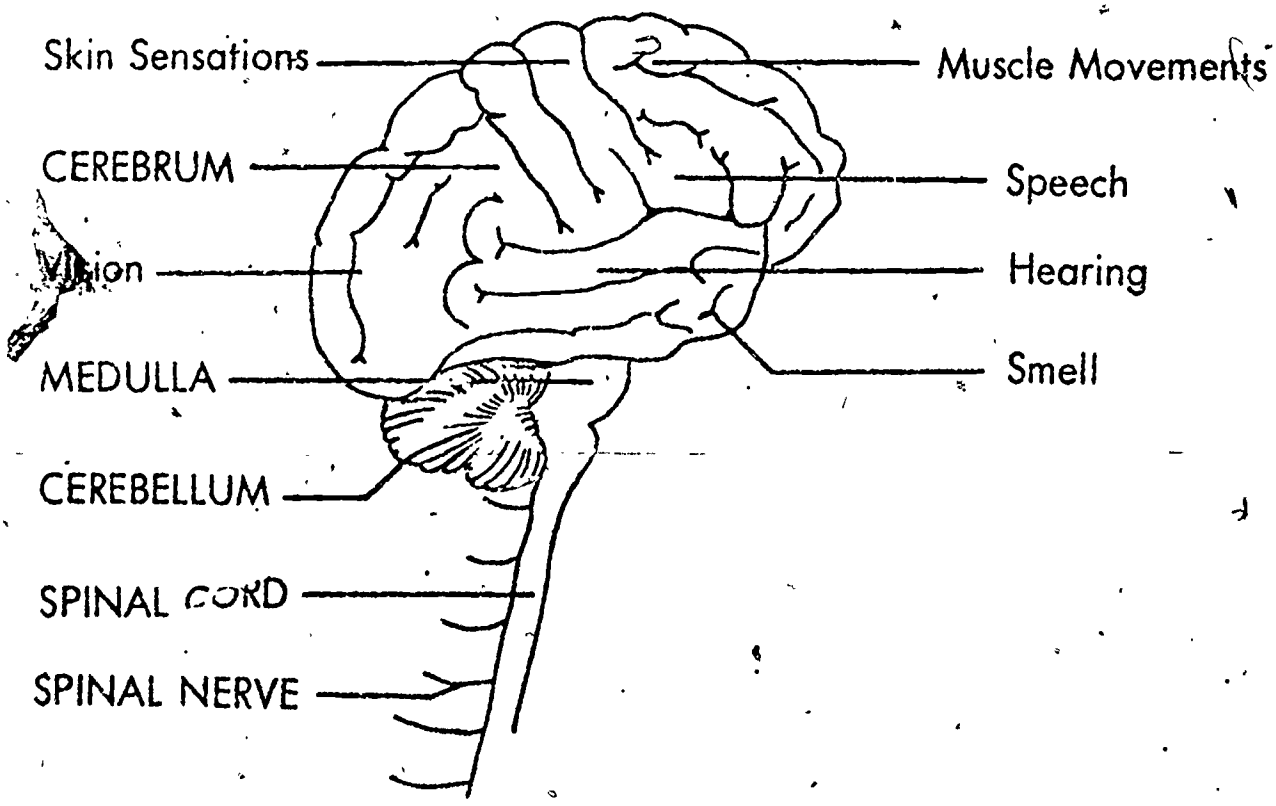

FIG. A. PARTS OF THE BRAIN AND ACTIVITY AREAS

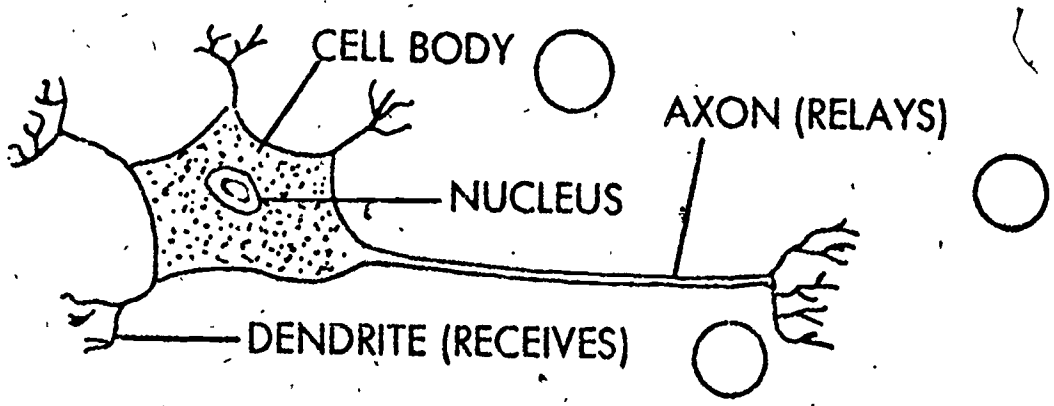

FIG. B A NEURON, NERVE CELL.

NERVE IMPULSE PATHWAY

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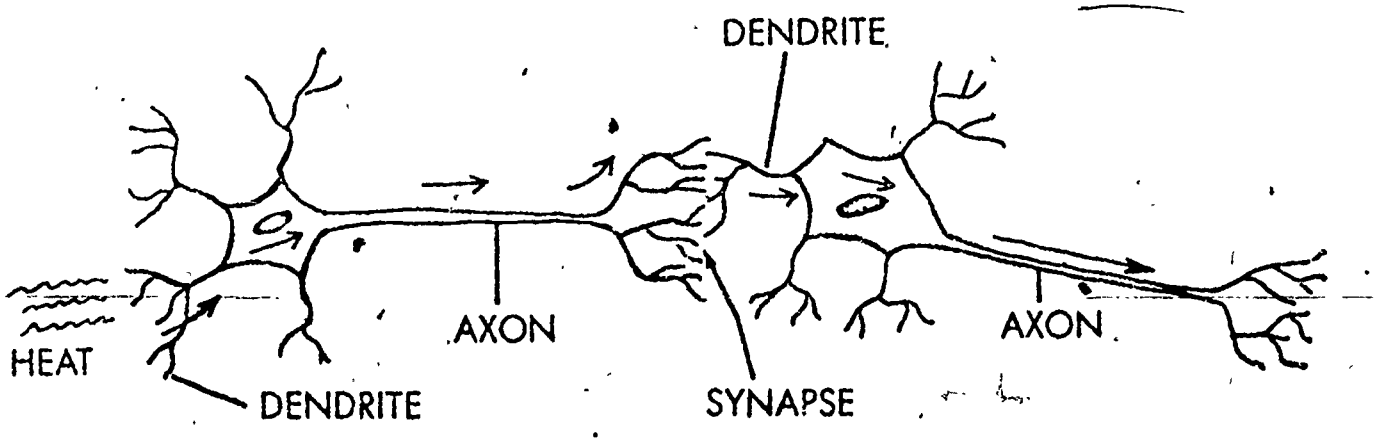

FIG. A SYNAPSE — the region over which an impulse must pass

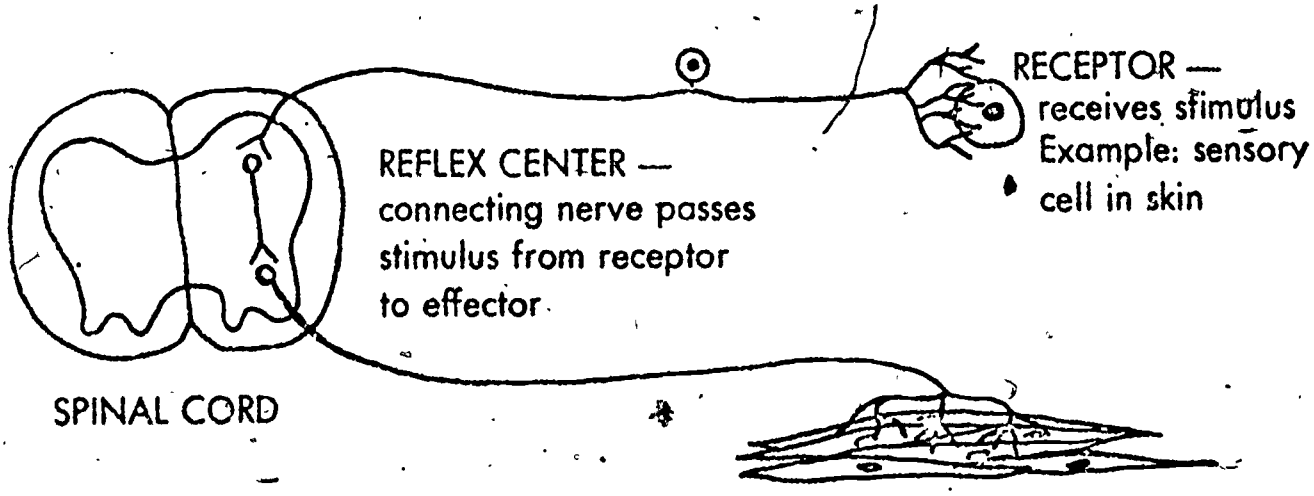

FIG. B THE REFLEX ARC

RESPIRATORY SYSTEM

The function of the respiratory system is to bring oxygen into the body and get rid of carbon dioxide and other gases. Parts of the respiratory system, used to carry out this function are - nose, throat, windpipe, bronchical tubes, and the lungs.

The respiratory system, from your nostrils to the tiny air sacs within your lungs, makes the exchange of CO_2 for O_2 possible. Breathed in (inhaled) air is filtered, moistened, and warmed in your nasal passages, throat, and windpipe (trachea). The "cleaned" air passes through your windpipe into two bronchial tubes -- branches of the windpipe. One tube goes to the right lung and one to the left lung. Within the lungs the bronchi al tubes divide into smaller branches. Located at the end of the bronchi al tubes are tiny clusters of little air sacs. Air sacs have very thin walls. It is here that O_2 from the air passes into the blood and CO_2 passes out of the blood into the air sac. When you breathe out (exhale) the CO_2 and other gases are removed from the body. The work of inhaling and exhaling, called breathing, is carried on by the ribs, rib muscles and diaphragm. When the rib muscles and diaphragm contract, air rushes into your lungs. When the rib muscles and diaphragm relax, air is forced out by the change of lung size and pressure within the lung and chest cavity. The exchange of oxygen for carbon dioxide within the lungs is called respiration.

COMPLICATIONS, PROBLEMS AND PERSONNEL:

Various conditions interfere with normal nasal breathing. During acute stages of a cold we are unable to breath through our nose. Dust and smoke in the air or excessive smoking may have the same effect.

The body has various ways of removing fluid or other foreign materials which have accumulated in the breathing passages. The sneeze is an involuntary reaction to such materials. The lower air passages have their mechanisms for removing these substances: (1) the action of cilia (2) muscular or peristaltic movements of the bronchioles to push materials into the large bronchi (3) the cough reflex.

Enlarged tonsils and adenoids offer obstructions in the breathing passage. The diseases of the respiratory system could be divided into three groups. One group includes nose illnesses that arise from industrial working or environmental conditions. The second group representing the communicable diseases. The third group being noncommunicable diseases.

Some common diseases of the respiratory system are sinusitis, cold, bronchitis, hayfever, asthma, tuberculosis, tonsilitis, laryngitis, pleurisy and asthma.

Specific respiratory disorders common to smokers and some non-smokers are chronic bronchitis, emphysemia and lung cancer.

Medical specialists involved with the respiratory system are many. A few are:

Inhalation therapist - assists people to breathe by administering oxygen to persons who have just been operated upon, those who have asthma or pneumonia or babies with respiratory difficulties.

Allergist - treats and diagnoses body reactions which show hypersensitivity to drugs, pollens, foods, animals or other substances.

Otolaryngologist - a specialist in diseases of the ear, nose and larynx.

Radiologist - a physician who is skilled in the diagnostic and therapeutic use of x-rays.

Rhinologist - a physician who specialized in disorders of the nose.

REVIEW:

Your respiratory system includes the air passages in the nose and throat, the windpipe, bronchi, and lungs (containing bronchial tubes and air sacs). The lungs take in oxygen and get rid of carbon dioxide for all the cells of your body. Air must be warmed, moistened, and filtered before it reaches the millions of air sacs in the lungs.

The energy you require is released by the oxidizing of food inside your cells. Excess heat is allowed to escape from your body, so that your temperature stays at about 98.6 F. Your skin helps to regulate your temperature by giving off excess heat through radiation and perspiration. You also give off heat when you exhale air from your lungs.

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1.

2.

3.

4.

What is Leukemia

What is hereditary hemophilia?

The heart is the most powerful muscle in the body. It is cone shaped and is located near the middle of the chest cavity with its broad end (base) up and its pointed end (apex) down. It is about the size of a clenched fist.

Some circumstance or conditions can affect the functioning of the heart. Others are very minor in effect.

What is rheumatic fever?

What is a congenital heat defect?

Do you have or have you had any of the above? Has it made changes in your life necessary?

Arteries are thick-walled and elastic because they carry blood away from the heart.

What type of blood is carried in arteries?

Do arteries lie below veins in body tissue or above?___ Why?

Veins are thin-walled vessels because they carry blood to the heart.

What type of blood is carried in veins?

Do veins lie below arteries in body tissue or above?_____ Why?

Capillaries are small microscopic vessels

What type of blood is carried in capillaries?

Why are capillaries so small?

Cardiovascular diseases are ones which attack the heart and or the vessels. Cardiovascular diseases are the leading cause of death and the major cause of disability in the United States.

To help you understand the respiratory system define the following words:

Adenoids

Allergist

Asthma

Bronchi

Bronchial Tubes

Bronchitis

Carbon Monoxide

Chronic Bronchitis

Cilia

Diaphragm

Emphysemia

Epiglottis

Hay Fever

Humidity

Inhalation Theropist

Larynx

Lung Cancer

Lungs

Medulla

Otorhinolarynagologist

Radiologist

Respiration

Sinuses

Tuberculosis

Vital Capacity

Voice Box

Wind Pipe

1. Why should you use your mouth only as an emergency breathing entrance?

2. What good are the hairs in your nose?

3. Their are two types of breathing, (rib and diaphram). What type of breathing do you use?

4. How much can the lungs hold?

5. Why do tonsils have to be removed?

6. Why do people need to have their adenoids removed?

7. Why are humans classified as warm blooded?

8. Name the four ways your body is warmed?

9. What are the three ways your body is cooled?

10. What is the normal body temperature?

11. Why is 68 to 70 F. a good suitable room temperature?

12. In your own words explain briefly but thoroughly what the respiratory system is.

13. In your own words explain briefly but thoroughly how the respiratory system works.

On the illustration of the respiratory system label the following:

Adenoids

Bronchi

Bronchial tubes

Diaphragm

Epiglottis

Larynx

Lungs

Sinuses

Voice Box

Wind pipe

RESPIRATORY SYSTEM

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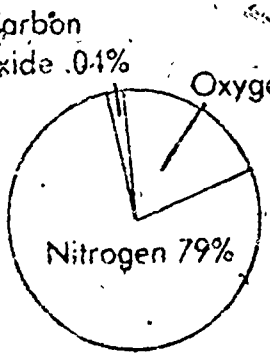

FIG. A INHALED AIR

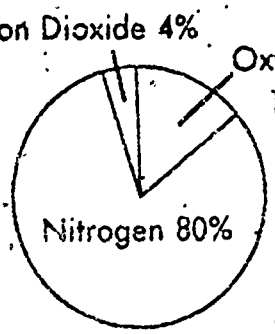

FIG. B EXHALED AIR

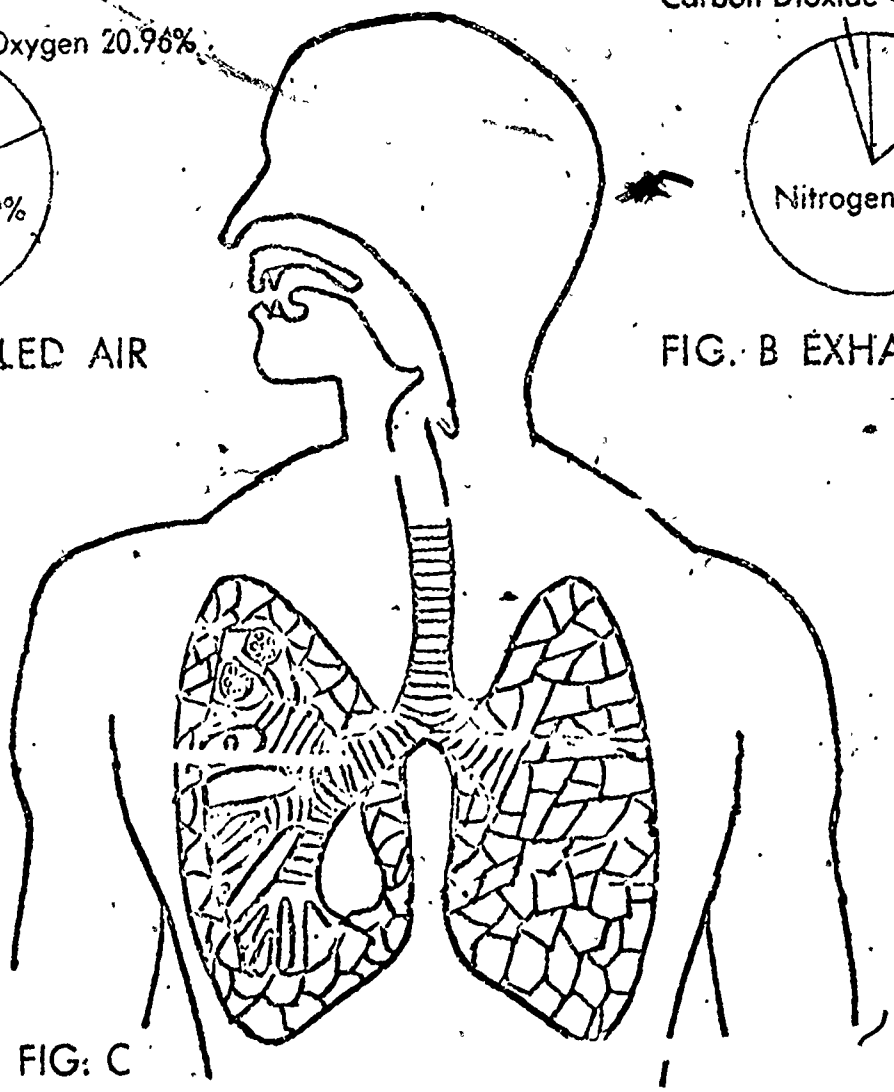

FIG. C

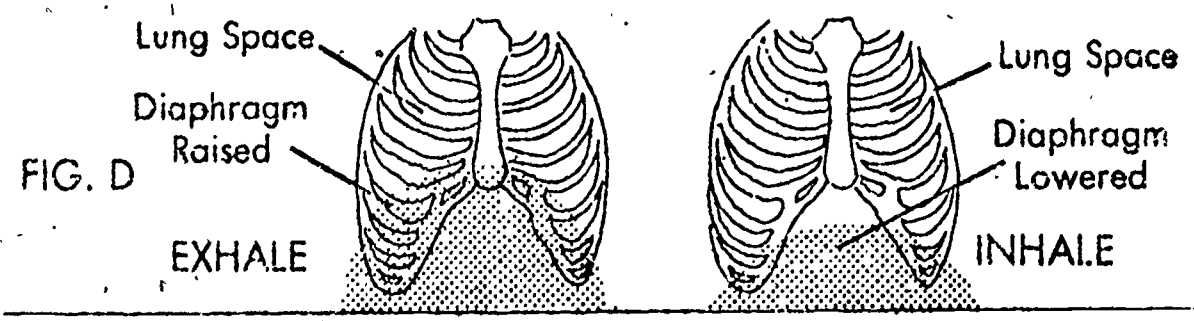

FIG. D

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REPRODUCTIVE SYSTEM

Reproductive systems are perhaps the most unique of all the body systems. Although male and female systems are significantly different they do have similarities.

Male: The male sexual organs consist of the penis and testicles on the outside and several important glands and tubes inside the body. The penis is a soft, spongy, cylindrical tube, a little over an inch in diameter and about four inches in length when hanging limp and relaxed in the groove beneath the pubic bone. Its outer extremity, called the head or glans, is slightly larger in diameter than the main body of the tube, and it is here where the principal nerve endings of sexual feeling are located. At birth, the end of the penis is covered with a fold of soft, flexible skin, called the foreskin. Many doctors recommend the operation of circumcision, which removes the foreskin from around the glans or head of the penis. Smegma is the waste matter which accumulates under the foreskin.

When a male is aroused the brain and spinal centers change the supply of blood sent to the penis: its porous tissues become filled with blood; and the vessels for the returning blood are constricted. As a result the penis becomes stiff, rigid and extends to an angle from the body. When so erect, the penis increases considerably in both length and diameter. If sexual stimulation is slight or brief, the flow of blood is soon released and the penis then returns to its usual soft and insensitive condition. If stimulation is continued or increased by thought, or by friction of the glans along the vaginal walls after penetration, the nerves in the region of the prostate gland come into play and the fluids produced and stored in the seminal vesicles and the prostate gland are forced out through the urethra in tiny oozing spurts. This is called ejaculation. It usually takes place at the height of the sexual orgasm.

The testicles are two firm, oblong glands enclosed in a soft, elastic sac called the scrotum. These glands produce microscopic cells known as spermatozoa. The sperm cells mature in the tubules of the testicles and in the epididymis and find their way up through a small tube, the vas deferens, into the ampulla, where they are stored. During sexual excitement fluids from the prostate and the siminal vesicles serve to float the spermatozoa along and at the same time awaken in them a lively swimming motion, so that, when they are deposited in the vagina, they are able to travel into the uterus and the fallopian tubes.

Many hundreds of millions of these microscopic sperms are to be found in each ejaculation of a half teaspoonful or more of fluids. These sperm are either X (female) or Y (male). They are the determiners of a newborn child's sex.

The prostate gland is more or less soft, spongy gland, about the size of a walnut, which surrounds the male urethra just below the bladder. Adjoining it, and somewhat below and on either side of the bladder, are two glandular sacs known as seminal vesicles. These help to produce and store some of the pale, starchlike fluids which are discharged at the peak of the orgasm.

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After a male reaches puberty in early adolescence, the seminal reservoirs more or less regularly fill with siminal fluids until inner pressures set off the control mechanism and the fluids are emptied out through the penis, as in sexual intercourse. Because they usually occur in sleep without conscious sexual intent, these discharges are called nocturnal emissions or wet dreams. The latter term is something of amisnomer since only on occasion are they in any way related to a dream.

Female [illegible] internal female sex organs consist of two ovaries, two uterine or fallopian tubes, the uterus and the inner four-fifths of the vagina. The ovaries which are walnut sized secrete female hormones and store ova (eggs) until they are released (ovulation). Upon release the ova move through one of the fallopian tubes, which is four or five inches long and about pencil size in diameter, by means of cilia. The fallopian tube enters the upper or top portion of the hollow, pear shaped [illegible] the lower portion of the uterus, also known as the neck [illegible], is the cervix. The cervix leads to the [illegible] tube which is capable of considerable delation. The vagina is the organ that receives the penis during the act of sexual intercourse

The external female reproductive organs are collectively called the vulva. The vulva consists of the mons pubis, labia majora, labia minora, the clitoris the vestibule and the outer one-fifth of the vagina. The mons pubis is made up of fatty tissue which lies over the pubic bone. The labia major and the labia minor are folds of tissue which protect the internal reproductive system. The clitoris is a small cylindrical organ similiar to the male penis. It is composed of spongy erectile tissue which becomes engorged with blood and erect when stimulated. The vestibule is the area enclosed by the labia minora which houses the openings of the vagina and the urethra.

Menstruation is a monthly discharge of blood, other fluids and debris from the uterine wall or endometrium. Menstruation usually begins between age 11 and 15 and ceases around age 45 or 50. The menstrual cycel is measured from the onset of one menstrual flow to the day before the next flow and varies considerably in women. While the average length is from 28 to 30 days, young women tend to have longer cycels than do older women and young women also tend to have greater variation in the length of their cycles. The menstrual cycle can vary from 21 to 90 days and still be considered physiologically normal. Progesterone, estrogen and FSH (follicle stimulating hormone) are the hormones which regulate the normal ovulation-menstruation cycle.

Two old wives tales should be taken into account here. One is that physical activity is harmful during menstruation. Physicians generally agree that females should carry on activities as usual during menstruation. The other old wives tale is that sexual intercourse during menstruation will cause physical distress. Research has clearly shown that sexual activity will not increase physical distress.

Comparison of Male and Female physiological growth

Male

1. Genital organs begin to enlarge
2. Pubic hair makes its appearance
3. Height and weight change rapidly
4. Shoulders widen
5. Hair appears in arm pits

6. Breasts may enlarge temporarily
7. Beard begins
8. Oil glands become active (perhaps acne)
9. Voice gets deeper
10. Not every male will follow this to a tee.

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Comparison of Male and Female Physiological Growth (continued)

Female:

1. Breasts enlarge
2. Menstrual cycle begins
3. Hair appears on legs and arm pits
4. Hips widen
5. Oil glands become active
7. Not every girl will follow this to a tee. NOTE: Females generally mature about two years earlier than males.

COMPLICATIONS, PROBLEMS AND PERSONNEL

A variety of diseases, infections and inflammations can afflict the male and female reproductive systems. Venereal disease is a group of contagious diseases which are communicated mainly through sexual intercourse. Syphilis and gonorrhea are the two major bacterial venereal diseases. Gonorrhea is at epidemic stages in the United States today.

A number of other non-venereal diseases affect the reproductive areas, some are trichomoniasis, moniliasis, venereal warts and dermatoses. Genital inflammations occur in any organ. Some of these common ones are: cystitis, epididymitis and prostatitis.

Polyps or benign tumors can be found in any body cavity where there is mucous tissue. The uterus is a common site. Cancer can attack any part of the reproductive system; the most common sites are the cervix in the female and the prostate gland in the male.

For a variety of reasons sterility affects, at times, both males and females. Sometimes it is physically necessary or advantageous that a person become sterile. Vasectomies in males; hysterectomies in females and the removal of other primary sex organs in both sexes can create a sterile condition.

The inability, for various reasons, to have sexual intercourse in males is called impotency; in females it is called frigidity. In both cases the cause is not always physical in nature.

All young adults should be knowledgeable of precautions against reproductive disorders and diseases. Your physician will not generally check for gonorrhea or syphilis unless you ask and tell him what you suspect. The Oregon State law guarantees that any person twelve years or older can get free, confidential (will not notify your parents) medical treatment for V.D. During an annual and regular thorough exam a physician will use a speculum to obtain a Pap smear, if you are a female. A Pap smear is a sample of female cervical fluid and cells which will help to detect the presence of cancer cells. Inspection of the prostate gland may reveal, in the male, early signs of prostatic cancer. A reproductive specialist for females is a gynecologist for males a urologist.

REVIEW:

Both male and female reproductive systems differ, although they do posess similarities. The male reproductive system is an external system while the female system is both external and internal. Young adults develop sexually at different rates; not all follow the physiological growth pattern to a tee. With an understanding of the sexual systems one can develop a comfortable familiarity with one's own body as well as helping to dispel false notions about the sexual functioning of the opposite sex.

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To help you understand the reproductive systems define the following words:

Male

1. Ampulla
2. Circumcision
3. Ejaculation
4. Epididymis
5. Foreskin
6. Glans penis
7. Lubricating gland
8. Nocturnal emission
9. Orgasm
10. Penis
11. Prostate gland
12. Scrotum
13. Semen
14. Seminal vesicles
15. Smegma
16. Spermatozoa (X and Y)
17. Sterility
18. Testicles
19. Urethra
20. Urologist
21. Vas Deferens

Female:

1. Cervix
2. Clitoris
3. Endometrium
4. Fallopian tube
5. Gynecologist
6. Hymen
7. Hysteroctomy
8. Hymen
9. Labia
10. Menopause
11. Menstruation
12. Orgasm
13. Ovary
14. Ovulation
15. Ovum
16. Pap smear
17. Sterility
18. Uterus
19. Vagina

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Below chart the female ovulation/menstruation cycle.

Complete the following statements:

1. The storage place for immature ova is the _____.
2. During intercourse, the male sex cell is deposited in the _____
3. The fluid released by the male during intercourse is _____
4. The skin covering the head of the penis is the _____
5. The lining which is built up in the uterus each month is the _____
6. A vital source of sexual satisfaction in the female is the
7. Sperm are _____ than ova.
8. Women menstruate approximately _____ years.
9. The sex of the child is determined by the _____.
10. The end of menstruation is called _____.

On the diagram of the male reproductive system label the following parts: Ampulla, Epididymis, Foreskin, Glans penis, Penis, Prostate gland, Scortum, Seminal vesicles, Testicles, Urethra and Vas Deferens.

On the diagram of the female reproductive system label the following parts: Cervix, Endometrium, Fallopian tube, Ovary, Uterus, Vagina

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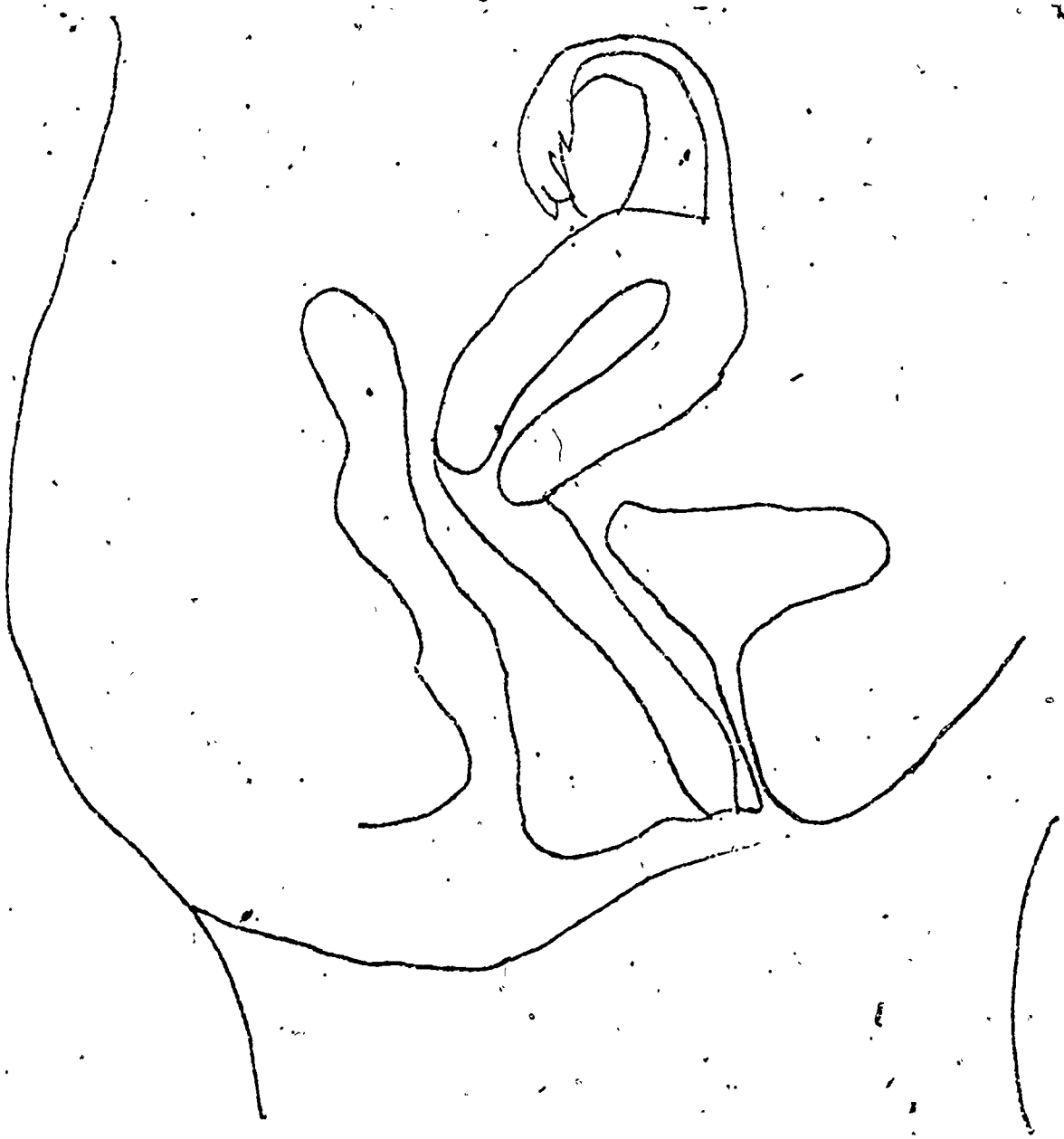
FEMALE REPRODUCTIVE SYSTEM



MALE REPRODUCTIVE SYSTEM

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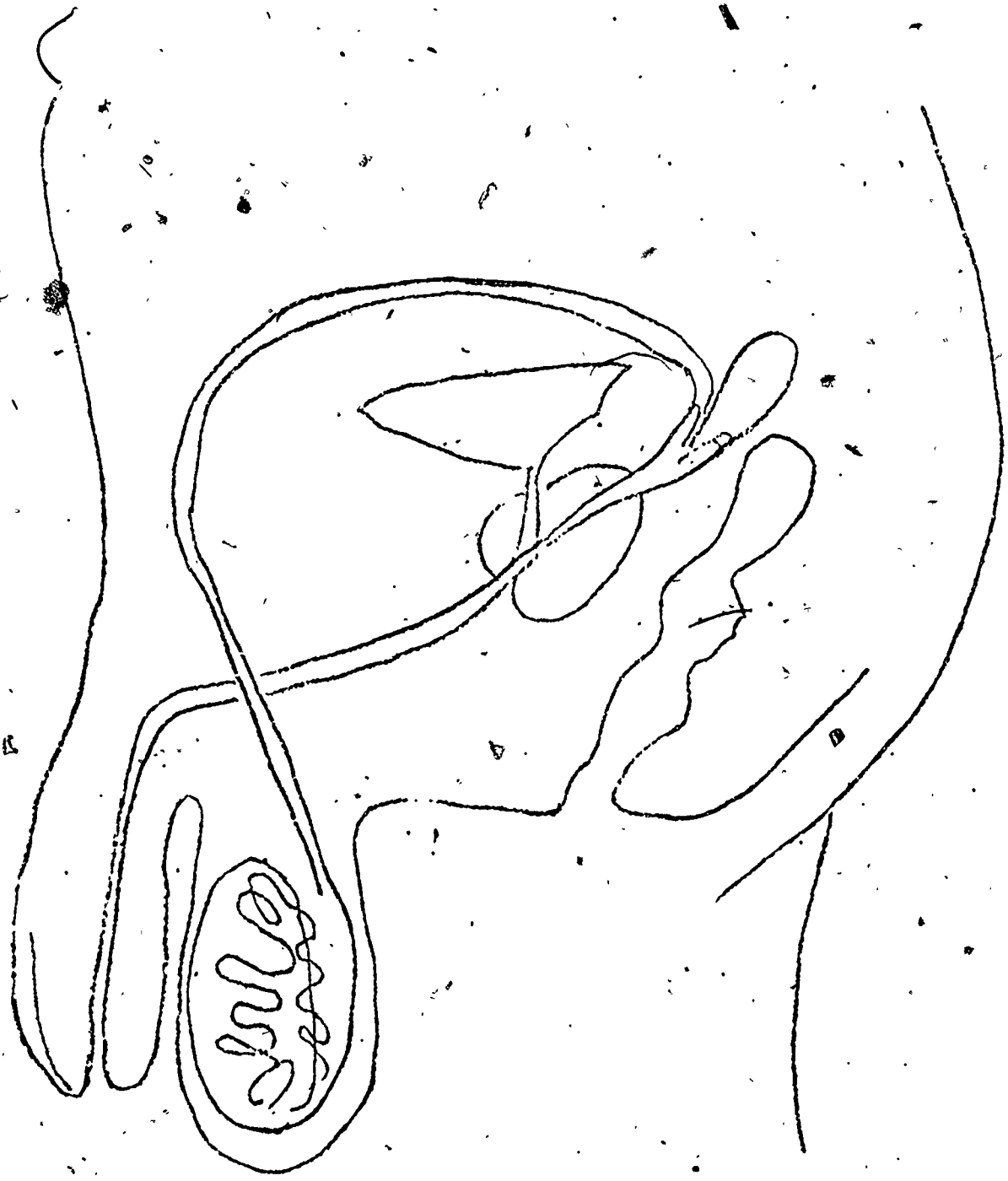

SKELETAL SYSTEM

The skeletal system provides a framework for the body, serves as an attachment for muscles, and gives protection to organs.

The skeletal system is made up of 206 bones. There are two parts to the skeletal system - the axial skeleton and the appendicular skeleton. The axial skeleton consists of the skull, spinal column, and the ribs. The appendicular skeleton consists of the bones of the shoulder and arms, and those of the pelvis and legs. Bones are composed of inorganic calcium and phosphorus salts. Most bones are filled with a substance called marrow which manufactures red blood cells and some of the white blood cells. Bones are covered externally with a membrane called the periosteum. There are four main shapes of bones - flat, long, short, and irregular.

Joints are the places where bones connect. There are three general classifications of joints -- immovable, a slightly moveable and freely moveable.

Joints are grouped depending on the amount of motion they permit. Immovable joints are bones locked tightly. The skull and breastbone are examples of immovable joints. Slightly moveable joints are separated by broad, flat discs of hardened cartilage. This cartilage can be stretched and squeezed to some degree. Bending and twisting are actions of slightly moveable joints. Examples of this kind are the hipbone and the backbone. Freely moveable joints allow a great deal of movement. Elbows, knees, shoulders, and wrists are examples of freely moveable joints. Freely moveable joints are also described as gliding joints, (wrist bones, bones of spinal column), pivot joints (head on spine) hinge joints (finger, elbow, knees), and ball and socket joints (shoulder and hip joints). Sprains and dislocations are injuries to joints of the body.

COMPLICATIONS, PROBLEMS AND PERSONNEL:

Bones may be deformed by diseases, such a rickets, arthritis, rheumatism, and tuberculosis. Badly formed bones may also result from gland trouble.

Often, the trouble is caused by purely mechanical factors. Deformed bones may result from some constant stress which pushes or pulls the bones out of position and causes them to grow out of shape. It may make the cartilage between bones grow thicker on one side than on the other, so that a joint assumes an unnatural slant. For example, the cartilage discs between the vertebrae may easily become too compressed on one edge if the spine is constantly bent in the same direction. Examples are: Spinal curves, round shoulders, unequal length of legs, pronated ankles, flat feet or misshapen facial bones.

Prosthetists make and fit artificial limbs for amputees. They teach patients how to use these artificial limbs. Therapists also work with persons who have skeletal disorders. The specialist in the treatment of chronic diseases of the joints and spine and corrections of deformities is called an orthopedic surgeon.

REVIEW

Your respiratory system includes the air passages in the nose and throat, the windpipe, bronchi and lungs (containing bronchial tubes and air sacs). The lungs take in oxygen and get rid of carbon dioxide for all the cells of the body. Air must be warmed, moistened, and filtered before it reaches the millions of air sacs in the lungs.

SKELETAL SYSTEM

To help you understand the Skeletal System define the following:

arthritis

appendicular skeleton

axial skeleton

backbone

bursitis

coccyx

curvature of the spine

dislocations

fracture ligaments

lumbago

marrow

orthopedic surgeon

ossified

patella

pelvis

periostrum

prosthetists

ribs

sacrum

skull

spinal column

spinal cord

sutures

tendons

vertebra

Bones are sometimes broken or damaged by accident. What are compound, simple and green stick fractures?

1.

2.

3.

What temporary aid might you offer someone with a broken leg in the wilderness?

Everyone's skeletal system is not exactly the same. Some people grow very tall; others grow hardly at all.

What might be one cause of excessive growth?

What might be one cause of stunted growth?

What is double-jointness? What causes it?

Good posture means the body is in balanced alignment. Good posture eliminates stiffness, tension and strain; it should be natural. Poor posture can indicate a great deal about a person in addition to their state of mental health. Poor posture may, in fact, effect the state of one's physical health.

Draw a typical example of 'poor' posture as apposed to 'good' posture.

Make a list of occupations in which good posture would contribute to success.

1.
2.
3.

Make a list of occupations in which people tend to develop poor posture.

1.
2.
3.

Do you have any personal posture problems? What are you doing about them?

Using the skeletal system illustration, mark the names of the bones that protect;

a. the heart_____ b. the brain_____
c. the spinal cord_____ d. the lungs_____

Give one example of each type of bone shape (use correct terminology):

a. long_____ b. short_____
c. flat_____ d. irregular_____

Using the hand out on skeletal joints label each type of moveable joint:

a. wrist_____ b. shoulder_____
d. skull atop vertebra_____ d. knee_____

Identify each type of moveable joint:

a. hip_____ b. ankle_____
c. knuckles_____ d. elbow_____

Tendons are tough extensions of muscle which attach to bones and strengthen joints. The body's most famous tendon is the_____

Some joints are protected by a small sac called a bursa. Bursas have smooth surfaces and contain small amount of lubricating fluid. They act as cushions to eliminate friction between moving bones. What is bursitis? What could be its cause?

Cartilage is flexible, elastic connective tissue. It can be either temporary or permanent. Much of an infant's skeleton is cartilage that gradually becomes bone -- this process of change is called ossification. Give an example of protective permanent cartilage in an adult body.

THE SKELETAL SYSTEM

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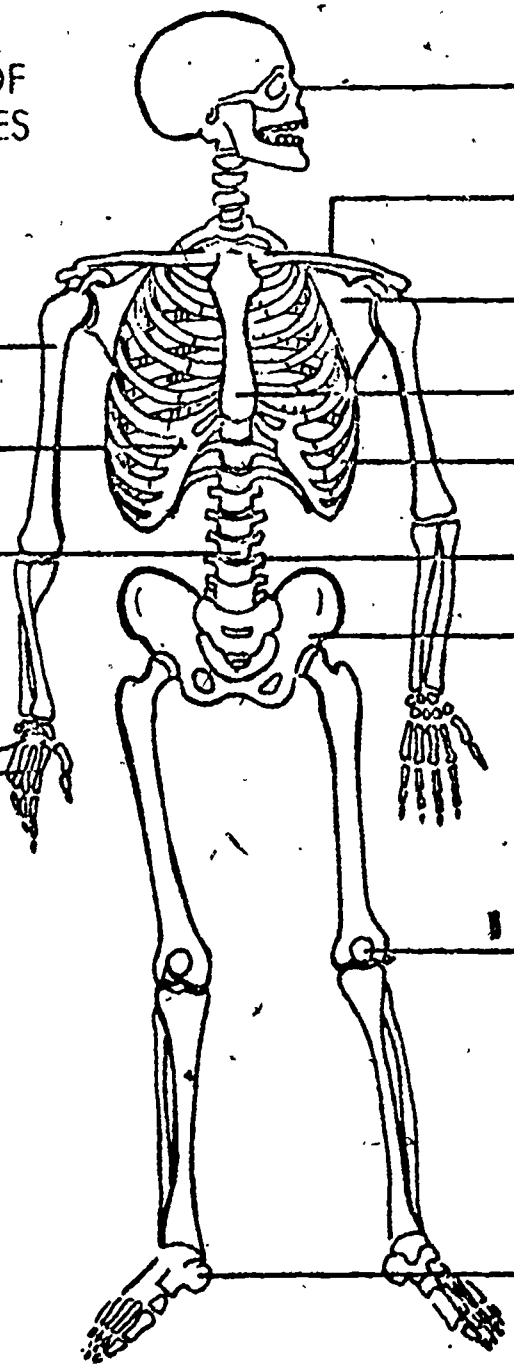
EXAMPLES OF BONE SHAPES



long bone

flat bone

irregular bone

short bone

Skull

Collar Bone

Shoulder blade

Breast bone

Rib

Vertebra

Pelvis

Knee cap

Heel bone

JOINTS

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FIG. A WRIST

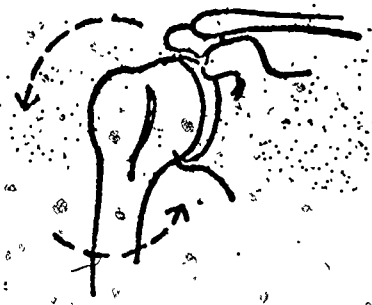

FIG. B SHOULDER

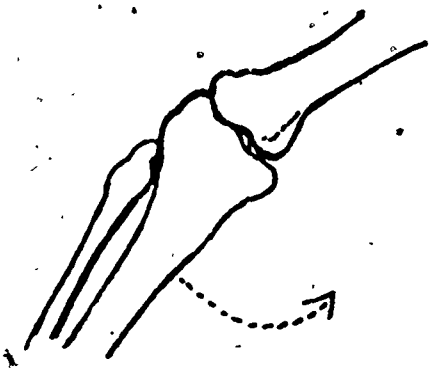

FIG. C KNEE

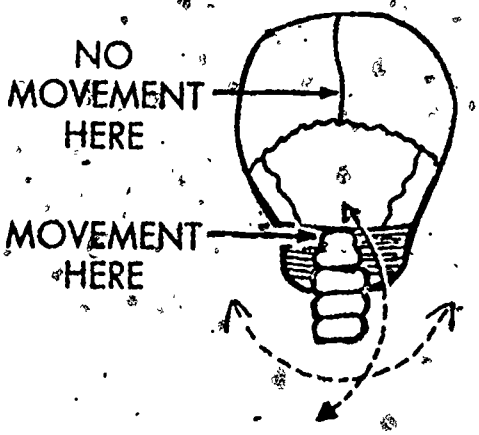

FIG. D SKULL ATOP VERTEBRA

Types of Freely Movable Joints

BALL AND SOCKET — Rounded end of bone fitting snugly within another bone.

HINGE — Movement at joint in one direction—like a door.

PIVOT — Bone resting atop another bone, permitting free movement.

GLIDING — Bones slipping over other bones with a free flowing movement.

Pages 142 through 156 are samples of common social/health issues activities.

All are designed to gather information, formulate value judgements and increase awareness.

The Health Products/Services/Quackery activity is designed to utilize resource materials and periodicals. This activity encourages students to read across the counter magazines and to evaluate their contents.

WORKSHEET ON AGING Name_____

1. How old is "old"? (Do not write a number - describe "old" in your own words.)

2. When should people have to retire? (Again, do not use a "magical number" for your answer"

3. Should the returement age be different for different jobs? If yes, why?

4. By the appropriate heading, list as many benefits as you can for the elderly.

Economic:

Social:

Psychological:

Medical:

5. By the appropriate heading, list as many problems you can think of that old people must face.

Economic:

Social:

Psychological:

Medical:

6. Who do you feel should be responsible for caring for older persons? Why do you feel this way?

7. Does society owe anything to old people? If so, what?

8. EUTHANASIA as defined is: easy death or means of inducing one; the act or practice of painlessly putting to death persons suffering from incurable conditions or diseases. Another term for it is MERCY KILLING.

Old age is an incurable condition....Is this enough reason to justify, in your own mind, euthanasia? Why?

Use the dictionary for numbers 9 through 14.

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9. Define SENESCENCE in your own words.

10. Define SENILITY in your own words.

11. Define GERONTOLOGY in your own words.

12. Define GERIATRICS in your own words.

13. What do you think might be the worst part of growing old? Why?

14. What do you think might be the best part of growing old? Why?

ALCOHOL WORKSHEET Name _____

This worksheet contains a series of statements presented in eight sets. Read each set. Then make a decision as to which one is the correct one, or most nearly correct one. Circle your choice and then explain why you believe it is correct.

Example:

1. Less than 50% of the teenage population occasionally drink alcohol.
(2.) More than 50% of the teenage population occasionally drinks alcohol.

Recent studies show that about three out of five or 60% of all American teenagers drink alcoholic beverages occasionally.

---

1. Alcohol is a harmful substance.

2. Alcohol is neither good or bad.

Explaination:

---

1. Alcohol is a stimulant.

2. Alcohol is a depressant.

Explaination

---

1. If two men of approximately the same weight were each to drink four glasses of beer, the manner and degree of their intoxication would be the same.

2. If two men of approximately the same weight were each to drink four glasses of beer, it would be difficult to predict the effects of the alcohol.

Explaination.

1. Since it does not yield any body nutrients, alcohol is not considered a food.

2. Alcohol is classified as a food.

3. A good way for a thin person to gain weight would be for him to take up drinking.

Explaination.

---

1. All things being equal, persons who drink a great deal of alcohol are more susceptible to certain diseases than non drinkers. Alcohol affects many parts of the body. Drinking alcohol may result in a lowering of the body temperature. Alcohol may induce a sense of euphoria.

2. All things being equal, persons who drink a great deal of alcohol have the same susceptibility to disease as non-drinkers. Alcohol usually affects only the brain. Alcohol raises the body temperature. Alcohol speeds up the body precesses, thus creating a sense of well being.

Explaination:

---

1. Occasional and moderate social drinking are usually harmful.

2. Occasional and moderate social drinking are usually not harmful.

Explaination:

---

1. One or two drinks of alcohol have virtually no effect on an automobile driver's judgement, reflexes, and control of the car.

2. One or two drinks of alcohol may seriously affect an automobile driver's judgment, reflexes, and control of the car.

Explaination:

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1. Although there is no known cure for alcoholism, the alcoholic can be treated so that he can live successfully without drinking.

2. Once an individual has become an alcoholic, there is almost no chance that he will ever again be happy, useful citizen.

Explaination:

TEN WAYS TO SAY 'NO'

It's not a big deal to refuse a drink. Using the examples below try to write ten 'no's'.

No Thanks
- No thanks, I feel good enough already.
- No thanks, I can get the same effect just by taking off my glasses.
- No thanks,_____
- No thanks,_____

Sorry
- Sorry, I never drink on Fridays,
- Sorry, I'm allergic to alcohol.
- Sorry,_____
- Sorry,_____

Not Now
- Not now, I've given it up on a bet.
- Not now, I'm testing my will power.
- Not now,_____
- Not now,_____

I'd Love
- I'd love one but I get high on grape juice.
- I'd love one but I'm counting calories.
- I'd love_____
- I'd love_____

What I'd really love
- What I'd really love is a coke.
- What I'd really love is seven-up, straight please.
- What I'd really love is_____
- What I'd really love is_____

Ecological Living Name_____ (1)

For many of these answers you will have to check at home and make some observations of how your family lives.

1. Do you let the water run while you brush your teeth?_____

2. Do you let the water run while you wash your face?_____

3. Approximately how many times do you flush the toilet each day?_____

4. How many times per day do you bathe or shower?_____

   a. How much water does a toilet tank hold?_____

5. How many spray cans are in your bathroom?_____

   a. How much water does a half-full bathtub hold?_____

6. How many cars does your family have?_____

7. How many unnecessary lights does your family leave burning each night?_____

8. How many subscription magazines does your family receive each month_____

9. How many advertisement brochures, etc., does your family receive weekly in the mail?_____

10. Is there a litter bag in your family car?_____

11. Do you have a vegetable garden?_____

12. Does your household use colored toilet paper and/or facial tissues?_____

13. What type of laundry soap or detergent is generally used in your household?_____ High_____ Low_____ phosphates.

14. How does your family purchase milk - carton, glass, plastic containers.

15. Check around your house - do you have any of the following (those listed below?)

    Drano
    Liquid Plumber
    Plunge
    Shell No Pest Strip
    Raid
    Black Flag Leaf and Roach Killer

Ecological Living

16. Electricity can also be a form of pollution. Check the items below which you have in your house. If you have more than one indicate.

Electric carving knife	Electric rotisserie
Electric toothbrush	Electric freezer
Electric can opener	Electric bottle warmer
Power Lawnmower (type?)	Electric curlers
Food waste disposal unit	Electric clocks
Washer	Electric hair dryer
Dryer	Air conditioner
Dishwasher	Rug shampooer
Electric coal starter	Sunlamp
Electric shaver	Electric blanket
Electric typewriter	Radio
Power tools (types?)	Hi-Fi set
Television	
Record player	

If any other similar items come to your attention, list them.

List ten things which you as an individual could do, in a small way, to help save the enviorment.

Ecological Living - Independent Project

Walk through a grocery store and see if you can find five (5) items which are poorly, ecologically packaged. List the items which you have found.

Walk through a grocery store and see if you can find five (5) items which have additives or preservatives of an ecologically questionable nature. List the items which you have found.

Within the last year or two has anyone in your family made an effort to fight the pollution problem? Example: by saving bottles and depositing them in a recycling station. Explain the action which that person in your family has taken.

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HEALTH PRODUCTS, SERVICES, QUACKERY · Name_____

SECTION A

1. Define the word quack.

2. What are the two greatest dangers involved in quackery?
   a.

   b.

3. What types of people turn to quacks?

4. Select one type of quackery which is very old.___
   Explain why people thought it was medically correct.

5. List below four types of common day quackery.
   a.

   b.

   c.

   d.

6. Explain how one in number 5 (above) works.

7. How would you determine if a person is a quack?

8. What four protections do Americans have against quackery?
   a,

   b.

   c.

   d.

9. Many health products, although not 100% quack products, are very questionalbe. List below three health products which can be purchased in the drug store that you consider questionable.
   a.

   b.

   c.

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SECTION B: RED (Quackery)

After reading one of the articles listed below write three 'I leanred' statements.

"Gadgets that Promise to Slim You Quick". Changing Times Jan '74 p.19

"A Stamp of Disapproval for these Medical Malpractitioners" Todays Health March '74 p.20

"Gyps Aimed at Old People" Changing Times Sept. '74 p.40

"Medical Malpractics" Todays Health March '74 p.20

"Victimizing Cancer Patients" Todays Health Nov. '73 p.28

"What is a Woman Without Breasts" Todays Health April '74 p.30

"The Outright Quacks" The Medicine Show (book) p.77

"How to Read About Miracles" The Medicine Show (book) p. 198

"Granny's Cure-Alls, Part Hokum, Part Truth" Family Health March '74 p.11

Article Selected _____

'I Learned' Statements:

1.

2.

3.

SECTION C. YELLOW (Information)

The best protection in the world against quackery is to possess correct information.

After reading two of the articles listed below write a short abstract on them.

"Evaluating the Cold Remedies" Todays Health Feb. '74 p. 18
"Vitamin E Deoderant" Todays Health march '73 p. 6
"Stamp Out Athletes Foot" Family Health June '73 p. 15
"Control of Oily Skin" Family Health April '74 p. 7
"What you can Learn About Health From T.V. Todays Health Jan '73 p.22
"Bad Breath" Todays Health Feb. '73 p. 15
"Birth Control Blotches" Todays Health Aug. '73 p. 9
"Acne" Todays Health Feb. '73 p. 14
"Cosmetic Poisoning" Todays Health Aug. '73 p. 9
"Blackheads" Todays Health Nov. '72 p. 10
"Male Baldness" Todays Health Dec. '73 p. 6
"Hair Dye" Todays Health Nov. '72 p. 10
"Sometimes Good Drugs are Bad for You" Changing Times April '74 p.30
"Diet Frauds" Todays Health Nov. '72 P. 46
"BreastSilicone Injections" Todays Health June '72 p.5
Cosmetics" Todays Health Nov. '72 p. 11
"How to READ a Label" Family Health April '73 p. 30
"What you can do About Varicose Veins" Family Health Oct. '73 p.32

Article 1

Article 2

SECTION D GREEN (Self Medication)

Attempts at self-diagnosis and self-treatment of all types of health problems seem to be a great American tradition.

There are very real dangers in attempting self-diagnosis and self-treatment of any kind of sympton. The most serious risk is that a major (even life-threatening) disorder can easily be misdiagnosed as some common, minor problem and be treated as such. For example, a person trying self-treatment might take cough drops when he actually had tuberculosis or lung cancer. Not only would the self-treatment be ineffective and possibly harmful, but proper medical treatment would be delayed, perhaps even too late.

Another danger in self-treatment is that not all home remedies and nonprescription drugstore products are completely safe to use.

After reading one of the articles below write two 'I Learned' statements.

"Self Medication with an Ointment" Todays Health Sept. '73 p.3
"How Safe Is Do-It-Yourself Gynecology?" Family Health Feb. '73 p.25
"Getting a massage that Won't Rub You the Wrong Way" Todays Health May 72 p.34
"When to Treat a Fever and When to Leave It Alone" Family Health Dec. '73 p.7
"Automatic Face Cleansers" Todays Health Dec. '72 p.12
"Pneumonia - Still A Real Threat" Changing Times Nov. '73 p.19

Article Selected _____

'I Learned' Statements:

1.

2.

SECTION E: BLACK (ADS)

The proper selection of health-related products is more important than that of any other type of consumer goods. Not only can much money be wasted on ineffective products, but a person's health, or even his life, may depend on his getting proper treatment for diseased conditions and avoiding the use of dangerous products. It is essential that self-treatment not be attempted when the services of a physician are needed.

Advertisements often are misleading in their attempt to 'sell' a product. After reading one of the advertisements listed below evaluate the quality of the ad. The following questions may assist you in the evaluation process:

1. Is the source reliable?
2. Does the ad contain research findings or information to back up its claim?
3. Does the product claim to 'cure all'?
4. Does the ad contain testimonials?
5. Is it government approved?

"Microcard" Todays Health Feb. '74 p. 53
"Emperin" Family Health July '73 p. 3
"Novahistine" (decongestant) Family Health Jan. '73 p.8
"Aspirin" Todays Health May '73 p. 14
"Miralin" Family Health Nov. '73 p.17
"Arthritis, Rheumatism Suffers" Family Health Oct. '73 p.13
"Recover Cover Up Leg Cream" Family Health May '73 p. 52
"Hard As Nails" Family Health May '73 p.52
"Allerest" Family Health May '73 p.11
"Tampax" Todays Health April '73 p.8

Advertisement selected: _____

Evaluation:

SECTION F (Independent Project)

Attach to this page a label from a drug or medication, an advertisement (which you have found at home) or some direct evidence of what you believe is a form of quackery, mis-information or poor self-medication suggestions.

Evaluate why you make your selection and what you believe the real truth to be. Can you back up your opinion???

Decision making experiments included here pp. 158 through 176 are useful as group and/or individual activities.

The Gambling Experiment is a unique approach to the introduction of addiction education. It allows students an opportunity to experience a real life situation. It provides them opportunities to identify and assess their feelings and formulate value positions for and about themselves. Gambling is an excellent beginning point for other addictions which directly affect one's health — work, drugs, t.v., food, etc.

Survival is a group experiment. It is an excellent opportunity for students to work co-operatively in a group setting. It raises some interesting points -- how important are all members of the group? Do all have to contribute equally? What is equally? Who has what skills? Should females be required to do what males do? Etc.

Water Pollution is designed to test local sample waters -- home tap, school, slew, pond, etc. These experiments raise some serious questions -- what rights do individual citizens have? Who is responsible to test local waters? Etc.

CLASSROOM CASINO - Games of Chance

The addictions most commonly included in health education are drugs--including alcohol and tobacco. 'Addiction education' is yet wider in scope; for example, it most appropriately includes obesity and gambling. Concepts of habituation, finance, tolerance, compulsions, success, failure, risk-taking, etc. run throughout all areas of 'addiction education'.

Gambling is an excellent classroom activity which can be used to dig at the key concepts behind addictions because it directly affects the student. You win or you lose!!!

Teacher Directions: This is a three day activity. Divide your classroom into areas or stations. Take one day to review with students simplified or modified game rules (included here). On the second day use students for 'dealers' and 'bankers' where appropriate. Post game rules for reference. (NOTE: It might be wise to suggest to students that they at least try each game).

Procedure: Give each student a specified amount of money (perhaps $185) and set them loose. Before the class session is over have students complete the Games of Chance/Response Sheet (included here).

Follow-up: On the third day use response sheets as a basis for class discussion. Class discussion can possibly follow several tracks:

1. Feelings
2. Self deception
3. Covering losses
4. Gamblers Anonymous
5. Everyday gambles or compulsions (cleanliness, orderliness, time schedules, mail purchases sight unseen, purchasing a different brand of a regularly purchased product, etc.)

GAMES OF CHANCE / Simple and Modified Rules

PENNY PITCH

BET - everyone must bet the same amount.

PITCH - you chip from behind the line to the wall; everyone pitches once.

WINNER - is the chip which lands closest to the wall.

WINNER - starts the second game; repeat as above.

TIE - no one wins!!!

RULES CAN BE EXPLAINED AND POSTED ON THE CLASSROOM WALL NEAR THE PARTICULAR GAME.

6 CARD STUD

THE DEALER - deals two cards down to each player and four cards up - one at a time. The dealer deals and controls the game - he does not play

THE BEST POKER HAND WINS
- 1 pair (2 of a kind)
- 2 pair (2 pairs of two of a kind)
- 3 of a kind
- a 'straight' (five in a row)
- a 'flush' (five of the same suit)
- a 'full house' (three of one and one pair)
- 4 of a kind
- 'straight flush'
- 'royal flush'

PLAYERS:
- play against each other
- bet after each 'up card' (each card turned face up)
- can raise the bet up to three times for each 'up card'

NOTE: $10.00 limit on all bets

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21

In this game you are playing against the dealer. The object is to hold cards with a face value closer to 21 than the dealer.

KING, QUEEN, JACK & 10 = 10 points each

An ACE = 1 or 11 points (your choice)

ALL OTHER CARDS = face value

CARDS WHICH EQUAL OVER 21 - make you lose.

PLAYER RULES:
- place your bet
- you receive two cards
- add your cards up in your mind, decide if you need another one. If you need one - ask for it.

HINT: If your cards equal 17, 18, 19, 20 you probably shouldn't take another card.
- If you are closer to 21 than the dealer, you win
- a tie - no one wins.
- if the dealer is closer to 21 - you lose

DEALER'S RULES:
- DEALER GETS TWO CARDS - 1 up and 1 down
- Dealer must take another card on 16 or lower.
- Dealer must take another card on 'soft 17' (17 with an ace)
- Dealer must stand on 17 or above.

REMINDER - YOU ARE PLAYING AGAINST THE DEALER - NOT THE OTHER PEOPLE AT YOUR TABLE.

RULES CAN BE EXPLAINED AND POSTED ON THE CLASSROOM WALL NEAR THE PARTICULAR GAME.

CRAPS

BET

FIRST ROLL
- If you roll a 7 or 11 you win.
- If you roll a 2, 3, or 12 you lose.
- If you roll a number 4, 5, 6, 8, 9, or 10 it becomes your point.

If your point number comes up before a 7 you win.
If a 7 comes up before your point number you lose.

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ROULETTE: Seven Ways to Win at the Game

1. 1st 12 / 2nd 12 / 3rd 12 — If the winning number is in one of those three sections on which you placed a bet you will win 2 for 1.

2. 1 to 18 / 19 to 36 — If the winning number is in one of these sections on which you placed a bet you will win 1 for 1.

3. COLOR BET

Black / Red — If the color you bet on comes up - you win 1 for 1.

4. ODD OR EVEN BET

odd / even — If you have correctly picked the winning number (as odd or even) you win 1 for 1.

5. first 2 to 1 line / second 2 to 1 line / third 2 to 1 line — If the winning number is in a line you bet on you win 2 to 1.

6. 2 NUMBERS — If you place your money on two numbers and one of the two actually comes up you win 15 to 1.

7. 1 NUMBER — If you place your money on one number and it actually comes up you win 35 to 1.

NOTE: Roulette is a game of chance. The bigger the risk you take the bigger the chance you have of winning or losing.

THE RULES ABOVE WILL NEED TO BE POSTED ALONG WITH AN EXPLANATION OF THE LAY OUT OF YOUR ROUTETTE TABLE.

ROULETTE

Roulette is an extremely easy game to play. And it's really very colorful and exciting to watch. The wheel spins and the little ball bounces around, finally dropping into one of the slots, numbered from 1 to 36, plus 0 and 00.

You can bet on a single number, a combination of numbers, or red or black, odd or even.

A ROULETTE TABLE CAN EASILY BE MADE ON LARGE SHEETS OF CONSTRUCTION PAPER WHICH ARE THEN LAYED OUT AND SECURED TO A LONG TABLE.

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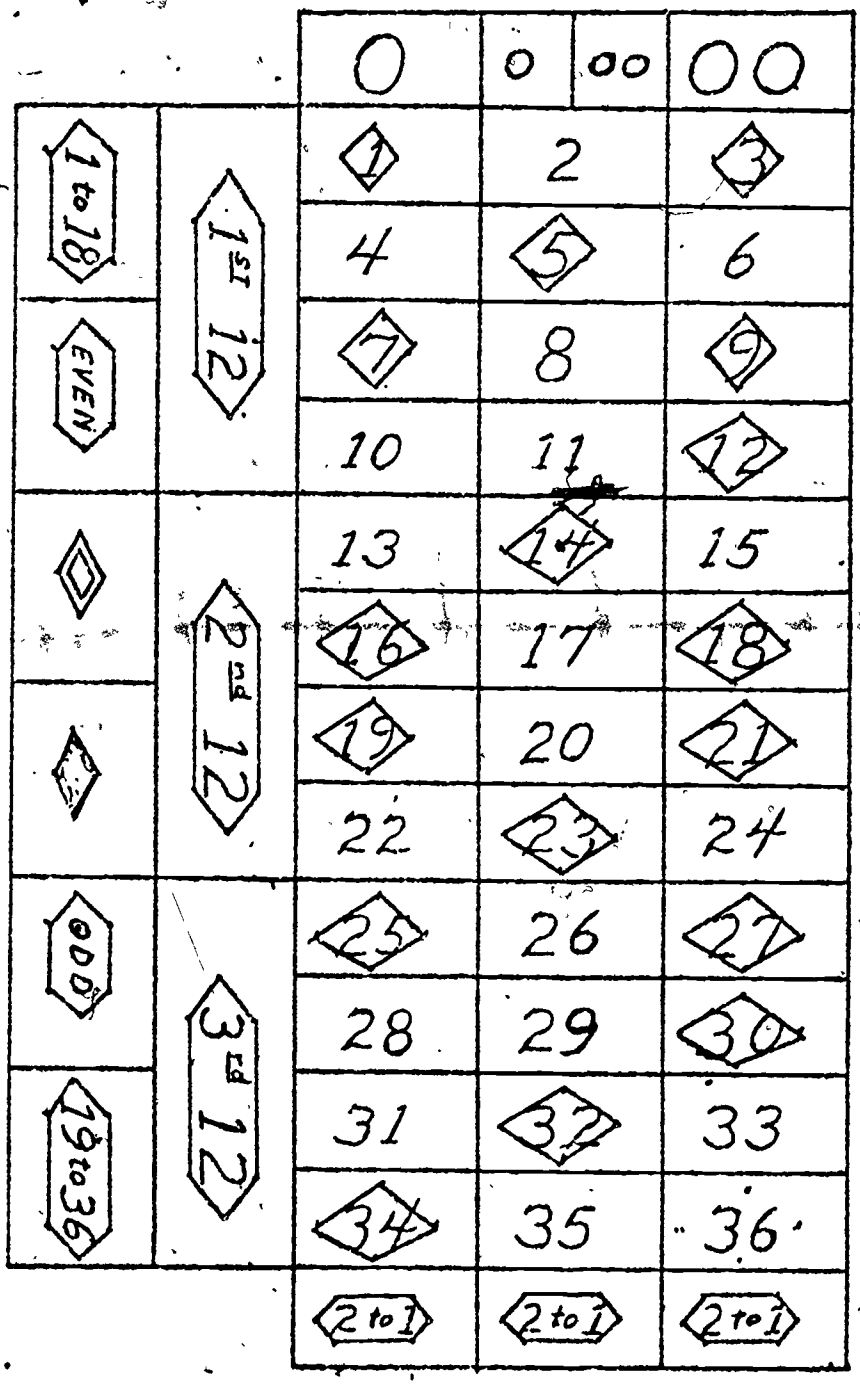
ROULETTE



◇ = red, black = uncircled nos.

GAMES OF CHANCE

Name_____

Money received: $185

	Money Gambled	Money Won	Money Lost
"21"			
CRAPS			
PENNY PITCH			
POKER (6 card stud)			
ROULETTE			

Money turned in $_____

_____Check here if you chose to observe only.

GAMES OF CHANCE/Response Sheet

1. What games did you play?

2. Why did you choose the ones you chose?

3. How did you feel when you won?

4. How did you feel when you lost?

5. How did you feel when you saw a friend win?

6. How did you feel when you saw a friend lose?

7. Did you, at any time, win money from a friend? How did you feel about it?

8. Did you, at any time, lose money to a friend? How did you feel about it?

9. Do you think you could become addicted? Explain.

10. Females: How would you feel if your husband gambled away a two-week pay check on pay day before coming home?

11. Males: How would you feel if your wife gambled away the grocery money in bingo?

12. In your personal value system:
    a. is gambling acceptable for you?
    b. is gambling acceptable for others but not for you?
    c. is gambling unacceptable for anyone?
    d. is gambling acceptable to you under certain circumstances?
    Explain which of the above most closely matches your value system; remembering that people are entitled to their own opinion!

TOBACCO EXPERIMENTS

Teacher Directions:

The tobacco experiments below can be done by students in small groups at various classroom stations. They are designed to (1) provide students with visual information regarding tobacco use (2) initiate questioning procedures and (3) weigh the validity of assumptions. Class discussions are most appropriate following the experiments.

A result/assumption sheet accompanies these experiments.

Equipment needed:

Cigareetes (filter, non-filter brand which claims low tar)
Cotton cloth squares (approximately 2" x 2")
A mechanical smoker (available from Spenco Corp.)
Gallon jog
Glass tubing (several feet)
Rubber tubing (6" diameter to fit a cigarette)
Box of match books
Several twenty-six inch strings (marked at 12", 14", 16", 18" and 20" points).
Fruit flies (purchased through a biological lab.)
Beakers (6 or 8 250 Ml)
Spray can - fine mist (fern sprayer is ideal)
Magazines (10 or 15 'everyday' magazines).
Emphysema leaflets

Procedure:

EXPERIMENT #1 FILTER VERSUS NON-FILTER CIGARETTES

Light a filter cigarette. Blow smoke through the thin white cotton cloth provided.

Light a non-filter cigarette. Blow smoke through the thin white cotton cloth provided.

Consider the differences, if any, which you see.

You may wish to examine the filter of the first cigarette which you used.

Report your findings on the Result/Assumption sheet.

EXPERIMENT #2 SMOKING MACHINE AND MINI LUNG

Follow the directions given for setting up the 'smoking machine'.

Using a 'mini lung' smoke one cigarette with the machine.

EXPERIMENT #3 (continued)

Using another 'mini lung' smoke two cigarettes with the machine.

Consider any differences which you see.

Report your findings on the Result/Assumption sheet.

EXPERIMENT #4 WATER BOTTLE SMOKING MACHINE

Insert a cigarette into an end of the glass tubing -- it must be the end which is in the water.

Use the other end of the tubing to 'smoke' the cigarette.

What results do you see? -- in the bottle? in the water?

Report your findings on the Result/Assumption sheet.

EXPERIMENT #5 LUNG CAPACITY - ABILITY TO EXPEL AIR

Ordinarily we partially close our lips in order to blow out objects such as candles on a birthday cake. We should, however, to able to expel adequate amounts of air without the use of our lips.

Open your mouth and expel air from your lungs without using your lips.

Light a match and hold it ten inches from your mouth. Can you blow it out without using your lips? Do the same at twelve, fourteen, sixteen, eighteen and twenty inches.

Compare your distances with the other members in your group. Report your findings on the Result portion of your sheet.

Read through the attached pamphlet on emphysema -- report your assumptions on the Assumption portion of your sheet.

EXPERIMENT #6 ADVERTISING

Tobacco advertising usually uses techniques of persuasion. Some kinds of typical persuasions are listed and described below.

1. Testimonial: An important person testifies that he has used the product.

2. Appeal to the Senses: Pictures or sounds are used to appeal to the senses. The buyer begins to 'taste' and is motivated to buy.

3. Bandwagon: Language is used that suggests that 'everyone' or 'all the people' are doing it or using it.

4. Plainfolks: An ad shows an average person recommending the product, so the average buyer identifies with that person and takes his advice.

5. Glittering generality: An ad uses words like 'best,' 'your first one's never your last one,' 'the only' and 'great'.

6. Appeal to Romance or Fantasy: White knights and green giants, skilled super athletes are featured in a commercial.

7. Humor: People tend to remember or at least have a positive association with an ad that makes them laugh; when they remember the ad they think of buying the product.

8. Statistics: Buyers tend to be impressed by statistics. Ads leave out such important items such as who conducted the study or what kind of people were polled.

9. Cardstacking: Ads give one-sided portrayals of their products. Only the beneficial aspects are mentioned, not the weaknesses.

10. A good-looking, sociable, sexy or well-dressed man or woman sells the product. The buyer associates the product with someone good-looking or admirable and imagines that when he uses the product he will become like that person.

Describe one cigarette advertisement which you remember. Explain which one or ones of the above advertising techniques are used in your ad.

EXPERIMENT #7. LOW TAR AND NICOTINE CIGARETTES (OPTIONAL)

"Vantage" cigarettes claim to be lower than average in their amounts of tars and nicotine.

What type of experiment could you design which could prove or disprove their claim?

With the assistance of your teacher, conduct your experiment. Explain your procedure, your results and assumptions on your Result/Assumption sheet.

RESULT/ASSUMPTION SHEET

Experiment #1 Filter Versus Non-Filter Cigarettes

Results:

Assumptions:

Experiment #2 Smoking Machine and Mini Lung

Results:

Assumptions:

Experiment #3 Water Bottle: Smoking Machine

Results:

Assumptions:

Experiment #4 Lung Capacity/Ability to Expel Air

Results:

Assumptions:

Experiment #5 Fruit Flies and Tobacco

Results

Assumptions:

Experiment #6 Advertising

Description:

Explanation:

Experiment #7 Low Tar and Nicotine Cigarettes (Optional)

Procedures:

Results:

Assumptions:

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SURVIVAL

Several months ago when you were looking through the evening paper you noticed an interesting experimental ad. It promised adventure, excitement, and a full year high school credit, free. All you had to do was fill in the name, address, and phone number. You thought about it for awhile, then asked your parents. They approved your request so you sent in the application.

Just today a registered letter arrived in the mail. You have been selected at random from the thousands of applicants to take part in the experiment. The information enclosed said you will be living with four strangers on a 20 square mile island in the tropics. The island has never been inhabited so information regarding it is very limited. Airplane pilots who have flown over the island say it has sandy beaches and some small cliffs at one end along with a waterfall which indicates fresh water. There is seafood of all kinds including shellfish; also there are giant sea turtles and goatss. Some of the trees appear to be coconut and banana.

You are leaving now. What will you do first? How will you spend the year? How will you live? What kinds of problems do you as a group think you will have to solve?

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ANSWER THE FOLLOWING QUESTIONS ACCORDING TO THE DECISIONS MADE BY YOUR GROUP.

1. Did you choose some form of government? If you did, what form and why?

2. What responsibilities did you have as a group and how were these divided?

3. How were decisions to be reached within your group?

4. How did your group decide to handle disagreements or conflict?

Questions According To Decisions Made By Your Group

5. What rights did you give to each individual in your group?

6. What things does the group have the right to expect from the individual?

7. How did you decide to spend your time?

8. What did your group expect to have accomplished by the end of the year?

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WATER POLLUTION EXPERIMENT

General Information

CARBON DIOXIDE TEST - CO_2 content in water means that oxygen is being used by animals living in water. A high content (more than 10mgs.) of CO_2 shows that water animals are highly active and using oxygen rapidly. This indicates low oxygen content in water and oxygen is necessary for fishlife.

DISSOLVED OXYGEN TEST - Dissolved Oxygen is oxygen mixed in water. It is necessary to support fishlife. It also decomposes waste products in water. If not enough DO_2 then fish die and wastes build up in water. Clean, livable water should have at least 12 parts of oxygen per million parts of water.

HARDNESS TEST - "Hard water" means there are minerals in the water. ("soft" water is a lack of minerals.) Calcium, sodium and magnesium are the usual minerals found in water. In large quantities, these minerals can be poisonous. These minerals cause the ring in the tub and bad or bitter tasting water. Most of the water you test will not be high in mineral content unless it is from an underground spring or deep well. If your test is over 10 grains/gallon, the water is of high mineral content.

pH TEST - This test is for the amount of acid in the water. There must be a balance of acid; not very little. Acid kills bacteria in water, but if there is not enough the bacteria grows. If there is too much, the acids poisons the water. Clean water for fish, humans and other animals should be between 6.8-7.5 ph.

DETERGENT TEST - Detergents in the water do two things: (1) the water foams and is ugly, but is not necessarily poisoned; (2)leaves phosphates in water. Phosphates are the real problem. Phosphate is a fertilizer and makes algae grow faster. In turn, algae uses up more of the water's oxygen (look at DO_2 test). Consequently, fish cannot live where there is not enough oxygen.

WATER POLLUTION EXPERIMENTS:

These tests need three (3) things from the testers"

1. a sample of water brought from home
2. close attention to the instructions
3. and "care ' about the water you drink.

Perform each test by the instructions using your "home sample" of water. Record the results on your sheet. If you are unclear about your results 1)ask your teacher for assistance and 2)compare your findings with other testers.

WATER POLLUTION EXPERIMENT INSTRUCTION

Carbon Dioxide Test. 2 testers and 2 observers

1. Fill plastic tube with water to top and pour into glass bottle by putting bottle over tube and tipping over right side up.
2. Add 1 drop of Phenolphtalein Indicator (plastic bottle).
3. Add 1 drop of Sodium Hydroxide solution at a time, until solution turns light pink. Swirl tube to mix solution and count number of drops. Each drop equals 5 milligrams per liter of CO_2.
4. CO_2 is a poisonous gas. The more there is in water, the greater the danger of poisonous water. Should not have to add more than 2 drops.

_____drops of Sodium Hydroxide

= _____milligrams/CO_2/liter.

Dissolved Oxygen test: 2 testers and 2 observers

1. Fill glass stoppered bottle with water. Make sure no air bubbles are left.
2. Add 1 packet of D O_1 and 1 packet of DO_2 to water. Plug bottle so no air is trapped. Shake to mix. A fluffy precipitate will form.
3. Let sample stand until upper half of bottle has cleared. Shake again and let stand again.
4. Remove stopper and add 1 packet of DO_3. Re-plug and shake to mix The fluff will dissolve and the sample may be yellowish.
5. Fill plastic tube with sample to the top, then empty into mixing bottle.
6. While swirling sample, add 1 drop of PAO at a time, until the sample is colorless.
7. Dissolved Oxygen is necessary for waterlife (fish, etc.) Each drop equals 1 mg/l DO. You should have no less then 12 drops.

_____drops of PAO = _____mgs./DO.

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Hardness Test:

1. Fill plastic tube with water and pour into mixing bottle.
2. Add 3 drops of Hardness 1 and mix.
3. Add 1 drop of Hardness 2 and mix.
4. Add Hardness 3, 1 drop at a time until sample changes from pink to blue. (No more than 1 drop/second) DO NOT ALLOW dropper to touch the side of mixing bottle.
5. Hardness of water indicates presence of minerals in water. Number of drops equals amount of grains/gallon of Calcium Carbonate (a mineral). The more drops -- the more minerals.

_____drops = _____grains/gallon Hi__lo__ mineral content.

pH test (hydrogen concentration)

1. Fill 2 glass viewing tubes to 5 ml mark with water
2. Add 6 drops of PH indicator to one tube and swirl. Put this sample in right opening in color comparator.
3. Put tube of clear water in left side of comparator.
4. Hold comparator up to bright light. Rotate color disc until colors match. Read PH through window.
5. PH is the concentration of hydrogen gas in water. Without hydrogen there would be no living creatures, plants, etc. PH should be between 6.8 - 7.6 to be safe.

_____ = PH reading

Detergent test: Chloroform is poisonous - do not breathe or swallow.

1. Fill 1 test tube to upper mark with water.
2. Add 12 drops of Detergent test solution and mix.
3. Add Chloroform to lower mark, stopper and shake. (Chloroform will sink to bottom) Allow sample to stand and separate for 1 minute.
4. Using pipette, remove water from tube and discard.
5. Fill tube to upper mark with Wash Water Buffer, then remove the pipette.
6. Refill tube with Wash Water Buffer, stopper and shake for 30 seconds. Allow to stand for 1 minute to separate again.
7. Put test tube with sample in right opening of comparator.
8. Fill clean tube with demineralized water and place in left opening.
9. Hold Comparator up to a light. Rotate color disc until colors are matched. Read parts/million from scale window.
10. Amount of detergents in water is measured by milligrams/liter of water. Your test should not pass 1.0 mg/L. _____+mg/L.

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EXPLORATION

The best thing in the world for each of us is that which we can best do, because it gives us the feeling of being useful --- that's happiness.

Pearl Buck
The Child Who Never Grew

Be careful what you set your heart upon, for it will surely be yours.

James Baldwin

Man goes beyond necessities to the very limits of possibilities because he wonders where those limits lie.

And behold, they don't lie anywhere because, like the horizon, they expand with every step he takes toward them.

Viktor Frankl

EXPLORATION

Who made my glasses?
Why am I so short and puny?
How would I know what to do if my Dad had a heart attack tonight?
When will someone teach me something about what's going on our there -- like getting a job?
Where could I find out more about helping other people -- like being a nurse?
What will school really do for me and my future.

These are typical questions that high school students ask. The answers to some are fairly simple, while others are far more complex in nature. All these questions have one element in common. They are questions of wonder -- of concern -- of some level of awareness. They are questions which indicate a desire to explore. This desire is one of the most important keys to all of education.

Exploration at Roosevelt is defined simply as probing and examining areas previously unknown. In the realm of health education, explorations range from: 1) exploring ourselves, 2) decisively using our present and developed skills to 3) real contacts in the 'outside world'. Explorations, individually, do not guarantee health education nor health career education success. They are merely a portion of a total plan of self concept, decision making and exploration.

The Health Career Exploration Project at Roosevelt found, quite early in the process of developing its curriculum approaches, two factors that governed its immediate progress. Had these factors not been acknowledged, dealt with and assimilated into the general plans, the exploratory experiences might have fallen short of the original intentions of integrating health career education into an existing health education curriculum.. The first factor combined self concept

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and decision making. To explain more thoroughly, until a student can understand and develop personal concepts of him or herself and utilize decision making skills, career decisions are impossible. Thus, the base to prepare health career exploration truly came in the areas of self concept and decision making. Both areas had to be emphasized so that explorations could occur. The second factor was that explorations had to be well planned and progressive in experience. Explorations had to be individually suited to meet student needs. They had to follow a building block plan to carry each student as far as his or her interests went; from very general to very specific, practical experiences (see diagram page 273).

How do health educators begin to move programs toward exploration possibilities?

First, assessment of our knowledge: Seeing what we know and don't know about the comprehensive field of health; looking, listening and asking questions.

Second, assessment of our students: by finding out their knowledges, their past experiences, their dreams, their goals and looking realistically at their future possibilities. Standardized assessment tools are not necessarily the best of devices to use. Questioning approaches with students (Who brings those services?, Where are they?) are helpful. Open approaches with students consist of questions like: "What kind of world do you want?", "What possibilities are open to you?", and "What are your limits?"

Third, assessment of resources, such as: community sources, sites, guest speakers, books, reference materials, scholarships, volunteer programs, supporative services, money, etc.

Once these assessments are made, real explorations can be set into motion. Some practical examples are:

1. Students are assisted to acquire information about themselves and their world through exploration (e.g., blood typing, examination fo beef hearts, ulcer effect experiments).

2. Acquisition of health skills enables students to explore issues of personal health concern (e.g., thermometer reading techniques; filling out medical history charts as first step in seeing a new doctor; charting correct personal vital signs for accurate comparisons and evaluation needed by health care workers).

3. Through standardized test procedures, students assess their career interests and abilities. Results help develop individualized exploratory experiences, (e.g., GATB).

4. In-class sources and resources are used to provide students with health career information (e.g., guest speakers, brown bag lunch meetings, "Career World," identification of health care workers and specialists, Career Information System computer).

5. Exploratory field experience exposures are provided for all students in the program. These exposures have been developed on a building block plan and are designed to carry students as far as their interests take them. For health career orientated students, these experiences give students real first-hand opportunities to do something about their intended goal.

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Personal Exploration activities are designed to give students opportunities to look at themselves as individuals.

Testing activities generally are done by trained personnel or specialists. In these cases, however, students are trained to do their own testing and evaluation by working in partner teams.

Temperature, Pulse and Respiration activities have several purposes. In addition to skill building these activities are designed to develop student awareness and appreciation for health career employees. The act of charting is in itself a specific and meticulous skill.

Personality Traits and Matching Your Abilities are personal exploration also designed to develop awareness.

The personal Health charts and questionnaires are practical explorations. They are necessities when visiting a new doctor; and are useful tools for students to work through in the classroom. Also useful for the same purpose is a copy of Family Medical Record available from the March of Dimes.

SNELLEN VISION TEST Name_____

General information:
This is a test of visual acuity (sharpness). It is generally used as a screening device since it only determines the clearness with which you see. Undoubtedly you have seen or taken it before.

Procedure:
Stand twenty feet from the chart. Cover one eye with a piece of clean paper - do not press the covered eye. Try not to squint try not to lean forward. Point in the direction you believe the big E is going as the tester identifies it for you.

You should be able to see the 20 line without difficulty. If you are unable to see the 20 foot line the tester will move up until a line is found which you can clearly see.

Test the other eye.

If you had difficulty with either eye, test both.

Record:

With Glasses

Right eye	Left eye	Both eyes

Without Glasses

Right eye	Left eye	Both eyes

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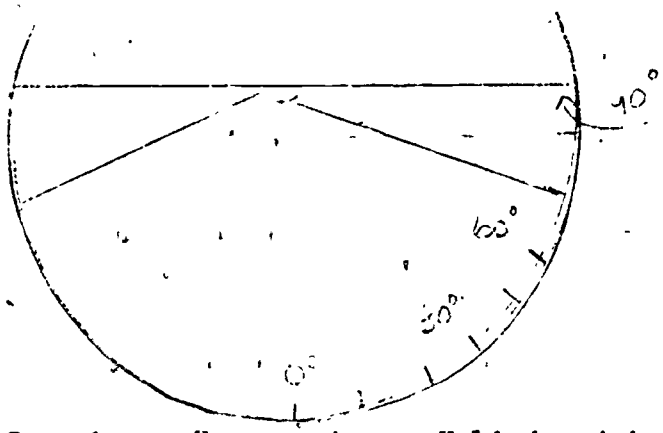
PERIPHERAL VISION TEST / Testing the Field of Vision

Teacher Directions: Students can easily make a field-of-vision testing device by using a large piece of cardboard. The device should be built with degrees marked on it.



Procedure: Use a partner. Hold the vision guide by each handle and press lightly against the bridge of your nose. Have one person hold a pencil upright (vertically) at 0 degrees. Then move pencil to the right until it can no longer be seen. You must be looking straight forward at all times--do not move eyes. Record the approximate degree at which you can no longer see the pencil (on chart below). Repeat this for the other eye.

NOTE: The black line from 70° to 70° is the minimum (smallest) field of peripheral vision required by law.

RECORD:

Right eye_____ Left eye_____Total field (add R & L degrees)

If you have less than 70° on either side, test again. If it is the same, it may not be safe for you to drive.

BELTONE HEARING TEST Name_____

General Explanation:

This is a test of normal hearing abilities. It is used as a screening device, since it can only determine pitches of sound one can or cannot hear. This test does not tell if you have impaired hearing or why. You are tested for volume (loudness) of sound and frequency (hi-lo pitches) rate of sound.

Decibels are measurements of volume. Frequency rate is measured at cycles/second (how many times you hear the same sound per second).

Normal hearing in decibels, with slight background noise, is between 30 db - 20db at 1000 cycles/sec. Hearing below or above that indicates sensitive or deficient hearing in those ranges. Normal hearing for frequency rate is between 750 - 1500 cycles/sec.

Procedure:

Follow instructions from tester. If you have a cold, earache, or some disorder that affects your hearing, please tell tester. If you are waiting in line to be tested, PLEASE REMAIN QUIET. Do not leave until tester is through as you must test both ears. Give this sheet to tester, so he may record your scores. If you are not clear about the scores, ask for an explanation from your teacher or tester.

Decibels (volume)		Frequency (cycles/sec.)	
60 db:1 r	20 db:1 r	250:1 r	1500:1 r
50 db:1 r	15 db:1 r	500:1 r	2000:1 r
40 db:1 r	10 db:1 r	750:1 r	4000:1 r
30 db:1 r	5 db:1 r	1000:1 r	8000:1 r
Sensitive 1	r	Sensitive ____	____
Normal ____	____	Normal ____	____
Deficient ____	____	Deficient ____	____

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SPEECH EVALUATION TEST

Name_____

Tester_____

General information

This test will determine some of the sounds you may have trouble speaking. It does not tell you why or how to correct the difficulty. You will say groups of words that contain certain sounds the tester will be listening for. The tester will listen for 1) ommission (-)= sound not pronounced; 2) distortion (X)= sound pronounced but not clear; 3) stimulation (+)= sound is clear; 4) strength of voice= weak (hard to hear at 5 ft.), mild (can hear, but must strain), stron (can hear easily), strained (voice cracks or has trouble forcing words out).

Directions:

Fill in your name and tester's name. Give your chart to tester. Sit approximately 5 ft. apart. Say each group of words as their pictures are held in front of you. If you cannot identify a picture, skip it and mark 'skipped' on chart. You must do at least 3 of the 6 groups, including group E (ex, A,C,E or C,D,E). Go over each gourp only onee. Do not repeat any words. Tester will choose which groups to do, including E. *Tester: must mark omission, distortion or stimulation in column of strength of voice for each word.

Example:

Group O
1. monkey, hammer, broom
2. nails, penny, lion

Sound (letter)	Strength of Voice: weak	mild	strong	strained
M			+	
N		X		

**If you have read instructions and understand, then you may begin test with your tester. When done, switch places. If you have any questions, ask your teacher.

Group A	Sound (letter)	Strength of Voice: weak	mild	strong	strained
Monkey, Hammer, Broom	M				
nails, penny, lion	N				
pig, puppy, cup	P				
house, dog-house	H				
window, spider-web	W				
Group B					
boat, baby, bib	B				
cat, chicken, book	K				
girl, wagon, pip	G				
fork, telephone, knife	F				

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(2)

		Strength of Voice			
Group C	Sound (letter)	weak	mild	strong	strained
1. yellow, onion	Y				
2. fingers, ring	NG				
3. dog, ladder, bed	D				
Group D					
1. lamp, balloon, ball	I				
2. rabbit, barn, car	R				
3. table, potatoes, coat	T				
4. shoe, dishes, fish	SH				
5. chair, matches, watch	CH				
6. drum, clock, blocks	BLENDS				
Group E					
1. vacuum, television, stove	V				
2. thumb, toothbrush, teeth	TH				
3. jumprope, juice, orange	J				
4. sun, pencil, bus	S				
5. zebra, scissors, rubbers	Z				
6. train, star, slide	BLENDS				
Group F					
1. this or that, feathers	TH				
2. scooter, snowman, desk	BLENDS				
3. measure, treasure	ZH				

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BLOOD TYPING

This test will tell only the type of blood you have (A, B, AG, O) not the RH Factor (From: rhesus monkey; + or -). The test is quick and painless and you only need to use a small amount of blood.

FOLLOW INSTRUCTIONS CAREFULLY

1. Use a finger you do not use normally
2. "milk" the finger (force blood to tip by rubbing skin towards tip)
3. Teacher swabs fingertip with alcohol
4. Finish "milking" and hold finger still while teacher lances the tip
5. Drop blood on each side of slide (A/B) and apply cotton to finger

WHAT HAPPENS: Seram A is dropped on side A; Serum B on side B. The serum will coagulate the blood (form fine sand-like mixture with blood). If A coagulates, you have type A. If B = type B. If A and B = type AB. If neither does, you have type O.

Check (/) type of blood you have and read what it may do.

Type	O	A	B	AB
Donates to	O,A,B,AB[1]	A,AB	B, AB	A B
Receives from	O	O, A	O, B	O,A,B,AB[2]
Availability	most common[3]	fairly common	common	rare

1. Universal donor (may give to anyone)
2. Universal recipient (may receive from anyone (except AB - then may receive from Ab only)
3. In U.S. only; other areas of world are different(example) type B may be most common in China.

TEMPERATURE

The temperature is one of an individual's vital or life signs.

A basic way to determine the presence and seriousness of an illness is to take a person's temperature, using one of three types of fever thermometers. These are: the oral thermometer (the most commonly used); rectal thermometer; and the multi-use or stub type, which can be used orally, rectally or under the arm. The oral thermometer is the easiest to use.

Purchasing a Thermometer:

1. Ask the advice of your physician, nurse, or pharmacist as to brand and type.
2. Purchase the best thermometer, not the least expensive (prices range from less than $1.00 for the cheapest thermometer to about $4.00 for the most expensive ones). A good thermometer is accurate, will last a lifetime unless it is broken, and is well worth the additional cost.
3. Do not purchase a thermometer that comes with a chart showing corrections. A good thermometer does not have to be corrected.
4. Examine the thermometer carefully before buying. Make sure that it is easy to read the numbers and lines on the glass and that the glass and that the mercury column is clearly visible and unbroken.
5. Read the guarantee carefully.

Taking the Temperature:

1. Before using a thermometer, disinfect it in rubbing alcohol or wash it thoroughly in soap and cool water. (Hot water may break it.)
2. Reduce the mercury level to a point well below 98.6°F. by holding the thermometer at the end opposite the bulb and shaking it downward sharply.
3. If an individual has been smoking or drinking hot or cold fluids, wait fifteen minutes before taking the temperature.
4. Place the bulb end in the mouth beneath the tongue and close the lips. Leave in place with the lips closed for three minutes.
5. Remove the thermometer, holding it by the stem. Wipe with cotton from the stem end toward the bulb end.

Reading the Thermometer:

1. Stand with your back to the light and hold the thermometer on the stem end at eye level.
2. Rotate the thermometer until you can see clearly the point at which the mercury column ends on the temperature scale.

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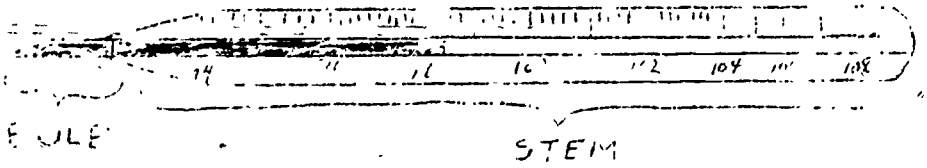
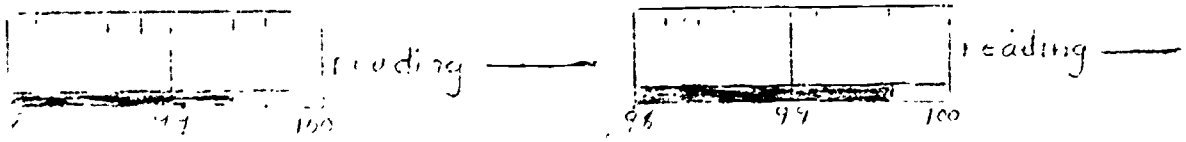
3. Each long line indicates a one degree elevation in temperature. Only every other degree is marked with a number. In between each long line are four shorter lines. Each short line equals two-tenths (2/10 or .2) of one degree. The thermometer is 'read' at the point at which the mercury ends.



On the following two diagrams, try to read the thermometer and record it.



4. Now take your own temperature (following directions given before). After reading the thermometer, wash it with soap and water. Then place it in the test tube filled with alcohol. Mark the exact time that you placed it in alcohol and place in front of the test tube.

*NOTE: A thermometer must be in alcohol twenty minutes before being used again.

Charting the Temperature:

1. Doctor's offices and hospitals keep graphic charts for recording temperatures. It is important that these records be accurate and readable so they can be used effectively by doctors, nurses, or other health care workers.

2. To chart accurately, draw a solid dot on the lines which correspond to the readings and to the closest time the reading was taken.

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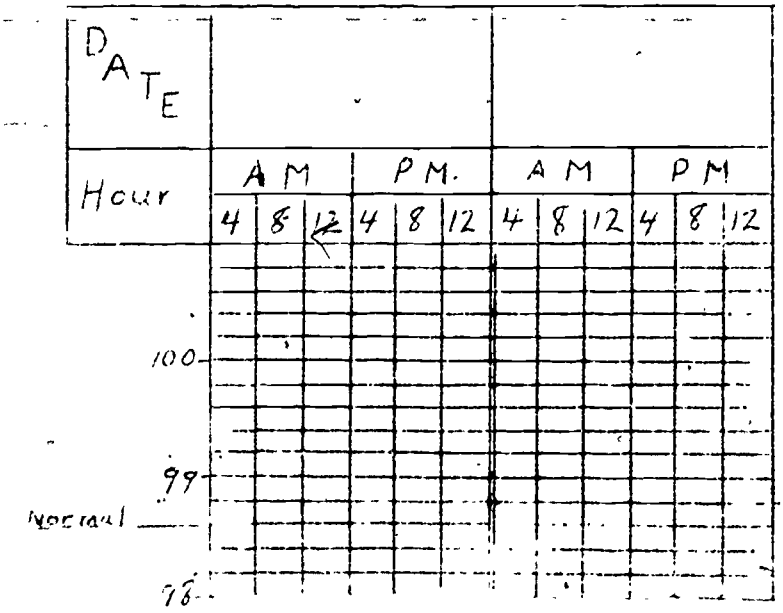
On the diagram below, chart these temperatures for yesterday and today:

Yesterday: 8 a.m. - 98.8; 8 p.m. - 99.8
Today: 8 a.m. - 99.0; 8 p.m. - 99.6



Now connect the dots with straight lines. The graph will then show an accurate picture of temperature changes.

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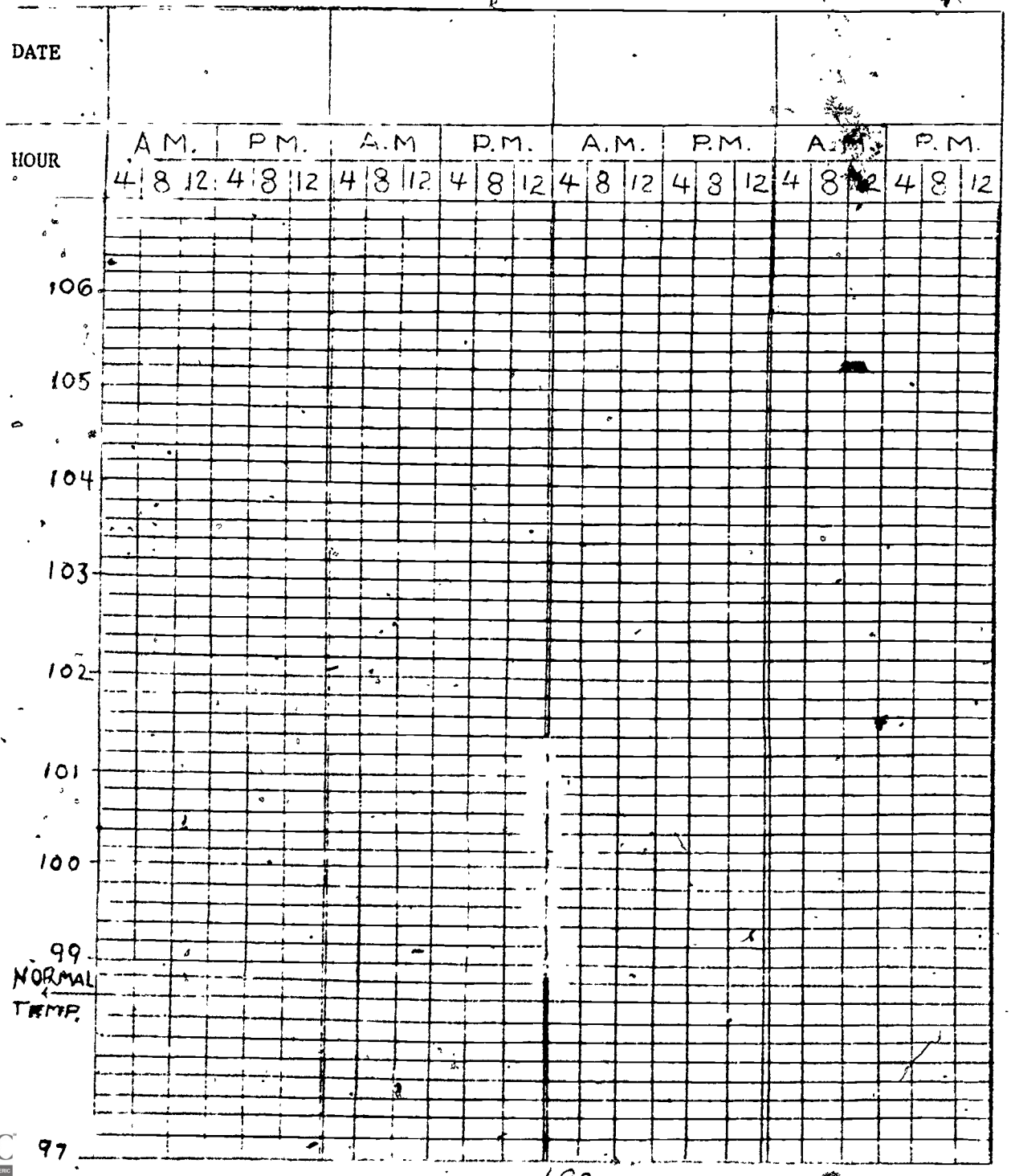
On the large Graphic Chart record your temperature, taken during class, on four consecutive days.

GRAPHIC CHART

Name _____ Dr. _____

Month _____



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PULSE

The pulse is one of an individual's vital or life signs.

The pulse is the pressure of the blood felt against the wall of arteries as the heart alternately contracts and relaxes. This pulse can be felt anywhere in the body where there is an artery close to the surface, and where it can be squeezed against a bone by the fingers.

The Pulse as an Indicator

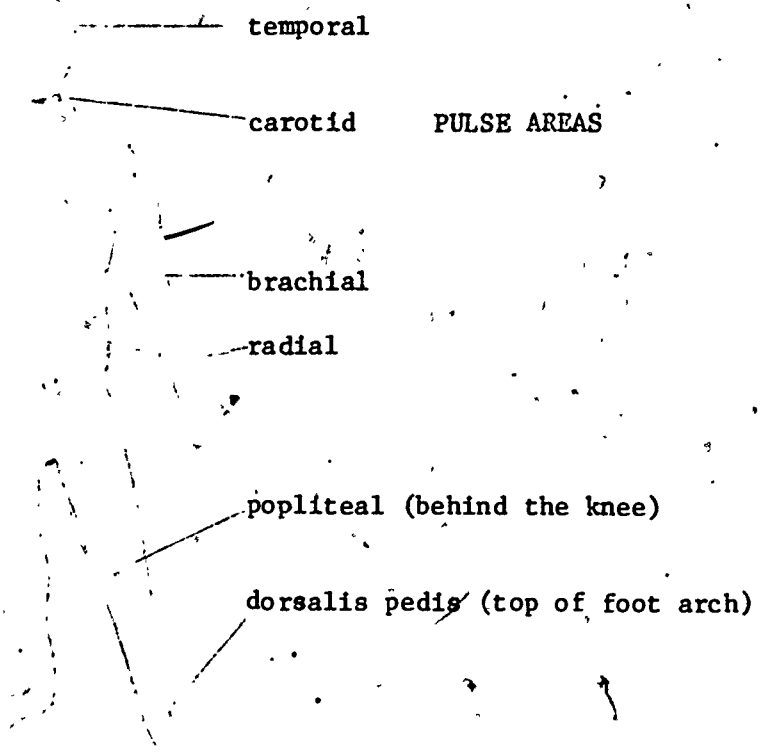
The average pulse rate is 72 beats per minute. Pulses that are too fast or too slow, too strong or too weak can give doctors an indication of the condition of the circulatory system. Pulse rates vary from person to person and change according to the activity level---- very slow during sleep and very rapid during strenuous exercise.

Taking the Pulse

1. Using the fingers, the pulse can easily be found at the sides of the neck, at the temples and on the thumb side of the wrist. (Other pulse areas can be seen in the diagram below)

2. Generally the pulse is taken over the radial artery.

3. The pulse rate is found by counting the number of throbs felt per minute. A shorter way would be to count for thirty seconds and then to multiply by two.



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4. Take your pulse for one minute and record it in the space to the right.

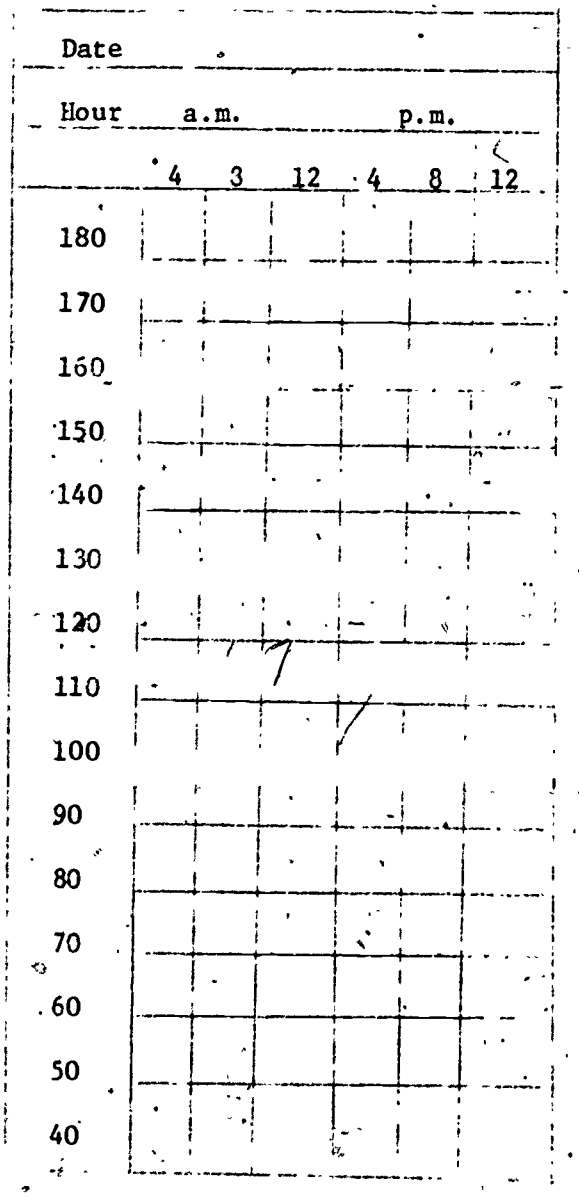
5. Wait a full minute. Take your pulse for one minute and record it again.

6. If #4 and #5 are not the same continue the procedure until you get two similiar counts.

Charting the Pulse

1. Persons who work in medical services generally keep graphic charts for recording pulses. It is important that these records be accurate and readable so they can be used effectively by doctors, nurses, or other health care workers.

2. Chart your pulse on the graph below. Remember to chart accurately, draw a solid dot on the lines which correspond to the readings and to the closest time the reading was taken.



RESPIRATION

Respiration is one of an individual's vital or life signs.

The main function of respiration is to supply the cells of the body with oxygen and to rid the body of carbon dioxide.

There are two parts to each respiration -- inhalation (taking in) and exhalation (giving off).

The Respiration as an Indicator

The average adult respiration rate is between fourteen and eighteen counts per minute. Health care workers are interested in both the character of respirations as well as the rate. Respirations are described as being normal, shallow, deep, labored or difficult. The type of activity or degree of illness of a person will in part determine the character of his respiration.

Counting the Respiration

1. The respiration rate is determined by counting the rise and fall of the chest for a one minute period.

2. If the rate you count is more than twenty-five per minute, it is said to be accelerated.

3. Count your respirations for one minute and record it in the space provided. _____

4. Wait a full minute. Count your respiration again for one minute. Record _____.

5. If #3 and #4 are not the same continue the procedure until you get two similiar counts.

Charting the Respiration

1. Persons who work in medical services generally keep graphic charts for respiration recording. It is important that these records be accurate and readable so they can be used effectively by doctors, nurses, or other health care workers.

2. Chart your respiration on the graph on the next page. Remember to chart accurately, draw a solid dot on the lines which correspond to the readings and to the closest time the reading was taken.

NOTE: Since people can voluntarily control a portion of their respiration, most health care workers usually count both the pulse and respiration at the same time. This way the patient is unaware that their respiration is being counted.

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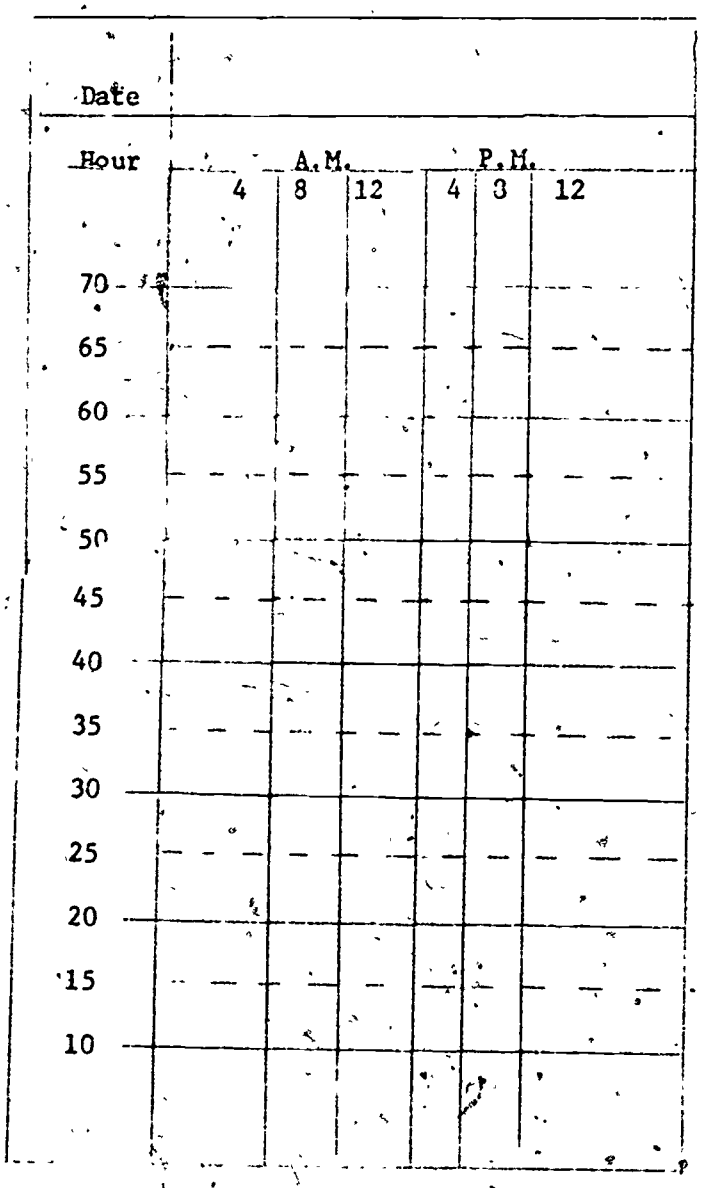

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Earlier you learned to accurately take your pulse and respiration rates. Also you learned to record them on a graphic chart.

This experiment is designed to illustrate the changes which take place in the circulatory and respiratory systems as a result of activity.

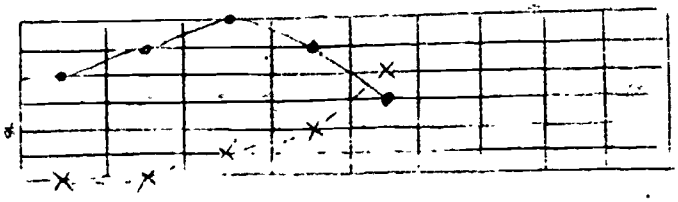
Examine the Chart

1. Look over the chart on the next page. You will notice that both pulse and respiration are to be recorded on one chart.

2. For this experiment only you will need to record your pulse rates with a solid dot ( ) and connect your solid dots with a solid line( ).

3. For this experiment only you will need to record your respiration rates with an x (x) and connect your x's with dotted lines (- - -).

4. See the example below:



Experiment Procedures

1. Select a partner who will assist you in this experiment (step 3&4)

2. Step 1: Sit quietly for five minutes.
Count your own resting pulse for twenty seconds.
Multiply your pulse rate by three and record on the graphic chart.

Next count your respiration rate for twenty seconds.
Multiply your respiration rate by three and record on the graphic chart.

3. Step 2: Stand and take your pulse for twenty seconds.
Multiple your pulse rate by three and record on the graphic chart.

Next count your respiration rate for twenty seconds.
Multiply your respiration rate by three and record on the graphic chart.

4. Step 3: Jog up and down the stairs once.
Count your own pulse for twenty seconds.
Multiply your pulse rate by three and record on the graphic chart.

While you are counting your pulse your partner will count your respirations for twenty seconds.
Multiply your respiration rate by three and record on the graphic chart.

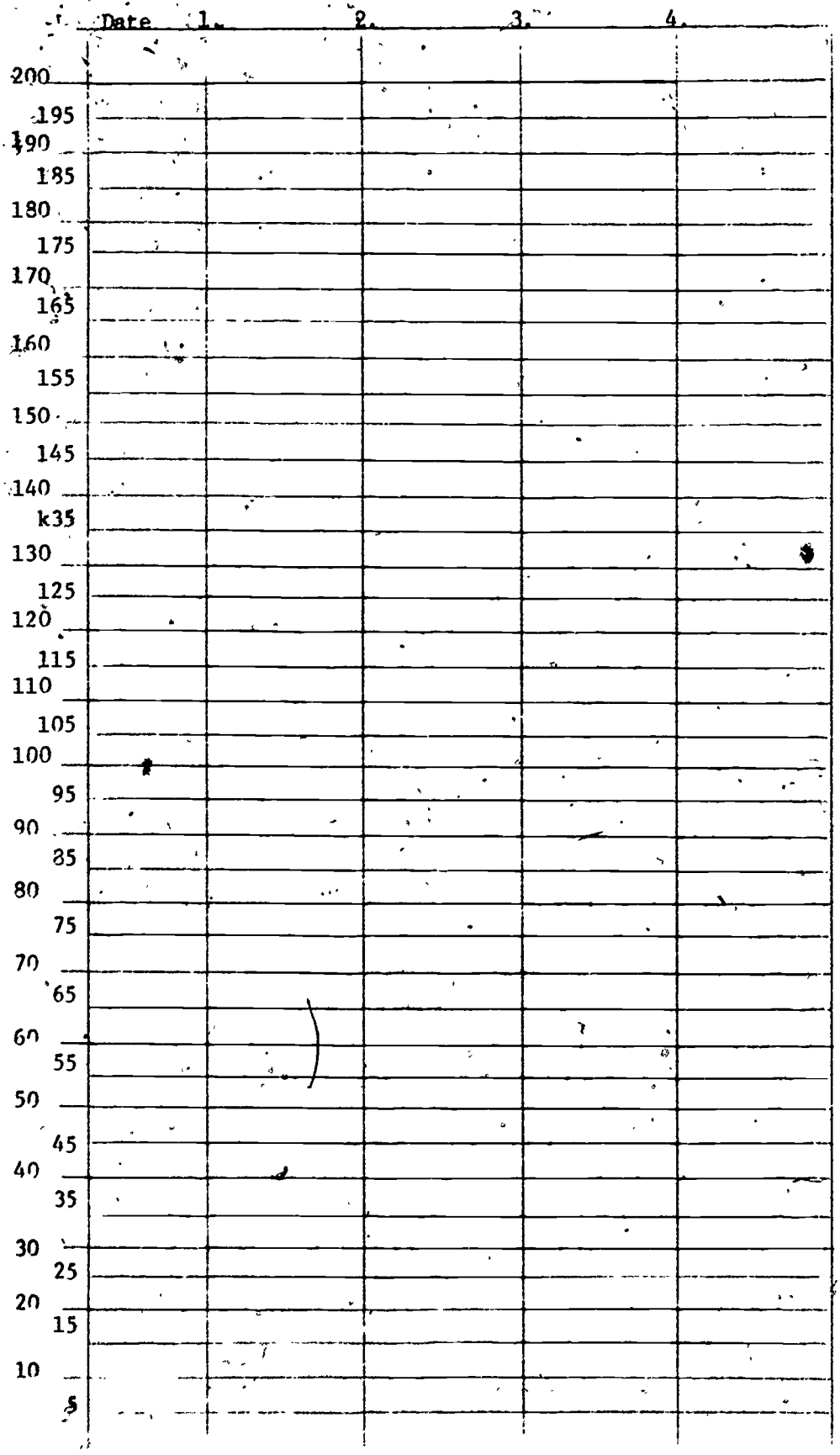
5. Step 4: Jog up and down the stairs three times without rest.
Follow the same procedure as step 3 above.

6. Switch partners and repeat entire experiment.

GRAPHIC CHART

Circulation and Respiration

Name _____



Personality Traits

Name_____

Listed below are personality traits which are considered to be important for success on a job and in relationships with other people. You will receive three copies of this sheet. Copy #1: This is YOUR copy to fill out as you see yourself. Ratings are from 1 to 5 with 1 being "Almost never" and 5 being "Almost always". Circle the number which is your estimate after the personality trait. Copy #2 is intended for your parents to complete. Copy #3 is for a friends to complete. When the three sheets have been completed, compare the results and find areas where you and your parents and your friend disagree. Keep these sheets for your records. On the back of copy #1 explain any comparisons which you can.

I am:

1. Alert	1 2 3 4 5	15. Patient	1 2 3 4 5
2. Appropriately dressed.	122 3 4 5	16. Persistant	1 2 3 4 5
3. Careful to avoid bad language	122 3 4 5	17. Pleasant	1 2 3 4 5
4. Cheerful	1 2 3 4 5	18. Poised	1 2 3 4 5
5. Confident	1 2 3 4 5	19. Punctual	1 2 3 4 5
6. Cooperative	1 2 3 4 5	20. Quiet	1 2 3 4 5
7. Courteous	1 2 3 4 5	21. Reliable	1 2 3 4 5
8. Friendly	1 2 3 4 5	22. Self Controlled	1 2 3 4 5
9. Helpful	1 2 3 4 5	23. Self reliant	1 2 3 4 5
10. Honest	1 2 3 4 5	24. [redacted]re	1 2 3 4 5
11. Loyal	1 2 3 4 5	25. Sympathetic	1 2 3 4 5
12. Modest	1 2 3 4 5	26. Tactful	1 2 3 4 5
13. Neat	1 2 3 4 5	27. Thorough	1 2 3 4 5
14. Optimistic	1 2 3 4 5	28. Trustworthy	1 2 3 4 5

MATCH YOUR ABILITIES TO CAREERS IN HEALTH

What are your abilities?

What are your interests?

What are your likes and dislikes?

Have you ever stopped to list the many things you can do well, or those activities that you like? Have you ever thought about the things that interest you? What are your likes and dislikes?

There are many things you like to do. For example, there are schoolmates you prefer to be with that you like, and probably others that you dislike. You have favorite T.V. programs, and favorite movies. Certainly, you have favorite sports and recreational activities. There are certain books that you like to read, others you don't. There are some chores you don't mind doing around the house, and others that you detest.

Why do you like some things and not others?

Why do you have certain abilities that you consider your strong points?

Why are you interested in certain activities and not in others?

The answers to these questions will help you to choose a future career. It is important to begin knowing yourself, for in knowing yourself, you can channel your abilities, interests and likes into career choices. A choice that allows you to make the best use of your strengths and interests will be a wise choice of career. Such a choice will provide you with inner satisfactions because you will be doing things that interest you, or in which you are good!

The following questions are designed to give you some insight into yourself.

After each question, you will find four (4) choices of possible health careers that fit the interest or ability found in the question. Select the best choice for each question and write it in the space provided beneath the question.

In the column at the right, next to each statement, headed, "My Interest or Ability," place a check (√) if that question suits your own interest, like or ability. (*Note: There may be more than one correct answer to a question.)

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MY INTEREST OR ABILITY
(check)

1. I write well and get good marks on my class compositions. I enjoy writing letters to friends. _____

PUBLIC HEALTH INFORMATION SPECIALIST
CYTOTECHNOLOGIST (study of cells)
SCIENCE WRITER
SANITARY ENGINEER

2. I am a pretty fair athlete and perhaps may be on the school's varsity team. I enjoy coaching grade school children in sports and athletics. _____

SCHOOL HEALTH EDUCATOR
RECREATIONAL THERAPIST
DIETITIAN
PHYSICAL THERAPIST

3. I can draw and sketch well. Some of my drawings in the Science Class, or art class have been praised. _____

STATISTICAL CLERK
WARD CLERK
MEDICAL ILLUSTRATOR
OCCUPATIONAL THERAPIST

4. I like to read about science subjects, and the accomplishments of scientists. I like handling scientific equipment and trying out experiments on my own. _____

MEDICAL LIBRARIAN
REGISTERED NURSE
BIOLOGICAL RESEARCH TECHNICIAN
AMBULANCE ATTENDANT

5. I like to create things in the school shop. I enjoy industrial arts projects and help out with repairs at home. _____

ORTHOPEDIC APPLIANCE MAKER
HOSPITAL BUILDING MAINTENANCE WORKER
MEDICAL ASSISTANT
INHALATION THEREAPY AIDE

MY INTEREST OR ABILITY
(check)

6. I keep the class materials well organized and neat. I am good at figures. _____

BLOOD BANK TECHNOLOGIST
MEDICAID AND MEDICAIRE CLERK
WARD CLERK
LICENSED PRACTICAL NURSE -

7. I have a great deal of patience and compassion for those not as fortunate as myself. I like helping such people _____

REGISTERED NURSE
STATIONARY ENGINEER
STATISTICIAN
PSYCHIATRIC SOCIAL WORKER

8. I do my best work in quiet orderly surroundings such as in the library or certain places at home. I like handling details which involve looking up facts in books. _____

COMPUTER PROGRAMER
MEDICAL RECORDS LIBRARIAN
OUT-PATIENT ASSISTANT
CLERK IN BUSINESS OFFICE

9. I work best when I am under pressure. When I take examinations, I usually do very well. _____

AMBULANCE ATTENDANT
EMERGENCY ROOM ATTENDANT
INTENSIVE CARE UNIT
OPERATION ROOM ATTENDANT

10. I have good work habits, follow directions well and generally observe rules when they are set for the welfare of the majority of the school. _____

JUNIOR ACCOUNTANT - BUSINESS OFFICE
ENVIORNMENTAL RESEARCH AIDE
HISTOLOGIC LABORATORY AIDE
HOSPITAL PERSONNEL DIRECTOR

MY INTEREST OR ABILITY (check)

11. I get tense at times under pressure, but I am calm in most situations. _____

MEDICAL RECORDS LIBRARIAN
HOSPITAL CASHIER
HEAD REGISTERED NURSE
HOSPITAL ADMITTING OFFICE CLERK

12. I like music, both listening and playing. My hobbies are generally of an artistic nature. _____

RECREATION THERAPIST
NURSERY SCHOOL COUNSELOR
X-RAY TECHNICIAN
HEMATOLOGIST ASSISTANT

13. I like to "fool around" with cars, motor bikes and gas engines. _____

HOSPITAL MAINTENANCE AND REPAIR WORKER
AMBULANCE ATTENDANT
STATIONARY BOILER ENGINEER
BACTERIOLOGIST ASSISTANT

14. I enjoy taking a radio or t.v. apart and fixing broken electronic gadgets. _____

ELECTROCARDIOGRAPH TECHNICIAN
COMPUTER PROGRAMMER OR ANALYST
MEDICAL ENGINEERING TECHNICIAN
HOSPITAL RECEPTIONIST

15. I enjoy cooking interesting means for my family and friends. _____

NUTRITIONIST
CHEF'S HELPER
DIETITIAN
DIETARY AIDE

16. In "rap" sessions with my friends, I enjoy discussing ecological problems. I like activities that attempt to do something to improve the world. _____

ORTHOPEDIC APPLIANCE MAKER
PUBLIC HEALTH EDUCATOR
FOOD AND DRUG INSPECTOR AND ANALYST

MY INTEREST OR ABILITIES
(check)

17. I enjoy dramatics, dramatic art, radio and television classes. People say I am a natural actor. _____

HOSPITAL PUBLIC RELATIONS OFFICER
MEDICAL RECEPTIONIST
ADMITTING OFFICER
MEDICAL SOCIAL WORKER

18. I like to write for my school newspaper or literary editor. _____

MEDICAL SCIENCE WRITER
PUBLIC HEALTH INFORMATION SPECIALIST
HEALTH EDUCATOR
DRUG RETAIL SALESMAN

19. I'd like to make money right away and become independent. _____

PHARMACEUTICAL PRODUCTS SALESMAN
NURSE'S AIDE
PORTER
ACCOUNTANT

20. I am considered a good mixer and enjoy being popular. _____

PUBLIC RELATIONS OFFICER
PSYCHOLOGIST
DENTAL ASSISTANT AND SECRETARY
DIRECTOR OF HOSPITAL VOLUNTEER SERVICES

21. I like the challenge of learning new things in the scientific world. _____

MEDICAL RESEARCH SPECIALIST
DOCTOR OF MEDICINE
RADIOLOGIST
BASIC RESEARCH IN ENVIRONMENTAL HEALTH

MY INTEREST OR ABILITY
(check)

22. I like to be the leader of my "crowd" and generally take over when tough decisions have to be made. _____

HOSPITAL MEDICAL DIRECTOR
EXECUTIVE HOUSEKEEPER
DIRECTOR OF BUILDINGS AND MAINTENANCE
INDUSTRIAL HYGIENIST

23. I like the idea of being thought of as a "big brain". I enjoy tough school subjects such as mathematics, chemistry and biology. _____

ENVIRONMENTAL RESEARCH SPECIALIST
MEDICAL ELECTRONICS SPECIALIST
PHARMACY AIDE
CHIEF PURCHASING OFFICER

24. I like to communicate and share my ideas with other people. _____

PUBLIC HEALTH EDUCATOR
PSYCHOLOGICAL SOCIAL CASE WORKER
PATHOLOGY LABORATORY TECHNICIAN
SAFETY ENGINEER

25. I like to work with children and enjoy telling stories and playing games with them. _____

PEDIATRICIAN
NURSERY SCHOOL COUNSELOR
PEDIATRIC WARD NURSE
SPEECH PATHOLOGIST

IF YOU HAVE PLACED A CHECK IN THE RIGHT HAND COLUMN ("MY INTEREST OR ABILITY") ON THE FOLLOWING LINES WRITE THE POSSIBLE CAREERS FOR WHICH YOU WOULD BE SUITED.

_____ _____

_____ _____

_____ _____

_____ _____

_____ _____

_____ _____

FITNESS EXPERIMENT/Chair Test

Teacher Directions- This is a brief, quick and easy to do fitness test, which is ideal for classroom use. It is designed to indicate whether an individual is in good enough shape to participate in strenuous activity or whether a conditioning program might be advisable.

Procedure - Use a study chair with a seat fifteen to seventeen inches off the floor. You need a partner who will hold the chair steady; and a visable watch or clock with a second hand

Step up onto the chair, straighten your legs, and then step down. Repeat this procedure for at least two minutes -- making certain you make thirty cycles a minute.

"After you stop, sit down and relax for a minute. Then take your pulse for thirty seconds. Double the number of beats. In order to pass you must get a total of less than 100 beats."

TODAY'S HEALTH May, 1972

PERSONAL HEALTH TEST QUESTIONS Name_____

___1. Have you had a physical checkup within the past year?

___2. Do you floss your teeth at least once a day?

___3. Have you seen a dentist within the past year?

___4. Do you smoke more than half a package of cigarettes a day?

___5. Do you take any medication?

___6. Do you usually take amphetamines or tranquilizers to get through a day?

___7. Can you name four of the seven cancer warning signals?

___8. Have you had your eyes checked within the past year?

___9. Is your diet well-balanced?

___10. Do you wear ill-fitting or run-down shoes?

___11. Do you get enough sleep at night?

___12. Do you get more than your share of colds?

___13. Are you more than ten pounds overweight?

___14. Do you get enough exercise daily?

___15. Are you underweight?

___16. Are you a safe and courteous driver?

___17. Are you nervous or anxious most of the time?

___18. Are you depressed most of the time?

___19. Are you relatively at ease when meeting new acquaintances?

___20. Do you know your blood type?

___21. Do you brush your teeth at least once a day?

___22. Do you squeeze imples and blackheads?

___23. Do you bite your nails?

WOMEN ONLY

___24. Do you have a Pap smear once a year?

___25. Do you check your breasts at regular intervals?

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PERSONAL HISTORY QUESTIONNAIRE

206
(2)

Please Answer All Questions Completely

Patient's Name _____ Birth Date _____ Sex _____

Address - Street _____ Zip Code _____ Single _____

Married _____

Divorced _____

City _____ Phone _____ Widowed _____

Social Security Number _____

Patient's Employer _____ Occupation _____ How Long _____

Address _____ Phone _____

Do You Have Insurance _____ Yes _____ No Insurance Co. _____

Policy No. _____

Person Responsible For the Bill: [Full Name of Husband, Father or Responsible Party]

Name _____ Phone _____

Address _____ Occupation _____

Employer _____ Phone _____

Insurance Co. _____

Policy No. _____

IN CASE OF EMERGENCY NOTIFY [other than husband or wife]

Name _____ Address _____ Phone _____

IS THE PATIENT ALLERGIC TO ANY DRUGS OR MEDICATIONS? _____ Yes _____ No

Which Ones? _____

PERSONAL HISTORY

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NAME BIRTH DATE 207 (3) SEX

RELIGION S M D W OCCUPATION

FAMILY HISTORY	ALIVE	STATE OF HEALTH	DECEASED	CAUSE OF DEATH	TBC	MIGRAINE
FATHER					HCVD	NEURO.
MOTHER					CA	GI
BROTHERS					DIABETES	BLOOD
SISTERS					ALLERGY	

G A/V PARA: MENARCHE: LNMP DAYS PADS MENOPAUSE

CHILDREN

LONG COUGH TBC HIVES JAUNDICE

PNEUMONIA ASTHMA RHEUMATIC FEVER ENCEPHALITIS

PLEURISY HAYFEVER ST. VITUS DANCE KIDNEY INFECTION

PAST MEDICAL HISTORY

SURGICAL HISTORY

GYNECOLOGIC HISTORY:

HABITS

TOBACCO HOURS WORKING DIET SENSITIZATION

ALCOHOL SLEEP HOBBIES ALLERGIC TO DRUGS

TEA INSOMNIA EXERCISE

COFFEE HOME CONDITION VACATION

PRESENT ILLNESS.

ERIC
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The Family Medical Record: A Step toward Better Health

By VIRGINIA APGAR, M. D., M. P. H.
Vice President for Medical Affairs
The National Foundation March of Dimes

You can plan for better medical care. A famous authority on the health of the newborn tells how to start now by keeping careful, comprehensive records using a form especially developed for Woman's Day readers.

Evelyn Morris thought it odd that the eye specialist she had consulted about a problem with her contact lenses seemed much more interested in her grandmother.

Evelyn had worn contacts successfully for several years until shortly after moving to a strange city, she began to have intermittent pains in her eyes.

Referred by a friend to the ophthalmology department at a nearby university medical center, she had just completed a battery of tests. And now the doctor was urging her to probe her memory about her family, especially her mother's mother, who had been blind in her last years.

"When I was quite young, Grandmother was in the hospital once, summoned to have cataracts removed," Evelyn recalled. "It must have been unsuccessful, because her vision failed rapidly after that."

"Was glaucoma ever mentioned?" the doctor asked.

"Not that I can recall," she replied.

"It would be helpful if we knew," he said. "The preliminary tests indicate that the pressure of fluid circulating in your eyes is slightly higher than normal. It could be a very early symptom of glaucoma. If it is glaucoma, you're at such an early stage no damage has yet been done. Preventing future damage should be possible with simple medication. Knowing more about your grandmother's history might help confirm the diagnosis without the risk of waiting to see whether your pressure increases."

Evelyn agreed to write her mother before her next appointment. The reply came quickly.

Dearest Evelyn,

You were too young to understand the family conversations about Mama's eyesight, but she did indeed have glaucoma. Her sight was failing long before the cataracts developed, though it wasn't until then that anyone diagnosed it as glaucoma.

Your query was distressing, especially since it brings up something I probably should have mentioned long before. When I saw Dr. Jenkins for new glasses four years ago, he prescribed drops to "relieve some mild pressure" in my eyes. He didn't give it a name, and I certainly didn't associate it with Mama's condition. But he checks the pressure each time he checks my glasses and has kept up the prescription. It does sound as though it's part of the pattern, except that in my case it showed up much later in life than it seems to have in yours.

If it should turn out that you have inherited the trait, thank heaven your doctor has caught the symptoms so soon. You're very lucky that the minor lens problem called attention so early to something potentially much more serious. Dad and I will be anxious until we hear the results . . .

The letter's contents, along with laboratory reports from earlier tests, helped confirm the diagnosis. Ten years later, on a regimen of special eye drops daily and regular checkups, there has been no loss of vision and none is anticipated.

"That experience taught me a lesson," Evelyn declares. "I've made sure that my children understand their risk of developing glaucoma, and why regular eye examinations will be essential all their lives, especially as they approach the age of forty."

As a broader result, Evelyn realized there might be other information in her family health history, as well as that of her husband, that they should know. Since then she has accumulated a wealth of data that might someday eliminate a need for time-consuming medical detective work, or provide guidance for accurate diagnosis through future years and even future generations.

YOUR FAMILY MEDICAL RECORD. Although a family health record may be started at any time, the ideal time is before you start your family or even before marriage. Greater accuracy is possible when the recollections of parents and relatives are fresh and when the exact nature of illnesses or chronic disorders can be verified by attending physicians.

The *Woman's Day* "Family Medical Record," which is reprinted here, is designed to help you start your own family health record at the start of a new year. We at The National Foundation-March of Dimes, an organization that works to prevent birth defects, were delighted when the editors of *Woman's Day* asked us and the AMA to devise a format that would include all the data vital to the health of today's children and tomorrow's. The form that we've come up with is clear and simple enough to be self-explanatory, but I'd like to give you a little more of the inside story on what the information included in it can mean to you and your doctor.

FAMILY HEALTH HISTORY. In the "Family Medical Record" space is provided to record basic data about your immediate

(continued)

Family Medical Record

A simple, comprehensive format for keeping vital family-health information organized and ready for the times when you need to have it at your fingertips. Faithfully kept, your family medical record will not only help you with school and travel records, insurance forms and routine medical consultations, but can also prove a valuable diagnostic tool for your physician and an important legacy for your children.

For an in-depth explanation of the uses of a family medical record by Dr. Virginia Apgar of The National Foundation-March of Dimes please turn the page.

IMPORTANT TELEPHONE NUMBERS

Physicians	Police Emergency _____
Dr. _____	Fire Emergency _____
Dr. _____	Ambulance Service _____
Dr. _____	Poison Control Center _____
Dr. _____	Health Department _____
Dentists _____	Health Insurance Agt. _____
Dr. _____	Medicare Information _____
Dr. _____	Medicaid Information _____
Pharmacist _____	Local Medical Society _____

FAMILY HEALTH HISTORY

Information about the health of your immediate family can prove helpful in early diagnosis and treatment of diseases that are known either to be genetic or to occur more commonly in some families. Make a note of any serious or chronic diseases in your family with special attention to those listed at the right. It also helps to note the age when the disease first occurred.

Be sure to include:

- Allergies
- Arthritis
- Cancer
- Diabetes
- Epilepsy
- Hearing defects
- Heart defects
- Hypertension
- Mental illness
- Mental retardation
- Obesity
- Tuberculosis
- Visual defects
- Other recurring family diseases

NAME	BIRTH DATE	BLOOD TYPE & Rh	OCCUPATION	DISEASES ETC	IF DECEASED AGE AND CAUSE
HUSBAND					
his father					
his mother					
brothers and sisters					
WIFE					
her father					
her mother					
brothers and sisters					

Designed by The National Foundation March of Dimes in collaboration with the American Medical Association and Woman's Day.

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CHILDREN'S BIRTH RECORD

Be sure to note such details as duration of pregnancy, length of labor, Cesarean delivery, use of forceps, newborn respiratory distress, jaundice, etc. If you are Rh negative and the child was Rh positive, were you given the Rh vaccine?

NAME	DATE	SEX	WT.	TYPE & Rh BLOOD	PHYSICIAN	DETAILS

INCOMPLETE PREGNANCIES

A complete reproductive history includes details of spontaneous or induced abortions, miscarriages and stillbirths. If you are Rh negative and the fetus was Rh-positive, whether or not you were given the Rh vaccine, it's relevant here, too.

TERMINATION	DURATION	CIRCUMSTANCES	TERMINATION	DURATION	CIRCUMSTANCES

IMMUNIZATION SCHEDULE AND RECORD

The American Academy of Pediatrics recommends that children be immunized and given tuberculin testing according to the immunization schedule below. Vaccine combinations and schedules are improved frequently, however, so your physician can recommend what is best for you. As each immunization is completed, it should be registered in the immunization record, also below.

IMMUNIZATION SCHEDULE

2 months	Diphtheria/Tetanus/Pertussis (whooping cough) vaccine, first shot; polio vaccine, first dose	1 12 years	Rubella (German measles) vaccine
		15-18 months	Polio booster, DTP booster
3 months	DTP, second shot	4-6 years	Polio booster, DTP booster
4 months	Polio vaccine, second dose; DTP completed	12 14 years	Tetanus/diphtheria toxoid (adult form), mumps vaccine
9 months	Polio vaccine completed		
12 months	Tuberculin test, rubeola (measles) vaccine	Thereafter	Tetanus-diphtheria toxoid every 10 years

IMMUNIZATION RECORD

Enter month and year of completed series, boosters, single immunizations.

IMMUNIZATIONS	CHILD	CHILD	CHILD	CHILD	CHILD	MOTHER	FATHER
DTP completed							
boosters							
polio completed							
boosters							
tuberculin test							
rubeola (measles)							
rubella (German measles)							
tetanus/diphtheria toxoid							
mumps							
other							

PERIODIC PHYSICAL EXAMINATIONS

NAME	DATE	WEIGHT	HEIGHT	BLOOD PRESSURE	VISION	HEARING

INDIVIDUAL PROBLEMS, MEDICATIONS, ALLERGIES

Note any medications that are taken regularly; only routine ones must be recorded for medical reasons, and any allergies.

NAME	CONDITIONS	SPECIAL INSTRUCTIONS OR MEDICATIONS

RECORD OF FAMILY ILLNESSES

List accidents, surgery and illnesses including chicken pox, mononucleosis, hepatitis, measles, German measles, strep throat and whooping cough. If there was surgery, specify what was removed and the reasons for it, if known.

NAME	DATE	NATURE OF ILLNESS, INJURY OR SURGERY	PHYSICIAN	HOSPITAL OR CLINIC	TREATMENT

HEALTH AND ACCIDENT INSURANCE INFORMATION

NAME	POLICY NUMBER	DATE ISSUED	COMPANY	TYPE OF COVERAGE	PREMIUM	PAYMENTS RECD	PAYMENTS REQ'D

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THE FAMILY MEDICAL RECORD

[illegible] has now [illegible] day or [illegible] Consultation [illegible] Prestal [illegible] York City [illegible] muscle tone [illegible] on a scale of zero to two for a maximum [illegible] a quick [illegible] needs special [illegible] a clue to [illegible] you want to [illegible] your child's [illegible] of questions [illegible]

ALLERGIES AND REACTIONS When a [illegible] he suspect [illegible] a [illegible] mark [illegible] This [illegible] an early [illegible] understanding [illegible] should [illegible] knowledge of [illegible] re-[illegible]

IMMUNIZATIONS In their [illegible] milestone a first [illegible] passes [illegible] often think [illegible] but [illegible] a [illegible] year old James's [illegible] Mommy [illegible] shot might hurt the [illegible] but it has a way of [illegible] keep a record of [illegible] family member.

PERIODIC PHYSICAL EXAMINATIONS This [illegible] provides room to accentuate the [illegible] as well as any negative findings [illegible] you or yours [illegible] here. And [illegible] one of the [illegible] of advice [illegible]

CHRONIC PROBLEMS MEDICATIONS [illegible] Evelyn Morris' medical [illegible] see a notation of the medicine she takes for glaucoma along with instructions [illegible] its daily use (notation of prescription number and name of pharmacy would be a good idea too). Your entry might [illegible] that the family members [illegible] take [illegible] for allergies or insulin [illegible] for diabetes or are [illegible] This [illegible] can be [illegible] an emergency and can be very [illegible] even in a routine consultation since it will help the doctor avoid [illegible] that might interact adversely with one that is already being taken.

HISTORY OF FAMILY ILLNESS Acute illnesses, accidents, surgical procedures and [illegible]—whether he require hospitalization or not—should all be recorded in your history. Even common childhood diseases should be recorded since they sometimes have more serious—though [illegible]—later effects.

[illegible] you find that the time and care [illegible] in keeping your family medical record will bear fruit for your family but is greatest [illegible] may be for children yet to come. Since 1938 when The National Foundation-March of Dimes turned its attention to birth defects we have seen great progress in treatment and even more [illegible] developments in the prevention [illegible] disorders in prenatal origin. As our understanding of heredity and genetic counseling becomes ever more accurate and accessible our ability to assure the birth of healthy children into healthy families will increase.

Your family health record faithfully kept and passed along to your children as they mature can become a valuable testament to your concern for the well being of the generations still to be born. *The End*

The National Foundation-March of Dimes seeks to prevent birth defects through its support of:

- A nationwide network of Medical Service Programs in genetic counseling, prenatal care, intensive care of the newborn, and exemplary treatment for children born less than perfect.
- Basic research by outstanding scientific investigators into the causes and means of preventing birth defects.
- A comprehensive program of education for health professionals in the latest advances in birth defects prevention.
- Broad-scale public education to increase awareness of effective preventive measures against birth defects.

[illegible] Foundation - March of Dimes
TEL. 72[illegible]434
702 WOOD[illegible] BLDG.
PORTLAND, OR. 9[illegible]

THE NATIONAL FOUNDATION-MARCH OF DIMES • BOX 2000, WHITE PLAINS, NEW YORK 10602

Communication Explorations which follow pp. 212 through 232 are designed to increase and build communication skills on various levels (from intra and inter personal levels to technical terminology).

The source for One/Two Way Communication is the N.T.L. Training Lab. Institute.

The map reading activity is probably only appriate for large metropolitan areas.

Medical Terminology is a first attempt at putting together words, phrases and meanings common to the health field.

Hearing and Speech Aides and I (Eye) Care are designed to widen a students scope of awareness.

COMMUNICATION/One Way and Two Way

Teacher Directions:

1. Discuss communication and how it works. Explain the differences in one-way communication and two-way communication. In one-way communication the sender tells the receiver something and this message ends the communication. A lecture, written instructions for a test, and memos are examples of one-way communication. In two-way communication the receiver of a message can ask for clarification, elaboration, and both sender and receiver can benefit from the increased mutual understanding that results. Discussions and question-and-answer periods are examples of two-way communication.
2. At this point the teacher will be the sender and the class will be receivers. All receivers should be ready with pencil and paper.
3. The sender will use one-way communication instructing the students to draw a figure similiar to figure 2 (included here). The sender should keep track of the amount of time necessary.

Follow-up:

1. Check to see how accurate student drawings are.
2. Evaluate the amount of time used. The differences between one-way and two-way communication.
3. Have students describe how they felt as receivers in the one-way situation.
4. Have students describe how they felt as receivers in the two-way situation.
5. Have students evaluate how they believe the sender felt in both situations.

Variation:

1. Allow students to volunteer to be senders. Use figure 3 and 4 (included here).
2. Allow students to work in teams of two. They can then one way and two way communicate using illustrations in figure 5.

Figure 1

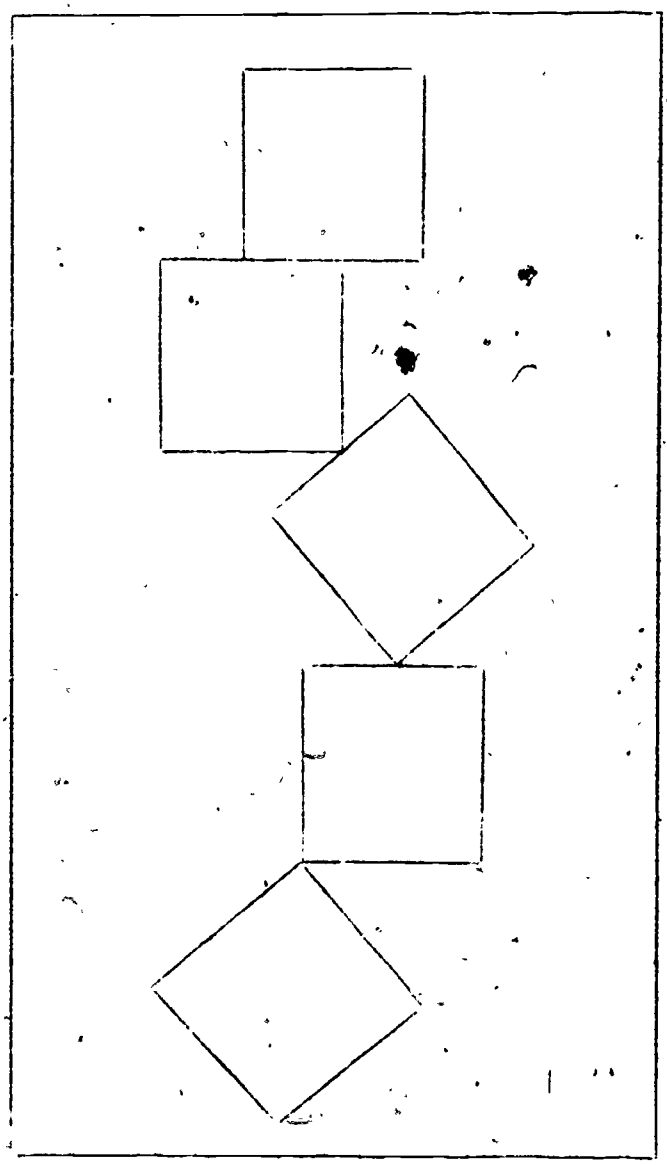

Figure 2

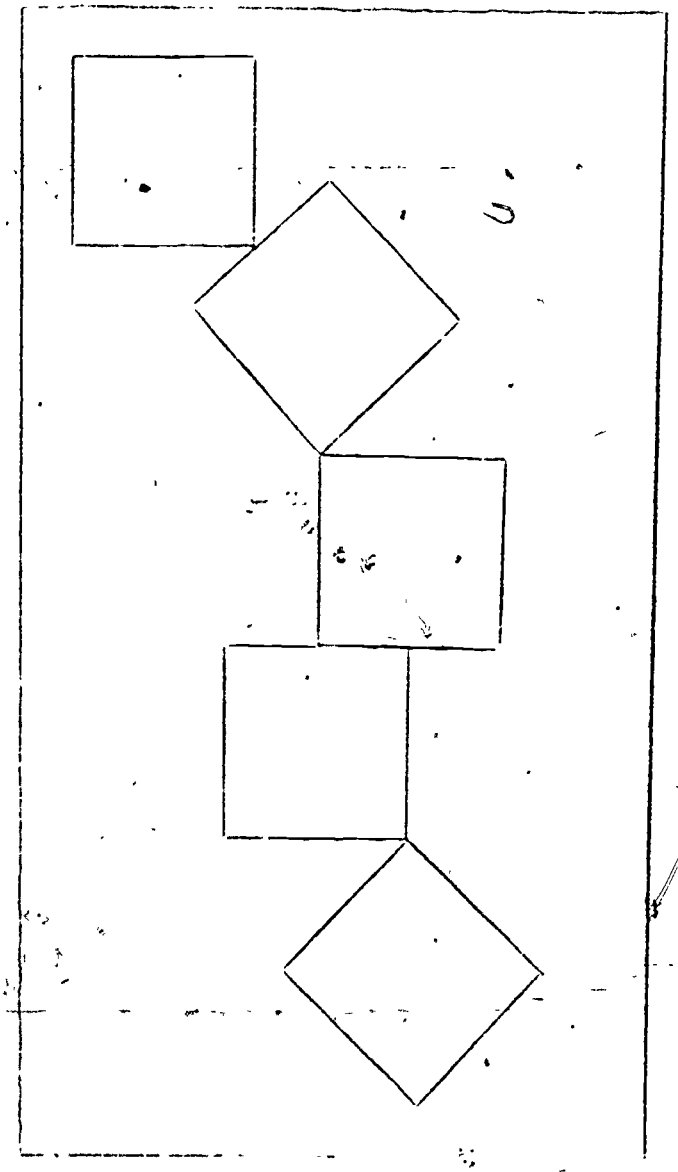

Figure 3

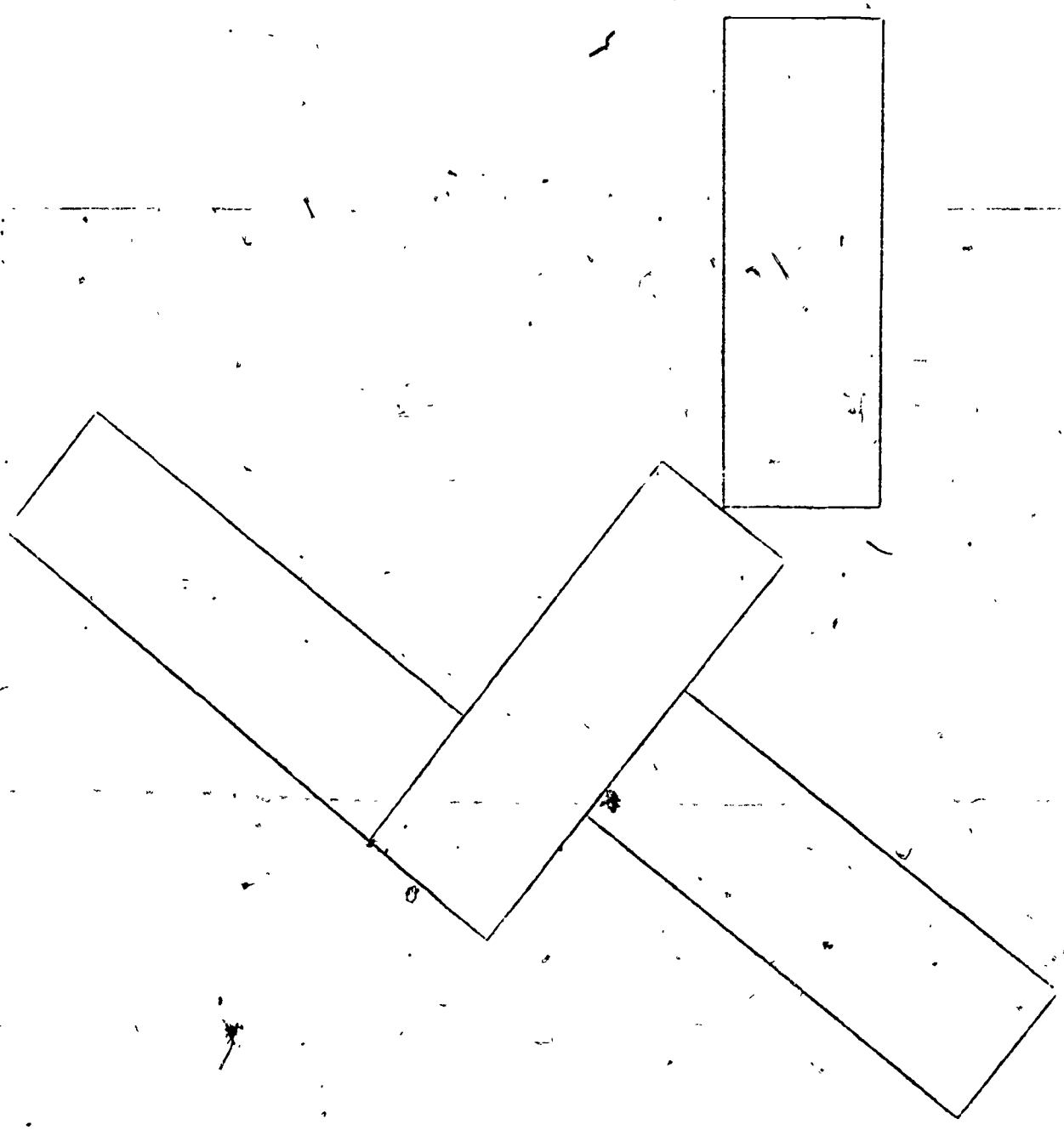

Figure 4

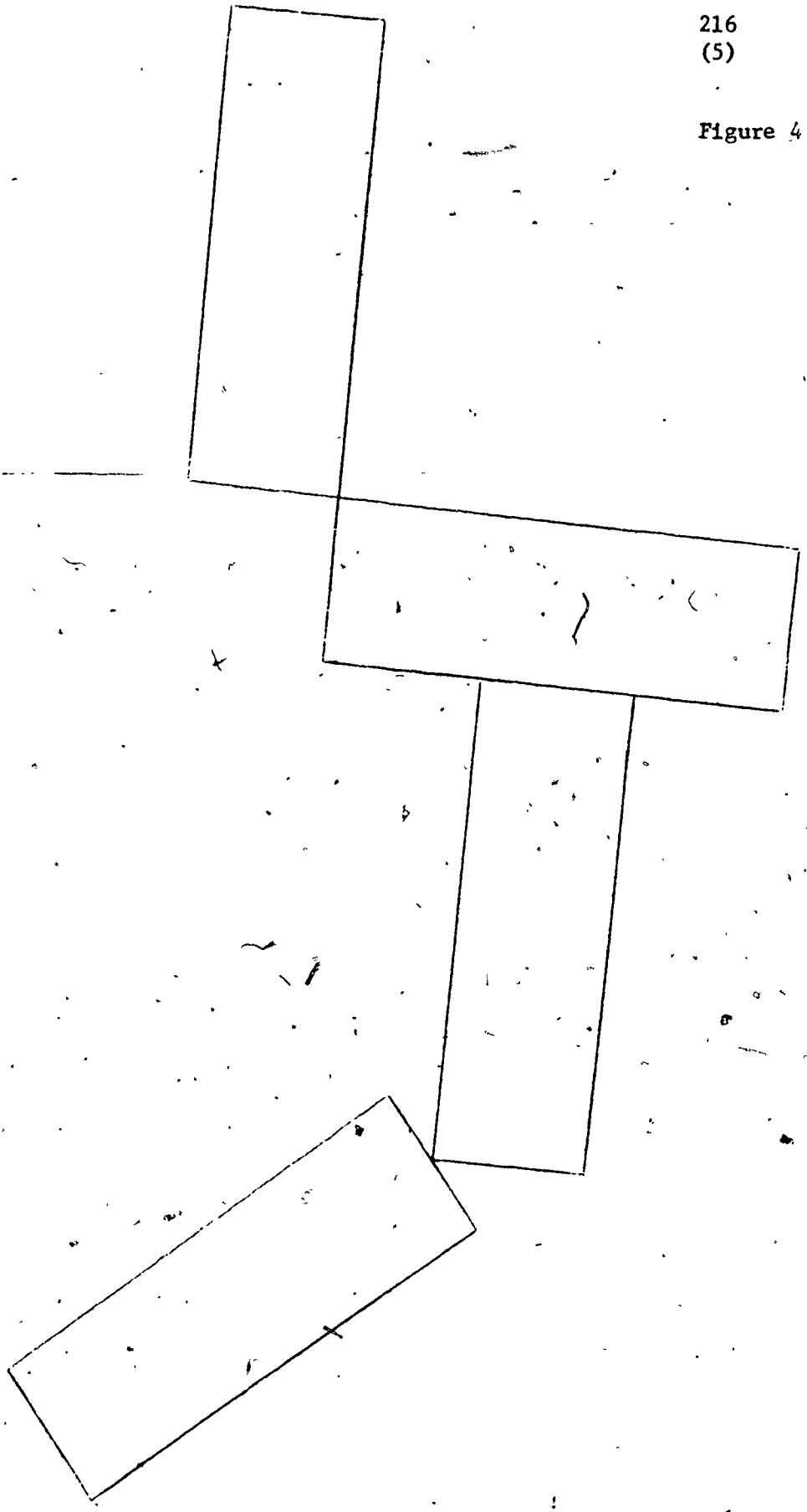

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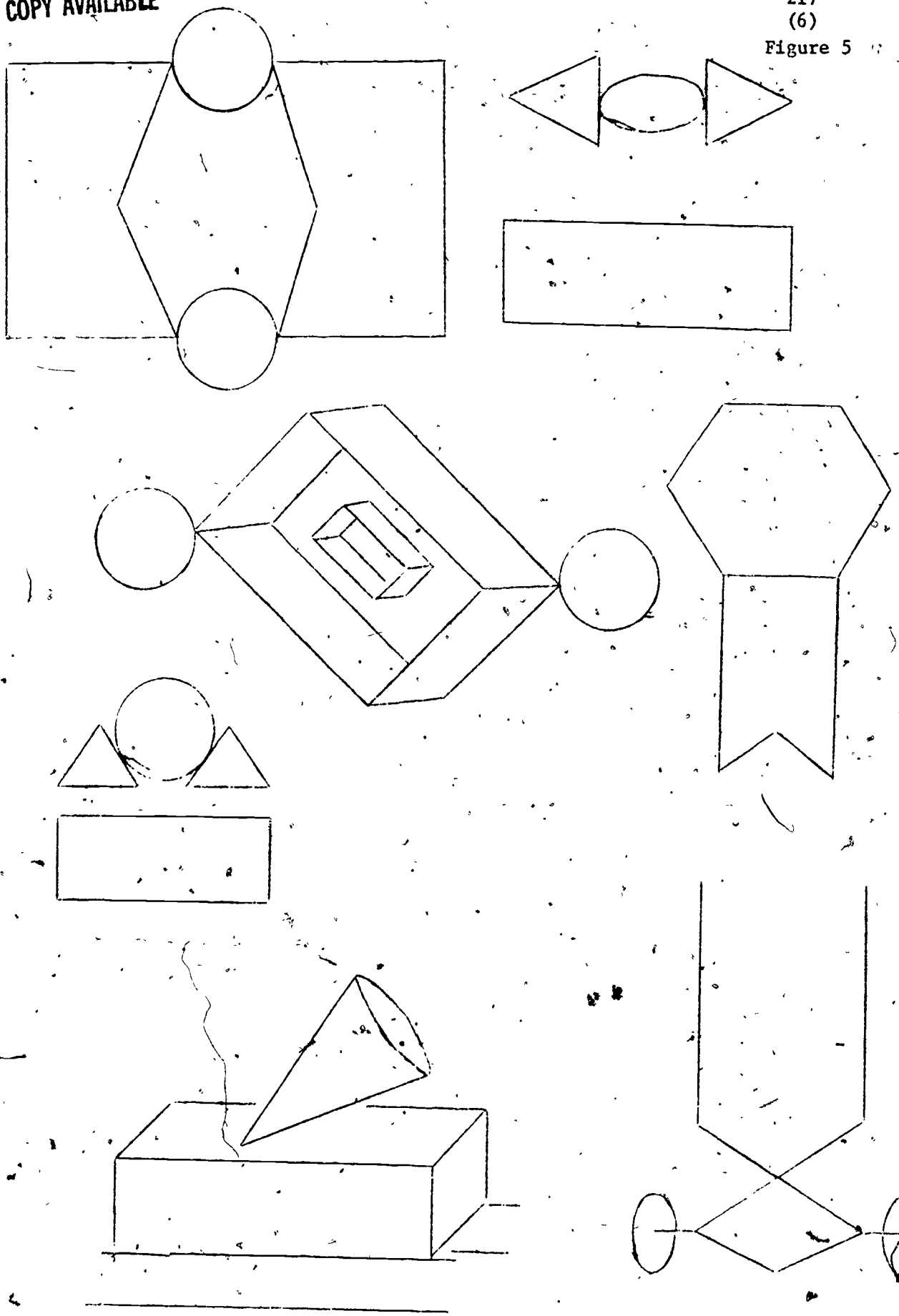
Figure 5



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LISTENING AND CLARITY TAPE

General Information: Listening requires practice. It also requires the ability to select major facts or ideas from what you hear. Listening to the evening news is an excellent example. A report from Washington, D.C. may last for five minutes yet a good listener can summarize with clarity the important facts or ideas in several sentences. How many times have you asked someone else--"What did she say?" You were replying on someone else's listening skills and clarity. Wouldn't it be great not to have to do that? Listening does require practice!!!

Teacher Directions: On a tape record four or five listening exercises. They should range from simple sentences to complex stories. After each section ask students to feed back the facts and ideas with clarity. Listed below are several samples which range from simple to complex in the area of health.

1. Cancer---the name of a group of diseases which have the cp,,pm characteristics of wild and uncontrolled growth of abnormal cells.

2. From Guide To Air and Water Pollution Control, page 79.
"The Federal Water Pollution Control Administration has declared that waters above 93 degrees fahrenheit are essentially uninhabitable for all fishes in the U.S. except certain Southern species. Many U.S. rivers already are a temperature of 90 degrees fahrenheit or more in summer through natural heating alone."

3. From The Controllers:
"At first I was held and completely cared for. I was helpless and could not control myself, so they decided everything for me. When I did something, someone else took the responsibility, because they had control over me. Slowly their control became less complete and less direct. People expected me to do things that I didn't want to do and I was afraid to say, 'I don't want to'. So I developed controllers and I gave the controllers the responsibility."

4. Excert from Jonathan Livingston Seagull: page 125 (paperback)
..."A moment later Jonathan's body wavered in the air, shimmering, began to go transparent. "Don't let them spread silly rumors about me, or make me a God. O.K., Fletch? I'm a seagull. I like to fly, maybe..."
"JONATHAN!"

"Poor Fletch. Don't believe what your eyes are telling you. All they show is limitation. Look with your understanding, find out what you already know, and you'll see the way to fly."

The shimmering stopped. Jonathan Seagull had vanished into empty air.

After a time, Fletcher Gull dragged himself into the sky and faced a brand-new group of students, eager for their first lesson.

"To begin with," he said heavily, "you've got to understand that a seagull is an unlimted idea of freedom, an image of the Great Gull, and your whole body, from wingtip to wingtip, is nothing more than your thought itself.?...

INTONATION OF VOICE or "Did I really Say That?"

General Information:
Intonation of voice refers to the tone of voice you are using. For instance, you may say something perfectly innocent to your parents, but you get in trouble because they didn't like the tone of your voice. Or you may tell a friend you like them very much, but because the tone of your voice was not serious enough they may think you're kidding or even lying!

Explain use of hi and lo pitch: slow and fast count, nasal vs throat speech.

Other important uses of intonation are during phone calls. Imagine yourself applying for a job over the phone to someone you've never seen before. You say, "Yes, I can do the work" in a normal voice. The employer then says, "I'm not sure you can. You don't sound very confident or enthusiastic." Of course, you think this is totally unfair because you're not even getting a chance. But if you had only used a stronger voice or been a little cheerier, you might have received the chance.

PEOPLE JUDGE OTHER PEOPLE in two ways when they are not close already: 1. by sight; 2. by sound. Once those barriers are passed, then people may get to know the real 'you'. But in our society those barriers must be broken through first. Perhaps this is not always fair to everyone, but you can break these barriers by being in control of how you look and how you sound. Others will begin to understand you better if you are aware of what you are saying and how you are saying it. For example, if what you are saying sounds strong and confident, then people will tend to believe you. If you sound tired and sad, people will think you are.

This is not to say go out and lie because people will believe you. Rather, if you feel sad then express sadness -- if you feel glad, then make sure your words sound glad. Here is an experiment for you and a friend to try: 1. sit back to back or so you cannot see each other's face (use a phone also): 2. describe an object in the room to your partner as simply as possible, then repeat the description, each time try to communicate a different feeling like anger, sadness, happiness, indifference, confidence, uncertainty, etc. 3. have your partner write down the feelings he thought you were communicating and then compare notes after you've finished. You may find yourself asking your partner, "Did I really say that?!"

Examples for a listening tape on intonation:

1. Describe a simple object in a room 4 or 5 ways, trying to express a different feeling each time. Have students list feelings as they recognize them. Give them a general list to work from.

2. Ask a question and have different students respond to it separately and then compare responses in discussion. Question should be along the lines of: "Do you care about_____?" or "Is_____worthwhile?" Try to ask a question that will force a value judgement in their response of one kind or another, therefore showing that the listener deduced an original feeling or emotion from the speaker.

3. Record a "stream of consciousness" conversation in which the speaker has a script and the listener responds solely on his own. Do this with 3 - 5 different listeners, while using same speaker and script. Examine and compare different conversations in class.

BODY LANGUAGE Name _____

Body language is a special class of communication. Most people use it, but few know they do, Animals have used body language for thousands of years and early men who had limited speaking vocabularies probably used it. For example: American Indians used "sign language" and prehistoric men "thumped" women they wanted over the head! Modern body language is used by deaf people (signs), by film actors, and YOU. You use body language to indicate how much you like or dislike people, situations and yourself. For instance, if you like a person you may sit at an angle facing them or you may touch them when talking. And when you are nervous or upset, you may tap your fingers, wring your hands or twiddle your thumbs. All theselittle body actions can and will indicate what you are thinking, but usually other people can see and understand them better than you can.

To help you understand and control your body language, we will try to communicate the following basic words to a partner (or class) without words or looks -- just your body. You may start with 1 or 2 words at a time in your 1st practice. To fully complete the assignment, you must make up a simple sentence from these words to communicate to your (group, partner, class).

Read the words. Select a body action that you think will communicate the idea to others. Write down the action next to the word, so you will remember.

I _____	care _____	sad _____
you _____	love _____	happy _____
we _____	hate _____	friend _____
they _____	like _____	parent _____
work _____	dislike _____	teacher _____
school _____	easy _____	
play _____	hard _____	

*you may add other words if you think you can communicate them.

Sentence: _____

Note: You may NOT repeat the same sentence as another student.

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AWITCH

Teacher Directions: Record on a tape noises which are generally considered irritating. Some examples are: auto body crusher, police car, fire engine, pin ball machine, telephone dial tone and ring, electric mixer, D.D.8 jet taking off, etc. Sounds should be recorded so that they repeat themselves for about thirty seconds.

Procedures: Ask students to close their eyes, listen and concentrate for approximately twenty minutes. After they have listened ask them to complete the response sheet below. This is a good departure point of discussions.

TAPE: Sounds

These questions must be answered after the tape without consultation of any sort.

1. Do you have a:_____stiff neck, _____ringing ears, _____headache, _____sweaty palms or any other physical changes, since the tape began_____

2. Do you feel_____calm, _____tense, _____daydreamy, _____tire, _____like running around or other_____

3. Look at your neighbor. Is he or she_____calm, _____tense, working_____, staring_____ talking_____ or other_____.

4. How would you describe the sounds you just heard? Use one or two sentences.

5. Identify as many sounds on the tape as you can.

NOTE: Using the map that accompanies this sheet, follow the instructions given below. Place each X exactly over the intersections of the streets and proceed with each successive instruction by starting from the last X you wrote, except in the instances where you are instructed otherwise. Number each X as you write it. When you write an X let it stand, make no erasures. There is no time limit but you are competing with the other members of the class. When you have completed the ten instructions, fold your sheet and keep it folded.

1. Place an X at the corner of Johns and 5th Streets.

2. Walk two blocks east, three blocks south, two blocks west, one block north and place an X at the corner where you arrive.

3. Walk one block east, three blocks north, one block east and place an X at the corner where you arrive.

4. Walk five blocks south, two blocks west, three blocks north, one block east and place an X at the corner where you arrive.

5. Walk three blocks west, one block south, five blocks east, and place an X at the corner where you arrive.

6. Walk one block east, three blocks west, three blocks north, and place an X at the corner where you arrive.

7. Place another X as far from the west and south borders of the map as your last X is from the west and north boarders of the map.

8. Start north, zig-zag north and east, alternating one block at a time and walking five blocks in all, then place an X at the corner where you arrive.

9. Start at the opposite corner of the block southeast of where you placed the last X, walk two blocks west and place an X at the corner where you arrive.

10. Go three-fourths of the way around a square that has the length of two blocks on each side, starting where you placed the last X and ending south of your starting point. Place an X at the corner where you arrive.

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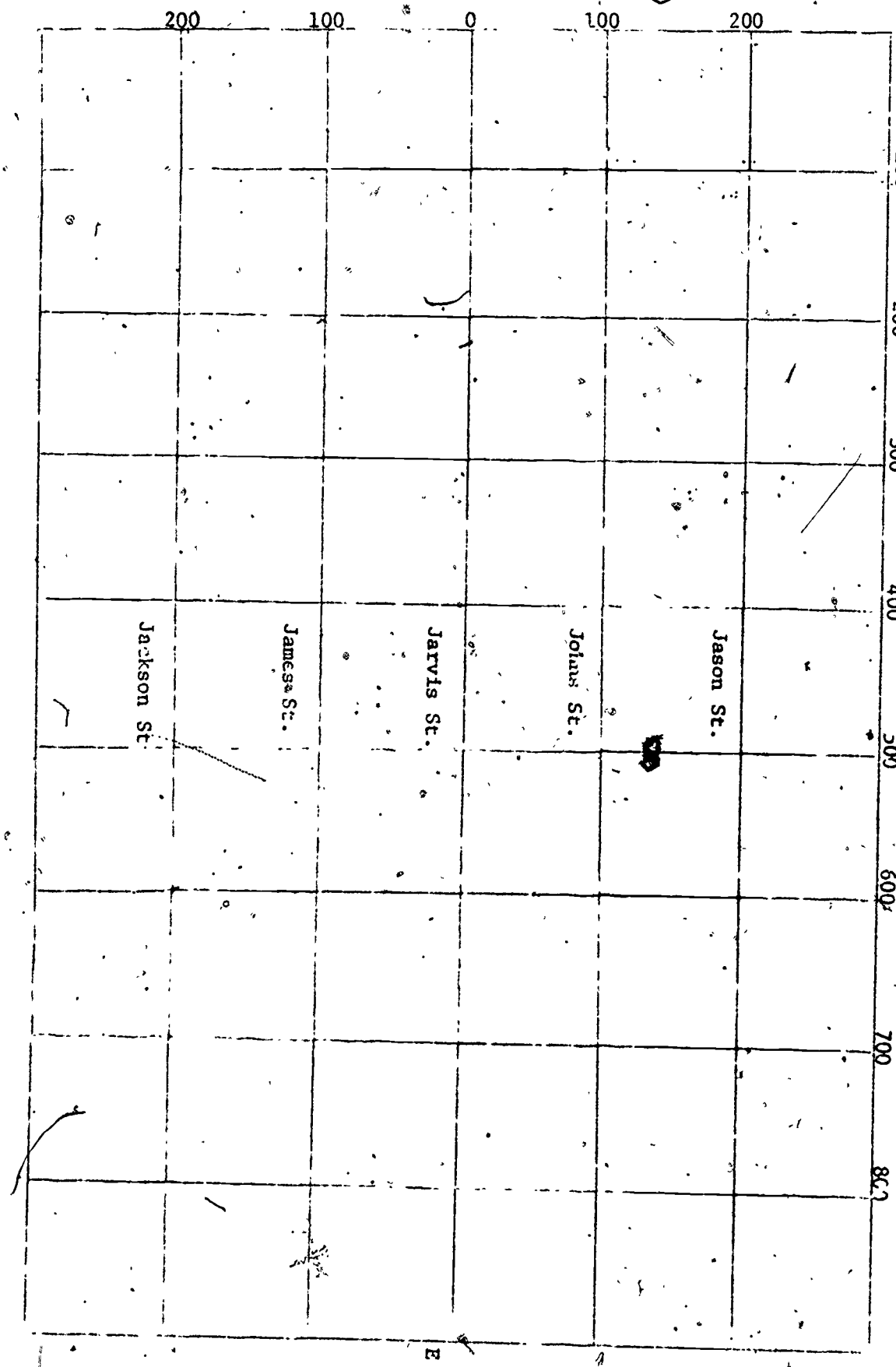
Name _____ 224 (2)



FINDING THE V.D. CLINIC Name_____

Procedure: By using the Portland City map give written directions to a deaf person so that they can reach the downtown V.D. Clinic. The directions would need to be clear, but brief, Write your directions below.

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MEDICAL TERMINOLOGY Name _____

Medical terms which are commonly used by health care workers are oftentimes difficult to understand. Knowing the meaning of terms which are frequently used will (1) enable you to communicate more clearly with your doctor and (2) enable you to have greater understanding when you read magazine and newspaper articles concerning health.

Medical terms are usually combinations of words or word parts. Listed below are some more commonly used parts.

Prefixes	Suffixes	Common Combining
anti (against)	algia (pain)	arthr (joint)
bio (life)	cide (kill)	cardi (heart)
contra (against)	ectomy (cut, remove)	crani (skull)
endo (within)	emia (blood)	derm (skin)
ex (out from)	gram (writing)	electro (electric)
hemo (blood)	itis (inflammation)	gastr (stomach)
hyper (excessive)	logist (person who practices a science)	gyn (woman)
hypo (under)	logy (study of)	neur (nerve)
hyster (uterus)	oma (swelling)	osteo (bone)
micro (small)	osis (condition)	oto (ear)
peri (around)	rhea (discharge)	path (disease)
post (after)	therapy (treatment)	pod (foot)
pre (before)		poly (many)
re (again)		psych (mind)
		pulmo (lung)
		thermo (heat)
		vaso (vessels)

Define the meaning of the following combined medical terms (use the prefix suffix and common combining lists above for help).

1. arthritis _____
2. biology _____
3. cardialgia _____
4. cardiologist _____
5. cardiovascular _____
6. craniotomy _____
7. dermatology _____
8. endoderm _____
9. gynecology _____

10. hysterectomy _____

11. neuralgia _____

12. neurologist _____

13. osteoarthritis _____

14. otitis _____

15. pathology _____

16. podiatrist _____

17. psychiatry _____

18. psychology _____

19. tonsillectomy _____

20. electrocardiogram _____

With only partial information from the prefix and suffix and common combining lists see if you can define, in your own words, the following medical terms (try to do without a dictionary).

1. anemia _____

2. appendectomy _____

3. biopsy _____

4. bronchitis _____

5. carcinoma _____

6. hemotoxic _____

7. hypertension _____

8. pesticide _____

9. postmortem _____

10. prenatal _____

HEARING AND SPEECH AIDES

Did you know the chances are very great that you will lose your hearing? Frightening? Not really, for we all will get old and slow down, and as we do so, our hearing powers will begin to fade.

If and when this happens, one, two or three professionals may be involved in the diagnosis. These people are the Otologist, the Otolaryngologist, and the Audiologist.

The Otologist is a medical doctor who specializes in diagnosis and treatment of the ear alone. The Otolaryngologist is a medical doctor who specializes in the diagnoses and treatment of the nose and throat as well as the ear. The Audiologist is a specialist in the non-medical evaluation and rehabilitation of persons with hearing disorders. All three may give hearing tests using an audiometer to determine the extent of hearing loss and may recommend the use of a hearing aid.

*Many times, any one or all of these professionals work with another. The speech thereopist is one who helps persons correct speech defects which may or may not be connected with hearing problems.

1. Of the three professionals described above, who may perform surgery on the ear?
2. Who of the three may have the most training?
3. What is the difference between an Otologist and an Otolaryngologist?
4. Define Otology.
5. What is an Audiometer?

I (EYE) CARE

Name _____

Need glasses? Know where to go for them? You really have two choices, depending upon what you think the problem might be or upon how you feel about medical doctors. In the end the person who will test your vision will be either an ophthalmologist or an optometrist.

An ophthalmologist is a medical doctor who specializes in the treatment of eye diseases and visual disorders. He or she is the person who may perform surgery on the eye itself.

Sometimes ophthalmologists are so busy treating diseases and disorders of the eye they do not have time to give vision tests. In this case, you may choose to see an optometrist---- specialist who measures the power and range of your vision.

In either case, your glasses are made by the optician who grinds the lens according to your prescription and fits them to the frame you choose.

Define the following:

1. Ophthalmology
2. Ophthalmologist
3. Optometry
4. Optometrist
5. Optician

6. (a) Who do you think has the most education of the three professionals described about?
   (b) Who the least education?

7. Who would perform surgery on the eye?

Both independent projects which follow Impaired Vision/Braille and Impaired Hearing/Finger Spelling are for a small number of students. These activities are for those students who choose to further their exploration experiences. The braille activity necessitates the use of a braille writer, which can be loaned from any support service in the field.

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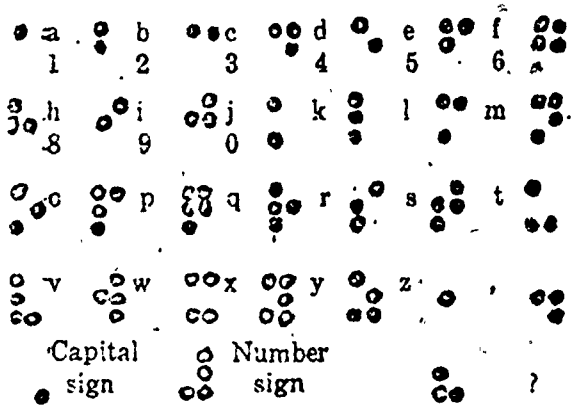
IMPAIRED VISION

BRAILLE/Instructions and Information

BRAILLE ALPHABET AND NUMBERS USED BY THE BLIND

Close your eyes and read this with your fingers.



The Braille System is comprised of signs formed by the use of all the possible combinations of 6 dots numbered and arranged thus 1 4 / 2 5 / 3 6

Letters are capitalized by prefixing dot 6. The first ten letters preceded by the number sign represent numbers. Punctuation marks are formed in the lower part of the cell.

In addition to ordinary print the Braille System provides for the writing of foreign languages, musical scores, mathematical and chemical notations, and other technical matter.

The first schools for the blind were established in the United States in the early 1830's. Then, as now, one of the greatest needs was for an ample supply of books and special apparatus for instructional purposes. The relatively small number of the blind and the specialized nature of publishing books for their use, makes production costs so high that the printing of these materials cannot be undertaken as a commercial enterprise.

To meet this need, the American Printing House for the Blind was founded in 1858 as the central, national printing house for the blind. Today, it is the oldest national agency for the blind in the United States and the largest publishing house for the blind in the world. In the beginning, all materials were published in embossed print. Today, not only does the Printing House supply Braille books and magazines of all types, but Talking Books (on phonograph records) for the four out of five blind people who cannot learn to read Braille, as well as large type books for partially-visioned children, and special items of tangible apparatus such as slates, Braille-writers, dissected relief maps, relief globes, arithmetic slates, and the like.

As the official schoolbook printery, the Printing House provides each year, through the Federal Act "To Promote the Education of the Blind," approximately $410,000 worth of educational materials for the over 13,000 blind children being educated in the schools and classes for the blind throughout the states and territories. For the over 60,000 adult blind readers, there are produced nearly 500,000 Talking Book recordings of full-length books and magazines, as well as 10,000 volumes in Braille. Seventy-odd separate periodicals, including exact recorded and Braille reprints of "The Reader's Digest," are published on regular schedule, some of them weekly. In all, over $1,500,000 worth of literature and materials are supplied at cost each year for the benefit of the blind.

LARGE PRINT

Children with some residual vision are sometimes able to do a part of their work with their eyes. This is a sample of the 18 point type which is available on all grade levels for this purpose. The large print textbooks parallel the Braille texts in each instance.

For further information, write to:

AMERICAN PRINTING HOUSE
FOR THE BLIND
1839 Frankfort Avenue
Louisville 6, Kentucky

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IMPAIRED HEARING

Finger Spelling

Name_____

Finger spelling is one of many methods which deaf people use in order to communicate. The card you are being given to use is the simple finger spelling alpabet. It is used for beginning finger spellers.

Find a partner who is also trying to finger spell--you will need to work together on the first part of this project. Each one of you independently write three sentences.

1.

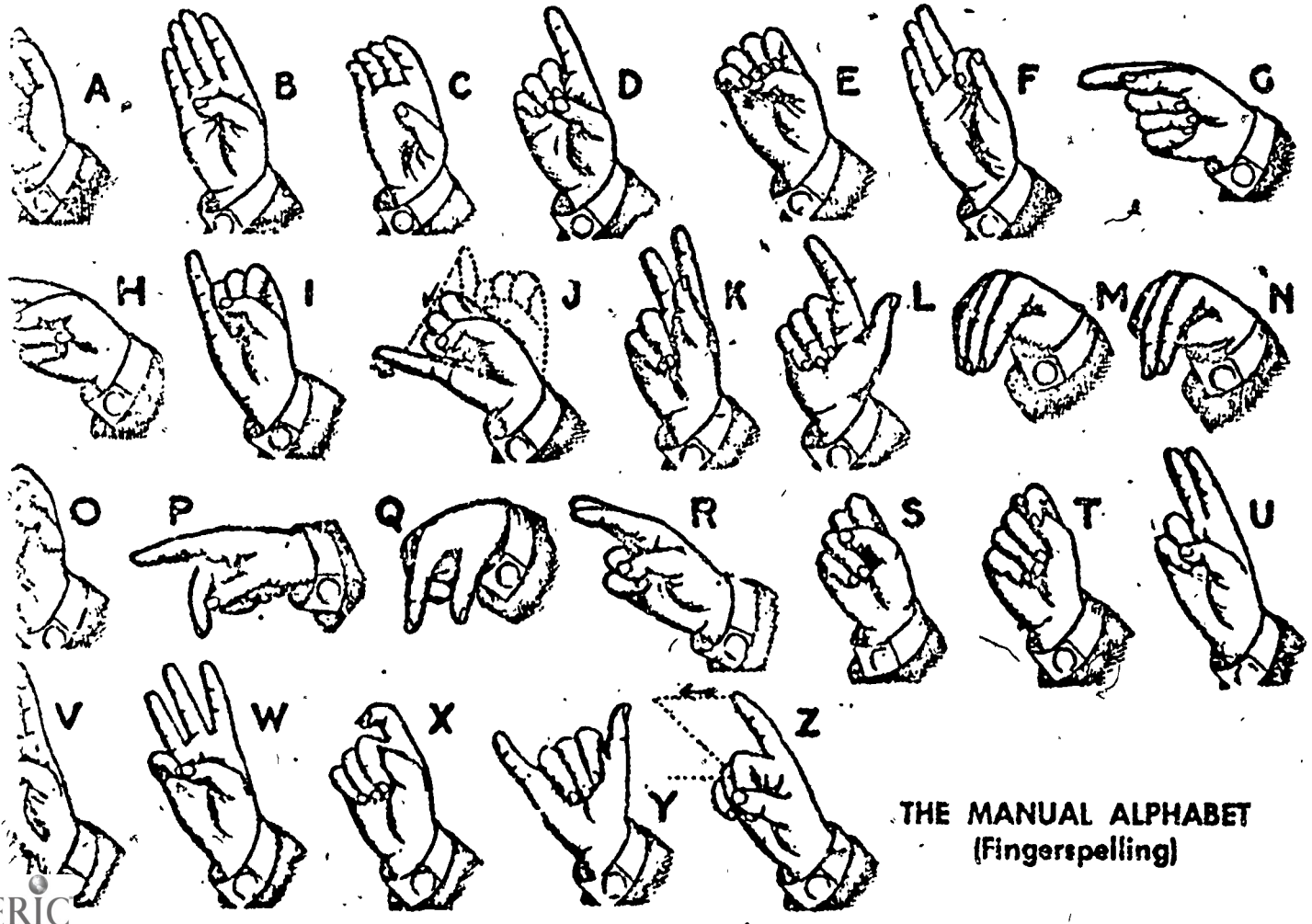
2.

3.

Try to finger spell your sentences to your partner. Can he or she tell what you are trying to communicate? How accurate were you? three out of three___, two out of three___, one out of three___.

Complicated finger spelling can be seen on t.v.--sometimes in the form of lessons or as a news broadcast. Watch one of the following and then explain your impression of it.

Channel 8 "Talking Hands" 6:15 a.m. Monday, Wednesday or Friday (instruction)
Channel 12 News Saturday 7:15 a.m. Sunday - 6:45 a.m. - 10:00 p.m.



THE MANUAL ALPHABET
(Fingerspelling)

Evaluating and Exploring Careers provides students opportunities to evaluate health career information and to look more closely at a variety of health careers.

Who Would You Choose is aimed at developing skills in identifying types and levels of health practioners.

Dr. W ?Who and What is an activity designed to evaluate the typical mail order 'doctor.'

The career interest packets included are self-explainatory. They have been developed with material from Career World and Labowitz's Health Career Series.

WHO WOULD YOU CHOOSE?????- Doctors

The term 'doctor' was once used to mean a learned person, a teacher. Today the term 'doctor' is applied to many fields -- most of which require a specific course of study. Listed below are a variety of doctors. In the left column identify a dental surgeon, a veternarian, a medical doctor, a dentist and a medical officer. In the right column identify as many "doctors" as you can. A dictionary may be helpful.

_____	1.	M.D. _____
_____	2.	D.C. _____
_____	3.	N.D. _____
_____	4.	D.O. _____
_____	5.	M.O. _____
_____	6.	D.M.D. _____
_____	7.	L.H.D. _____
_____	8.	L.H.D. _____
_____	9.	D.D.S. _____
_____	10.	D.V.M. _____
_____	11.	D.H.S. _____
_____	12.	Ph.D. _____
_____	13.	D.Sc. _____
_____	14.	Ed.D. _____
	15.	L.H.D. _____

DR. W_____ Who and What

Teacher directions: This is an ideal activity to introduce quackery and consumer protection in the area of health. Have students read Dr. W_____ (included here). Then have them evaluate and answer questions such as the ones listed below.

1. What five medical skills does Dr. W_____ say he can provide?

2. Are Dr. W_____'s prices reasonable? (Explain)

3. If you were in need of medical attention in a field suggested here would you utilize Dr. W_____? Explain and justify your decision.

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Registered U.S. Pat. Off.
Office of the President

DR.

237
(1)

"Better Product. for Better Living"

Dr.
Laboratories Inc.

P.O. Box
, Florida

Dear Friend: I am a medical doctor with my practice devoted for more than 36 years EXCLUSIVELY to the hair and scalp. You can benefit from my wide experience with more than 3,000,000 treatments given in my 36 years of MEDICAL PRACTICE - not Beauty Parlor or Barber Shop manipulations, but specific medical treatments in Cosmetic Therapy as a Licensee of The Ohio State Medical Board. To my knowledge I am the only medical practitioner whose practice has been confined exclusively to hair & scalp problems for 36 years.

Thru my experience in this specialized field I have discovered excellent preparations which have wide-spread acceptance. Fictitious promises of hair regrowth with the usual showing of before and after pictures of rare Alopecia Areata cases, give veiled promises that hair can be regrown for all comers. You may be one of the many millions who have been fooled, and if so, you probably believe that no good can come from any source now. It is certain that if you are shiny bald with only a fringe of hair around the edges that nothing can be done for you to grow new hair. But you must still keep your scalp clean and protected so that you can make your best possible appearance. PROTECT WHAT YOU HAVE.

There are no miracles for dead-function materials, but I can offer you thru my Laboratories Company, valuable preparations to keep your hair and scalp in the best possible condition--preparations which have met the critical test of time which will help you keep and maintain the best possible coverage and the LEAST LOSS OF HAIR over the years, to help you look younger, longer.

My proprietary preparations are "TOPS". You can choose what you need to maintain a comfortable, itchless scalp. stimulate a faster rate of hair replacement with ease and comfort. Also, I can give you the basic rules to follow and the formulas to use to keep a healthy head of hair functioning as it should. ACT NOW!

"TAKE CARE, HAVE HAIR" Most sincerely yours,

D.S.L.

CES/ml

DR. D.M.. D.C.T. .L

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...OUTSTANDING
PROPRIETARY PRODUCTS
"Incontestable Trade Marks"
distributed by

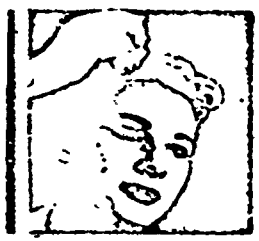
...SHIFFER LABORATORIES, INC.

SHAMPOO AND ANTISEPTIC

Shampoo: THE PERFECT SHAMPOO. A ...concentrated saponification formula that lasts ...er and does more for your hair and scalp than any ...shampoo you can buy regardless of price.
...e 6 oz. bottle (POSTPAID) $3.50
Shiffer's Hair & Scalp Antiseptic. For prophylactic ...ction for the hair and scalp. Efficient and long-...g. Use after shampooing.
...e 6 oz. bottle (POSTPAID) $3.50

R. FAMOUS DANDRUFF SERIES (11-24-60-65-107)

Special Formula #11: Massaged into the ...it stimulates tissue exchange, reduces scalp scruff, ...ases blood flow to the hair roots, aids hair growth ...replacement.
...e 6 oz. bottle (POSTPAID) $6.00
Shiffer's Formula #65 for DRY HAIR. A unique, ...bing, oil preparation for Dry, scaly, dandruff and ...any scalp accumulations. Clears plugged hair follicles ...pores.
...g-Lasting 2 oz. bottle (POSTPAID) . . . $5.00
Shiffer's Formula #60 for OILY HAIR & SCALP. A ...plementary preparation to follow Formula #11 to ...malize the oily condition.
...Bottle (POSTPAID) $6.00
...a Formula #24 for THINNING HAIR. A vital ...ration to follow Formula #11 in cases of thinning ...with or without dandruff.
...Bottle (POSTPAID) $6.00
Psoriasis Control Formula #107. A stainless, ...less, smooth, ointment formula. Looks like cold ...m. Spreads quickly, evenly. Is easy to apply. Does ...SMART, BURN or DISCOLOR your skin or clothes. ...Jr. (POSTPAID) $6.00



"FEELS-SO-o-o-o GOOD"

...OTASAGE 5 SPOT SCALP MASSAGER
(U.S. Pat No. 2,516,491)

"Better Products For Better Living"

DIETARY SUPPLEMENTS

Dr. ... Heart Care BSM Liquid. A fortified black strap molasses base with Thiamin Hydrochloride, (B1) vitamin. A natural food to aid the heart muscle, containing natural minerals, especially Potassium and Iron. Tasty.

Large 6 oz. bottle (POSTPAID) $4.00

U.S. Patent No. 2,516,491.

ROTASAGE 5-SPOT SCALP MASSAGER

(Hand operated.) 50 flexible rubber fingers to help increase circulation. FEELS GOOD, EXHILARATING, AIDS IN SHAMPOOING.

Price $5.00

DYNA-VITS: a fine dietary supplement. ONE LITTLE TABLET A DAY supplies the vitamins and minerals you need. So easy to take. No odor or after taste. Supplies the minimum daily requirements of Vitamins A, D, B2, and C, Niacinamide, Iodine and Iron. The requirements of B6, Copper and Potassium have not as yet been established; and the need for Calcium Pantothenate in human nutrition has not been established. These are small in size...easy to swallow...and "power-packed."

DYNA-VITS–100 in bottle. $4.00

ATHLETE'S FOOT REMEDY

Dr. ... Athlete's Foot Remedy. The finest fungicide available for the treatment of this very annoying and resistant fungus involvement. Cooling, non-staining, extremely pleasant to use. Effective. No other formula more efficient.

4 oz. bottle, long-lasting (POSTPAID) . . . $4.00

DR. ... PROFESSIONAL HAIR BRUSH

AN EASY BRUSH TO USE.
Well balanced and light weight.
High Grade Pig Bristles.

Price $5.00

VIOLET RAY (HIGH FREQUENCY)

Electric - AC Current - 115 Volt
STIMULATING - PENETRATING
Well-boxed with flat surface scalp electrode. Valuable circulation stimulator.

Price $40.00

MODEL V-41 VIBRATOR

AC Current, 115 Volt.
Highly Stimulating for Scalp and Face.

Price $20.00

REMEMBER

Dr. ... Formulas are the best. There is nothing better for your hair and scalp if you want increased growth, better replacement, protection and proper stimulation. These formulas are time-tested and tried preparations of merit used professionally over the years.

They are:

- Easy and simple to use
- Effective and stimulative
- Odorless
- Non-staining
- Never messy or sticky
- Directions clear and simple

To my knowledge Dr. ... formulas are the ONLY Preparations available that have been used exclusively in medical hair and scalp practice by Dr. ... for more than 36 years.

CERTAINLY YOUR HAIR AND SCALP DESERVE THE BEST.....THE VERY BEST

Office of the President

DR. ... *Registered U.S. Pat.*

"Better Products for Better Living"

DR ... LABORATORIES, INC.
P.O. Box ...
...da, Florida

Dear Friend:

Hair is a PRECIOUS ASSET. Give it the care and attention it deserves so that you may look your best. Don't be satisfied with just any shampoo and the usual hair and scalp preparations. Hair is TOO IMPORTANT to you and your personal appearance. Do as thousands and thousands of Dr. ...fer's patients have been doing over the years. . . . USE SHIFFER'S SHAMPOO and DR. SHIFFER'S HAIR & SCALP ANTISEPTIC for perfect cleansing as well as the BEST protection. Everyone should use BOTH of these items . . . cost is LESS over the years and the SAVINGS, REAL!

IF YOU HAVE DRY HAIR AND SCALP

Use ... ...amous Shampoo. Then rinse ...oughly. Apply ... Dr. ... Hair & Scalp Antiseptic. Dry your hair with a soft towel. Then apply FORMULA ... Massage in for a few minutes. Then apply FORMULA #6 ... needed. This is so simple and so effective.

IF YOU HAVE OILY HAIR AND SCALP

Shampoo, using Dr. ... ...amour Shampoo, follo... by Dr. ... Hair & Scalp Antiseptic (as above). T... apply FORMULA #11. Massage this in. Then apply F... MULA #60. This too, is simple and effective. You'll ma... al results.

IF YOU HAVE THINNING HAIR
(Whether hair or scalp is DRY or OILY)

Shampoo, using Dr. ... hampoo and the Ha... Scalp Antiseptic (as above). Then apply FORMULA #1... lowed by FORMULA #24. No better combination exists ... the control of THINNING HAIR whether OILY or D...

IF YOU HAVE PSORIASIS

There are many preparations on the market for P... RIASIS. Most of them are unsatisfactory. Dr. ... RIASIS CONTROL FORMULA #107 is your best bet. ... STAIN, IRRITATION or ODOR. A wonderful creamy ... ment for best control.

OTHER PREPARATIONS AND APPLIANCES

Other items are listed here. They, too, are "tops" ... quality and "Designed for Better Living." I hope we have ... opportunity to serve you.

Very sincerely yours,
DR. ... LABORATORIES, INC.

Dr. ...

CES/ml

Dr. Shiffer is a Licensee ... Ohio State Medical Bo...

WHAT ARE HEALTH CAREERS ALL ABOUT? Name _____

How would you define the word job?

How would you define the word career?

What do you think are the differences between the words job and career?

Would you prefer a job or a career? Why?

There are three stages to career education. What are those stages?

1.

2.

3.

There are many kinds of health careers. Some careers in health are common to other career groups. For example, there are administrators and teachers in schools.

Where might an administrator in the health field work?

1.

2.

3.

Where might a teacher in the health field work?

1.

2.

3.

Every job requires people to function in relation to data, people and/or things--in varying degrees. Have you ever heard people say, "Do you want to work with people or with things?" -- this is really what they are talking about.

What do you think the following mean?

Data:

People:

Things:

Do you think an Ambulance Driver is more related to data? people? or things? Explain your answer.

Do you think a Physical Therapist is more related to data? people? or things? Explain your answer.

Do you think a Pharmacist is more related to data? people? or things? Explain your answer.

Some terms such as therapy are common to the field of health. What does the word therapy mean? (Use the dictionary).

Some types of therapy are more difficult to define. You will need to know what the first word of their career means.

What do you think inhalation therapy would be?

What do you think occupational therapy would be?

Another term common to the field of health is nurse. What does the word nurse mean, in relation to health care? (Use the dictionary).

What is a registered nurse?

What is an LPN nurse?

What is a nurse aide?

A medical doctor who works in one particular field is called a specialist. The more a physician concentrates his attention on a given system of the body, the less time he has for the whole person and the less proficient he is in general practice. To thoroughly know one area of medicine, he must confine himself to it to the exclusion of either areas. Such concentration has been necessary for medicine to make its great strides in heart surgery, cancer treatment and prevention psychiatry, orthopedics, surgery and other areas.

A recognized specialist must have completed a full program of medical training and passed the written examination required of his particular specialty.

Some common specialists are:

Pediatrics -- doctors who specialize in the care of infants and children. They advise parents, give check-ups, diagnose congenital deformities, administer immunizations, and treat childhood diseases.

Surgery -- The work of the surgeon involves surgically operating on a patient to correct some physical condition. It may involve removing a cancer, repairing a defective heart, setting a broken bone, or attempting to correct a damaged brain.

Obstetrics - doctors who specialize in obstetrics care for women in pregnancy and child birth. Frequently this speciality is combined with gynecology (the care of women's diseases).

What would the following specialists do:

A urologist specializing in urology.

A radiologist, specializing in radiology.

A proctologist specializing in proctology.

It has been said that behind every specialist there are at least ten to fifteen various health care workers. List below the health care workers who might be of assistance to the fields of specialized medicine.

1.
2.
3.
4.
5.
6.
7.
8.
9.
10.

EXPLORING A HEALTH CAREER

Select one health or health related career. It should be one which particularly interests you and one in which you would like to obtain more information.

Using any material which is available to you, develop an informational chart, pamphlet or flier which would, in brief form, intice someone to look further into the career. You may use illustrations, diagrams, slogans, etc. You should include the following information:

1. Name of the career
2. Brief job description
3. Type or amount of training necessary
4. Salary
5. Employment opportunities (open equally to both sexes?)
6. Personal Qualifications
7. Any special information (i.e. working conditions, hours, etc.)
8. Advancement opportunities
9. Where to find further information

See your teacher for butcher paper, scissors, glue or any further materials you might need.

ECOLOGY/POLLUTION CAREER INTEREST PACKET

In the past ten years, our environment has become much more important in our lives. We pay more attention to how it is being developed and taken care of than we used to. Since we have found that pollution, population and disease are growing faster than we can control them and our resources are being depleted at high rates; we have found it necessary to develop new controls. Consequently, new fields of employment have opened up for those people who care about and are interested enough to save and help clean up our environment.

These are four basic fields of employment for environmental people:

1. pollution prevention and control
2. disease prevention
3. environmental planning
4. resource control

In each field there are many types of employment. There are jobs for engineers, scientists, technicians and aides, to name a few. Most of these positions require a certain amount of education, either in college or on the job training (if you already have a basic education in the sciences particularly). It must be remembered that if you truly want to help the environment by tackling one of the types of environmental jobs, you MUST have the education to back yourself. For every position you apply for there are others who want the same position, so the employer must consider who is the most qualified for the job. Qualifications usually consist of the following attributes:

1. must have thorough education in field applied for;
2. should be able to move from one position to another easily;
3. should be able to work in 2 or more fields; and
4. should be easily retrainable for newer jobs that open.

Now, when you ask yourself, "Am I qualified?"; you should also ask, "Do I care enough to work hard at the job?" If you do, then your next step is to finish this brochure and choose 2 or 3 areas in which you are interested. Look up the qualifications demanded by the job and begin pointing yourself in the direction of meeting those qualifications. This and some self-determination will give you a headstart on the people you will compete with one day in the environmental career field.

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A quick look at disease prevention jobs

Research suggests that some foods may be harmful to consumers because of too large amounts of additives, adulterants, preservatives, and pesticides. Nutritional shortages and diseases allegedly caused or contributed to by these ingredients have created a growing demand for workers to monitor and control food products.

Other prevention workers check institutional wastes and working environments to be sure they do not become sources of diseases.

Pest control is also part of this job group. Pests include flies, mosquitoes, rats, bats, and other potentially disease-carrying insects and rodents. Care is taken to preserve the ecological balance of the community and to limit the use of pesticides.

These and other disease prevention activities are the concern of workers in this job area.

entomologist (1)	Studies insects and their relation to plant and animal life. Aids in control and elimination of harmful pests such as Japanese beetles, fruit flies, gypsy and brown-tail moths, and forest insects. Develops new and improved insecticides and biological control methods.
environmentalist (also called sanitarian) (2)	Plans, develops, and carries out environmental health programs. Determines and sets health and sanitary standards. Enforces regulations concerned with food processing and serving, collection and disposal of solid wastes, sewage treatment, plumbing, recreational areas, hospitals and other institutions, noise, ventilation, air pollution, radiation, and other environmental concerns.
exterminator (4)	Sprays chemical solutions or gases and sets traps to kill pests in buildings and surrounding areas.
food and drug inspector (2)	Inspects buildings and conditions where food, drugs, and cosmetics are manufactured, handled, stored, or sold. Enforces legal standards of sanitation, purity, and grading. Collects samples of products for lab analysis.
industrial hygienist (2)	Conducts health programs to stop or control job health hazards and diseases affecting workers on the job. Analyzes samples of dust, gases, vapors, and other possibly toxic materials for analysis. Performs sound level tests to find relationship of noise to employee comfort and efficiency.
microbiologist (food) (1,2)	Investigates action of micro-organisms in manufacture, spoilage, and deterioration of food other than milk products. Finds source of contamination.
milk sampler (4)	Collects milk samples and ships for lab analysis.
plant pathologist (1)	Conducts research into nature, cause, and control of plant disease and decay of plant products. Finds disease-causing organisms. Tests disease control methods. Studies effects of soils, climate, and geography on outbreaks of plant disease.
plant quarantine inspector (3,4)	Enforces quarantine laws to prevent spread of plant diseases. Examines shipments from foreign countries to keep diseased plants from entering.
public health bacteriologist (1)	Does experiments to find harmful or disease-causing bacteria in water, food supply, or general community. Suggests controls or ways to eliminate sources of these bacteria.

(1) usually requires post-graduate studies
(2) usually requires a 4-year bachelor's degree
(3) usually requires a 2-year associate degree
(4) usually requires some on-job or other training after high school

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(3)

A quick look at environmental planning jobs

As the world's population grows, proper land use is a vital concern. Workers in this job group need to consider the present environment as well as future needs and uses in making decisions about land use. Scenic parks and desirable landscapes must be provided for recreational use and enjoyment. Urban planning requires provisions for building and for moving traffic and pedestrians with the least congestion. These and many other challenges face today's environmental planners.

civil engineer (2)	Plans, designs, and oversees building of bridges, buildings, and other structures.
geographer (2,1)	Studies the earth's surface (topography, climate, etc.).
landscape architect (2)	Plans and designs land use for such projects as parks, highways, schools, and commercial, industrial, and residential sites.
land use technician (3)	Investigates violations in land use and zoning regulations.
sanitary engineer (2)	Designs and oversees construction and operation of such projects as water works; sewage, garbage, and trash disposal plants; drainage systems, and insect and rodent control projects. Oversees swamp drainage and insect spraying. Directs workers in sewage disposal plants. Inspects and regulates sanitary conditions of public places, such as markets, parks, and camps.
statistician, biological and agricultural science (2)	Conducts surveys and experiments. Gets statistics for use in scientific research of plants, animals, and humans.
urban planner (1)	Develops programs for land use, and buildings and other structures, in cities, counties, and metropolitan areas.
weed control supervisor (3)	Directs state supported programs to control weeds in assigned area. Advises land owners on control techniques.

(1) usually requires post-graduate studies
(2) usually requires a 4-year bachelor's degree
(3) usually requires a 2-year associate degree
(4) usually requires some on-job or other training after high school

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(4)

A quick look at resource control jobs

The jobs in this group are concerned with conserving our natural resources for beauty, recreation, and tourism, as well as maintaining ecological balance. Most of the jobs involve regulating land use, maintaining the environment, enforcing laws governing the use of resources, or providing suitable recreational areas.

animal ecologist (2,1)	Studies distribution, physical characteristics, behavior, and life history of animals. Studies environmental factors such as plant growth, rainfall, temperature, altitude, and sunlight in relation to animal life.
fishery biologist (1)	Studies aquatic organisms. Manages fisheries or fishing resources, or performs research. Advises hatcheries on the best conditions for fish growth.
forester (2)	Manages and develops forest lands and their resources for economic and recreational purposes. Plans campsites and recreational centers. Assists in control of floods, soil erosion, tree diseases, and insect pests.
forester aide (4)	Works to inventory, protect, and re-forest timber lands. Observes, measures, and records forest data such as temperature, waterflow, and burned and cut areas. Helps enforce recreational regulations such as parking, sanitation, campfires, etc.
forest fire fighter (4,3)	Stops forest fires by felling trees, digging trenches, using ax, etc. Patrols burned area after fire to watch for hot spots that may restart the fire.
game management agent (2)	Enforces regulations for the protection and conservation of wildlife. Acts as middleman between state and federal agencies. Meets with and advises these agencies about local conditions.
mining engineer (2)	Determines location and plans mining of ore, minerals, etc. Plans locations and development of shafts, tunnels, etc. Plans and coordinates use of manpower and equipment for best efficiency, safety, and environmental conditions.
park ranger (2)	Enforces laws, regulations, and policies in state and national parks. Enforces standards of cleanliness and sanitation; patrols to prevent fires, vandalism, and theft.
soil conservationist (2,1)	Plans programs for soil erosion control, moisture conservation, and sound land use.
wildlife biologist (1)	Works in the conservation and management of wildlife. Does research to find and apply biological facts, principles, methods, techniques, and procedures necessary for the conservation and management of wildlife.

(1) usually requires post-graduate studies
(2) usually requires a 4-year bachelor's degree
(3) usually requires a 2-year associate degree
(4) usually requires some on-job or other training after high school

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A pack of pros

As you can see, the environmental field offers an astonishingly broad range of career choices. Many of the jobs in the lists are professional-level jobs. The scientists (chemist, entomologist, microbiologist, etc.) and engineers (civil, sanitary, mining, etc.), for example, are professional-level jobs. They require 4 years of college and increasingly, post-graduate work as well.

Unlike medicine, law, or most other professions, environmental careers involve a variety of disciplines. Some schools offering the kind of curriculum you want may not even have the word "environment" in their list of courses!

A recent survey to which over 100 U.S. universities responded shows the following 13 major fields of study for future environmentalists:

1. aeronautics and space sciences
2. agricultural sciences, agronomy, forestry
3. architecture, urban planning
4. chemistry
5. ecology
6. economics
7. engineering sciences
8. geosciences
9. marine sciences, oceanography
10. math, computer science
11. medicine, public health
12. physical and biological sciences
13. social sciences

These fields of study can lead to jobs in a number of occupational groups, in addition to environmental careers.

Probably the best college route is to start with introductory survey courses which offer the basics of several environmental disciplines. The broad background can help you decide which discipline(s) will be your specialty, as well as allow greater future career flexibility.

Sampling salaries

Environmental professions are so varied, salary information about the field as a whole has little meaning. To give you an idea of the salaries for some specific jobs, here's a representative list. (All salaries are for those with at least a bachelor's degree).

forester: Up to $9,053 per year to start; with a master's degree and several year's experience, $11,046-13,309. With a Ph.D. may advance to $15,866-25,538 and up.

industrial hygienist: Start at about $8,000; with experience, about $12,000-18,000; a few earn $30,000 and up.

landscape architect: About $9,520 to start; most advance to over $12,000; a few earn $28,000 and up.

mining engineer: Start at about $9,600; most advance to $12,000-15,000; a few earn $30,000 and up.

environmentalist: With experience, salaries range $10,000-14,000.

soil conservationist: Up to $9,053 to start; with a master's degree and experience, $11,046-13,309. With a Ph.D. may advance to $15,866-25,538.

urban planner: About $8,200 to start; with 2 years experience, about $11,250; directors typically earn $12,300 30,000 and up.

wildlife manager: Start at about $6,000-7,000; those in administrative positions earn $10,000-15,000 a year.

Help for the pros

For every professional in the environmental field, there are a host of technicians and aides who help professional workers carry out environmental programs.

These paraprofessionals fall into 2 main groups, though some duties may overlap. In the first group are the environmental technicians who usually have at least 1-3 years of college or other advanced training. Many have 2-year associate degrees. Duties include sampling, inspecting, operating technical equipment, surveying, testing for bacteria or chemicals, and recording data. Technicians' jobs frequently are rewarding and interesting. Many technicians find so many job satisfactions that they have no ambition to trade places with the professionals who supervise them—and have more headaches.

This list of typical technicians' duties is based on an Alabama Department of Public Health job description for the *sanitation technician:*

1. maintaining technical equipment
2. preparing educational materials
3. supervising the use of various water testing devices
4. collecting water and waste samples
5. doing routine lab tests
6. identifying disease carriers (insects, rodents, and others)
7. inspecting for conditions that host disease carriers
8. recommending control measures as part of community sanitation programs

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Environmental technicians in private industry and at state and local levels earn good salaries. Federal salaries range between $8,000-10,000 a year to start; $12,000-14,000 with some experience; and $16,000-23,000 for experienced technicians with supervisory duties.

A good 2-year college education with emphasis on the sciences will qualify you for many technology jobs in the environmental field. Check community and junior colleges, technical institutes, and universities, for 2-year degree programs in environmental sciences and technology.

Broome Technical Community College in Binghamton, New York, specializes in preparing students for environmental technician jobs. To give you an idea of the job scope, here's a list of the areas graduates enter:

A. County and city health departments
   1. Environmental health technicians (civil service)
      a. Milk plant and dairy farm sanitation
      b. School sanitation
      c. Institution sanitation
      d. Refuse sanitation
      e. Food service sanitation
      f. Rodent and insect control
      g. Air pollution control
      h. Water supply control
      i. Water pollution control
      j. Sewage disposal
      k. Temporary residence sanitation
      l. Swimming pool and bathing beach sanitation and safety
      m. Housing sanitation and safety
      n. Radiation safety
      o. Sanitary surveys
   2. Camp sanitary aide (civil service—summer months only)
      a. Temporary residence sanitation
      b. Swimming pool and bathing beach sanitation and safety

C. State Department of Agriculture and Markets (civil service)
   1. Milk products inspector
      a. Milk and milk products sanitation and adulteration
   2. Food products inspector
      a. Food processing sanitation and adulteration
      b. Food service sanitation and adulteration

B. State Health Department
   1. Engineering technician
      a. Air sampling

D. Housing and urban renewal agencies
   1. Housing inspector
      a. Housing sanitation and safety

E. Colleges and universities
   1. Sanitary inspector
      a. Food service sanitation
      b. Dormitory and fraternity-sorority house sanitation and

F. Milk processors and dairy farm cooperatives
   1. Dairy farm inspector
      a. Dairy farm sanitation

G. Food processors
   1. Sanitary inspectors
      a. Food plant sanitation

H. Food service and restaurant chains
   1. Sanitary inspector
      a. Food service sanitation

I. Motel chains
   1. Sanitary inspector
      a. Food service sanitation
      b. Motel sanitation and safety

J. Detergent and sanitizer manufacturers
   1. Salesman and consultant
      a. Milk plant sanitation
      b. Food plant sanitation
      c. Food service sanitation

K. Municipal water departments
   1. Water treatment plant operator
      a. Water supply control
   2. Water plant laboratory technician
      a. Chemical and bacteriological water analysis

L. Municipal sewage departments
   1. Sewage treatment plant operator
      a. Sewage treatment control
   2. Sewage plant laboratory technician
      a. Chemical and bacteriological laboratory analysis

M. Public health laboratories
   1. Laboratory technician
      a. Chemical and bacteriological analysis

N. Consulting engineering firms
   1. Engineering assistant
      a. Water supply development and treatment
      b. Waste water treatment and pollution control
      c. Refuse disposal

O. Restaurant associations
   1. Sanitation inspector and consultant
      a. Food service sanitation

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(7)

The second paraprofessional group is made up of *environmental aides* (sometimes called *inspectors, sample operators,* or *monitors*) who usually do not have a college degree. Aides collect, monitor, record, and report data, to name a few of their tasks. Advancement for aides is limited unless they take on-job or extension training and become exceptionally skilled at their tasks.

Other environmental technicians work in forestry, recreation, wildlife conservation, architecture, urban planning, pest control, landscaping, population management, and many more environmental areas.

CHECK THE FILE IN THE
HEALTH CENTER
TALK WITH YOUR COUNSELOR ABOUT
EXPLORATION OPPORTUNITIES

Career horizons

We know that building a better environment can be done only by people working hard at it. We have come to realize that just part of the work can be done by volunteer enthusiasts—that more of the workers have to be full-time professionals and paraprofessionals employed by government, private industry, and consulting or service firms.

We have learned that the Environmental Decade will probably not be a mere 10 years of spirited Earth Days and Earth Weeks. But, rather, steady, purposeful, productive years of professional and technical work towards a better environment. With adequate professional training and hard work, you may become part of this career team.

For more career information

Pamphlets

Air Pollution Control Employment Bulletin
Ability Search
Suite 202, Davis Bldg.
1629 K St. NW
Washington, DC 20006
Send for free brochure on careers in air pollution control.

Marine Technology Society
1730 M St. NW, Suite 412
Washington, DC 20036
Write for "The Oceans and You," a kit that includes a list of colleges and universities offering oceanography programs. Single kits and postage about $3; 10 to 100 kits about $2.50 each.

Public Affairs Pamphlets
381 Park Ave. S.
New York, NY 10016
Send 35¢ for "The Campaign for Cleaner Air," 28-page booklet.

Science Research Associates
259 E Erie
Chicago, Il. 60611
Check your counselor's office or library for: Occupational Briefs #187 "Landscape Architects;" #209 "City Planners," #177 "Sanitary Engineers;" #50 "Foresters;" #340 "Forest Technicians," #185 "Geographers;" #149 "Wildlife Managers," or #217 "Industrial Hygienists."

Books

Career Opportunities: Ecology, Conservation, and Environmental Control
J. G. Ferguson Publishing Co., 1971
6 North Michigan Ave.
Chicago, Il. 60607
$6.95

Opportunities in Environmental Careers
By Odom Fanning
Vocational Guidance Manuals, 1971
235 E 45 St.
New York, NY 10017
$5.75

Opportunities in Geology and Geological Engineering
By Alfred K. Snelgrove
Vocational Guidance Manuals, 1970
235 E 45 St.
New York, NY 10017
$1.95

Opportunities in Meteorology
By Miles F. Harris
Vocational Guidance Manuals, 1972
235 E 45 St.
New York, NY 10017
$5.50

Opportunities in Oceanographic Careers
By Odom Fanning
Vocational Guidance Manuals, 1969
235 E 45 St.
New York, NY 10017
$1.95

Key Government Agencies

Send for free career or recruiting literature from any of the following:

ATOMIC ENERGY COMMISSION
Division of Environmental Protection
Washington, DC 20545

DEPARTMENT OF AGRICULTURE
1. Agricultural Research Service
2. Forest Service
3. Soil Conservation Service
Washington, DC 20250

DEPARTMENT OF COMMERCE
1. Economic Development Administration
2. Maritime Administration
3. National Oceanic and Atmospheric Administration,
Washington, DC 20230

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
Office of Education; Environmental Education Center
Washington, DC 20202

DEPARTMENT OF THE INTERIOR
1. Bureau of Land Management
2. Bureau of Mines
3. Bureau of Outdoor Recreation
4. Bureau of Reclamation
5. Geological Survey
6. National Park Service
7. Office of Coal Research
8. Office of Minerals and Solid Fuels
9. Office of Oil and Gas
10. Office of Water Resources Research
Washington, DC 20240

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A quick look at pollution prevention and control

The jobs in this area are concerned with undesirable and/or foreign matter in air, water, and/or soil. Some of the more common types of these pollutants are animal wastes, household wastes, industrial wastes, disease-causing substances, plant residues, sediments, plant nutrients, minerals, pesticides, radioactive materials, airborne substances, and even noise!

Each of these pollutants requires workers to monitor (keep watch over), inspect, measure, test, and regulate the tolerable amount in various locations.

air analyst (3,4)	Uses a dust-collecting device and other equipment to analyze samples of air in factories and other work areas. Determines the amount of pollutants and results of control methods.
chemist, water purification (1,2)	Analyzes the quality of water in water purification plants. Controls chemical processes that soften water or make it drinkable.
industrial waste inspector (3,4)	Inspects waste disposal plants. Investigates sources of pollution in city sewage to make sure standards are met. Takes samples of waste from sewers, storm drains, and water ways for lab tests.
radiation monitor (3,4)	Checks workers, plant facilities, and work environments for radioactive contamination. Collects air samples to find the amount of radioactivity in the air. Gives information on dangerous levels and instructs workers in radiation safety.
safety and sanitary inspector (3,4)	Inspects equipment and oversees work activities of employees in industrial plants. Makes sure sanitary and safety regulations are met.
septic tank serviceperson (4)	Cleans and repairs septic tanks (tanks in which solid wastes are broken down by bacteria).
sewage plant operator (4)	Operates sewage treatment and disposal equipment. May take sewage samples at various stages of treatment and perform routine lab tests.
supervisor, water and sewer systems (2)	Supervises installation, maintenance, and repair of water and sewage facilities. Finds best way to excavate and make repairs, using maps and diagrams.
water tender (4)	Tests drinking water for purity and collects water for lab analysis. Adds chemicals to obtain desired quality.

(1) usually requires post-graduate studies
(2) usually requires a 4-year bachelor's degree
(3) usually requires a 2-year associate degree
(4) usually requires some on-job or other training after high school

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NURSING CAREER INTEREST PACKET

The Kind of Person Making a Successful Nurse; Factors to be Considered
- Health
- Common Sense
- Intelligence
- Personality
- Maturity
- Previous Experiences and Interests

Preparation in High School for Nursing and Allied Careers
- Courses needed
- Vocational courses
- Extracurricular Experiences and Interests
- Grades

Pathways to Nursing
- The Nursing Ladder
- Nursing School Requirements

Where Do Nurses Work?

- Public Health
- Industry and Commerce
- Schools
- Home
- Government Service
- Doctor's Offices
- Nursing Education
- Private Duty
- Camps and Other Institutions
- Publications
- Hospitals
- Colleges

Nursing Specialties

Duties of the Nurse
- Registered Nurse
- Licensed Practical (Vocational) Nurse
- Nurse Aide
- Hospital Orderly

Observing a Nurse at Work

Organization of the Nursing Department of a Hospital

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NURSING SKILLS AND DUTIES

Cleanliness, Disinfection and Asepsis
- Asepsis explained
- Other Means of Controlling Infection and the Growth of Microorganisms
- Washing the Hands
- Sterilization vs. Disinfection
- The "Why" and "How" of Bacterial Growth
- Preparing the Baby's Formula Using Terminal Sterilization

Noting and Recording Vital Signs
- What are the Vital Signs?
- Temperature
- Pulse Rate
- Respiration Rate
- Blood Pressure
- Charting Vital Signs

Patient Care, and the Care of the Hospital Room or Hospital Unit
- Bed Making
- The Hospital Room or Unit
- Patient Care and Daily Hygiene
  - Washing the patient's hands and face
  - Care of the mouth and teeth
  - Feeding the patient

Emergency Care of the Sick or Injured
- What is First Aid?
- Where Nurses Use First Aid
- Basic First Aid Procedures
  - Severe Bleeding
  - Stoppage of Breathing
  - Poisons and Drugs
  - Shock

Professional Standards of Conduct for Nurses and Allied Personnal
- Ethics
- Professional "Do's" and "Don't's"
- Legal Definition of Nursing Practice
- International Code of Ethics for Nurses

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WHAT KIND OF YOUNG PERSON WOULD MAKE A GOOD NURSE?

WHAT KIND OF YOUNG PERSON ARE HOSPITALS, NURSING SCHOOLS, AND COLLEGES LOOKING FOR AS POSSIBLE NURSES?

All schools and institutions accepting nursing candidates, or giving nursing jobs try to answer one basic question, "Is she capable of becoming a nurse?" They answer this question in several different ways.

HERE ARE SOME THINGS THEY ARE ALL LOOKING FOR:

1. How is your health?

   Most institutions generally require a complete and thorough medical and laboratory exam. Are you in reasonably good health? Are you severely underweight or overweight? Do you have any chronic illness? Will your health prevent you from performing your duties?

2. Do you have good common sense and some intelligence?

   One of the ways institutions gauge, rightly or wrongly, your intelligence, is by the marks and grades you have earned. They will be most interested in your ability in science since science underlies many of the things you will be called on to perform. They will try to find out about your common sense through an interview with you. They will require good references from your teachers and guidance advisors. They will try to get as complete a picture of you as possible.

   Naturally, if you have good study habits, some degree of intelligence and good common sense you will in the eyes of the admitting institution be a good bet to succeed.

3. Do you have a pleasing personality?

   You may have discovered that PERSONALITY is a hard word to define. Here are some clues that will help an admissions officer form an opinion.

   --Do you like people?
   --Do people like you?
   --Do you have a good sense of humor, but not at the expense of others?
   --Do you radiate good will?
   --Do you like people well enough to put up with the crabbiness and irritability of people who don't feel well?
   --Can you handle situations under which you will have great pressure such as emergency situations?

These aspects of your personality can be discovered very early in your training career. But, if you have positive answers then you know that you can handle most situations and can get along with people.

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4. Do you show evidences of maturity?

Hospitals and nursing schools are looking for evidences of increasing maturity, although they know that you will mature faster as you progress on the job or at school.

The evidences of maturity include:

--Are you dependable?
--Have you attended school regularly without absence?
--Are you usually on time or rarely late to school?
--Are you over seventeen years of age?
--Are you willing to accept difficult assignments?
--Can you accept responsibility to do the best job that you can?
--Can you accept suggestion and criticism?
--Can you work well under authority and under supervision?
--Can you function well as a member of the health team?
--Can you accept the discipline of attending to routines even though you may not like routine assignments?

5. What previous experiences and interest do you show in a health career?

Hospitals and nursing schools will look more favorably on your application for admittance if you can show that you have a serious interest in nursing as a career. Here are some ways by which you can do this:

--Experience as a nursing volunteer or "candy-striper."
--Member of a school "Future Nurses" Club.
--Work experience involving others such as "Mother's Helper," baby-sitter, or volunteer worker in Old Age Home.
--Enrollee in the school work-study program.
--Experience in after-school or summer vacation work programs.

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HOW CAN YOU PREPARE FOR A NURSING CAREER WHILE IN HIGH SCHOOL?

The very first step toward a nursing career is graduation from high school. Colleges offering courses in professional nursing and hospital nursing schools all require high school graduation.

All nursing careers are heavily weighted in science. Therefore during high school you should have at least one year of general biology and one year of general chemistry. It is strongly suggested that you complete all required mathematics courses. You will find that typing is a valuable skill, strongly needed by nurses as well as college students. A year and a half of typing is advised. You should also be able to communicate well in both written as well as spoken English. These subjects are basic and necessary for a successful career in nursing.

Most professional nursing schools and colleges will admit without question students from the top half of their class. It is strongly advised that you present as strong a record of academic achievement as you can. Such a record will assure admittance to the school or college of your choice.

Practical training courses taken in high school will serve to enhance your application. If you have taken a course in Home Nursing, or one leading to licensing as a Licensed Practical Nurse or Nurse Aide, you can be assured of immediate entry to beginning nursing jobs. Some students work at these jobs first, so that they can decide whether nursing is the career for them.

Some schools and hospitals will give preference to students who have successfully completed such preliminary courses. They will give course credit if a student passes a state administered examination for college proficiency in nursing. There are many hospitals that offer career ladder opportunities for their employees. They offer courses to become L.P.N.'s. Eventually, if your motivation is strong enough, and you show potential, hospitals will admit you to their professional school of nursing.

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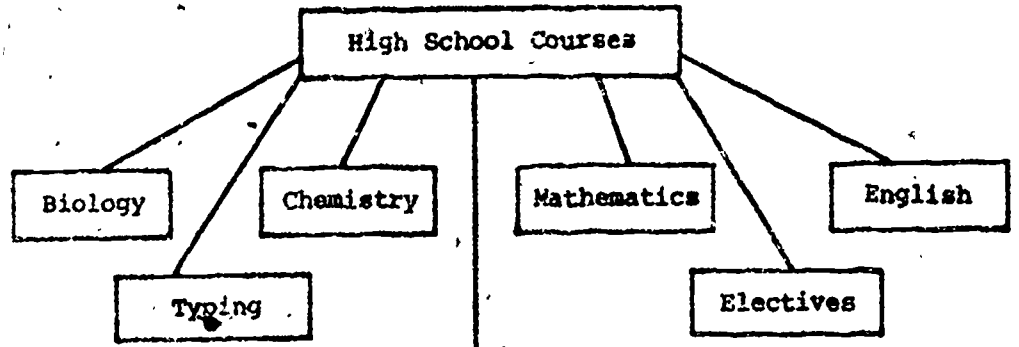
PATHWAYS TO NURSING



High School Graduation

6-6 months training
Immediate job entry
Possible transfer to L.PN. course

→ Nurses' Aide (Assistant OR Orderly)

1 year post high school or 2 year course at Vocational high school
Pass state license examination
On-the-job training

→ Licensed Practical Nurse (L.P.N.) - (L.V.N.)

Graduation from 2 year Community College OR 3 year School of Nursing
Degree as Associate in Nursing
Pass state license examination
Possible transfer to 4 year course
R.N. Title
Licensed Professional Nurse

→ Licensed Professional Nurse (R.N.)

Graduation from 4 year college
Degree as Bachelor of Science (or Arts) in Nursing
Pass state license examination
R.N. Title
Licensed Professional Nurse

→ Licensed Professional Nurse (R.N.)

Possible Transfer Programs

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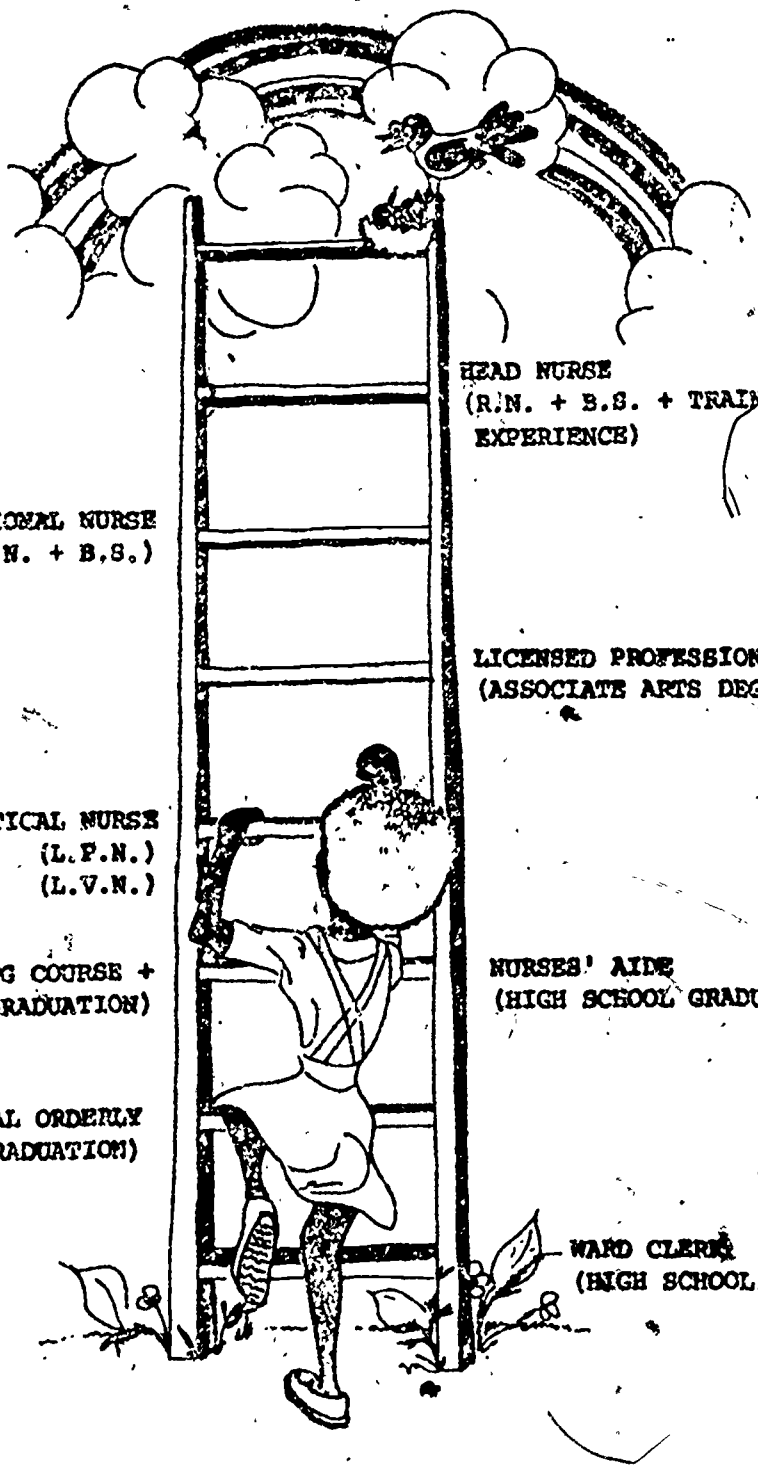
HOW HIGH CAN YOU CLIMB THE NURSING LADDER?



HEAD NURSE
(R.N. + B.S. + TRAINING AND EXPERIENCE)

LICENSED PROFESSIONAL NURSE
(R.N. + B.S.)

LICENSED PROFESSIONAL NURSE (R.N.)
(ASSOCIATE ARTS DEGREE)

LICENSED PRACTICAL NURSE
(L.P.N.)
(L.V.N.)

(SPECIAL TRAINING COURSE +
(HIGH SCHOOL GRADUATION)

NURSES' AIDE
(HIGH SCHOOL GRADUATION)

HOSPITAL ORDERLY
(HIGH SCHOOL GRADUATION)

WARD CLERK
(HIGH SCHOOL GRADUATION)

FOR MORE INFORMATION CHECK THE FILE IN THE HEALTH CENTER.

' YOUR TEACHER ABOUT EXPLORATION OPPORTUNITIES

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PHYSICAL THERAPY CAREER INTEREST PACKET

Physical Therapy attempts to provide treatment and healing for people of all ages. The Physical Therapist treats:

Handicapped children

Children may be born with birth defects which render them unable to perform normal functions. They may have such disabling diseases as cerebral palsy, muscular dystrophy and brain injury. They can be helped by methods of physical therapy.

Young adults

Young adults are more daring, take more chances and are therefore involved in the greatest number of accidents causing injury and disablement.

The middle years adult

This is the age when strokes, heart disease and arthritis may set in. Such diseases demand the services of the physical therapist for healing, curing and helping them regain normal living activities.

The elderly

During old age, chronic ailments such as arthritis, rheumatism, hardening of the arteries and high blood pressure take their toll in disability and sickness.

WHAT IS PHYSICAL THERAPY?

THERAPY MEANS - to cure or to heal.

PHYSICAL THERAPY MEANS - to cure, to heal or to treat injury and disability by PHYSICAL MEANS such as heat, light, water, sound, electrical and short save energy and exercise.

It seeks to improve muscle strength, improve circulation and blood supply, restore motion lost in the limbs, relieve pain, correct deformities and help to achieve normal living existence such as gainful employment and independence of action in home and social life.

WHAT DOES THE PHYSICAL THERAPIST DO?

MASSAGE - involves stroking, rubbing, kneading and squeezing.

HYDROTHERAPY - involves the use of wet heat, cold as well as the action of moving water, as in a Hubbard Tank, or whirlpool bath.

EXERCISE - involves passive, assistive, active and resistive exercises. It also includes teaching the patient how to relax to save strength and resist fatigue, and muscle stretching.

HEAT AND LIGHT - involves the usual heating pads, hot water bottle, but also includes other methods such as paraffin bath, diathermy, infra-red baking and ultraviolet light.

ACTIVITIES OF DAILY LIVING - involves helping with daily personal care, use of equipment needed in daily living and communicating.

AMBULATION - involves teaching the use of the wheelchair, crutches, braces, canes and artificial limbs. It also teaches a disabled person how to drive a car.

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EDUCATION AND TRAINING FOR A LICENSED PHYSICAL THERAPIST

Licensed physical therapists are usually graduates of a four- or five-year college course offering specialized training and education in physical therapy. Such courses are usually approved by the American Medical Association and by the American Physical Therapy Association. Students who attend two-year community colleges may transfer to a four-year liberal arts college and major in physical therapy. Also, graduates of a four-year liberal arts college may take a fifth year of postgraduate study specializing in physical therapy.

It is advised that prospective therapists get practical training while working with a licensed physical therapist or doctor specializing in physical medicine. Part-time practical experience or summer experience will prove a great help. In more and more states, graduates are required to have at least one year of practical experience before becoming eligible for licensure. Licensed Physical Therapists are required to pass a special license examination given in most states.

Students should have some proficiency in the biological and physical sciences and some fundamental knowledge of mechanics and principles underlying basic physics. There should be strong motivation for this field since students will be working with the sick, the elderly and the disabled. Practical experience while working with these people who need help will help to resolve the students' ideas about entering this exciting career.

ALLIED CAREERS IN PHYSICAL THERAPY

THE PHYSICAL THERAPY ASSISTANT

This career is quite new in the field. It has come to be more widely accepted in the past five years.

The Physical Therapy Assistant works closely with the licensed physical therapist to help restore the physical abilities and functions of disabled patients. They also work to prevent further disability or illness. The assistant serves as an important member of the REHABILITATION TEAM to help disabled patients lead more useful and productive lives.

WHAT THE PHYSICAL THERAPY ASSISTANT MAY DO

--Help the licensed therapist to perform tasks such as testing patients to determine the necessary treatment.

--Help position patients for needed treatment.

--Use special therapy equipment under the direction and supervision of the therapist. Such equipment must conform to safety regulations for its use.

--Help to apply physical treatment agents such as heat packs, cold packs, light, sound waves and massage.

--Watch patients closely during treatment and report observations.

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--Help patients perform necessary therapeutic exercises.

--Assist patients with such ambulatory activities as walking, climbing stairs and manipulating a wheelchair.

--Help patient to dress and undress for necessary treatments.

--Assist, remove or replace such devices as braces, splints, slings and other treatment devices.

--Transport or assist in the movement of patients to and from treatment areas.

--Instruct patients in the use and care of prosthetic (artificial limbs) and orthotic (braces) devices.

--Care for, assemble and maintain treatment areas and equipment.

--Maintain a safe, clean and orderly treatment environment.

--Perform necessary clerical tasks such as writing reports, keeping records of patient treatment, making appointments and acting as a receptionist.

TRAINING AND EXPERIENCE FOR ENTRANCE AS ASSISTANT PHYSICAL THERAPIST

Before 1969, most assistants got their training while working on the job in hospitals or other approved health care facilities. Since that time, most community or junior colleges have begun assistant training programs with the object of upgrading the status of the physical therapy aide, who is comparable in status to the nurse's aide. Community colleges now offer a degree of Associates in Arts (A.A.) as Physical Therapist Assistant.

There are a large number of junior or community colleges that now offer a training course to qualify for an Assistant Physical Therapist and for licensure in those states that require licenses. The number of colleges offering such courses is increasing steadily. The demand for qualified personnel has also increased in the past five years, especially with the added recognition accorded this position.

THE PHYSICAL THERAPY AIDE OR REHABILITATION AIDE

The Physical Therapy Aide is comparable to the Nurse's Aide, except that he works in the therapy or rehabilitation department of a hospital, rehabilitation center or medical center. The aide is the lowest grade of worker accorded professional recognition in the therapy field.

BEST COPY AVAILABLE

WHAT THE AIDE MAY DO

--Prepare the patient for prescribed treatment

--Help to position the patient for treatment

--Set up the modality (kind of treatment) needed by the therapist.

--Prepare needed supplies and have them readily on hand.

--Help to transfer patients safely to and from the bed, toilet, tub, plinth (exercise table) and other areas to be used.

--Help to prepare patients with corrective orthotic and prosthetic devices.

--Guard and assist patients in ambulating (moving about).

--Assist patients with prescriptive exercises, use of weights and the like.

--Supervise prescribed exercise treatments.

--Provide patients with equipment needed for mat sessions, ball playing and other exercise treatments.

--Help to transfer patients safely to and from treatment tanks and pools.

--Assist in teaching patients safe and approved methods of ambulation.

--Help to maintain a safe, orderly, clean treatment area.

--Provide hygienic personal care of patients.

--Do necessary clerical tasks such as record keeping, filing and the like.

--Serve as a receptionist in the treatment area.

TRAINING AND EXPERIENCE FOR ENTRANCE AS PHYSICAL THERAPY AIDE

Most hospitals and rehabilitative institutions provide an in-service training program for entrance as aides. The program of education and training thus provided is designed to upgrade necessary skills and the professional status of the aide. After completing the training program, the applicant becomes an aide. In many instances, after a certain amount of practical experience, he is eligible for entrance to the assistant's training program. After a three to six month training period, the aide is usually assigned to work under the supervision of a senior therapist.

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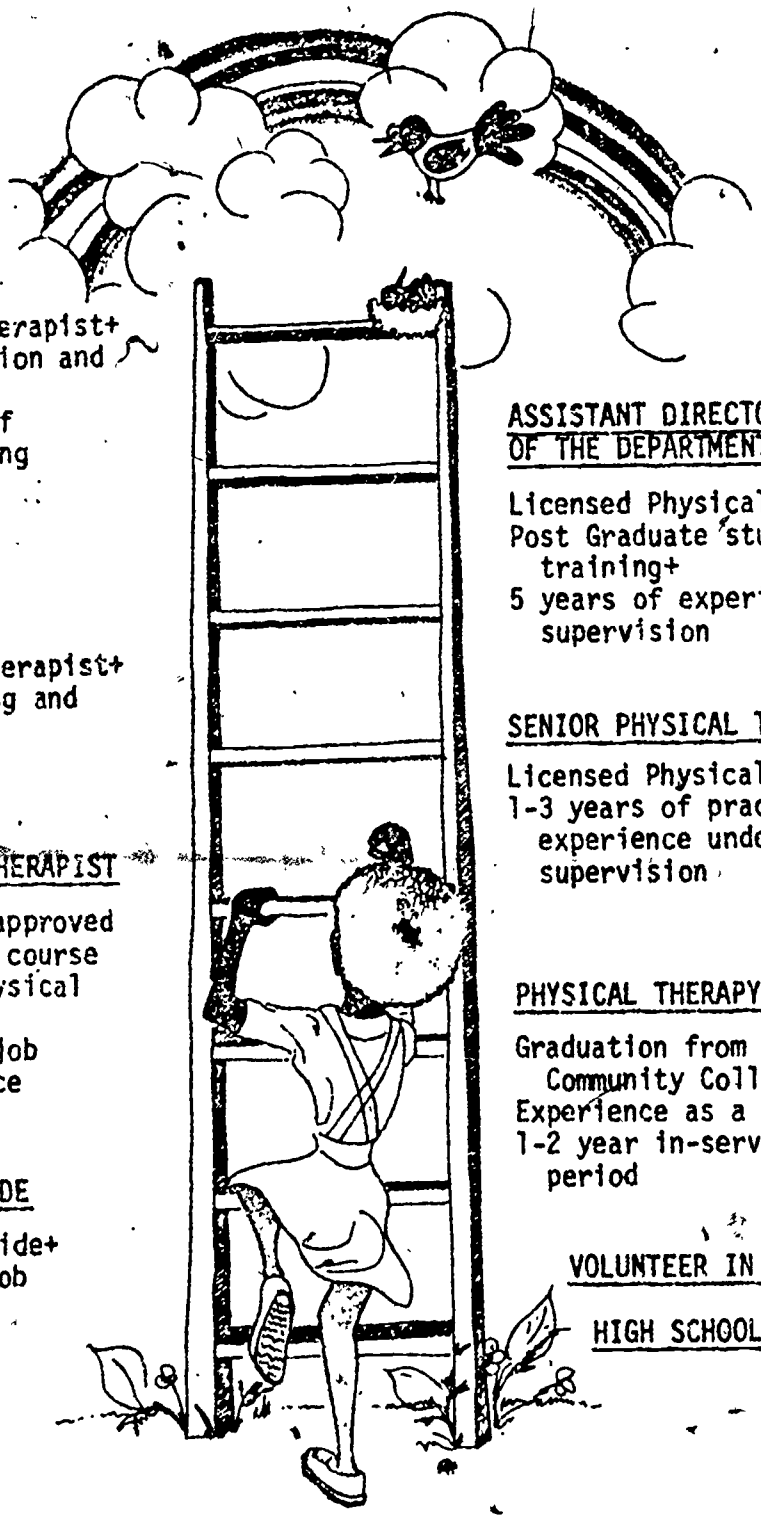
HOW HIGH CAN YOU CLIMB THE THERAPY LADDER?



DIRECTOR

Licensed Physical Therapist+
Post Graduate Education and training+
Five or more years of experience including administrative responsibilities

UNIT SUPERVISOR

Licensed Physical Therapist+
3-5 years of training and experience under supervision

LICENSED PHYSICAL THERAPIST

Graduation from an approved four year college course with a B.S. in Physical Therapy+
One year of on-the-job training experience

PHYSICAL THERAPY AIDE

Work as a Nurse's Aide+
3-6 months on-the-job training period

ASSISTANT DIRECTOR OF THE DEPARTMENT

Licensed Physical Therapist+
Post Graduate study and training+
5 years of experience under supervision

SENIOR PHYSICAL THERAPIST

Licensed Physical Therapist+
1-3 years of practical experience under supervision

PHYSICAL THERAPY ASSISTANT

Graduation from a 2-year Community College Course, OR
Experience as a Therapy Aide+
1-2 year in-service training period

VOLUNTEER IN A HOSPITAL

HIGH SCHOOL GRADUATE

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--Help patients perform necessary therapeutic exercises.

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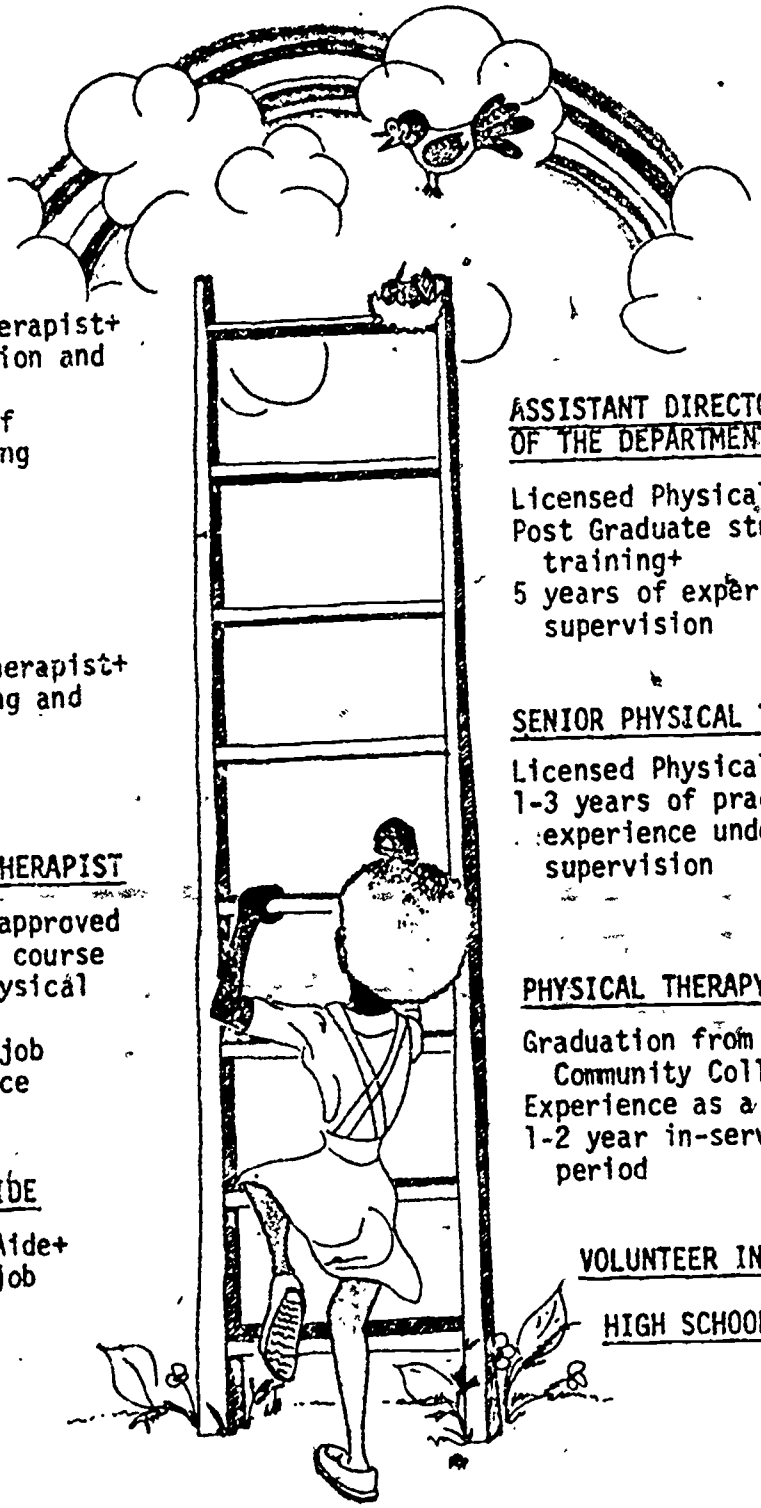

DIRECTOR

Licensed Physical Therapist+
Post Graduate Education and training+
Five or more years of experience including administrative responsibilities

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Post Graduate study and training+
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1-3 years of practical experience under supervision

PHYSICAL THERAPY ASSISTANT

Graduation from a 2-year Community College Course, OR
Experience as a Therapy Aide+
1-2 year in-service training period

VOLUNTEER IN A HOSPITAL

HIGH SCHOOL GRADUATE

... INFORMA... CHECK THE FILE IN THE HEALTH CENTER

YOUR TEACHER ABOUT EXPLORATION OPPORTUNITIES

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OCCUPATIONAL THERAPY CAREER INTEREST PACKET

What is Occupational Therapy?

The word THERAPY means to cure or to heal.

OCCUPATIONAL THERAPY MEAN — to provide a wide variety of activities and experiences that will relate the patient to his everyday life and thus provide the link between the hospital or rehabilitation center and his return to his home and community life. Treatment is medically prescribed.

The key word is OCCUPATION, which mean work. But this therapy also involves recreation and the activities of daily living which will help him take his place in his home, in earning a living, in his hobbies and recreation, and in his social activities.

WHAT DOES THE OCCUPATIONAL THERAPIST DO?

HELPS TO RESTORE PHYSICAL FUNCTION BY: increase in joint motion, improving physical strength of muscles and improved muscle coordination.

TEACH HOW TO ADJUST TO HOME ROUTINES BY: simplifying work at home, or by the use of adapted equipment to help with housework.

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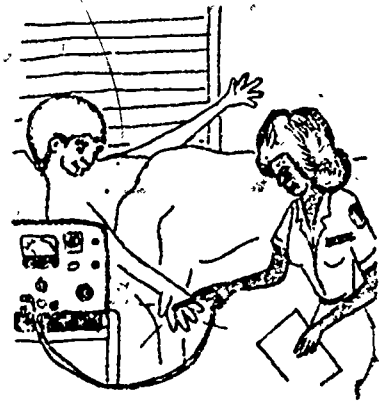
TEACH SELF-HELP ACTIVITIES SUCH AS: eating, dressing, washing, writing, etc. Teach how to use special equipment such as braces, artificial limbs, etc.

LEARN WORK TOLERANCE AND MAINTAIN SPECIAL SKILLS: which will improve the ability to work or to get a job.

HELP TO DIRECT RECREATIONAL AND HOBBY INTERESTS.



TEST AND DETERMINE PHYSICAL AND MENTAL CAPACITIES AS WELL AS: social adjustment, special interests work habits and skills for getting a job.

HELP TO DIRECT INTERESTS AND ABILITIES IN CASES OF PROLONGED HOSPITAL AND CONVALESCENCE PERIOD.

USE SATISFYING EMOTIONAL RESPONSES OF THE PATIENT AS A HELP TOWARD DIAGNOSING NEEDS OF THE PATIENT FOR FUTURE TREATMENT.

EDUCATION AND TRAINING FOR A LICENSED OCCUPATIONAL THERAPIST

The Licensed Occupational Therapist usually requires four years of specialized college training with a degree of Batchelor of Science in Occupational Therapy. College courses offering occupational therapy are available in about 35 colleges throughout the United States. Such courses usually receive approval by the American Medical Association Council on Medical Education, in conjunction with the American Occupational Therapy Association. In addition to a four-year college course, usually one year of practical training is required for licensure in those states that require a license to practice. For those who already have a college degree, it is possible to enroll in a post-graduate course of about a year and a half to take specialized courses in both academic and clinical work.

The emphasis in preparation for occupational therapy is upon the biological and physical sciences. Students also take courses for proficiency in manual and creative skills, recreational activities and in educational subject. A national examination is given each year by the American Occupational Therapy Association. upon passing this examination, the therapist will be professionally recognized and qualified to use the identification of "O.T.P." in the same way a doctor uses the initials "M.D." after his name.

ALLIED CAREERS IN OCCUPATIONAL THERAPY

THE OCCUPATIONAL THERAPY ASSISTANT

The career of a Physical Therapy Assistant is quite new to the field, but the position has come to be increasingly recognized in the past five years.

The Occupational Therapy Assistant works closely with the licensed therapist to help in the rehabilitation of patients who may be mentally, emotionally or physically disabled. The assistant serves as a valuable member of the rehabilitation team.

WHAT THE OCCUPATIONAL THERAPY ASSISTANT MAY DO

--They help to carry out programs and doctor's prescriptions under the supervision of a licensed therapist to strengthen the patient's muscle power.

--They help to increase the range of motion of disabled and paralyzed patients.

--They help the patient to become more independent and self-sufficient through a variety of activities and use of a variety of equipment.

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--They teach a broad range of skills in areas such as:

woodworking
ceramics
graphic arts
recreational and social games and diversions
dramatics
gardening
self-care skills such as eating, etc.

--They have such tasks as:

ordering supplies
keeping inventories of supplies and equipment
preparing work materials for the therapist
maintaining equipment and tools
performing clerical duties

--Assist the therapist in teaching basic skills to large groups of patients.

--Give emotional comfort to patients to overcome despair and discouragement.

--Observe and report progress of patients.

TRAINING, EXPERIENCE AND EDUCATION FOR ENTRANCE AS AN ASSISTANT OCCUPATIONAL THERAPIST

Before 1969, most assistants got their training while working on the job under the supervision of a licensed therapist. Some learned their skills in manpower and technical training programs offered by state or federal agencies. Now, many of the assistants get their education and training from a two-year community college course. However, in either case, practical training and experience are necessary to qualify for the position. Preference is usually given to applicants who have experience as a Nurse's Aide, Licensed Practical Nurse or those who have had some volunteer experience in a Rehabilitation Center or the Rehabilitat Department of a hospital.

FOR MORE INFORMATION CHECK THE FILE IN THE HEALTH CENTER.

TALK WITH YOUR TEACHER ABOUT EXPLOATION OPPORTUNITIES

Beyong the classroom is a three part step by step approach to field explorations.

The Health Career Groupings alone may not appear directly health related.. Each one however, has a direct relationship to the wide field of careers open in the health area.

Progression of Exploratory Experiences is a graphic representation of the building block plan.. Career exposures can not be hit and miss. They must be built upon both past and present experiences. Students begin on Step 1 and travel only as far as their interests carry them.

Sample Exploratory Experiences is a suggested list suitable to a large metropolitan area. By using this list as a guide most resources or similar resources can be found in each community or near by.

GENERAL HEALTH CAREER INTEREST AREAS/Health and Health Related Possibilities

Biology

Community Worker

Cook

Dental

Ecology/Conservation

Medical Technician

Medicine

Nursing

Pharmacy

Psychology

Social Work

Special Education

Therapy

Veterinarian Medicine

Youth Worker

Zoology

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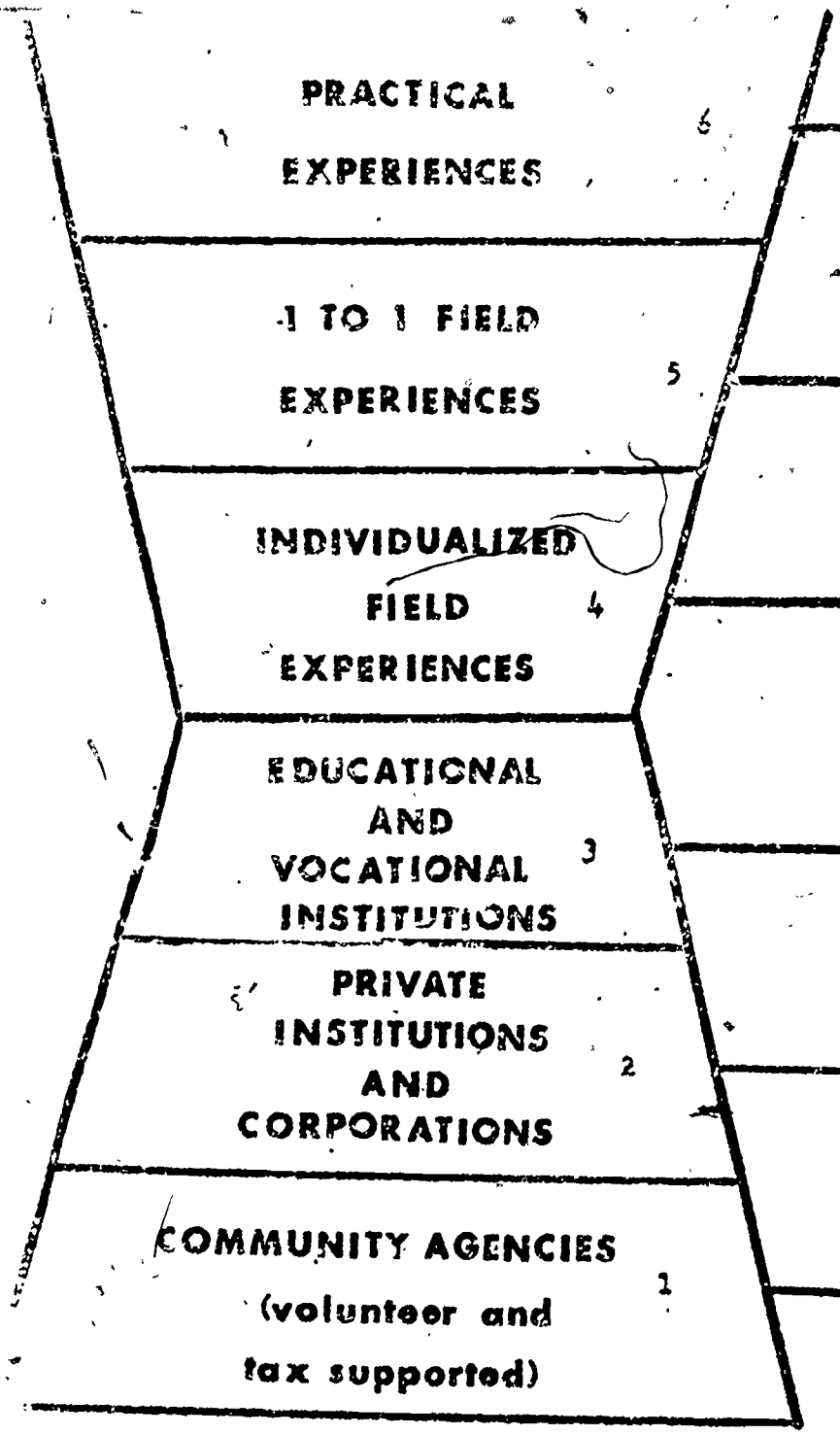
NOTE: Exploration Exposures should be organized in a building block pattern moving from step 1 to step 6. This type of organization will allow students to move as far as their interests carry them.

EXPLORATION EXPOSURES



SAMPLE EXPLORATORY EXPERIENCES INTEREST AREAS:
(Portland Metropolitan Area)

General (Community Volunteer Agencies)

1. American Cancer Society
2. American Red Cross
3. Blanchet House
4. Central Fire/Disaster Center
5. Goodwill
6. Sunshine Division
7. United Good Neighbor

Biology and Zoology

1. Carolina Biological Laboratory (POwell Division)
2. United Medical Laboratory

Community, Social and Youth Work

1. Contact Center/Arbuckle Flat
2. Drug Treatment Center
3. FISH
4. Food Stamp Distribution Center
5. North Portland Youth Service Center
6. Outside-In

Cooking/Foods

1. Benson Hotel
2. Kaiser Hospital/Diet Kitchen
3. Natures Storehouse
4. Oak Knoll Winery

Dental Technology

1. Dahlin Dental Laboratory
2. Portland Community College-Sylvan Campus/Dental Department
3. Western Dental

Ecology/Conservation

1. Crown Zellerbach
2. Department of Environmental Quality
3. Forestry Center
4. Harborton
5. Trojan Nuclear Plant
6. Wildlife Management

Medicine and Medical Technology

1. Barnes Veteran's Administration Hostital
2. Emmanuel Hospital
3. Medical Laboratory/Medical-Dental Building

Nursing

1. Del's Care Center
2. Kaiser Hospital
3. Multnomah County/Multi-Service Center
4. Portland Community College-Sylvan Campus/Nursing Department
5. University of Portland-Nursing Department

Pharmacy

1. Kaiser Hospital/Pharmacy Department
2. Northwest Physical Therapy Clinic
3. University of Oregon Medical School/Physical Therapy Ward

Special Education

1. Emily School
2. Oregon School for the Blind/Salem
3. Clarendon Elementary School

Veterinary Medicine

1. C.J.'s Dog Grooming Salon
2. King Size Stables
3. Lombard Animal Hospital

Miscellaneous

1. American Ambulance
2. Multnomah County Medical Services

SUITABLE RESOURCE MATERIALS

Books

Hospitals, Sextant Series

Your Future in a Changing World, Richards Rosen Press

A Medical Careers Handbook, Horizons Unlimited

Careers and Occupation, Vols. 1 & 2, Chrysler Corp.

Career Opportunities, New York Life Insurance

You and a Health Career, Fairchild Publications

Careers in Therapy, Medical Technology & Nutrition, Fairchild Publications

Nursing and Allied Careers, Fairchild Publications

Your Future as an Optician, Richards Rosen Press

Your Career in Nursing, Messner Publications

Career Opportunities: ecology, conservation, environmental control. Doubleday, Ferguson Publications

Handbook of Job Facts, SRA

Career Opportunities: Health Technicians, Doubleday, Ferguson Publications

Occupational Outlook Handbook, U.S. Dept. of Labor

You Can Work in the Health Services, John Day Co.

APPENDIX A

ROOSEVELT CURRICULUM

Roosevelt's plan does not employ the use of specific time locked units nor specific time locked lesson plans. Rather the Roosevelt plan has developed blocks of time for the introduction of major current health events and course goals. The method by which the time is ultimately utilized is determined by: 1)student interest (objectives/ evaluation) and 2) individual teacher techniques and skills.

As is inevitable a type of curriculum pattern must necessarily exist. Due to the philosophy we utilize at Roosevelt we believe many curriculum patterns are possible and workable. We believe that a 'curriculum puzzle' can fit together successfully in a variety of ways. One way we have chosen for 1973 - 1974 - 1975 is listed below by alphabetical units:

1. Alpha to Omega (birth through death, including body system)
2. Communication
3. *Conflict
4. Crutches (Addiction Education)
5. *Decision Making
6. First Aid
7. Human Sex and Sexuality
8. *Just Me
9. Personal Health/Fitness and Nutrition
10. World Health Problems and Environmental Hazards

* Essentially mental health but not total of mental health.

NOTE: It is not feasible to analyze any element of curriculum in isolation from the entire structure.

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APPENDIX B

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CREDITS

ROOSEVELT SOPHOMORES

All Four Hundred

PARENT TEACHER STUDENT ASSOCIATION

Volunteers in Portland Schools

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ABSTRACT: THIS TEACHING GUIDE IS FOR USE IN THE CURRICULUM OF THE NEW JERSEY PUBLIC SCHOOLS WHERE CAREER EXPLORATION IS IMPLEMENTED INTO THE JUNIOR HIGH SCHOOL GRADES. AN INTRODUCTION DIRECTED TO SCHOOL ADMINISTRATORS CONCERNS FUNDING REQUIREMENTS AND DETAILS FOR MEETING STATE STANDARDS IN SUCH MATTERS AS TEACHER CERTIFICATION, COST OF INSTRUCTION, SPENDING ALLOWANCES, SPEAKER INFORMATION, AND FIELD TRIP PROCEDURES. THE MODULES, HERE CALLED CYCLES, PROVIDE CURRICULUM MATERIALS FOR A NUMBER OF UNITS WHICH MAY BE USED SELECTIVELY. THEY COVER SIX AREAS: (1) KNOW YOURSELF, (2) BUSINESS EDUCATION, (3) HEALTH SERVICES, (4) HOME ECONOMICS, (5) INDUSTRIAL ARTS, AND (6) SCIENCES. EACH CYCLE CONTAINS AN INTRODUCTION, OBJECTIVES, SUBJECT MATERIALS, ASSIGNMENTS, AND A DAY-TO-DAY PROCEDURES GUIDE. RESOURCE MATERIALS AND A BIBLIOGRAPHY ARE INCLUDED. (MU)

INSTITUTION NAME: RUTGERS, THE STATE UNIV., NEW BRUNSWICK, N.J. CURRICULUM LAB.

SPONSORING AGENCY NAME: NEW JERSEY STATE DEPT. OF EDUCATION, TRENTON. DIV. OF VOCATIONAL EDUCATION.

VT 101 412

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INTRODUCTION TO VOCATIONS

A TEACHERS GUIDE

State of New Jersey
Department of Education
Division of Vocational Education
Introduction to Vocations

101 412

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INTRODUCTION TO VOCATIONS

A TEACHERS GUIDE

REVISED AND EDITED

BY

MARGARET BLAIR AND GORDON LAW

SEPTEMBER 1973

State of New Jersey
Department of Education
Division of Vocational Education
Introduction to Vocations

ERIC

DIVISION OF VOCATIONAL EDUCATION
STEPHEN POLIACIK, ASSISTANT COMMISSIONER
MORTON MARGULES, ASSOCIATE DIRECTOR

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RUTGERS – THE STATE UNIVERSITY
BUILDING 4103 – KILMER CAMPUS
NEW BRUNSWICK, NEW JERSEY

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Benjamin Georgia, Mechanical Contractors Association of New Jersey, East Orange, New Jersey

Dr. David Grove, Director Pupil Personnel Services, Point Pleasant Beach, New Jersey

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Jonathon C. Walters, Mathematics, Nottingham Junior High School, Hamilton Township, New Jersey

Robert D. Walters, Planning Manager, Hess, Goldsmith and Company, Burlington Industries, Phi Psi Textile Fraternity, Metuchen, New Jersey

FOREWORD

This INTRODUCTION TO VOCATIONS material may be used as a text by the teacher for student instruction. It is intended to be used as a guide to assist the teacher and coordinator of the program. Each teacher in each school district may add or emphasize other cycles which they may wish to develop to meet the needs of the school plant, their students and their community.

It is imperative that students have opportunities provided through this program to smell the smells of industry, to hear the noises on the job sites and to see men and women actually performing their work at their varied jobs. Beginning to understand some of what it takes to collect the pay check at the end of the week is an important part of the INTRODUCTION TO VOCATIONS program and effective Career Education.

Margaret Blair, Ed. D.
Director of Introduction to Vocations

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INTRODUCTION

This volume is intended to be of practical use in the implementation of the Introduction to Vocations programs. The cycles, the section on guidelines and policies, and the section on procedures may all be removed for quick access. Additional Introduction to Vocations cycles may be incorporated as they become available, and the instructor is encouraged to include any materials relating to occupations touched upon in the cycles as well as others he accumulates. The section RESOURCES FOR INTRODUCTION TO VOCATIONS may be useful in locating such additional information. All of the materials in this volume, including the various inventories and forms, may be freely duplicated for use with students.

This volume is divided into three main sections: a general description of the Introduction to Vocations program, detailed procedures for the various Introduction to Vocations cycles, and a listing of further sources of information. The first Introduction to Vocations cycle, the KNOW YOURSELF CYCLE, includes procedures for introducing the program to students and for monitoring student progress throughout the year.

The instructor is invited to contribute to the Introduction to Vocations curriculum development effort by forwarding ideas and suggestions to:

Dr. Margaret Blair, Director (or)
Mr. John W. Williams, Supervisor
Introduction to Vocations
New Jersey State Department of Education
Division of Vocational Education
225 West State Street
Trenton, New Jersey 08625
Phone: 609-292-5623 or 5622

THE PROGRAM

Introduction to Vocations and Career Education

Introduction to Vocations is an integral part of New Jersey's model for comprehensive career education. The literature of career education describes the junior high school or middle school years as one of the most appropriate time for career or occupational exploration. As Thomas Gambino, Director of Vocational Pilot Demonstration and Exemplary Programs, states in his special paper, "7th, 8th, and 9th Grade Career Exploration:"

> "In the seventh, eighth and ninth grades the student uses his basic sense of personal individuality and potential developed in the earlier grades for getting involved in many new experiences. Curious and full of energy, he is ready by the seventh grade for a wide variety of action-oriented activities through which he can explore his capabilities in coping with new materials, situations, equipment and technical, social and economic processes. He is looking for challenges that he can interact with and conquests he can make. He enjoys such rewarding experiences

as these: making things by which he can demonstrate his talents; visiting new places where interesting people do constructive things; meeting new friends who enjoy doing some of the things he does; competing successfully with his peers; and, earning money in a part-time job."

Mr. Gambino goes on to identify a variety of programs within the New Jersey model for career education which may foster career exploration. These programs at this student level may include:

1. Careers Club
2. Summer Career Exploration
3. The Video-Recorder in Career Counseling
4. Part-Time Job Placement
5. Introduction to Vocations
6. Short-term Intensive Entry Skill Preparation
7. Career Resource Center

Other career exploration programs have been designed specifically to meet the needs of handicapped and disadvantaged students.

Introduction to Vocations is a program designed to provide the students at the junior high school or middle school level with a broad understanding of the nature of the employment marketplace. Exploratory experiences, related to a wide variety of occupational areas, assist him in the development of realistic career plans.

It is important that persons developing the Introduction to Vocations program be fully aware of the fifteen occupational job clusters developed by HEW. This will help to ensure a broad range of career information possibilities for the students.

These fifteen clusters are:

- Health Careers
- Environmental Careers
- Manufacturing Careers
- Transportation Careers
- Communication and Media Careers
- Construction Careers
- Marketing and Distribution Careers
- Consumer and Home-making Related Careers
- Agri-Business and Natural Resources Careers
- Marine Science Careers
- Public Service Careers
- Personal Service Careers
- Hospitality and Recreation Careers
- Fine Arts and Humanities Careers
- Business and Office Careers

PROGRAM DESCRIPTION

Introduction to Vocations is part of the Career Development concept and is a realistic guidance program for all students. It is organized to be an integral part of the students' overall educational plan. Designed as a team teaching approach, Introduction to Vocations aids students in gaining occupational awareness.

The Introduction to Vocations program is available for 7th, 8th, 9th, and 10th grade students. Sixth grade students may be included in the program if they are in a middle school situation.

Emphasis is placed on short-term, manipulative, exploratory experiences on a cycling basis. This cycling includes units in a minimum of six areas; Know Yourself, Business Education, Health Services, Home Economics, Industrial Arts, and Science. Additional cycling areas may be included as they are developed by the State and local districts.

Cycling is a time allotment in a laboratory. It may be two or three weeks in duration based upon one period per day. These time allotments are very flexible and may vary with the needs of the individual, the group, and the availability of facilities. In each cycle, the teacher of the discipline will expose the students to the manipulative and informational units that are pertinent to the occupational area. "Hands-on" experiences are central to the concept of the Introduction to Vocations program. Field trips, speakers from business and industry, films, filmstrips, occupational literature, and individual as well as group guidance have been utilized very effectively within the cycling unit to enhance and strengthen pupil awareness.

Although the program, by its design, is best implemented in schools having a team of teachers, implementing career awareness in industrial arts, science, home economics, business, and health laboratories. Schools without these facilities and specialists are encouraged to participate in the Introduction to Vocations program. Other creative instructional alternatives may be developed without these specific laboratories to provide the desired student outcomes.

GENERAL POLICIES AND GUIDELINES

- Introduction to Vocations must be offered for a minimum of 200 minutes per week.
- Appropriate laboratories for the "hands-on" cycling experiences must be provided. NOTE: If a school does not have the proper laboratories, it must indicate in the proposal how it will provide the simulated "hands-on" activities for students.
- The Introduction to Vocations program should be included in the daily schedule and be a regular part of the teacher's and student's schedule.
- A school district getting involved in an Introduction to Vocations program may wish to have a limited enrollment the first year. However, the district should indicate how it plans to expand the Introduction to Vocations offerings to include all the students.

. A school district preparing an Introduction to Vocations proposal and application should carefully prepare limited, measureable objectives.

. The method of evaluating the Introduction to Vocations program should be included in the proposal. The evaluation should be consistent with the objectives.

. A school district should keep in mind that the Introduction to Vocations program is only one part of the implementation of the Career Development concept.

. Self-evaluation, in the form of an annual report, is expected from each program coordinator.

NEW PROGRAMS

. The Division of Vocational Education invites local superintendents to submit proposals for an Introduction to Vocations program. The deadline for submitting these proposals is announced by the Assistant Commissioner for Vocational Education and may vary from year to year. The filing date for these proposals is always made known in advance to each county and local district superintendent.

. Funding is done on an annual basis and must be requested each year.

. Schools requesting continued funding for subsequent years should try to show an increased enrollment until every student who wishes to participate in the program is included.

TEACHER CERTIFICATION

. Any certificated teacher employed by the district is eligible to teach the Introduction to Vocations program or be a coordinator of the program provided they have adequate background and/or experience in the area(s) to be taught.

FUNDING GUIDELINES

. EQUIPMENT - The equipment approved for funding in an Introduction to Vocations program is that which is basically audiovisual and is necessary to the program's successful operation, e.g. 16 or 8mm projector, filmstrip projector, tape recorder and projection screen. Such items should not duplicate readily available, existent equipment. A file cabinet, if needed, may also be approved for purchase as well as a storage cabinet. The Introduction to Vocations funds do not allow for the purchase of shop, home economics, science, or business education equipment.

NOTE: Equipment such as typewriters, office copy machines, calculators, or duplicating machines may not be purchased under this program.

. SUPPLIES - Supplies will be funded only to the extent of reasonable annual consumption by the proposed program. They include:
Textbooks: Those text, workbooks, (or similar instructional material) which may be utilized in the "Know Yourself" unit are fundable. No

textbooks may be purchased for the individual cycling or manipulative experiences.

- Reference Books: Single set(s) of reference material (both for the teachers and students) which may be useful in developing occupational awareness are fundable.
- Audiovisual Materials: Permissable: appropriate filmstrips, recording tapes, film loops, originals for overhead projector, vocational guidance tapes, and film rental. Film purchase is not recommended.
- Teaching Supplies: Materials for making overhead visuals, paper for duplication of handout materials, stencils, spirit masters, ink, stamps, paper with envelopes, film and tape. A loose-leaf notebook should be ordered for each student.
- Consumables: A total of $5.00 per pupil enrolled in the Introduction to Vocations program may be approved for the purchase of consumable supplies to cover all cycling areas.

COST OF INSTRUCTION - includes:

- TEACHER SALARIES - Each person who is involved in teaching Introduction to Vocations (over and above the normal teaching load) may be given additional compensation for his service. It is strongly recommended that the local rate for tutoring or bedside instruction be used as a basis for this renumeration.

- IN-SERVICE WORKSHOP - Each program may have up to $300 designated for in-service workshops. Attendance by local representatives at the state-wide workshops is considered an extremely important aspect for program development and implementation.

- SUBSTITUTES - Funding may be requested for a limited number of substitutes at the local district daily rate to cover teacher absentees while on Introduction to Vocations field trips.

- COORDINATOR - Funding may be requested for the Coordinator's time spent over and above the daily assignment.

STUDENT TRAVEL

- Allocations may be requested only for student field trips which are to be taken within the state. Exceptions: Philadelphia and New York City are appropriate visitation sites if they provide occupational awareness opportunities normally not found within the state.

OTHER COSTS

- Other costs may include the pro-rated salaries of additional teachers in the Introduction to Vocations program. Allocations may be requested for workshops and in-service programs.

SERVICES AVAILABLE TO THE LOCAL DISTRICT FROM THE DIVISION OF VOCATIONAL EDUCATION

- Workshops and in-service training programs are frequently organized and conducted by the division staff. Notices are sent to county and local

superintendents, principals, guidance personnel and to Introduction to Vocations program coordinators and discipline area personnel. All districts are expected to have representation of several Introduction to Vocations staff members and guidance personnel at the workshops.

. Division staff members will schedule visits to local districts to review and discuss the Introduction to Vocations programs and to assist the instructional staff in implementing and/or up-grading the program.

. An evaluation of the program will be made periodically by the Division of Vocational Education with the results being used to provide both the state and local districts with data to continually enhance and up-grade the programs.

APPLICATION AND PROPOSAL CHECKLIST

Checklist for schools submitting proposals (to meet the minimum requirements set forth by the state) for new or ongoing programs.

____ Does the proposal show that each student will be in the Introduction to Vocations class for 200 minutes per week?

____ Does the descriptive plan show that the student will be provided "hands-on" activities?

____ Does the descriptive plan in the proposal show whether the teachers, who will be teaching the Introduction to Vocations program, are doing so as a part of their daily schedule or as a class period above and beyond their regular teaching load? If the proposal does not make this clear, it will be assumed that the teaching assignment for the teachers will be during their regular daily schedule.

____ Does the descriptive plan in the proposal include limited, measureable objectives?

____ Does the proposal include a method for an annual evaluation report of the program?

____ Does the proposal include a tentative field trip list?

____ Does the district have plans to expand a continuing program?

____ Does the district have some provision for a student follow-up?

____ Does the district make provisions for attendance at state-wide in-service informational programs?

____ Does the district show that the school will conduct local in-service improvement programs for the participating staff?

____ Do the equipment requests include descriptions and unit prices?

____ Does the proposal include a tentative "guest speaker" list?

____ Has the local district identified the advisory committee for the Introduction to Vocations program and is this roster on file with the local district?

A SAMPLE VISITATION REPORT, OF THE SORT USED BY THE STATE'S INTRODUCTION TO VOCATIONS STAFF FOLLOWS:

_____ / _____ / _____

Day Month Year

VISITATION REPORT

District_____ Program Number_____

School_____ Funding_____

Address_____

_____

Zip Code_____ Phone_____
(Area Code)

Superintendent_____

Principal_____

Introduction to Vocations Coordinator_____

Number of boys_____ Number of girls_____ Total_____

Grade_____ Number of Classes_____ Number of students in class_____

Number of minutes class meets per day_____ Time of day_____

Number of days Introduction to Vocations class meets_____

Is the I.V. class a regular part of the teachers daily schedule?_____

Is the I.V. class a regular part of the students daily schedule?_____

How are the students identifed for the Introduction to Vocations Program?

_____

_____

a) Is the I.V. program an elective?_____
b) Are the students placed there by teachers and counselors?_____

Is the State plan used to identify disadvantaged students?_____

Is the local district team used to identify handicapped students?_____

_____

1. Are teachers aware of their team functions?_____

2. How are teachers identified for the program?_____

3. a) Are teachers providing varied activities?_____

   b) Is there an emphasis on the "hands-on" experiences?_____

4. Is there adequate easy reading reference materials available?_____

Number of field trips _____ _____ _____ _____ _____
September October November December January

_____ _____ _____ _____ _____
February March April May June

Number of speakers _____ _____ _____ _____ _____
September October November December January

_____ _____ _____ _____ _____
February March April May June

Number of Hands-On Experiences _____ _____ _____ _____ _____
September October November December January

_____ _____ _____ _____ _____
February March April May June

Number of meetings held with Advisory Committee?_____

Dates_____ _____ _____

Workshops:

How many workshops have the present cycling teachers attended?

Workshop	Date	Name of person(s) attending
1.		
2.		
3.		
4.		
5.		
6.		

Guidance:

a) Is the audiovisual counseling technique used?_____
b) Are group guidance techniques used?_____
c) Is the problem solving approach used?_____
d) To what extent are counselors involved in this program?_____
e) How often does each child in the I.V. program meet to discuss his career and educational plans with a guidance person?_____

Behavioral Objectives:

1. Are the teachers familiar with the behavioral objectives?_____

2. Are these objectives being realized?_____

3. How will the school evaluate the Introduction to Vocations Program?_____

_____

Follow-up:

1. Is there any provision for a follow-up of students?_____

2. If yes, what kind?_____

3. What cycles have been most successful?_____

_____ _____

4. Are there any problems that need to be resolved for a more efficient Introduction to Vocations Program?_____

_____

5. How would the coordinator evaluate the program?

Good_____ Average_____ Poor_____

Explain:

LEA Follow-up by State Department Personnel

. Time spent with administrators:

Superintendent_____

Principal_____

Director of Guidance_____

. Letter to LEA personnel

Date:_____

. Revisitation planned

Date:_____

Cycling Teachers	Cycles	Teacher Employment Record in Business and Industry
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		

SPEAKER INFORMATION

After scheduling the date and time with the speaker, the teacher or coordinator should:

- Request materials to orient the students about the industry, occupational categories and the speaker.
- Help students develop the background information about the speaker, into a short, concise introduction.
- Provide the speaker with information about the students, grade levels, interests, goals (in general) and an average level of indicated ability.
- Ask the speaker to urge the students to stay in school; to emphasize the importance of the high school diploma.
- State the total class time available. Tell the speaker how long he may talk with the students. Request time for the students to ask questions.
- Encourage the speaker to bring any large pictures or visual displays that may be suitable for display or illustrative purposes, as well as hand-outs for students to put in their notebooks.

Ask the speaker to cover:

- Job opportunities in the fields represented.
- Types of occupations which may develop in this industry.
- Educational requirements for this type of work.
- Hazards of this type of work, i.e. heat, cold, noise, odors.
- Salary range.
- Benefits.
- Educational opportunities.
- Stock rights.
- Attitudes that make desirable employees.
- Attitudes that cause employees to lose their jobs.
- Attendance.
- Is it possible to obtain the needed training in high school?
- Personality traits necessary for satisfactory and continued employment.
- The special satisfactions to be derived from this occupational area.

Introduction to Vocations in Practice

Suggested procedures for activities particular to any of the Introduction to Vocations cycles will be described in Part II of this volume. However, in that certain activities are common to all the cycles, it may be most convenient to discuss them here.

FIELD TRIP PROCEDURES

Student Preparation

- Be sure that the students are fully aware of the location of the site they are to visit.
- Be sure that the students have been made aware of occupations available at the site. Use any available, film or filmstrips that may relate to the industry or the occupations.
- Wherever possible, have pictures of the site, occupations and products.
- Explain the background and the development of the particular industry to be visited.
- Tell the students the names of the industry or company and names of the people who have made the visit possible. (Put names on the blackboard or bulletin board. Post any pictures you may be able to gather).
- Go over any maps or layouts of the site you may have. Point out interesting spots or areas you want the students to see.
- Help the students develop some questions they may wish to ask at the site.

STUDENT BEHAVIOR:

Explain that the students may be in a small group with guides supplied at the site.

When the students are accompanied by a guide, be sure that the students know:

- To keep together as a group, otherwise they may miss out on information the guide will present.
- To listen when the guide is speaking. Only one person is to talk at one time. When the guide is talking, he is to be the only one speaking.
- To ask questions when the guide has finished speaking.
- To thank the guide at the end of the tour.
- To be considerate of other people.
- To leave a passageway for others.

DRESS:

. Be clean and neat in appearance.

. Dress comfortably and suitably for the weather (hot, cold) at the site to be visited.

. Wear comfortable walking shoes.

FOLLOW-UP:

. Be sure to provide time for student discussion and evaluation of the visit after the trip.

INSTRUCTOR PREPARATION:

1. The supervisor or coordinator should:

. Have a road map and know the route to be taken to the site. Obtain directions about how to get to the site from the person on the site with whom you pre-schedule the trip.

. The teacher or coordinator should pre-visit the site whenever it is possible.

. Try to be sure there is a public address system in working condition on the bus. The travel time can be used to good advantage. Prepare in advance as much commentary as can be obtained from and about occupational sites along the way; historical sites and geographical information such as the comparison of soil, sand at the shore, shale in some New Jersey areas, farm soil, hills and mountainous areas, types of trees; scrub, pines and oak, and holly at the shore compared to hardwood trees, etc. All of this information relates to the industries and occupations that exist or may be developed. Note: sample trip narrations are in section IV of this volume.

. Have the name of the person to see upon arrival at the destination.

. Have the exact address and phone number for the site.

. Bring any letters of confirmation.

2. In case of sudden illness:

. Have paper towels available.

. Have pail or heavy paper bags.

. Have several individual sealed (wet) cleaning packets.

. Have a carton of Steriloid. (This chemical will deaden aroma and destroy bacteria--Madison Chemical Corporation, Maywood, Illinois).

or Leh-Fink (aerosol spray, $1.19 to $1.89 per can from Lysol) are two that work. There are others you may wish to use.

. Determine in advance any possible service stops along the way.

3. Collect signed parent permission slips which give the name and address of the site to be visited. These slips should list the date of the trip, time of departure and approximate time of return to the school or point of departure.

4. Carry an attendance list of students and any others who will accompany the students.

5. Check the list before departing and when the bus is loaded before returning.

6. Be sure the students have an exact time and meeting place to gather at the site in case they are separated for any reason.

7. Inform each student beforehand of the lunch arrangements on the field trip. Options might include, "brown-bags," school prepared box lunch or lunch at the visitation site.

PART II

THE CYCLES

Introduction

Each of the Introduction to Vocations cycles may be removed for ready access. As cycles are developed or revised, they may be added. The instructor may also add materials related to the occupations treated in the cycles.

The cycle outlines are not intended to be rigid or restrictive. The instructor may choose to shorten, lengthen, or adapt the cycles as local needs, or opportunities, require or permit. Ideas and suggestions for the modification of cycles should be directed to the Office of Introduction to Vocations in the Division of Vocational Education.

Beyond the materials listed in each of the cycle bibliographies, the reader is referred to the section "RESOURCES FOR INTRODUCTION TO VOCATIONS" for additional career related classroom resources. Some general remarks relate to all of the cycles:

- Remember that you are not teaching a skill. A specific teaching objective is occupational exploration and awareness of opportunities in the job fields.
- If a student cannot successfully perform the laboratory "Hands-On" experiments he does not fail.
- The entire cycle must be reviewed before teaching. Set aside appropriate time for the experiments and make sure that the necessary equipment is on hand.
- Try out each activity before doing it with the class.
- Make certain the contacts for resources, trips and speakers are all made well in advance.
- Safety: It is important to follow all of the necessary safety rules and regulations as set forth by the local board of education.
- Use an even number of questions on the INVENTORIES when they are reproduced. This will make scoring results more accurate.

KNOW YOURSELF CYCLE

INTRODUCTION

The Introduction to Vocations course plays an integral part in the overall education program for all students. Around the eighth or ninth grade, students are asked to make a number of significant education decisions which may have a profound influence on their later lives. Many young people are not ready to make these decisions.

They are ready to become aware of career opportunities and related occupational information. They do need to know some things about themselves. Students need opportunities to examine their own developing potentialities. Experiences should be provided which will build confidence and a positive self-image.

The Introduction to Vocations course addresses itself to these needs. It has been prepared to help students think about themselves and their career interests. In junior high school and the middle school, it has been geared to aid pupils in their awareness of varied career objectives. Emphasis is placed on short-term, manipulative, exploratory experiences which will develop in the students an awareness of the many occupational possibilities which are open to them.

The program has been designed for a variety of students at many educational levels. It is flexible to meet the needs of the students, the community and the school facilities.

The "Know Yourself Cycle" is the first unit in the Introduction to Vocations course. This is an extremely important unit, and provides the foundation for the remainder of the course. This cycle has been written to cover a ten day period. The information and material that is presented in this unit can be grouped into three categories:

1. Relating one's characteristics, aptitudes, values and abilities to occupations.

2. Providing the student with information and experiences about interest and aptitude testing.

3. Assisting the student in understanding the employment process including:

   . Study or training needed for an occupation which may fit his abilities, interests and aptitudes.
   . The job application
   . The job interview
   . Testing at the job site
   . Job orientation
   . Entry job

The activities presented allow each individual to think about himself, his world and his future. Opportunities are provided for a wide variety of student

experiences. Materials have been listed at the conclusion of each day's plans, and have also been incorporated so that the teacher may see the types of information currently available. Addresses of the various publishers may be found in the bibliography.

Many people contributed to the preparation of this cycle. Special credit must go to Mr. Martin Kornfeld, Guidance Counselor, Herbert Hoover Junior High School, Edison, New Jersey for the work he did in compiling and writing this cycle.

CYCLE OBJECTIVES

General Objective

. To assist each student in assessing his own abilities, aptitudes and interests in relation to the world of work.

Specific Objectives:

. The student will be able to correctly list three job attitudes, and three job qualities which relate to his abilities, aptitudes and interest.

. The student will be able to read and interpret five selected want-ads from newspapers and/or magazines that would be appropriate in terms of his understanding of his own abilities, aptitudes and interests.

. The student will be able to list three procedures he would use to learn about three self-selected occupations.

. Each student will be able to write a paragraph about the type of education needed for the three self-selected occupations.

. Each student will be able to correctly fill out a job application form.

KNOW YOURSELF STUDENT INVENTORY

*indicates correct answer

Answer True or False to the following questions. Circle the correct answer.

1. More than 75 percent of the people working are content with their occupations.
   a) True
   *b) False

2. Being able to get along with people is an important trait that an individual must have if he hopes to succeed on a job.
   *a) True
   b) False

3. Values are something we think are important.
   *a) True
   b) False

4. Most people's personalities begin forming after the age of twelve.
   a) True
   *b) False

5. After a person's personality has been formed, it is impossible to change it.
   a) True
   *b) False

6. An interest inventory test will give you your I.Q. score.
   a) True
   *b) False

7. An individual who has a high degree of interest in the outdoors might consider a career in forestry or conservation.
   *a) True
   b) False

8. A person who knows and understands his abilities, aptitudes and interests will be better able to make a career choice than a person who does not have this information.
   *a) True
   b) False

9. A high school education is an important asset for obtaining a job in today's labor market.
   *a) True
   b) False

10. Life-time earnings for non-high school graduates are about equal to that of high school graduates.
    a) True
    *b) False

11. The personal appearance of a job applicant is not important to the person conducting the interview.
a) True
*b) False

12. Many young people are fearful of going for a job interview.
*a) True
b) False

Answer the following questions by circling one or more of the letters on the left.

13. Understanding yourself is important because:
a) it will help me to understand myself better
b) it will assist me in choosing my friends
c) it will help me plan my life more realistically
*d) all of the above

14. The different cycles in this course will:
a) help me to learn about different types of occupations
b) teach me how to do better on tests
c) help me to get a part-time job
*d) all of the above

15. Learning about my interests and aptitudes will:
a) help make me a better person
b) determine whether or not I should quit school
c) help me to evaluate myself and my plans for the future
*d) all of the above

16. A personality trait that will help you succeed in a job is:
a) tardiness
b) immaturity
c) laziness
*d) honesty

17. The purpose of an interest inventory test is:
a) to learn how smart you are
b) determine whether you are capable of going to college
c) to find a specific job for each student
*d) determine the types of interests that each individual has, and to relate broad occupational categories to these interests

18. The first thing that a person does when applying for a job with a company is to:
a) take a physical examination
*b) fill out a job application form
*c) speak to the personnel manager
d) demand an interview with the company president

19. Job application forms do not ask questions about:
a) your hobbies and interests
b) your future career goals
*c) your religion and ethnic background
d) your school record and work experiences

20. It is important to show up for a job interview, looking:
*a) neatly dressed and well-groomed
*b) ready for work
c) very flashy and overly dressed
d) sleepy-eyed and casually dressed

21. Define the following terms: (These definition answers will vary.)
a) aptitude:
b) interest:
c) values:
d) vocations:

22. List four personality traits that you have. (Correct answers are numerous and it will be up to the teacher's discretion as to what is correct).
a)
b)
c)
d)

23. List four personality traits that you admire. Explain why. Have the student use separate sheet for the answer. (Correct answers are numerous. It will be up to the teacher's discretion as to what is correct).
a)
b)
c)
d)

24. Name at least four things that you should ask someone about an occupation in which you are interested. (Have the student use a separate sheet for the answer).
a) What are the education requirements?
b) What is the salary range?
c) Are there any fringe benefits?
d) What are working conditions like?
e) Is this a job with a future, etc.?

25. List four things that you hope to learn from the "Know Yourself Cycle." (Have student use separate sheet for answer). Correct answers will be numerous. It will be up to the teacher's discretion as to what is correct.

CYCLE PROCEDURE

FIRST DAY

Notes and comments

1. Explain the purposes of the Introduction to Vocations course to the students. Help the class become aware of the many kinds of materials that this course will cover, and what each students responsibilities will be. Two requirements of this course should be noted:
   a) All students must keep a notebook. This notebook will be used to house occupational information and materials that will be distributed during the course of the school year;
   b) All students must maintain a personal information folder. The student will keep basic information such as test scores and information that the student provides about himself.

2. Each student is to make a list of all of the high school courses he feels he would like to take before he completes school. This list will be placed in the student folder and will be referred to, compared with and modified throughout the year.

3. Introduce the cycle instructors. Have them briefly preview their units for the class. In cases where scheduling prevents these teachers from assisting in this activity, some other qualified faculty member, such as the Introduction to Vocations Coordinator or a guidance counselor should make these presentations.

4. Questions and answer period. Students will probably have questions concerning a particular cycle or vocation. Allow them to express themselves at this time, The Know Yourself Cycle instructor should question the class himself, to determine whether there is a specific occupation or topic that they are particularly interested in studying.

5. Administer the Pre and Post Inventory to the students. Explain to the class that this will be given again at the conclusion of this unit, and will be used to determine what the class learned from this cycle. Emphasize that this is not a test.

Materials:
a) Pencils
b) Pens
c) Paper
d) Notebooks
e) Student folders (8½" x 11" size)

Speakers:
a) The "Know Yourself Cycle" teacher
b) Introduction to Vocations Coordinator
c) Guidance counselor
d) Cycle instructors

SECOND DAY

1. Focus attention on the student as an individual. Have the class introduce themselves to each other. Since they will be working together a great deal of the time, it is imperative that they get to know each other as soon as possible.

2. Show the filmstrip, "Dropout - Road to Nowhere." Have the class break into small groups to analyze the filmstrip. List their findings on the chalkboard. Discuss the reasons why young people dropout of school, and whether it is worth it. Suggested activity: Have a willing high school dropout speak to the class about his difficulities in obtaining work and his work experiences.

3. Pass out mimeographed personal information sheets. These are to be completed in class. (refer to sample forms)

4. Discuss the data on these information sheets. Have the students make and compare lists of their interests, likes, dislikes, and problems that are common to all high school students. Examples: money, arguments, dating, getting along with people, etc. Record these lists on the chalkboard and in the student folders. Ask the class why is it you dislike a specific school subject? What problems do you have that you want to share with the class? Do you know what you want to do when you conclude school?

5. Supplemental activity: Show a filmstrip relating to today's lesson. Either "Likes and Dislikes" or "Getting Along with Yourself, both produced by Eye Gate House, Inc., would be of benefit to the class.

Suggested homework assignment:
Students are to prepare a project that relates to the Know Yourself Cycle. Suggested projects are as follows:

a) Make a scrapbook of an occupation that is of interest to you. Include magazine articles, pictures, and photographs that you've taken.
b) Prepare a series of slides of photographs about an interest that you have. You may want to video-tape an occupational area if facilities are available.
c) Field trip report: Visit a local company or industry in which you have some interest. If possible, take a guided tour of this company. Either write, illustrate pictorially, or tape record a report of the things that you saw and what you've learned from this experience.
d) Interview report: Interview several people from different occupations. Question each individual as to his qualifications, and whether or not he really enjoys his work. Compile a list of questions first, then report the reactions and answers of each worker. A tape recorder would be a tremendous asset in this activity.
e) Make a poster of how your environment affects you in relation to the world of work. Projects will be due at the conclusion of this cycle (Day Ten).

Materials:

a) Filmstrip, "Road to Nowhere," Eye Gate House Inc., Jamaica, New York
b) Personal Interview Sheets, Edison Public Schools, Edison, New Jersey; or Personal Information Sheets, My Career Guidebook, Belman and Shertzer, pp. 7-9. There may be other publications from which you may want to select.
c) Student folders
d) Filmstrips, "Likes and Dislikes" and "Getting Along with Yourself," Eye Gate House, Inc.
e) Filmstrip projector and screen

POSSIBLE SUPPLEMENTARY MATERIALS FOR DAY TWO

PERSONAL DATA SHEET

Homeroom _____

_____

First Name Initial Last Name Phone

1. HOME: My address is _____
Street City Zip Code

I was born _____
Month Day Year City State

I have ____ brothers and ____ sisters older than I.

I have ____ brothers and ____ sisters younger than I.

My father's occupation is _____. My mother:

works, and her occupation is _____; my mother does not work. ____

2. SCHOOL: I am now in grade ____. In general, my marks are: above average ____ average; ____ below average; ____. My favorite subjects are _____,

and _____. The subjects I like least are _____

_____, and _____

3. LIFE: My big ambition in life is to become a _____

and live in _____, _____
City State

4. If you were unable to realize your first ambition in question 3, what would your second and third choice be? a) _____

b) _____

5. ACTIVITIES: My favorite activities are:

Check _____ Sports. I participate in _____, _____

_____ Reading. My favorite books are _____, _____

_____ Clubs. I belong to _____, _____

_____ Music. I play the _____, _____

_____ My other music activities include _____

_____ Handicrafts. I made _____ and _____

_____ Homemaking (cooking and sewing, etc.)_____

_____ I enjoy Do-It-Yourself Projects. I make or repair_____

_____

_____ My other Do-It-Yourself activities include_____

_____

_____ Dancing. I go to dances about ___ times a month.

_____ Others. These include_____

_____

6. PROBLEMS: Check the problems listed below which cause you greatest concern. At the end of the list, put down other problems which also cause you concern.

_____ Arguments at home

_____ Clothes

_____ Grooming

_____ Health

_____ How to Study

_____ Lack of Freedom

_____ Making Friends

_____ Manners

_____ Money

_____ Underweight

_____ Overweight

_____ Posture

_____ Putting things off

_____ Selfishness

_____ Shyness

_____ Talking before groups

_____ Tests

_____ Too Short

_____ Too Tall

Reprinted from the Edison Public Schools, Edison, New Jersey

POSSIBLE SUPPLEMENTARY MATERIALS FOR DAY TWO

STUDENT PERSONAL DATA FORM

For the Student

The purpose of this form is to bring together essential information about you, so that your teacher will know you better. Answer the questions frankly and as completely as possible. The forms are for confidential use only.

Name_____ Date_____ Age_____

Home Address_____ Phone_____

Place of birth_____ Date of birth_____

Father's or Guardian's name_____

Father's Occupation_____ Highest grade completed_____

Mother's Occupation_____ Highest grade completed_____

Older brothers and sisters:

Sex M or F	Approximate Age	Highest grade completed	Occupation

Was your last year's scholastic standing high?____ Above Average?_____

Average?____ Below Average?_____ Low?_____ (Check One)

List the subject that :

You like best	You dislike most	Is easiest	Is hardest

Do you plan to graduate from high school?_____

If you do not plan to graduate from high school, encircle the last grade which you plan to complete. Grade 9, 10, 11, 12.

State briefly the chief reason why you might leave school_____

_____

What do you plan to do when you leave high school?

_____ go to college
_____ go to technical school
_____ go to trade school
_____ go to business school
_____ go to work
_____ military service

_____ other plans, what are they?_____

_____

State the chief reason for your plans indicated above_____

_____

What do you enjoy in life more than anything else?_____

_____

What achievements in school have given you the greatest satisfaction?_____

_____

What occupations or fields of work have you considered for your life's work?

1st choice_____

2nd choice_____

3rd choice_____

Reasons for first choice_____

_____

When did you begin considering this choice?_____

_____

If you could do just as you wished, what would you want to be doing when you are around 30 years old?_____

How much schooling do your parents or guardians want you to complete?_____

_____

What vocational career do your parents want you to follow?_____

Why?_____

Reprinted from Introduction to Vocations, Beam and Clary, 1967.

THIRD DAY

1. Review the personal data sheet and yesterday's discussions.

2. Define the following terms:
   a) abilities
   b) achievement
   c) appearance
   d) aptitude
   e) attitude
   f) interests
   g) personality
   h) vocations

3. Have the class discuss the definitions of these words. The students are to determine why these terms are important in the Know Yourself Cycle.

4. Ask the class this question: What do we mean when we say that a person has a good personality? Analyze various personality traits.

5. Have each student list at least ten personality traits that he would like to have. Place this list in his folder.

6. Place several of these personality characteristics on the chalkboard. Examples: friendly, moody, sincere, reliable. Assist the class in discussing the characteristics they suggested.

7. Supplemental activity: Provide the class with a personal quality assessment form or other suitable forms. These forms assist each individual to appraise his own values, personality qualities, attitudes, and other personality strengths and weaknesses.

8. Supplemental activity: Discuss values and their relation to the world of work. Have the class rank the following values.
   a) friends
   b) happiness
   c) honesty
   d) working conditions
   e) material gains
   f) money
   g) prestige

Determine which of these values would be most important in choosing a profession. Discuss why.

9. Supplemental activity: Values Problem-Solving Sheet. Pass this form out and allow the class to determine which of the two values listed is most important to them.

10. Supplemental activity: Show a filmstrip on values and personality development. Use the filmstrip, "Values for Teenagers - The Choice Is Yours," Guidance Associates, Pleasantville, New York.

Materials:

a) My Career Guidebook, pp 9-11
b) Introduction to Vocations, Beam and Clary, 1967, p. 30 (T.C. Keith, Lafayette School, Kipling, North Carolina).
c) Personality Trait Checklist, M. Kornfeld, Edison, New Jersey
d) Values Problem-Solving Sheet, Westside High School Vocational Guidance Report, Newark, New Jersey, 1964, p. 44.

FOURTH DAY

1. Review the vocabulary terms. Have the students write two short paragraphs, approximately 100 words each on:
   a) The type of person that I am.
   b) The type of person that I would like to be.

Allow 10-15 minutes for this activity. Students may want to read some of their compositions aloud. Discuss these compositions. Ask the class: If you could change your personality, how would you do so? Why?

2. Analyze ways that people differ. Discuss the importance of personal appearance and good mental health.

3. Supplemental activity: Have a panel discussion or a debate on the pro's and con's of good grooming and how this relates to the world of work. Use MY CAREER GUIDEBOOK for supplementary exercises dealing with good health, grooming, and appearance, pp 15-17.

4. Build interest and enthusiasm for an interest inventory survey. Ask the class: What do you really know about yourself? Would you like to know more? What kinds of jobs are you suited for? Would you like to find out?

5. Have a person, knowledgeable in the field of testing, explain the purposes of an interest inventory survey. Provide adequate time for students' questions and responses. Define any terms that need clarifying.

6. Schedule the interest inventory for the next lesson.

Suggested Homework Assignment:
Cut-out at least five different Help Wanted ads from any newspaper or magazine, that seem of interest to you. Each class member is to discuss these want-ads with members of his family, and to see how their interests and occupational choices compare and contrast with his own. This assignment is due for the next lesson.

Materials:
a) Student notebooks and folders
b) Pencils, pens, and compostion paper
c) Newspapers, magazines, articles
d) MY CAREER GUIDEBOOK, pp. 15-17

Speakers:
a) A school guidance counselor, or someone knowledgeable in the field of testing.

The Know Yourself teacher should keep a supply of newspapers for those students who may not have access to them at home.

Many local newspapers will donate day-old papers for school use.

Help the students note the difference between local papers and big city papers want-ads.

POSSIBLE SUPPLEMENTARY MATERIALS FOR DAY THREE

Personal Qualities

Directions: The following list, which is not complete, contains personal qualities, many of which relate to a variety of jobs. These are included here to help you in knowing yourself. Read each item carefully, consider how it applies to you, and make an X in the column which best describes what you like in each instance. You may find it most helpful to talk over your personal qualities with your school counselor, teacher, parents, or principal after you have finished checking the list.

Do I Like To Do Things Which Require Me:	Very little	Somewhat	Very Much
1. To use my hands in making things, either in operating a machine or in using a tool of some sort?			
2. To be patient and accurate?			
3. To work and cooperate with others?			
4. To take orders from others?			
5. To work with farm and other animals?			
6. To work outdoors?			
7. To judge the quality of merchandise?			

Do I Like To Do Things Which Require Me:			
1. To be prompt and punctual?			
2. To be in clean surroundings?			
3. To be in noisy places?			
4. To move around from place to place?			
5. To use my physical strength?			
6. To have ideas and imagination?			
7. To stay indoors?			
8. To make plans and organize activities?			
9. To work by myself?			
10. To read and to study?			
11. To express myself in writing?			
12. To think rapidly?			
13. To use mathematics? (work with numbers)			
14. To be constantly alert and ready for action?			
15. To make decisions by myself?			
16. To assume responsibility for others?			
17. To meet people?			
18. To present a point of view and talk convincingly on a subject?			
19. To sell things?			
20. To work with groups of children?			
21. To express ideas through art or artistic ability			
22. To manage money?			
23. To care for someone ill?			
24. To do housework and plan meals?			

	Very little	Somewhat	Very Much
25. To be with people other than myself?			
26. To be casual and relaxed?			

Can you list other personal qualities in a person's makeup that may be important in career planning? Analyze yourself in the same way as above.

Directions: Write in other personal qualities which you consider important but were not listed above.

Do I Like To Do Things Which Require Me To:	Very little	Somewhat	Very Much
1. _____			
2. _____			
3. _____			
4. _____			

When I Am With A Group, Do I:	Rarely	Sometimes	Usually
1. Show respect for elders?			
2. Show my willingsness to try new ways to doing things?			
3. Often get appointed as chairman of a committee?			
4. Sit back and let someone else do the work?			
5. Complain when the group decides to engage in an activity in which I am not interested?			
6. Go along with the group rather than state my own feelings in order to be in with the gang?			
7. Get asked to do an important job?			

Directions: From the above list, write down the statements you believe represent your strong points and those that represent your weak points when in a group.

These are my strong points

_____
_____
_____
_____

These are my week points

_____
_____
_____
_____

How might I overcome my weaknesses in getting along with others?

_____
_____
_____
_____

A Suggestion: Go over the lists shown above with a personal friend to see if he agrees with you. Confer with your teacher, school counselor, or parent about the way you see yourself.

SOME NOTES ABOUT MY FEELINGS AND PERSONAL BEHAVIOR

	Not often	Usually	Always
1. Do I show good sportsmanship?			
2. Do I gossip?			
3. Do I support school teams?			
4. Do I participate in school activities?			
5. Do I cooperate with teachers and school administrators?			
6. Do I respect school and other public property?			
7. Do I respect private property and belongings?			
8. Am I safety-minded?			
9. Do I take responsibility at home cherrfully?			
10. Do I think in a healthy, positive manner?			
11. Do I like to attract attention?			
12. Do I speak so softly that it is difficult for others to hear me?			
13. Do I like to tackle difficult problems?			
14. Am I disturbed when I am ignored or passed over?			
15. Do I try to make many acquaintances?			
16. Do I prefer to associate with just a few close friends?			
17. Do I prefer to be alone?			
18. Do I have regard for the feelings of others?			
19. Do I make remarks that are embarrassing to others?			
20. Am I inclined to held to my point of view even though it may be wrong?			

Reprinted from My Career Guidebook

POSSIBLE SUPPLEMENTARY MATERIALS FOR DAY THREE*

Personality Trait Checklist

Read through the list of personality characteristics. Check off and rate those traits that presently apply to you. Study your answers. What do they tell you about yourself? Reread the list a second time and underline those personality characteristics that you would like to improve upon or have. Write a short composition about the type of person you would like to become.

I Am The Type of Person Who Is:

_____ aggressive	_____ friendly	_____ tactful
_____ alert	_____ honest	_____ trustworthy
_____ ambitious	_____ industrious	_____ well-groomed
_____ angered easily	_____ compassionate	_____ loyal
_____ conscientious	_____ mature	_____ considerate
_____ neat	_____ cooperative	_____ patient
_____ courteous	_____ poised	_____ creative
_____ prompt	_____ curious	_____ sociable
_____ dependable	_____ sympathetic	_____ respectful of property

I would like to become the type of person who is _____

Martin Kornfeld, Herbert Hoover Junior High School, Edison, New Jersey

SELF-RATING CHART*

Name_____ Grade_____ Date_____

Read each statement listed below and place an X in the column (1-5) that best describes you.

Col. #1: Decidedly below average or Seldom; #2: Below average or Somet #3: Average or Generally; #4: Excellent or Usually, and #5: Superior or Always.

	1	2	3	4	5
1. PHYSICAL TRAITS					
a) Do I exercise good health habits?	_	_	_	_	_
b) Do I possess vitality?	_	_	_	_	_
c) Do I exercise self-control?	_	_	_	_	_
d) Do I present a good appearance?	_	_	_	_	_
2. WORK HABITS					
a) Do I do only my own work, without talking?	_	_	_	_	_
b) Am I ready to start working as soon as I enter the room?	_	_	_	_	_
c) Do I listen to and follow directions?	_	_	_	_	_
d) Do I work until the job is finished?	_	_	_	_	_
3. MENTAL CHARACTERISTICS					
a) Do I think clearly and with an open mind?	_	_	_	_	_
b) Am I intellectually curious?	_	_	_	_	_
c) Am I mentally industrious, possessing the will to do?	_	_	_	_	_
d) Do I exercise constructive imagination?	_	_	_	_	_
e) Do I read the directions before asking questions?	_	_	_	_	_
f) Do I do more work than is required?	_	_	_	_	_
g) Do I use the library regularly?	_	_	_	_	_
h) Do I bring things related to classwork to the class?	_	_	_	_	_
4. SOCIAL ATTRIBUTES					
a) Do I take a genuine interest in others, being responsive to them?	_	_	_	_	_
b) Do I work harmoniously as a member of a team?	_	_	_	_	_
c) Am I considered dependable by my classmates, teachers?	_	_	_	_	_
d) Am I able to express myself effectively?	_	_	_	_	_

	1	2	3	4	5
e) Do I think of how my actions and speech will affect others before I act or speak?	—	—	—	—	—
f) Do I keep order in my section of the room by behaving?	—	—	—	—	—
g) Am I courteous to my fellow students and the teachers?	—	—	—	—	—
h) Do I show an active interest in every class activity?	—	—	—	—	—
5. MORAL AND SPIRITUAL BELIEFS					
a) Do I have high ideals?	—	—	—	—	—
b) Do I possess moral courage?	—	—	—	—	—
c) Do I have a true appreciation of worthwhile things?	—	—	—	—	—
d) Do I believe in the cultivation of one's higher nature?	—	—	—	—	—
6. RESPONSIBILITY					
a) Am I on time to class and with my work?	—	—	—	—	—
b) Do I behave myself in class during the teacher's absence?	—	—	—	—	—
c) Do I bring my materials to class every day?	—	—	—	—	—
d) Do I take part in class discussions?	—	—	—	—	—
e) Must I be spoken to individually because I have not listened to class directions?	—	—	—	—	—

After completing the self-rating chart, connect the X's with straight lines and you can get a sort of profile showing your strong and weak points as you see them.

From T.S. Keith. Lafayette School, Kipling, North Carolina, (Introduction to Vocations), Beam and Clary.

POSSIBLE SUPPLEMENTARY MATERIALS FOR DAY THREE

Values and Problem Solving

Each statement illustrates a particular value. Determine which statement you value more. Write a short statement explaining each of your answers.

WHICH WOULD YOU CHOOSE

(Have the student use a seperate sheet for the answers.)

1. a) A job that pays $200 a week, but which involves constant travel.
   b) A job of the same type paying only $100 a week, but allowing you to stay at home.

2. a) To make a lot of money.
   b) To have prestige and have others look up to you.

3. a) To have a job and independence immediately after high school.
   b) To give time to further education or training in order to qualify for a better job.

4. a) To defend your belief even though you know your action may make you popular with your co-workers.
   b) To keep silent about your beliefs in order to keep the approval of your co-workers.

5. a) To work in an office where the beginning pay is good, but the physical surroundings are unattractive and co-workers are ill-mannered.
   b) To work in an office where the beginning pay is less, but the physical surroundings are good and co-workers are well-mannered.

Reprinted from the Westside High School Vocational Guidance Report, Newark, New Jersey, 1964.

POSSIBLE SUPPLEMENTARY MATERIALS FOR DAY FOUR

Item	Not very often	Usually	Always
1. Do I keep my body clean?			
2. Do I keep my nails trimmed and clean?			
3. Do I keep my hair neat and clean?			
4. Do I brush my teeth regularly?			
5. Do I stand and sit erect?			
6. Do I make sure that my clothing is neat and clean?			
7. Do I over do the use of (check only the items that apply): a) perfume?			
b) hair tonic?			
c) makeup?			
8. Do I dress appropriately for each occasion?			

SOME PHYSICAL AND HEALTH NOTES ABOUT MYSELF

Since ancient times, people have recognized that it is necessary to be physically well in order to be able to do their best. All of us should try as much as possible to develop the right health habits so as not to be handicapped by illness. The purpose of this section is to check up on your physical well-being and some of the things you do that affect your health. (It may be necessary to consult your school nurse or family physician when you work on this section.)

1. Age_____ Weight_____ Height_____
   Is my weight in proportion with my height, according to medical charts?
   Yes_____ No_____
   If the answer is "no" place an X in the one of these two spaces that applies:
   Below what it should be_____. Above what it should be_____.
   What may I do to bring my height and weight into the right relationship, if it is necessary to do so?_____

2. What is the condition of my eyesight? (Place an X in one of the three spaces to the right.)
   Can see very well_____
   Can see moderately_____
   Have difficulty in seeing_____
   How may the defects in my eyesight be remedied?_____
   How may good eyesight be retained?_____

3. What is the condition of my hearing? (Check the items that applies).
   Have no difficulty_____
   Have difficulty hearing with one ear_____
   Cannot hear high-pitched sounds_____
   Cannot hear low-pitched sounds_____
   Have difficulty in hearing at a distance_____
   If it is necessary, what may I do to improve my hearing?_____
   _____

4. Do I have a speech impediment?
   Yes_____
   No_____
   Slight_____
   Kind of impediment:_____
   If necessary, how may I overcome the speech difficulty?_____
   _____

5. Do I have any major physical handicaps which should be taken into consideration when I plan for my life work.
   Yes_____
   No_____
   If "yes" name it._____
   _____

6. Is my general health good at this time?
   Very good_____
   Ill occasionally_____
   Frequently ill_____
   If frequently ill, what is being done to correct this condition?_____
   _____
   _____

7. Habits to watch in order to keep my health good:

   a) Sleeping habits:
      How many hours a night do I usually sleep?_____
      Is this sufficient to enable me to be alert during the day?
      Yes_____
      No_____
      If it is not, what are some of the steps I must take in order to get enough sleep?_____
      _____
      What is the value of proper ventilation in a sleeping room?_____
      _____
      How do I provide for the proper amount of ventilation?_____
      _____

   b) Eating habits:
      How many meals do I eat each day?_____
      Do I eat between meals? Yes_____ No_____ Occasionally_____
      Is this a good practice? Yes_____ No_____ Depends upon the circumstances_____
      Explain:_____
      What foods do I like best?_____

      Supplemental activity: Reprinted from My Career Guidebook, pp. 15-17

FIFTH DAY

1. Have a guidance counselor explain the procedures for taking the interest inventory to the students.

2. Administer the inventory. Use some of the following: California Occupational Preference Survey, Ohio Vocational Interest Survey, Cottle Interest Inventory or the Kuder Personal Preference Record. There are other testing instruments, so feel free to utilize any of the other interest tests that meet the needs of your specific school and community.

3. At the conclusion of the testing session, have the students take out their homework. Discuss some of the want-ads and have some read orally. Determine how want-ads can be helpful in locating various jobs. Students are to comment on why specific want-ads appeal to them. Tell the class that as soon as the inventories are corrected, they will match their scores and actual interests with their want-ads to see how they compared.

4. Supplemental activity: If you prefer not getting involved in an interest inventory, then perhaps the Occupational Interest Checklist in the booklet, Successful Devices in Guidance and Counseling will be of value to you.

Materials:

a) Interest inventory surveys: use the California Occupational Preference Survey, Ohio Vocational Interest Survey, Cottle Interest Inventory, Kuder Personal Preference Record, or one of your own personal choice.
b) Want-ads (previous night's homework).
c) Supplemental activity: Occupational Interest Checklist, Successful Devices in Guidance and Counseling, by R. Wagner, (J. Weston Walch Publishing Co., Portland, Maine) 1963, pp. 68-9.

Speaker:

a) A school guidance counselor

The California Occupational Preference Survey (COP) contains 200 items. It can be quickly handscored, and divides the interests of the students into 14 job families. This test can be taken in one class period and is preferred by many people in the field. For further information, write Educational Industrial Service, San Diego, California.

The Ohio Vocational Interest Survey (OVIS) is worthy of note. It contains 280 items and provides each student with his own specialized report. At present, this test cannot be hand-scored. It can be utilized for work later in the school year.

The strong point of the Cottle is it's ability to identify potential school drop-outs. It is not concerned with the different interests of the students. It can be an important tool for the Know Yourself instructor. (Can be quickly hand-scored).

The Kuder Personal Preference Record explores the different interests that students have. Interests are placed in specific categories and explanations are given for each category. Note: This is a pinhole test and may become a tedious experience. This also may be quickly hand-scored.

POSSIBLE SUPPLEMENTARY MATERIALS FOR DAY FIVE

SUCCESSFUL DEVICES IN GUIDANCE AND COUNSELING

Occupational Interest Checklist

To the Student: The following checklist is not a "test," and there are no right and wrong answers. Simply go through the entire list of occupations TWICE, as follows:

a) With a RED pencil, check six (6) occupations that you like BEST (even though you might think you do not have the ability to do them); next,

b) With a GREEN Pencil, check six (6) occupations that you like LEAST and would not like to hold in the future.

The inventory can be taken at leisure. It is NOT timed, but do it quickly or as quickly as you can.

Actor
Accountant
Advertising Agent
Aeronautics Engineer
Air Conditioning Mechanic
Architect
Artist (Painter)
Astronaut
Athlete
Auto Mechanic
Bacteriologist
Banker
Bank Teller
Barber
Beauty Operator
Bookkeeper
Botanist
Bricklayer
Builder (contractor)
Butcher
Buyer (dept. store)
Cabinetmaker
Carpenter
Cashier
Chauffeur
Chemical Engineer
Chemist
Civil Servant (Govt.)
Cleaner or Dyer
Clerk (dept. store)
Clerk (Hotel)
Clerk (Office)
Clerk Sales
Construction Worker
Counselor (Camp)
Counselor (School)
Dancer (Professional)
Dance Instructor
Dental Mechanic
Dental Assistant
Dentist
Detective
Dietitian
Doctor (Physician)
Draftsman
Dressmaker
Editor
Electrician
Engineer and Building Superintendent
Engineer (Electrical)
Engineer (Mechanical
Engineer (Civil)
Engineer (Railroad)
Factory Worker
Farmer
Fashion Designer
Fashion Illustrator
Fireman (City)
Fireman (Railroad)
Florist
Forrester
Gardener
Grocer
Gunner (Navy)
Hostess (Airline)
Hostess (Restaurant)
Housekeeper
Illustrator (Magazine)
Interior Decorator
Industrial Engineer
Insurance Agent
Inventor
Jeweler
Journalist
Judge
Laboratory Technician
Laborer (Semi-skilled)
Laborer (Unskilled)
Lawyer
Librarian
Machinist
Machine Operator
Mail Carrier
Mechanic
Merchant Marine Sailor
Milliner
Minister
Miner
Movie Operator
Musician
Nurse (Practical
Nurse (Registered)
Nurse Supervisor
Occupational Therapist
Officer (Army, Navy, Marines, Air Corps)
Painter (house)
Personnel Manager
Pharmacist
Pilot (Airlines)
Pilot (Air Corps)
Playground Director
Plasterer
Poultry Farmer
Policeman
Priest
Private Secretary

Private Detective
Printer
Prison Warden
Probation Officer
Psychologist
Psychiatrist
Publisher
Rabbi
Radio Repairman
Radio and TV Salesman
Radio or Telegraph Operator
Real Estate Salesman
Refrigeration Service Mechanic
Research Assistant (Scientific)
Restaurant Manager
Restaurant Owner
Roofer
Salesman (Inside)
Salesman (Outside)
Secretary (Office)
Sign Painter
Singer (Professional)
Social Worker
Soldier (non-comissioned)
Stenographer
Supervisor (Dept. store)
Surgeon
Surveyor
Tailor
Taxi or Bus Driver
Teacher (Elementary or high school)
Teacher (College)
Tool Maker
Tree Surgeon
Truck Driver
Typist
Undertaker
Upholsterer
Waiter
Waitress
Watchmaker
Window Dresser
Writer

WRITE IN ANY OTHERS YOU WANT TO MENTION:

_____ _____

_____ _____

_____ _____

_____ _____

_____ _____

Reprinted from Guidance Techniques, R. Wagner, pp. 68-9.

SIXTH DAY

1. Review and if possible, correct the interest inventory in class. Have a guidance counselor define all terms and categories, and interpret the scores of the students. The counselor will answer questions that individual students may have about their scores. Students are to place their answer sheets in their folders.

It is important to have the interest tests corrected as quickly as possible. This is the reason why a hand-scored interest survey is preferred.

2. Have the students relate their interests and scores to specific kinds of occupations. Use supplemental materials for listings of kinds of occupations, as well as for vocational information.

3. Assign library work: Students are to research at least two occupations in which they seem to have some real interest.

4. Provide occupational materials for the students (see mimeographed materials). These materials will assist the class with their research.

5. Supplemental activity: Have the individual students identify at least ten occupations that make use of an interest category in which they achieved a reasonably high score.

6. Take the want-ads out of the folders. Compare them with what the interest test has indicated. Discuss these findings.

7. Supplemental activity: Show the filmstrip, "Preparing for the Job's of the 70's" by Guidance Associates. Discuss and analyze the filmstrip. Ask the class: How do your interests relate to the types of jobs and careers in todays' world? Discuss with the class the importance of jobs with a future.

Suggested Homework Assignment:

Interview one of your parents or another adult with whom you have a good relationship to determine how their interests affected their career plans. Identify local people whom you know who are in jobs that make use of one or more of the interest categories that we studied. Each student is to interview at least one of these people.

Materials:

a) Dictionary of Occupational Titles, U.S. Department of Labor, Vols. I and II.
b) Encyclopedia of Careers and Vocational Guidance, Hopke, William, Doubleday and Co., Garden City, New York, Vols. I and II.
c) Occupational Outlook Handbook, U.S. Department of Labor.
d) Chronicle Occupational Briefs, Chronicle Guidance Publications, Moravia, New York, Vols. I and II.
e) Deciding: A Leader's Guide, Gelatt, Varenhorst and Carey, College Entrance Examination Board, New York, 1972.
f) Desk-Top Career Kit, Careers, Largo,
g) Florida.
g) Occupational Exploration Kit and Career Information Kit, both by Science Research Associates, Chicago, Illinois.
h) Filmstrip, "Preparing for the Jobs of the 70's" Guidance Associates, Pleasantville, New York.
i) Career Awareness Booklet, (15 Job Clusters) King Features, New York, 1973.
j) Mimeographed information, Westside High School Vocational Guidance Program, Newark, New Jersey, 1964, pp. 43 and 68.
k) Mimeographed information, Introduction to Vocations, Beam and Clary, 1967, pp. 16-17.
l) Mimeographed information, Pamphlet, "Finding Your Orbit," by E. Haldeman, R. Hoffman, T. Moore, S. Thomas, Chronicle Guidance Publications, 1966, pp. 37-8.

Speaker:

a) A school guidance counselor

POSSIBLE SUPPLEMENTARY MATERIAL FOR DAY SIX

Summary Checklist

To summarize some of the major points, here is a checklist that may help you in your planning for a career. Write either "yes" or "no" in the space at the left of each question.

_____ 1. Have I weighed the attraction of an immediate job after high school against the long-run benefits of post high school education which will give me greater mobility and the possibility of higher paid entry jobs as well as greater promotional opportunities?

_____ 2. Do I possess the personal characteristics, motivations, and ability needed for the career I have planned?

_____ 3. Have I selected challenging courses in high school that will best prepare me to meet the requirements of the occupation I wish to enter?

_____ 4. Have I performed well in challenging high school courses?

_____ 5. Do I know how much education will be required for the career in which I am interested? How much education would be desirable?

_____ 6. Have I discussed my career plans with my parents?

_____ 7. Have I discussed the occupations in which I am interested with people now engaged in these occupations?

_____ 8. Have I consulted some of the following or similar publications?
a) Dictionary of Occupational Titles, Vol. I and II (Washington; U.S. Department of Labor, Bureau of Employment Security, 1965), see annual supplements.
b) Occupational Outlook Handbook, (Washington; U.S. Department of Labor, Bureau of Employment Security, 1973.)
c) Occupational Outlook Quarterly, (Washington; U.S. Department of Labor, Bureau of Labor Statistics, latest issue).
d) Elmer Winter, Women at Work; Every Woman's Guide to Successful Employment, (New York; Simon and Schuster, 1967.)

_____ 9. Do I know the requirements for entering the occupations in which I am interested?

_____10. Do I know the kind of activities a worker will perform in these occupations?

_____11. Am I aware of the current trends in the occupation I believe I will enter?

_____12. Will the occupation really challenge me to use my abilities, interests, and efforts?

_____13. In conclusion, have I carefully considered all of the points that apply to the selection of a particular occupation as a life career? The following points are especially important:

a) Do my personal interests and qualities seem to fit the working requirements of the occupation?

b) Do I have the necessary physical abilities to do well in the occupation?

c) Do I have the necessary ability to learn and grow in this particular job?

d) Knowing the working conditions of this particular occupation, have I the ability to control my feelings and make allowances for the behavior of other people with whom I will be required to work?

e) In all of my thinking, have I kept in mind a sound interpretation of vocational success?

Reprinted from My Career Guidebook, pp. 33,51-3.

VOCATIONAL GUIDANCE UNIT

Guide For Study Of An Occupation

I. Title Page
   - A. Title
   - B. Name of Student
   - C. Class
   - D. Teacher
   - E. Date

II. Table of Contents

III. Duties of the worker
   - A. Actual Work Performed
   - B. Outline of a Typical Day's Work

IV. Requirements for Entering
   - A. Education and Training Necessary
   - B. Where it Can Be Secured
   - C. Entrance Requirements
   - D. Apprenticeship
   - E. Union Membership
   - F. Examination
   - G. Other

V. Working Conditions
   - A. Hours
   - B. Health and Accident Hazards
   - C. Type of Work
   - D. Physical or Mental Effort Required
   - E. Effect on Lives of Workers

VI. Qualifications of Worker
   - A. Personal
   - B. Character
   - C. Physical
   - D. Related Activities

VII. Economics of the Job
   - A. Growing Occupation
   - B. Crowded
   - C. Seasonal
   - D. Entering Salary
   - E. Salary Range
   - F. Pension
   - G. Fringe Benefits

VIII. Opportunities
   - A. For Placement
   - B. For Experience
   - C. For Apprenticeship
   - D. For Advancement
   - E. For Training

VOCATIONAL GUIDANCE UNIT

Report of an interview with a worker in an occupation which interests me.

Name of person interviewed_____

Date_____ Occupational Title_____

Name of Employer_____

I. Duties

II. Requirements for Entering
- A. Training or Education
- B. Where Can Training be Secured
- C. Examination Required
- D. Apprenticeship Required
- E. License Required
- F. Union Membership Required

III. Qualifications
- A. Personality Traits
- B. Physical
- C. Personal

IV. Opportunities
- A. Is the Field Crowded?
- B. Is Occupation Gaining in Importance?
- C. Are Workers in Demand?
- D. Beginning Salary?
- E. Advancement Possible?
- F. Training Offered on the Job?
- G. Scholarship?
- H. Tuition Refund?

V. Best Features of the Job?

VI. Disadvantages of the Job?

VII. How did Worker Get this Job?

VIII. Advice to One Entering the Job?

IX. Comments

Reprinted from the Westside High School Guidance Program, Newark, New Jersey, 1964, p. 43 and p. 68.

OCCUPATIONAL INFORMATION SHEET

I. Summary of Duties: _____

II. Personal Requirements: _____

III. Working Conditions: _____

IV. Educational and Training Requirements: _____

V. Facts Concerning This Occupation:

a) Hours _____
b) Salary _____
c) Working Conditions _____
d) Method of Entry _____
e) Outlook for Future _____
f) Related Occupations _____

VI. Sources for Additional Information _____

High School Subjects Needed

English
History
General Science
Physics
Chemistry
Biology
General Math
Algebra
Plane Geometry
Trigonometry and Social Geometry
French
Spanish
Latin
Art
Music
Home Economics
Bookkeeping
Typing
Shorthand
Auto Mechanic
Metal Shop
Wood Shop
Mechanical Drawing
Physical Education

_____

On-the-job Training
Special Training
Trade School
Apprentice Training
Business College
2-3 year Special Training College
Graduate School

Reprinted from Knowing Your Orbi
pp. 39-40.

SUGGESTED FORM FOR STUDYING AN OCCUPATION

Name_____

Date_____

Complete the blanks or underline either "yes" or "no."

I. Classification of the Job:
   A. General_____
   B. Specific Branch_____
   C. Name of the Particular Job_____

II. Description of the Work on the Job (List a minimum of five duties)
   A. _____
   B. _____
   C. _____
   D. _____
   E. _____
   F. _____
   G. _____
   H. _____
   I. _____
   J. _____

III. Education or Training Need for the Job
   A. What skills do you need:
      1. _____
      2. _____
   B. What courses in high school would help to prepare you for this job?
   C. Where can you get the training needed for this job?
      1. _____
      2. _____
      3. _____

IV. Personality Traits, Interests, Aptitudes, etc. needed for the job.
   A. _____
   B. _____
   C. _____
   D. _____
   E. _____
   F. _____
   G. _____
   H. _____
   I. _____

V. Demand for Workers in This Job
   A. Are additional workers needed now in this occupation? Yes or No
   B. Will still more workers be needed in the future? Yes or No
   C. Is it considered a bright future, status quo or dead-end job? (Underline which)

VI. Promotion

A. Are there opportunities for promotion?

B. What appears to be the steps of promotion?

1. _____
2. _____
3. _____
4. _____

C. Must one get additional training to qualify for promotion? Yes or No

1. Formal Yes or No
2. Informal Yes or No
3. Apprentice Training Yes or No

D. Are there related occupations to which this job may lead either with or without more training? Yes or No

What are some of these: _____ _____

_____ _____

VII. Earnings

A. Beginning wage (underline per hour, per day, or per week $_____

B. Wage earned by most of the workers? _____

C. Highest wage? _____

D. Is there usually a vacation with pay? _____

E. (Other benefits) _____

_____

VIII. Hours of Work

A. How many hours on the average would one work in this job?

1. Daily_____
2. Weekly_____

B. Is there additional pay for overtime work? Yes or No

C. Are there seasonal lay-offs? Yes or No

IX. Health and Safety

A. Are there health dangers involved? Yes or No

If so, what kind?_____

_____

B. Is there a high accident rate on this job? Yes or No

C. What safety precautions must be taken?

1. Wear protective clothing? Yes or No
2. Check guards on the machines and equipment? Yes or No
3. Obey safety rules of the firm? Yes or No

X. Employee Organizations of a full-time worker

A. Would you be expected to join a union? Yes or No

B. Would you be expected to join an employee organization other than a union? Yes or No

XI. Services to the Community (How do workers in this job serve the community)?

A. _____

B. _____

C. _____

D. _____

E. _____

XII. Firms in our town or county where this type of job would be available? (List a minimum of three)

A. _____

B. _____
C. _____
D. _____
E. _____

XIII. How does this job interest your?
Appealing_____ Disappointing_____ No interest_____
Why?_____

Reprinted from Introduction to Vocations, pp. 15-19.

SEVENTH DAY

1. Review yesterday's work:
   a) Using the answer key provided, correct the interest inventory.
   b) Explanation of the test scores
   c) Ask the students what they found out about themselves.
   d) Occupational materials

2. Have the guidance counselor talk to the class about aptitude and achievement scores. These topics should be related to the interest test of the previous day.

3. Half of the class will go to the school library/media center to continue researching occupations and careers that appeal to them.

4. The other half of the class will remain in the classroom. They will continue doing research and will utilize materials such as career kits, that the teacher has borrowed from the school library or media center. A guidance counselor will be in the class with the remaining students. (Two counselors rather than one would be preferable.) The counselor will meet with each student individually. He will go over their interest scores, as well as their most recent achievement and aptitudes tests. Grades, school absences, and the school record of each student will also be discussed at this time. This activity will provide each individual with an opportunity to appraise his school history and to become familiar with his test scores.

Materials:
a) Secondary School Student Record
b) Refer to the activities and materials of Day 6.

Speaker:
a) School Guidance Counselor

Arrangements for library usage to be made in advance. The teacher will either have to accompany these students to the library or have some other faculty member agree to accompany these students and to be responsible for them.

The guidance counselor will bring to class with him the following items:
a) student records
b) students' test scores

Notes:
Allow students to see and keep a blank school record form.

TYPICAL SECONDARY SCHOOL RECORD

Student Information:

Last Name | First | Middle

Address | City | State | Zip Code

Sex: Male ( ) Female ( )

Age | Date of Birth

Parent or Guardian | Address | City/State

School Information:

Name of School

School Address | City/State | Zip Code

Public School ( ) Non-public School ( )

School Telephone

School Accredited By: State System ( ) Regular Accredited Association ( )

Student Enrollment: _____ Passing Grade: _____

Class Record:

Year	Subjects	1st Sem.	2nd Sem.	Final	Credits	
9						Honor Courses: Outstanding Awards and Activities:
10						Rank in Class: __ Based on __ Semester Exactly ( ) Approximately ( ) In Class of: _____ Final Rank: _____
11						Explanation of Grading System:

Year	Subjects	1st Sem.	2nd Sem.	Final	Credits	
12						Comments:

Name of Standardized Test	Date Taken	Raw Score	Present Score

Health Record:

Is this student in good health? Yes ( ) No ( )

Days Present: This Year _____ Absent _____

Tardy _____

Last Year: Days Present _____ Absent _____

Tardy _____

Additional Information: _____

_____

_____

_____

_____

_____

_____

_____ _____

Signature of School Official Title

Martin J. Kornfeld, Herbert Hoover Junior High School,
Edison, New Jersey

KY 40

EIGHTH DAY

1. Review and discuss the activities of yesterday.

2. Continue with the research projects. The half of the class that went to the library yesterday, will remain today. It will be the reverse for the other half of the class. The counselor or counselors will follow the same procedures as outlined in day seven.

Suggested homework assignment:
Keep working on your Know Yourself projects which were assigned on Day Two. Bring in some of your materials for this project to discuss with the class.

Arrange coverage for the half of the class that will be working in the library.

Remind class of their projects which had been assigned on Day Two. Use this homework assignment as a sort of a check up, and to determine how the class is progressing on this assignment.

NINTH DAY

1. Briefly review the class projects. Offer assistance where needed and compliment each individual where progress has been indicated.

2. Ask the class: What do you know about applying for a job? Place their responses on the chalkboard.

3. Define terms relating to finding and getting a job:

applicant	interview
employee	job application
employer	social security card
employment agency	working papers
New Jersey State Employment Services	

4. Have students place these definitions in their notebooks. Ask if anyone in class has ever obtained working papers. Describe the processes of getting working papers, promise of employment, and physical examination. Discuss why job application forms are important. Name different types of information that you would expect to find on a job application. Place the answers of the class on the chalkboard. Discuss why each of these items would appear on an application.

5. Have the class complete a sample job application. Questions that cannot be

completed in class, are to be researched and finished for homework. (see mimeographed forms for sample job application)

6. Discussion questions: Why would a company want to know all this information about a prospective job applicant? Why do they need to know about your medical history? Are personal references important? Why? Whom should they be? Whom should they not be?

7. Supplemental activity: Either visit a local State Employment Service or have a speaker from a State Employment Agency talk with your class.

Arrangement for these activities should be made far in advance.

Suggested homework assignment:
Job application forms are to be completed at home. Know Yourself Cycle projects are due tomorrow, Day Ten. They will be gone over in class. Remind the class that there will be a guest speaker tomorrow. A personnel manager from a local company will speak to them about applying for a job, the job application, and the job interview.

Materials:
a) Mimeographed information, "Dictionary of Application Form Words," How To Get A Job, Educational Design, Inc., Addison-Wesley Publishing Company, 1966.
b) Mimeographed information, "Employment Application," How To Get A Job, pp. 123-4.
c) Mimeographed information, "Application for Employment," Booklet, Finding A Job, J. Lenox, State of New Jersey, Department of Vocational Education, 1969, pp. 39-40.

TENTH DAY

1. Review the job application blanks. Discuss any items that the class found difficult to complete.

Make sure to allow ten minutes at the conclusion of the period for the post-inventory survey.

2. Go over the cycle projects, discuss briefly and collect.

3. "Give-aways:" Provide the class with a miniature job application form that can be kept in either a wallet or a purse. See: Miniature Job Application Form in supplementary materials. The students are to complete this application at their leisure. It should be kept in the purse or wallet for safekeeping and reference.

4. Introduce the guest speaker. Cite his background, work experiences, accomplishments and position with his company.

5. Speaker's presentation will cover:
   a) applying for a job
   b) the job application
   c) the job interview

6. A question and answer period will follow the presentation.

7. Supplemental activity: Under the watchful eyes of the guest speaker and the class, have students role-play a job interview. This will provide the class with a simulated activity. One student will act as the employer, and another as the potential employee.

8. Supplemental activity: Simulate a job interview. If the guest speaker is willing, have him interview a student in the class, as through the student as actually applying, which provides the entire class with an opportunity to observe a job interview under "real" circumstances.

9. Conclude the unit by administering the post-inventory survey.

Materials:
a) Mimeographed information, Miniature Job Application Form, B. Novick, Woodbridge Public Schools, Woodbridge, New Jersey 1970.

Speaker:
a) Personnel director from a local company.

SUPPLEMENTARY MATERIALS FOR DAY NINE

Dictionary of Application Form Words

1 Here are 27 items people sometimes have trouble with when filling out application forms. Each one is listed under the heading where it usually appears.

Study the list until you know the meaning of each word and feel you could answer a question like the sample question. Later, when you fill out application forms, you may refer to this list if you forget the meaning of a word.

ABOUT YOUR PERSONAL HISTORY

Approximate	Not exact, as in "Approximate amount of time at this address." Typical answer if you have lived there 12 years and 3 months; "12 years."
Capacity	Job title or position, as in "Is spouse employed? In what capacity?"
Dependent	Needing the help of someone else, as in "Are you dependent on anyone for support?" Also A person you support, as in "How many dependents do you have?"
Excluding	Not counting, as in "What clubs do you belong to, excluding those of a religious or racial nature?"
Marital Status	Whether you are single, married, widowed, divorced, or separated, as in "What is your marital status?"
Minor	Legally, not an adult - usually under 21, (in New Jersey now 18), as in "Give number of minor children."
Particulars	Details, as in "Have you ever been arrested?" "Give particulars."
Permanent Address	Where you usually live, as in "Present address_____" or "Permanent address_____." Typical answer if you live in Cleveland, but now are staying at a boarding house in Detroit: "Permanent address 11307 Euclid Avenue, Cleveland, Ohio."
S M W D Sep	Single, married, widowed, divorced, separated
SS Number	Social Security Number

ABOUT YOUR HEALTH

Chronic ailments	Illnesses of a lasting nature. Examples: ulcers, anemia, etc.
Disabilities	Parts of the body you don't have full use of. Examples: Crippled hand, loss of an eye.
Occupational injuries	Injuries you got while on your job. Example: foot broken when packing box fell on it.
Physical defects	All chronic ailments and disabilities.
Physical limitations	Anything which might prevent you from doing the work expected. Examples: Wear glasses, have bad back.

ABOUT YOUR EDUCATION

Academic rating	Class standing or grades, as in "What was your academic rating?" Typical answers: "25th of 125," B-," "86 average."

ABOUT YOUR WORK EXPERIENCE

Bonded	Insured against stealing from the company you work for, or losing its money or other valuables, as in "Have you ever been bonded?" Example: bank tellers and some maids are bonded.
Discharged	Fired, as in "Have you ever been discharged?"
Final wage rate	What you were being paid when you left the company, as in "What was your final wage rate?"
Immediate supervisor	Boss directly above you, as in "Who was your immediate supervisor?"
Initial wage	What you were being paid when you joined the company, as in "What was your initial wage rate?"
Previous	The one or ones before, as in "List all previous employers."
Principal	Chief or main, as in "Principal duties."
Security clearance	An OK for loyalty, honesty, etc., by the government so you can do certain kinds of work, as in "Have you ever been granted a security clearance?"

ABOUT THE JOB YOU WANT

Minimum	Least amount, as in "Minimum salary that you feel you could accept: _____?"
Preferred	One you would choose, as in "Position preferred."
Ultimate goal	What job you want to have after 20 or 30 years, as in "What is your ultimate goal in a career?"

Reprinted from How To Get A Job, Addison-Wesley Publishing Company, 1966.

EMPLOYMENT APPLICATION

PERSONAL

Name (print)_____ Soc. Sec. No._____
Last First Middle

Present Address_____ Phone_____
No. Street City Zip Code State

Last previous address_____ U.S. citizen?_____

If you have any physical defects, state the nature _____

Height_____ Weight_____ Single ☐ Married ☐ Widowed ☐ Divorced ☐ Separated ☐

Present draft classification_____ Number of dependent children _____

Their ages_____ Number of other dependents_____ Relationship_____

EDUCATION

Type of School	Name & Address	Year Started	Year Left	Graduated (Degree)	Course or Major
Grammer					
High or trade school					
College or university					
Other					

MILITARY

Branch of military service_____ From____ To____ Type of discharge____

Training _____

PLACEMENT

Position wanted_____ No. of years experience in this work___

Other skills_____

Starting pay expected_____ Date available for work_____

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WORK HISTORY (List in order, last or present employer first)

Employer	Rate of Pay	Type of Work	Reason for Leaving	Dates From	Dates To
Name					
Location					
Supervisor					
Name					
Location					
Name					
Location					

PERSONAL REFERENCES (not employers or relatives)

Name	Address	How Long Known

Date_____ Signature_____

DO NOT WRITE BELOW THIS LINE

Comments_____

A. Interviewed by_____ Date_____ C. Interviewed by_____ Date_____

B. Interviewed by_____ Date_____ D. Interviewed by_____ Date_____

APPLICATION FOR EMPLOYMENT

PERSONAL INFORMATION

Date _____ Social Security Number _____

Name _____ Age _____ Sex _____
Last First Middle

Present Address _____
Street City State

Permanent Address _____
Street City State

Phone No. _____ Own Home Rent Board

Date of Birth _____ Height _____ Weight _____ Color of Hair _____ Color of Eyes _____

Married Single Widowed Divorced Separated

Number of Children _____ Dependents Other Than Wife or Children _____ Citizen of U.S.A. Yes ☐ No ☐

If Related to Anyone in Our Employ, State Name and Department _____ Referred By _____

EMPLOYMENT DESIRED

Position _____ Date You Can Start _____ Salary Desired _____

Are You Employed Now? _____ If So, May We Inquire Of Your Present Employer _____

Ever Applied To This Company Before? _____ Where _____ When _____

EDUCATION	Name and Location of School	Years Attended	Date Graduated	Subjects Studied
Grammar School				
High School				
College				
Trade, Business or Correspondence School				

Subjects of Special Study or Research Work _____

What Foreign Languages Do You Speak Fluently? _____ Read _____ Write _____

U. S. Military or Naval Service _____ Rank _____ Present Membership in National Guard or Reserves _____

Activities Other Than Religious, Civic, Athletic, Fraternal, Etc. _____

FORMER EMPLOYERS (List below last four employers, starting with last one first)

Date Month and Year	Name and Address of Employer	Salary	Position	Reason for Leaving
From				
To				
From				
To				
From				
To				
From				
To				

REFERENCES. Give below the names of three persons not related to you, whom you have known at least one year

	Name	Address	Business	Years Acquainted
1				
2				
3				

PHYSICAL RECORD:
List Any Physical Defects _____

Were You Ever Injured? Give Details _____

Have You Any Defects in Hearing? In Vision? In Speech? _____

In Case Of Emergency, Notify _____
Name Address Phone No.

I authorize investigation of all statements contained in this application. I understand that misrepresentation or omission of facts called for is cause for dismissal. Further I understand and agree that my employment is for no definite period and may, regardless of the date of payment of my wages and salary, be terminated at any time without any previous notice.

Date Signature _____

DO NOT WRITE BELOW THIS LINE

Interviewed By _____ Date _____

REMARKS: _____

Neatness		Character	
Personality		Ability	

Hired _____ For Dept. _____ Position _____ Will Report _____ Salary Wages _____

Approved: 1. _____ 2. _____ 3. _____

Employment Manager Dept. Head General Manager

Personal Data

Date of Birth_____
Place of Birth_____
Social Security #_____
Driver's License: Yes_____ No_____
Marital Status_____
Father's Name_____
Father's Place of Employment

_____
Mother's Maiden Name_____
Mother's Place of Employment

_____
Height_____Weight_____Health_____
Glasses: Yes_____ No_____
Hearing Aid: Yes_____ No_____
Major Diseases or Accidents you have had_____
In case of emergency, contact:
Name_____
Address_____
Phone_____

Education

Elementary School_____
Junior High School_____
High School_____
Year of Graduation_____
Honors_____
Grades in English___Math___
Science___Business_____
Voc. Ed._____Other_____
College_____
Major(s)_____
Minor(s)_____
Year of Grad._____
Degree_____
Honors_____
Other Training_____
Languages: I speak_____
I write_____
I read_____
Special Skills (typing, key punch, mechanic, etc._____

_____

Employer_____
Address_____
City____State_____
Zip_____
Immediate Supervisor

_____
Job Title

_____
Description of Job

_____
Date Started_____
Ended_____

Employer_____
Address_____
City____State_____
Zip_____
Immediate Supervisor

_____
Job Title

_____
Description of Job

_____
Date Started_____
Ended_____

Employer_____
Address_____
City____State_____
Zip_____
Immediate Supervisor

_____
Job Title

_____
Description of Job

_____
Date Started_____
Ended_____

References (at least three)

Name_____
Address_____
City_____State_____Zip____
Occupation_____
Tel. No._____
Relationship_____

Name_____
Address_____
City_____State_____Zip____
Occupation_____
Tel. No._____
Relationship_____

Name_____
Address_____
City_____State_____Zip____
Occupation_____
Tel. No._____
Relationship_____

MAKE APPOINTMENTS

DRESS PROPERLY

BE ON TIME

SPEAK CLEARLY

WRITE CAREFULLY

GOOD LUCK!!

I AM

Name_____
Address_____
City___State_____
Zip_____P
Phone_____

MINIATURE EMPLOYMENT APPLICATION INFORMATION

Note: Fold in half, then in thirds.

KNOW YOURSELF CYCLE

Student Information Questionnaire

This questionnaire should be completed by the students during either the second or the third cycle. It should be given again in May or June, during one of the concluding cycles. Hopefully, this questionnaire will provide information which will assist in updating and evaluating the Introduction to Vocations program.

NAME:_____ DATE:_____

1. What do you like the most about the Introduction to Vocations program?

   a) I get to go on field trips.
   b) It is not a difficult course.
   c) I'm learning about different vocations
   d) I get the opportunity to work on different projects.
   e) Other reasons:

2. How would you describe your work in this class?

   a) I'm an excellent worker
   b) I'm a good worker
   c) I'm a fair worker
   d) I'm a lazy worker
   e) I'm a poor worker

3. What type of worker would you be if you had a part-time job?

   a) excellent
   b) good
   c) fair
   d) lazy
   e) poor
   Why:_____

4. If you had a choice, would you prefer working:

   a) with your hands
   b) with your hands and feet
   c) with your mind
   d) all of the above

5. Would you prefer working in:

   a) large groups
   b) small groups
   c) with one other person
   d) by yourself
   Why:_____

6. Where would you prefer working?

a) in a factory or shop
b) out-of-doors
c) in an office
d) someplace where I could be indoors part of the time, as well as outdoors.

7. Which cycle was of the least interest to you?_____

Why:_____

8. Which cycle has been the most interesting to you?_____

Why:_____

9. What do you think of the field trips?

a) a waste of time
b) fine, but I did not learn anything
c) they were interesting
d) very good, and I learned a great deal

10. Has the Introduction to Vocations program prepared you at all for the future? Yes/No_____. If yes, explain your answer_____

11. What educational plans do you have for the future?

a) none at present
b) drop out of school
c) finish high school
d) technical, vocational, or business school
e) college

12. Would you recommend the Introduction to Vocations course to friends of yours who may be eligible to take it next year. Yes/No_____. Why? Why Not?_____

Any other comments:_____

Martin Kornfeld, Herbert Hoover Junior High School, Edison, New Jersey.

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Wagner, Rudolph, Successful Devices in Guidance and Counseling, Portland, Maine: J. Weston Walch Publisher, 1963.

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Films:

"Choosing Your Occupation," Coronet Films, Coronet Building, Chicago, Illinois, 60601.

"The Big Question--Choosing Your Career," Associated Films, 347 Madison Avenue, New York, New York 10017.

NOTE: Neither of these films appear in this cycle. However, both are worthy of use and should be considered for any "Know Yourself" Cycle.

Filmstrips:

"Getting Along With Yourself," Eye Gate House, Inc., 146-01 Archer Avenue, Jamaica, New York.

"Likes and Dislikes," Eye Gate House, Inc., Jamaica, New York.

"Dropout--Road to Nowhere," Eye Gate House Inc., Jamaica, New York

"Preparing for the World of Work," Guidance Associates, Pleasantville, New York.

"Values for Teenagers, the Choice is Yours," Guidance Associates, Pleasantville, New York.

Kits:

"Chronicle Occupational Briefs," Vols. 1 and 2, Moravia, New York. Chronicle Guidance Publications, Inc. (in-loose-leaf booklet form)

"Desk Top Career Kit," Careers, Largo, Florida.

"Occupational Exploration Kit," Science Research Associates, Chicago, Illinois.

"Widening Occupational Roles Kit," Grades 7-9, Science Research Associates, Chicago, Illinois.

ENVIRONMENTAL CYCLE

INTRODUCTION

This cycle has been written to assist teachers and students studying conservation and environmental occupational opportunities. It is hoped that through the teaching of this cycle, students and teachers alike, will gain a better understanding of the crisis in the environment which today is confronting not only the United States, but the world as well. Meeting this crisis will increase the kinds of jobs and a wide range of employment opportunities.

By using the various forms of media, guest speakers, suggested field trips, selected topics encompassing careers in the environment, suggested activities and hands on activities, and through class discussion, the teachers and students will become aware of the careers in the environmental fields. They will be made aware of ways by which they can improve the environment through conservation now. They will also be made aware of careers for which they can prepare themselves and which may improve the environment in the future.

OBJECTIVE

1. To develop an awareness of the many and varied careers in the environmental fields and to become aware of the educational requirements and preparations needed to enter and pursue careers in this field.

SPECIFIC OBJECTIVES

1. Students should be able to list five careers in the environmental fields.

2. Students should be able to briefly explain or discuss one of the careers they have listed, using any of the following methods:

   A. Orally discussing the career.
   B. Writing about the career.
   C. Presenting a video tape, super 8 film, or slide presentation on the career.
   D. Presenting posters illustrating the career.

3. Students should be able to describe the kinds of training needed for the career they selected to present.

TEACHERS: Please read these questions aloud with the students before administering the inventory.

ENVIRONMENTAL CYCLE

PRE AND POST INVENTORY

Teacher's Copy
*Indicates correct answer

Have the student circle a letter in the left column for the correct answer.

1. The aquatic biologist:
   a) Studies the interaction of plants and animals living in water.
   b) Studies water temperature, oxygen content, light and food availability.
   c) Studies methods of achieving or maintaining the environmental balance.
   *d) All of the above.
   e) None of these.

2. The biochemist studies all living organisms and their chemical and biological processes.
   *a) True
   b) False

3. The biochemist studies the impact of chemical changes on plants and animals.
   *a) True
   b) False

4. The biophysicist:
   a) Is concerned with the physical principles of living organisms and living cells.
   b) Studies the response of organisms to such physical forces as heat, light, radiation, sound and electricity.
   *c) All of these.
   d) None of these.

5. The biostatistician is particularly interested in descriptive, measurable data pertaining to animals, plants, and the life processes of humans.
   *a) True
   b) False

6. The biostatistician attempts to identify significant relationships among groups of living organisms. These

may lead to a better understanding about the causes of illness, the effectiveness of disease prevention techniques, and immunization programs.

*a) True
b) False

7. The cytologist studies parts of living cells as well as the details of cell division into new cells.

*a) True
b) False

8. The geneticist:

a) Studies the characteristics of plants and animals.
b) He is involved in the physiological improvement of plants and animals.
c) Studies the genetic processes that determine animal, plant, or human traits and characteristics and the factors that can cause malfunctions or distortions.
*d) All of these.
e) None of these.

9. The microbiologist:

a) Studies the growth, structure, and general characteristics of bacteria, viruses, molds, and other organisms of microscopic size.
b) He conducts experiments by isolating and making cultures of bacteria or other micro-organisms.
*c) All of these.
d) None of these.

10. The pathologist diagnoses and researches the nature, cause and development of disease.

*a) True
b) False

11. The ecologist is concerned with the relationship between life and the immediate surroundings.

*a) True
b) False

12. The animal ecologist studies the life cycles of animals and attempts to determine how environmental factors such as plant growth, moisture, weather and altitude affect the existence of various groups.

*a) True
b) False

13. Animal husbandry is primarily concerned with the production and care of domesticated animals.

*a) True
b) False

14. The animal husbandryman conducts research into the breeding, selection, feeding and marketing of livestock and poultry.
*a) True
b) False

15. Insects that carry disease or spoil food products are subjects studied by entomologists.
*a) True
b) False

16. The entomologist studies, identifies, and classifies the various types and kinds of insects.
*a) True
b) False

17. The pharmacologist:
a) Studies the effect of drugs, gases, poisons, dust, air pollution, and other substances upon the functioning processes of living tissues and organs.
b) Conducts tests and relates the findings of his research with other medical data and information.
*c) All of these.
d) None of these.

18. The physiologist:
a) Studies and conducts research pertaining to the structure and functions of animal organs, tissues, and cells.
b) Studies the life processes and the effect of these processes as they relate to environmental problems.
c) Studies cell growth.
d) Studies the organ systems such as the reproductive system or the nervous system.
*e) All of these.
d) None of these.

19. The zoologist:
a) Studies animals, their life origins, and their life processes.
b) Studies about animal diseases, parasites, and behavior patterns.
c) Specializes in the study of certain kinds or classes of animals such as birds, mammals, and fish.
*d) All of these.
e) None of these.

20. The agronomist is concerned with field crop problems.
*a) True
b) False

21. The agronomist strives to maintain or increase crop-yield.
*a) True
b) False

22. The botanist studies all aspects of plant life.
*a) True
b) False

23. The botanist is not concerned with heredity or the physiology of plants, but is more interested in the economic value of plant life.
a) True
*b) False

24. The forest ecologist:
a) Conducts research and studies vegetation, plants, trees, and environmental factors that affect the forest.
b) Attempts to determine what conditions account for the presence or absence of different varieties of trees.
c) Studies specific tree classification and plant life history.
d) Is interested in the light and soil requipments and the resistence to disease and insects of different species of trees.
*e) All of these.
f) None of these.

25. The horticulturist is interested in the development of new and improved varieties of commercial plants.
*a) True
b) False

26. A bachelor's degree with a major in one of the life sciences is a basic requirement for an entry-level position as a life scientist.
*a) True
b) False

27. Students planning a professional career in the life sciences should obtain advanced degrees, preferably a Ph.D. in a specific area.
*a) True
b) False

28. Because the earth's crust is one of the major components of our environment, the work of the geologist is to study it.
*a) True
b) False

29. The assayer analyzes the results of tests on ores and alloys and determines the values and properties of precious metals.
*a) True
b) False

30. The geodesist prepares topographical maps and establishes known points of elevation.
*a) True
b) False

31. A geophysicist:
a) Studies and analyses the earth's atmosphere and hydrosphere to determine the effect that changing climate, radiation, pollution and electrical conditions have on the earth.
b) Studies and analyses the structure and composition of the earth's interior.
c) Studies the origins of glaciers, volcanoes, and earthquakes.
d) Contributes knowledge toward the solution of major environmental problems.
*e) All of these.
f) None of these.

32. The hydrographer performs most of his work outdoors studying water problems.
*a) True
b) False

33. The meteorologist plays an important role in the analysis of air pollution problems.
*a) True
b) False

34. An oceanographer spends varying amounts of time at sea studying the ocean, its contents, and its movement.
*a) True
b) False

35. The seismologist studies the earth's interior and the vibrations of the earth caused by earthquakes, volcanic eruptions and man-made explosions.
*a) True
b) False

36. A soil scientist often examines and solves problems such as soil drainage and soil usage, and does most of his work outdoors.
*a) True
b) False

37. A camp counselor directs recreational and vocational activities of children and adults and does most of the work outdoors.
*a) True
b) False

38. A camp counselor's work may be very demanding.
*a) True
b) False

39. A humanities teacher can be helpful in directing student's attention to environmental problems.
*a) True
b) False

40. Much of the work of a hydraulic engineer is done in an office or a laboratory, but does at times involve fieldwork.
*a) True
b) False

41. An industrial health engineer works mostly inside reporting on health conditions in a plant or industry.
*a) True
b) False

42. A mechanical engineer may work in the area of pollution problems.
*a) True
b) False

43. Workers in environmental health may find themselves working in an office, hospital, laboratory, plant or in the field.
*a) True
b) False

44. There are a great number of different occupations concerned with health and environment.
*a) True
b) False

45. Most people involved in environmental health are employed by various governmental agencies or by private companies.
*a) True
b) False

46. Many jobs in environmental health may be entered at the technician level.
*a) True
b) False

47. A field health officer works both indoors and out and often has to travel a great deal.
*a) True
b) False

48. The industrial hygienist must prepare reports, start educational programs, and make recommendations for prevention of industrial hazards.
*a) True
b) False

49. A sanitarian:
a) Is concerned with planning for the cleanliness, safety, and enforcement of laws concerning handling, dispensing, and consuming of foods.
b) Works closely with other health specialists.
c) May work in sewage disposal plants or land fill areas.
*d) All of these.
e) None of these.

50. A toxicologist identifies the effects of air and water-borne agents on the health of workers and residents in a particular area.
*a) True
b) False

51. The landscape architect plans, designs, and supervises the changing of land areas into useful and attractive sites.
*a) True
b) False

52. The landscape architect is involved with the planning of parks, playgrounds, shopping centers, resorts, campgrounds, and homes.
*a) True
b) False

53. The majority of urban planners are employed by local units of government such as city, county, and metropolitan areas.
*a) True
b) False

54. List five occupations in environment where one would be working outside in the field. Teachers: The answers to these may be found in preceeding or following questions.
a)
b)
c)
d)
e)

55. List five occupations in environment where one would be working inside in an office, lab or plant.

a)
b)
c)
d)
e)

Teachers: The answers to these may be found in preceeding or following questions.

56. The fish and game warden is primarily involved with maintaining and protecting the laws that govern use of national resource areas.
*a) True
b) False

57. A fish and game warden may serve warrants, make arrests, prepare and present evidence for court actions when violations occur.
*a) True
b) False

58. The work of a forester is often highly physical and requires constant exposure to all kinds of weather.
*a) True
b) False

59. Oceanographers may work in an office part of the time or aboard a ship where they use diving equipment doing research.
*a) True
b) False

60. The park naturalist is involved in educational programs dealing with the preservation of the environment.
*a) True
b) False

61. The range manager writes reports and provides forms of technical assistance about grazing lands.
*a) True
b) False

62. The soil conservationist plays an important role in preventing soil deterioration.
*a) True
b) False

63. The environmental inspector frequently must act in an advisory capacity to a company that may be on the verge of committing a violation of the pollution laws.
*a) True
b) False

64. The food and drug inspector inspects companies that sell, process, handle, or store products for consumer use.
*a) True
b) False

65. The incinerator plant attendant works both inside and out, and is exposed to all kinds of weather.
*a) True
b) False

66. The work of a gardener is done outdoors and is hard physical work.
*a) True
b) False

67. A custodian is in a position to control sources of waste.
*a) True
b) False

68. The refuse collector has a very important job.
*a) True
b) False

69. Environmental control will take place when humans stop polluting the world in which they live.
*a) True
b) False

70. By 1980....three times as many environmental professionals will be needed.
*a) True
b) False

71. What kinds of people will be hired for environmental control?
a) College trained people
b) Old people
c) High school graduates
*d) All kinds of people with all kinds of skills and education

72. A balanced environment will be possible:
a) When man uses his environment for his benefit.
*b) When it is possible for the environment to keep renewing itself.
c) When man uses all of his natural resources until there are none left.
d) None of the above.

73. An example of a balanced environment is when the sun shines on the trees, causing them to grow, it changes carbon dioxide and water into oxygen and carbohydrates. Animals and people breathe the oxygen and eat the carbohydrates produced. People give off the carbon dioxide the plants need which completes the cycle of a balanced environment.
*a) True
b) False

74. Water pollution takes place:
*a) When there is not enough oxygen in the water for plants and fish.
b) When there is an abundance of fish and plant life.
c) When a perfect balance in the environment exists.
d) When man carefully uses water products.

75. Which of the following cause noise pollution:
a) Jet planes
b) Trucks
c) Construction machinery
*d) All of the above

76. Federal, state and local governments are spending more and more money every year on:
a) Using natural resources until there are none left.
*b) Environmental control.
c) Making artifical environments.

77. One way you can find out more about jobs in environmental control is through a federal job information center.
*a) True
b) False

78. The Environmental Protection Agency has hundreds of jobs for all levels of workers.
*a) True
b) False

79. A physical scientist has:
a) Only a high school education
b) Learned his occupation through on-the-job training.
*c) At least a four year college education

80. A physical scientist is one of the many workers in an environmental laboratory.
*a) True
b) False

81. Another scientist needed by the Environmental Protection Agency is a chemist.
*a) True
b) False

82. It is not always easy to learn exactly where some kinds of pollution come from.
*a) True
b) False

83. People take from the environment what they need but they must never take or use all the resources which are available.
*a) True
b) False

84. Every living creature exists in relation to other living things.
*a) True
b) False

85. Most power plants that make electricity pollute the air.
*a) True
b) False

86. A nuclear power plant will also pollute the air.
a) True
*b) False

87. Nuclear power plants require huge amounts of water to condense steam back into water.
*a) True
b) False

88. The water of a nuclear power plant is cooled and put back into the river but is still 10 to 15 degrees warmer than it was before.
*a) True
b) False

89. This change in water temperature will not kill fish and upset the ecology system.
a) True
*b) False

90. In 1972 how many nuclear power plants were discharging heated water into lakes and rivers?
a) 5
b) 8
*c) 15
d) 25

91. There are more nuclear power plants in some process of development than are in use currently.
*a) True
b) False

92. There are not many jobs in nuclear power plants.
a) True
*b) False

93. One important factor that affects our environment is weather.
*a) True
b) False

94. Weather predictors utilize weather charts, barometer readings, long range radar and weather satellites.
*a) True
b) False

95. Meteorologists track hurricanes and warn us when they are going to hit a specific area.
*a) True
b) False

96. Most meteorologists need at least:
a) Two years of college
*b) Four years of college
c) High school education
d) Only on-the-job training

97. At some meteorology stations there are other jobs also. Some of these jobs are attendants to maintain and operate equipment, custodians and clerks. These jobs would probably not need a four year college education.
*a) True
b) False

98. With all the equipment available to weather predictors, they are usually able to predict heavy rains so that we can prepare for floods.
*a) True
b) False

99. Most meteorologists are not paid well.
a) True
*b) False

100. The government is hiring more and more weathermen each year.
*a) True
b) False

DAY ONE - Environmental Cycle	Teacher Notes
1. Administer the Pre and Post Inventory to the students. The teacher should read aloud the 100 questions before administering the inventory. There are undoubtedly many new words contained in this inventory that the students do not know. Stress that this inventory is not a test nor will any mark or grades be given regarding this inventory. This inventory is given to see what they know about careers in the environmental field.	

DAY TWO	Teacher Notes
1. Show the film, "All The Difference," a 1970 16mm sound film which runs 21 min. The film is from Eastman Kodak Company and it contrasts the realities of urban blight today with the beauty of America's natural wonderlands. Eastman Kodak Company Audio Visual Distribution 343 State Street Rochester, New York 14650 Arrange for the film well in advance, at least six weeks. 2. With the students, list and discuss possible careers seen in the film which would lead to improving the environment. 3. If the film is not received on time be prepared to discuss with the students many careers which directly relate to improving the environment. Be sure to encourage the students to contribute in the discussion.	

DAY THREE

Teacher Notes

1. Make a list of careers underlined on pre and post inventory. Have this list dittoed and have the students define them, give brief job description, and educational requirements for jobs and careers listed. Use the following for information. These sources should be found in the guidance office. Borrow and use them in the classroom.

A. Dictionary of Occupational Titles Volumes I & II plus Supplement I & II

Volume I $5.00 II $4.25

Supplement I $2.75
Supplement II $1.25

B. Science Research Associates Junior Edition
SRA Inc.
259 East Erie
Chicago, Ill. 60611

C. Chronicle Guidance-Senior Edition
Chronicle Guidance Pub. Inc.
Moravia, New York

D. The Institute for Research Monographs
610 South Federal St.
7th Floor
Chicago, Ill. 60605

E. Publication-Career World
Curriculum Innovations, Inc.
501 Lake Forest Avenue
Highland, Ill. 60040
$2.95 per student per school year
$1.75 per student per semester

F. The Encyclopedia of Careers and Vocational Guidance
William E. Hopke, Editor in Chief
Doubleday and Co., Inc.
Garden City, New York

2. Assign students to small groups. Each group will be responsible for defining and doing research on the terms listed. Have the groups give their reports to the class.

DAY FOUR

Teacher Notes

1. Continue work of groups from DAY THREE.

HOMEWORK

Assign these words for preparation for field trip for tomorrow.

- aeration tanks
- fecal coliform
- grit chamber
- solid waste
- sewage
- weirs
- industrial waste
- suspended solids
- BOD (Biochemical Oxygen Demand)

DAY FIVE FIELD TRIP

Teacher Notes

1. Field trip to sewage treatment plant. Prearrange with the sewer authority director explaining the purpose of the trip is to expose the students to the jobs and careers related to this type of work.

2. If the equipment is available, you may have the trip video taped, make a super 8 film of the trip, or take slides of your tour for further use in the classroom for review.

Arrangements must be made with your board of education for permission to go on the trip and transportation must be arranged for. All students must have a signed permission slip in to you before they can go on a trip. See sample slip at the end of this cycle.

3. See the suggested trips at the end of this cycle if your area does not have a sewage treatment plant.

HOMEWORK

Have students collect small samples of water from a bay, ocean, rivers, streams, swamp, or pond in bottles that have been boiled (sterilized) first before students collect their samples. Students will bring the water samples to class on Monday-DAY SIX.

DAY SIX

Use of microsope and slides.

1. Arrange with the science department well in advance to borrow enough microscopes and slides so that your students can examine the samples of water they have collected. If this cycle is not presented in a science class you may consult with a science teacher on the operation of a microscope and how to prepare a sample of water to be viewed under the microscope.

2. Quickly discuss trip from Friday and stress how important the control of pollution is.

Teacher Notes

Use of microscope-orientation. Note to teacher: Allow 1/2 hour to orient the students to the proper use of the microscope and the procedure for preparing slides. Micro-organisms tend to settle out on the bottom of the container so pipette samples from the bottom.

DAY SEVEN

1. Have students examine the samples of the various types of water they have collected. Contrast this with a sample of water from the faucet.

2. Have the students record their findings on the Water Testing Data Sheet. (see sample sheet)

Teacher Notes

State Museum film, color, 11 mins. "Life In a Drop of Water." Show before looking at water samples to orient students as to what to find.

Use picture key to help identify micro-

3. Draw conclusions that control of the environment is everyone's concern. Have the students suggest what type of work, job or careers would be related with the classroom activity they performed today.

HOMEWORK

Have the students compile a list of at least ten sources of observed pollution in the community for the next day. (DAY 8) Have them also list the career or careers that might or would correct the pollution. (No more than two careers for each occupation)

organisms.

References

Morgan Field Book of Ponds and Streams.
Putnams Edmonson Ed.
Fresh Water Biology

DAY EIGHT

Teacher Notes

1 Quickly go over the students lists of observed pollution and the career or careers that might or would correct the condition.

2. Have the groups which were working on the careers from the dittoed sheets present their information to the class.

DAY NINE

Teacher Notes

1. Finish the group presentations on the careers from the dittoed sheets.

DAY TEN RESOURCE PERSON-GUEST SPEAKER-DEMONSTRATION

Teacher Notes

1. Arrange to have a game warden, a county agent, a park ranger, a pollution control officer from the community, or a scientist doing related work in the environmental field, come and discuss the purpose of their jobs with the students.

2. If the county agent is used, a hands-on experience is possible. Have him show the students how to test soil. If school is in the city have samples brought in by students. If not in the city arrange to go outside and test soil samples with the students. This must be arranged well ahead of time, not only with the guest speaker but also with the school principal.

3. If you have a flair for art this day could be used to demonstrate dried arrangements of wild flowers and grasses. If this is going to be used have the students start collecting all types of vegetation about four weeks ahead of time. Hang the collected materials upside down until they have dried. Then bring them into class and demonstrate how dried arrangements can be made. If you do not have a flair for this, arrange for your local florist to come and give a demonstration of dried flower arranging. If the purpose of the cycle is carefully explained to them, most florists will donate their time. (See attached information sheet).

4. If the equipment is available, this would be a good day to video tape, make a super 8 film or slides of the program.

Give at least two weeks notice to the county agent. Look under Agricultural Extension Service in the telephone directory.

DAY ELEVEN

Teacher Notes

1. Review jobs and careers that are available in the environmental fields. Review field trip and guest speaker's presentation or demonstration.

2. Readminister pre and post inventory.

3. Have the students list their own pre and post inventory scores so they can see their growth in understanding environmental career possiblities.

ADDITIONAL HANDS-ON ACTIVITIES FOR STUDENTS

1. During this cycle, have the students develop a bulletin board, in addition to the one set up by the teacher, dealing with careers in the environmental field. Include any information found in newspapers, magazines and published articles dealing with the environment.

2. Have the students keep a notebook or folder to hold articles they find dealing with environmental problems and career related information, information presented to them in class, free hand-out materials, notes they may wish to make from trips or guest speakers, and notes or information requested that they gather during this cycle.

3. Have student(s) with an interest in photography, take pictures of jobs and careers related to the environmental field and show or display them to the class. (This would be a wonderful way to interest students in the field of photography).

   Use Polaroid Land Camera-Square Shooter 2, cost $24.95, or other Polaroid Camera. Use the school or camera club cameras if no other cameras are available.

   If your audio-visual club or camera club has a 35mm camera, you can make your own slides or have students make a slide presentation.

   A super 8 mm camera can be used for filming environmental trips, problems, and jobs.

   Consult the Audio-Visual Director or Camera Club Director if your school has these people. If not, consult the local camera shop for information and assistance.

4. Assist students in starting a recycling project for paper, tin and aluminum cans, and/or glass bottles. First, find a place, town or glass plant which has developed this type of program. If you cannot find one, perhaps a good project would be to develop one in your own community. Many towns, cities, civic groups, service clubs, and glass or bottling companies have started this type of program.

5. Have students watch TV commercials and look for careers related to the environmental field.

6. Have students make posters on environmental pollution, jobs and careers.

7. Have the students collect 5 objects that are polluting the environment and bring them to class to make a mobile, a collage, a center piece, or a piece of jewelry. Warn the students to use common sense in their selection for this.

8. Have the students monitor the amount of water used to take a bath or shower for a day and for a week. Mark tub to water level. Empty and fill with a measured pail. Check water meter before and after shower, making certain that no other water is used during the taking of the shower. Have students figure out how to measure the amount of water used and record this information.

9. Have students attempt to make a closed system, an aquarium, or a terrarium. For an aquarium, check with a science teacher or pet store on their construction. Directions for making a terrarium can be found at the end of the unit.

10. Have the students count the number of cars and the number of people in them, going past a given area for a maximum of ½ hour. Estimate how many people and cars go past this area for 8 to 10 hours. Discuss possible related careers to this (air pollution, traffic management, urban planning).

11. Have the students read newspaper help wanted ads and look through the yellow pages of the telephone book to list careers and jobs related to the environmental field.

12. Have students place some glass slides coated with vasoline around the school and the home for a period of one or two days. Observe this collected material under a microscope.

13. Have students bring small glass jars into class. Place a small seed, either bean or pea, in jar. The seed is moistened and placed between the jar and a paper towel which has been wrapped around the inside of the jar. Place a wet ball of cotton in the bottom of the jar. Have the students keep a log of the progress as the seed germinates.

14. Use the school as an environment, a micro-community. Study the services involving careers-origin of school, design, physical plant operation, layout, energy consumed-fuel, waste disposal, feeding facilities and health services. Relate the services of the school to that of the community regarding environmental control.

15. Have the students list the many different kinds of packaging found in the home.

    List should include disposable, non-disposable, biodegradable, and returnable.

    Pick two and list three careers involved in packaging the product, and making the product available to you in your home.

STEPPING STONE ENVIRONMENTAL EDUCATION CENTER

ARTS AND CRAFTS THROUGH NATURE

MAKING A TERRARIUM

Almost any container that can be made transparent, waterproof and fairly air tight can be turned into a terrarium.

1. Place a 1-1/2 inch layer of gravel in the bottom of the container with a 1/2 inch layer of sand on top of it (for drainage).

2. Choose the habitat that you wish to work with (woodland, bog and open field plants don't live together in nature, and won't do well together in a terrarium as they require different conditions).

3. Go to that habitat and collect the plants you wish to use. The size and number will depend on the size of your container. Be sure to get the root system with some soil around it so the plant will thrive when transplanted. Do not collect more material than you need to use.

4. A. Woodland or Field

    1. Add some crushed charcoal to the gravel to keep the terrarium "sweet."

    2. Place a layer of woods soil and humus several inches thick on top of the sand. It should be moist enough to form a ball when squeezed.

    3. Plant the plants you have collected in the woods arranged in a pleasing, natural manner, placing taller specimens toward the back first.

4. Place a "carpet" of green moss around the base of the other plants and over all "bare spots."

5. Add a couple of small rocks and/or lichen spotted sticks as a final touch if desired.

6. Water lightly (settled water should not be more than 3/4 of the depth of the gravel layer). This terrarium can be left open (remember to water it) or closed up. If well balanced, a sealed terrarium will continue to flourish without ventilation or additional water.

B. Bog

1. Cover gravel and sand with 2-3 inches of wet sphagnum moss.

2. On this, fill in several inches of soil from the area where you collected your bog plants.

3. Set the plants in as deep as you found them in the bog.

4. Close up opening.

CURRICULUM CORRELATION - Science - habitat study; soil layers; weather cycle (if sealed).

DISCOVERING DIFFERENCES IN ORGANISMS

Environmental understanding comes from knowing the types of organisms that make up a natural community. Biologists, Foresters and others who study ecological relationships must be able to recognize the differences between organisms so that they may be able to identify different types or species. The experience below demonstrates one way in which an awareness of these differences may be stimulated.

1. Collect leaves of various types from trees and plants with woody stems.

2. Bring the leaves into the classroom and place them on the desk.

a. Cover the leaf with a sheet of 8½" x 11" ditto paper or thin white bond paper.

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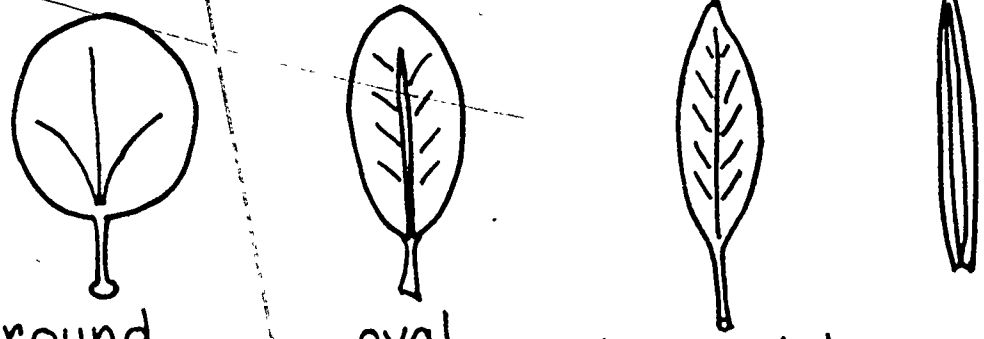
I The shape of the leaf



round oval lanceolate linear

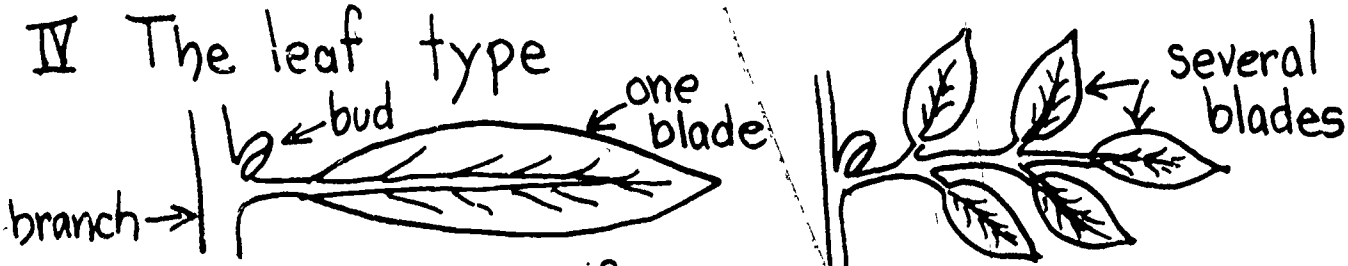
II The leaf margin

lobed wavy toothed (big) toothed (fine) smooth or entire

III The vein pattern

palmate pinnate parallel

IV The leaf type



Simple leaf compound leaf

LEAF IDENTIFICATION DATA SHEET

Specimen Number	A Type	B Shape	C Margin	D Vein	Name

b. Use crayons from which the paper has been stripped and rub using the flat side of the crayon over the sheet of ditto paper. The ribs and margins of the leaf will stand out and pick up the color giving a permanent record of the leaf size and shape. Various colors may be used to give an artistic effect.

3. Classify the leaves from the crayon records by filling in the table. As an extra project, identify the leaves by matching the crayon records with a leaf key or reference book.

STEPPING STONE ENVIRONMENTAL EDUCATION CENTER

HOW TO MEASURE THE WIDTH OF A RIVER USING THE PACE - ANGLE METHOD

PROCEDURE:

1. Locate a tree on the other side of the river (A).
2. Place a stick on this side exactly opposite the tree (B).
3. Walk along the shore at right angles to AB. Take 100 paces and at this point place another stick (C).
4. Continue walking along the shore in the same line for another 50 paces. At this point, place another stick (D).
5. Turn away from the river at (D), and walk at right angles to DB. When you sight stick C and mark A in a straight line, STOP. This point is (E).
6. DE is then half the distance across the river. Pace this distance. Double this number to get the full distance across the river at AB.

WATER TESTING PROCEDURES

Color

Record on the data sheet the color of the water sample. Is it clear or cloudy, white, yellow, green, or brown?

pH

Place four drops of the water sample in the depression of the microscope slide that has been placed on a sheet of white paper. With a separate medicine dropper put two drops of the universal pH test solution on the water sample. Mix with a toothpick. Note any change in color of the test solution. Match the color with a standard solution or a color comparator. Record the pH on the data sheet. A pH of seven is neutral. A lower pH indicates acid water and a higher number indicates basic or alkaline water.

PO_4

Phosphates are a prime indicator of water pollution. Low PO_4 is an indicator of pure water. Follow the directions given in a HACH or LaMotte test kit. Report the results on the data sheet.

Hardness

Measure out 10 milliliters of the water sample into a test tube. Add five drops of liquid soap or a solution made by saturation of water with bar soap or soap flakes. Shake the test tube vigorously. Carefully measure the height of the soap bubble layer. Record the height as distance A. Repeat the procedure with the water sample. Record this height as distance B. Report the data as a per cent using the following formula:

$$\text{Hardness } \% = \frac{\text{distance B} \times 100}{\text{distance A}}$$

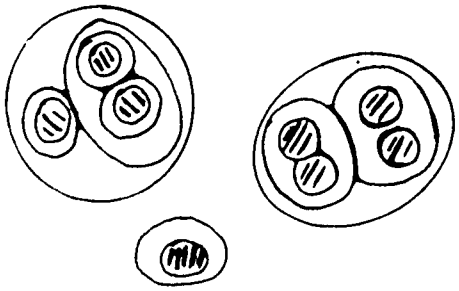
A hardness % of 50 per cent or less is considered to be hard water.

BEST COPY AVAILABLE Picture Guide to Microscopic Water Life

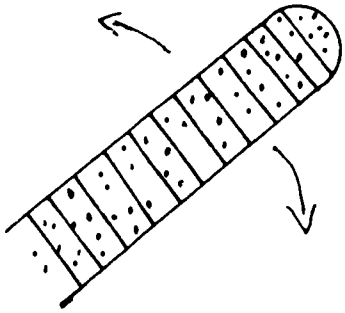
1. Organisms Unicellular or colonial ---2
2. Organisms Multicellular ----------9

2. Cells pigmented, brightly colored---3 (Plants)
2. Cells unpigmented, or pale color----6 (Protozoa)

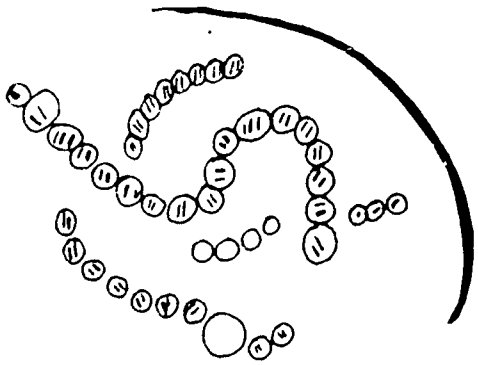
3. Cells bluegreen CYANOPHYTA see below
3. Cells another color----------4



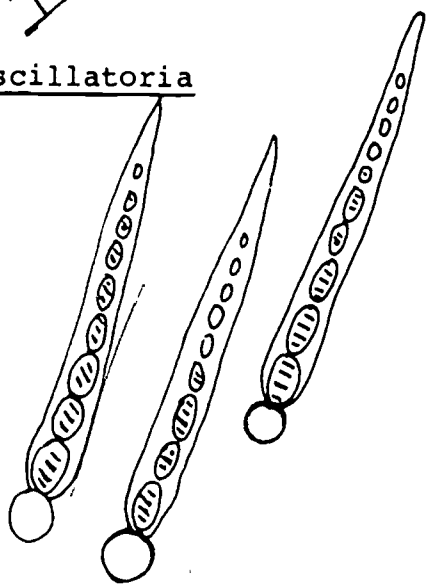
Gleocapsa



Oscillatoria



Nostoc



Rivularia

Spirulina

4. Color Yellow DIATOMS see below
4. Cells another color----------5

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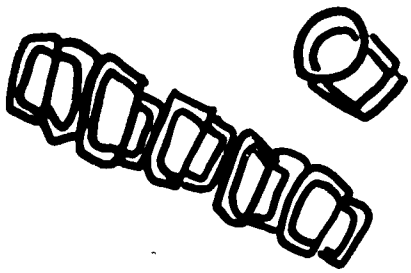
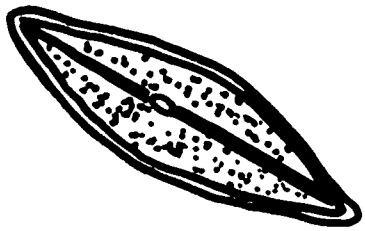
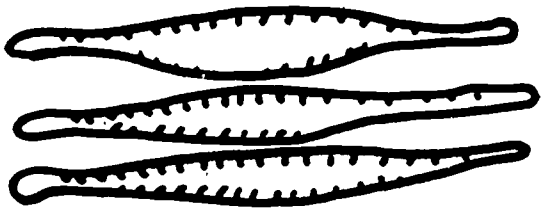


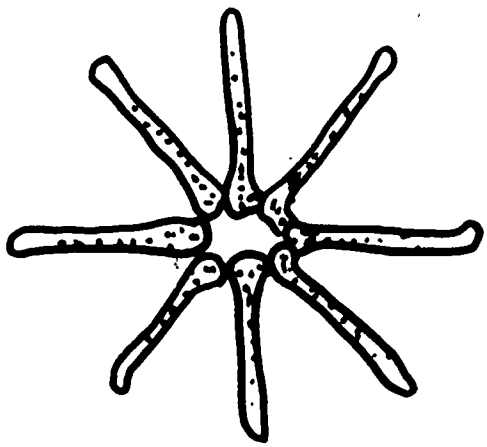
Melosira



Navicula

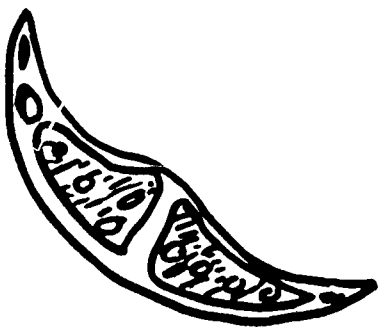


Fragilaria

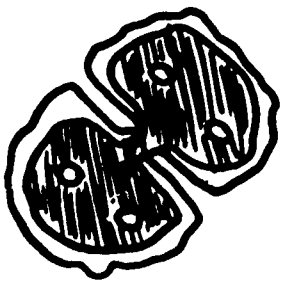


Asterionella

5. Cells bright green CHLOROPHYTA see below
5. Cells not colored----------6



Closterium



Cosmarium

5. Chlorophyta continued

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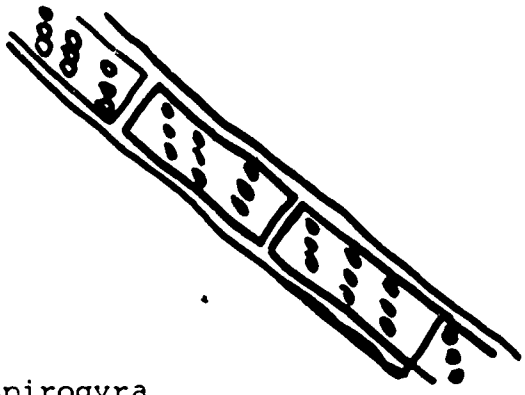
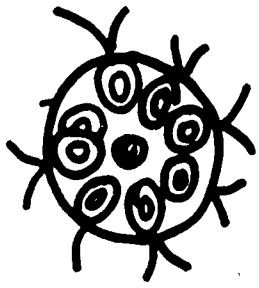
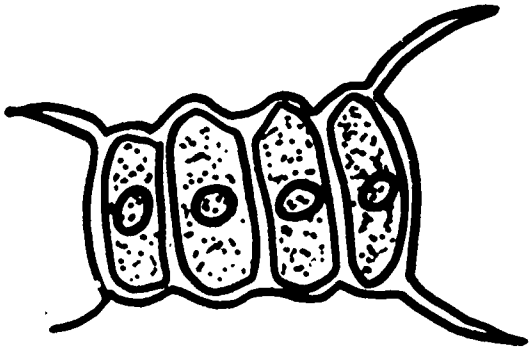


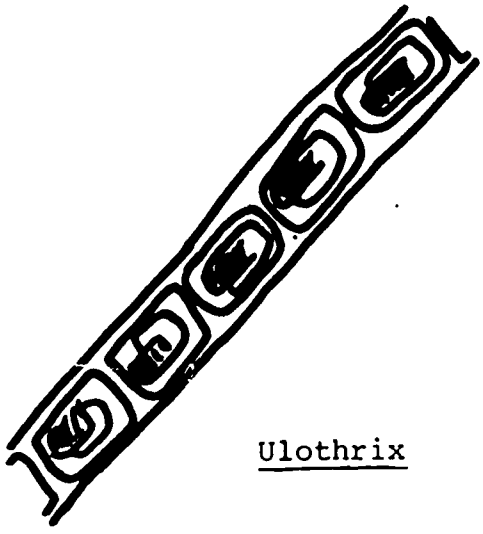
Spirogyra



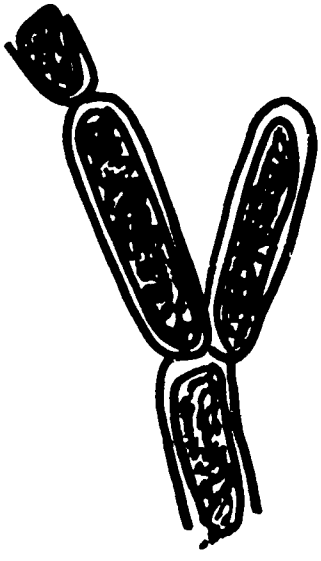
Eudorina



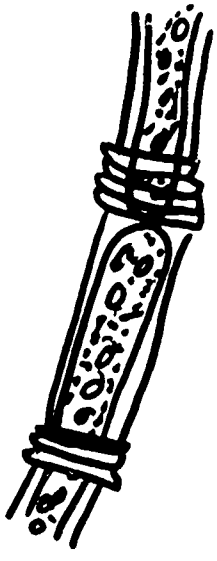
Scenedesmus



Ulothrix



Cladophora



Oedogonium

6. Cells colorless move by psendopodia below
6. Cells colorless other locomotion----7

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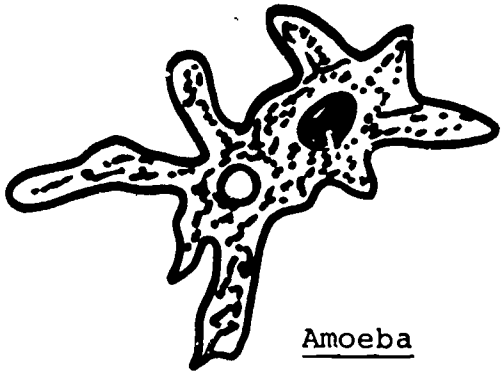
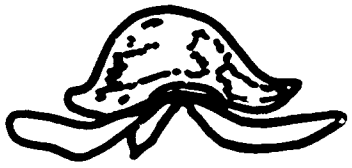
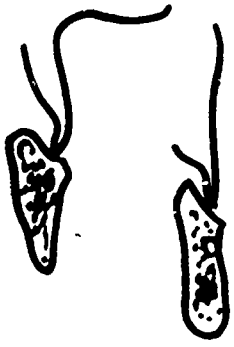


Amoeba



Arcella

7. Protozoa move by means of flagella below
7. Protozoa move by cilia--------8

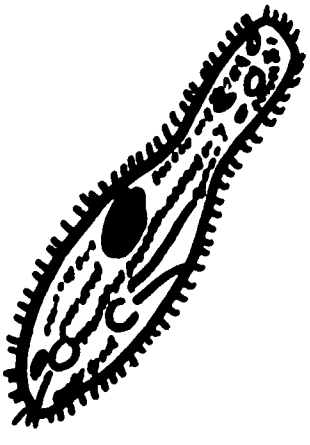


Physomonas

Chilomonas

8. Move by cilia below

Colpoda



Paramecium

8. Protozoa moved by cilia continued. below

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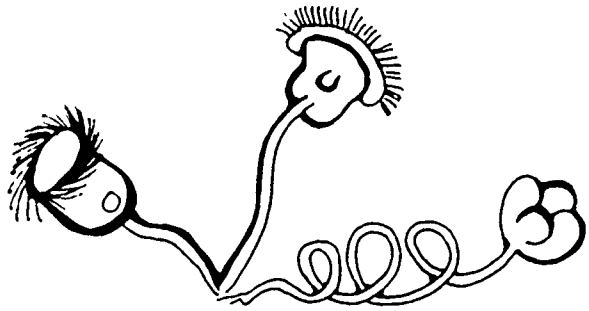
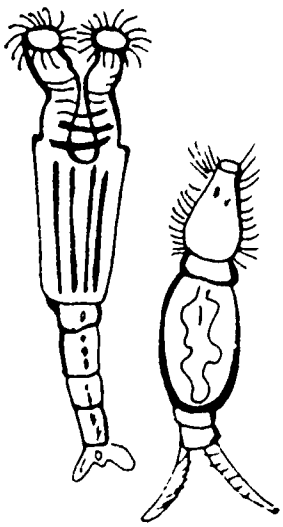
Stentor

Stylonychia

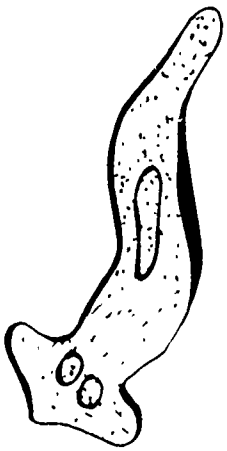


Vorticella

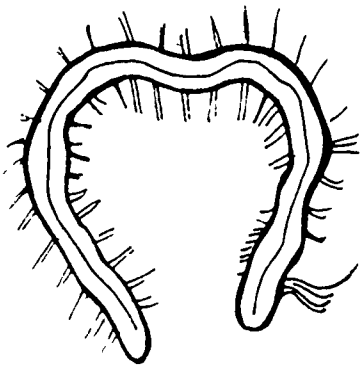
9. Multicellular animals below



Rotifers



Flatworm



Bristle worm

WATER TESTING DATA SHEET

Name _____ Date _____

School _____

Sample	Color	Ph	Phosphate	Hardness	Organisms Found
(1) Distilled Water (Standard)					
(2)					
(3)					
(4)					
(5)					
(6)					
(7)					
(8)					
(9)					
(10)					

THE MAPPING OF AN AREA BY SIGHTING FROM THE ENDS OF A BASE LINE

By using the procedure outlined it is possible to map an area by using a minimum of three people. A larger group is to be preferred as this speeds the work.

Let one person be the team leader (this may be the teacher or a student who has experience in this mapping technique), one should be recorder, two are needed as compass-men or angle-readers, and the rest will act as stadia rods.

The team leader chooses the length and location of the base line and the location of the points on which the stadia rods are placed. The measured base line is set out at one end of the area to be mapped (see figure 1). A plane table with a sighting device is set up over each end of the base line (see figure 2). The 0 degree - 180 degree line of the protractor must be parallel with the base line. This can be checked by sighting along the base line and adjusting the plane table until it is correctly aligned.

The rodmen now go to the points designated by the leader to be mapped. Good points to use would be bends in a shoreline, crossroads, bridges, prominent trees, etc. Each rodman holds a card indicating his station letter or number. Ten to twenty stations should be used for an average map.

When the rodmen are at their stations the compass-men read and call out the interior angles to station A (figure 3) which are written down on the data sheet by the recorder. The angles are read and recorded for each station in turn until all have been located.

Each student now makes a copy of the data sheet and begins to plot the map by relocating the points on the map sheet using a protactor and ruler (figure 4). When all the points have been located, the map can be completed by connecting the points in sequence or as needed.

If a suitable location cannot be found out-of-doors the base line and pseudo-lake can be outlined on the floor of a classroom using masking tape.

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Figure 1 Setting the baseline

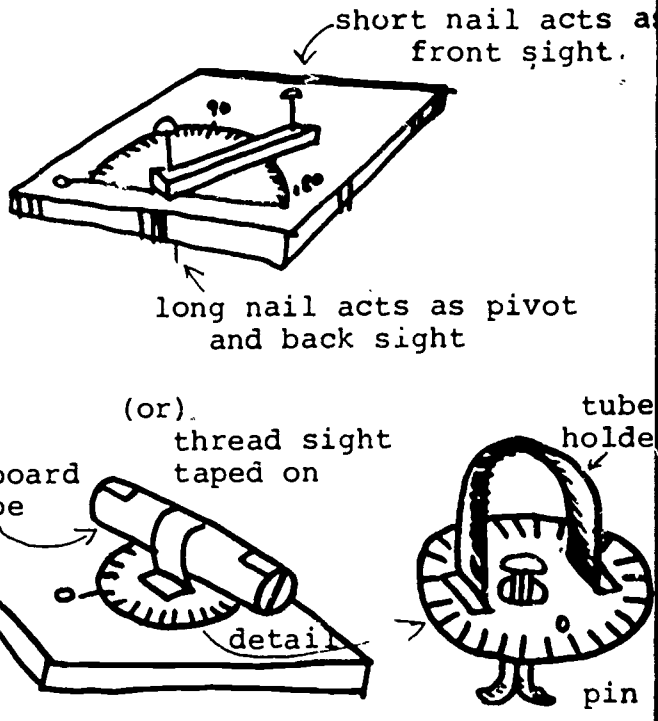

Figure 2 Plane table detail

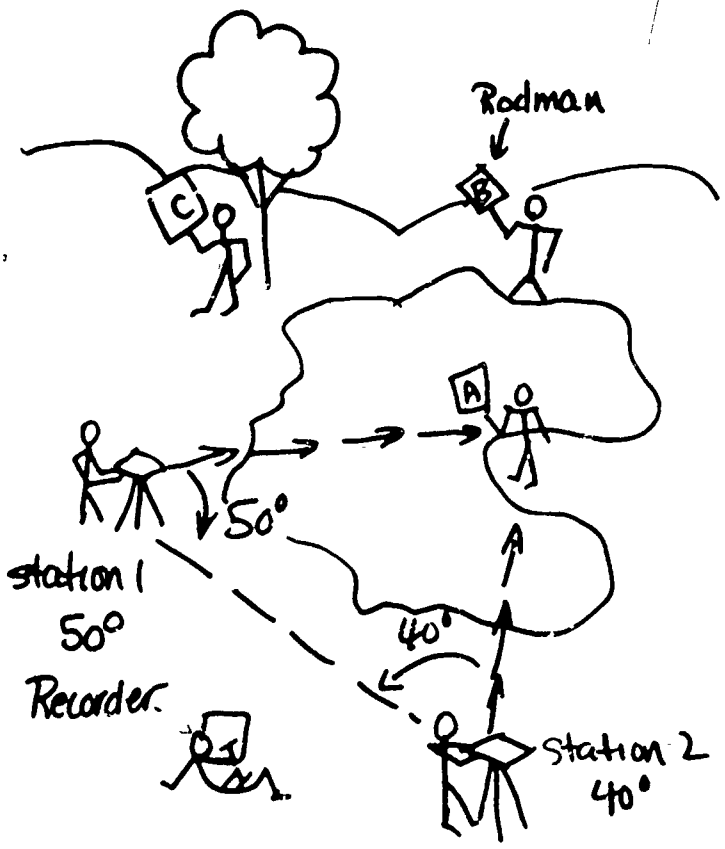

Figure 3

Recording the data

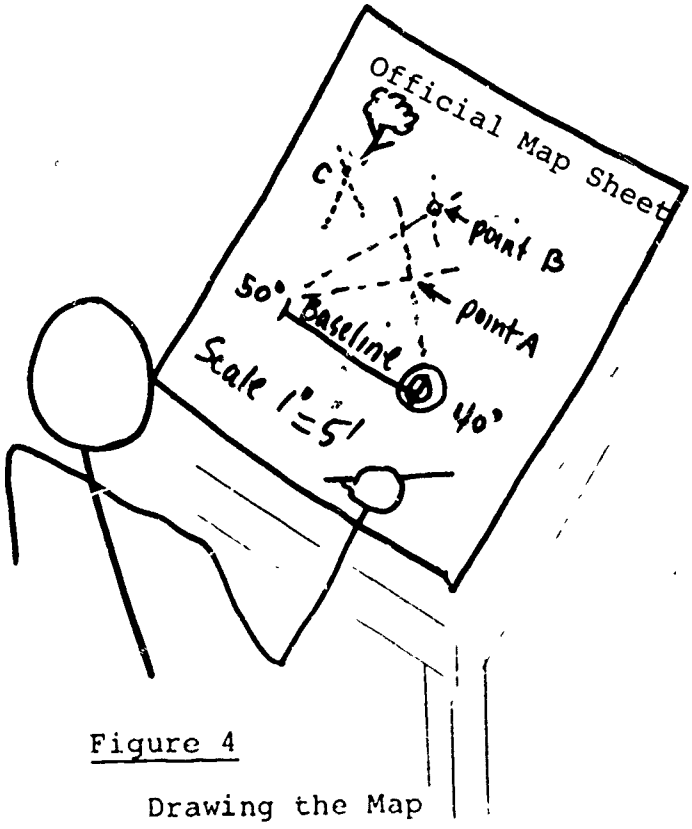

Figure 4

Drawing the Map

AREA MAP DATA SHEET

General Location _____ Date _____

Name of Surveyor _____

Others on the Survey Team _____

_____

_____

Length of Base Line _____

Station Name	Angle #1	Angle #2	Others

OFFICIAL MAP SHEET

Station #1 Base Line (3/16" = 1') 25' Station #2

Surveyor _____ Date _____

Location _____

ENV 37

STEPPING STONE ENVIRONMENTAL EDUCATION CENTER

MEASURING AND ESTIMATING AREA

Object: To determine the area of location immediately adjacent to the school building by estimation and exact measurement.

Materials: Clipboard, 50-foot tape measure, yardsticks, pencils, and recording sheets.

Procedure: Assign students in groups of two to each project. (Many groups can do same project for comparison).

1. Sidewalk area - measure your pace. Pace off the length and width of the entire sidewalk area. Calculate the area. Then measure the area using the tape and yardsticks. Calculate the area and compare the results.

2. Measure by pace and by tape the entire grass area. Calculate and compare results.

3. Determine area by estimation and actual measurement a large area familiar to the students; (i.e., (a) parking lot, (b) ball field).

   Compare the area of the familiar field to an acre. An acre is 43,560 ft. square.

   Make a recording sheet for the areas adjacent to your school building.

Sample:

Results	Estimated Length & Width by Pace		Area by Pace	Measured		Area by Measure-ment	Error	% of Errors
	L (yd)	W (yd)		L (yd)	W (yd)			
Sidewalk (front)								
Lawn (front)								
New Classroom Wing								
Ball Field								

OTHER SUGGESTED FIELD TRIPS

Depending on your location in the State, and the interests of your students, the following trips are suggested in lieu of the sewage treatment plant trip or, in addition to this trip, if time and money allow.

1. Stepping Stone Environmental Education Center
   R.D. 2, Box 270
   Branchville, New Jersey 07826

   Donald S. Calderon, Director
   Phone: (201) 948-3141

2. Water Filtration-Purification Plant
   Monmouth Consolidated Water Company
   (Monmouth County)
   661 Shrewsbury Avenue
   Shrewsbury, New Jersey 07701
   Phone: 201-842-6900
   Ask for Mr. Cecil Rich
   Length of tour of plant 1½ hours (Free)

3. W.L. Hutcheson Memorial Forest
   Route # 514
   Middlebush
   For tour arrangements contact Department of Botany,
   Rutgers University
   New Brunswick, N.J. (Free)

4. The Second Sun-Tour of ferryboat set up to show about Atomic Energy
   P.O. Box 47
   Hancocks Bridge, N.J. 08038 (Salem County)
   Phone: 609-935-5500
   Write for additional information
   Cost of tour - free

5. The various State parks in New Jersey. Check phone book under Environmental Protection Department.

6. Longwood Gardens
   Kennett Square
   Chester County, Pennsylvania 19348
   Open to public year round
   Length of tour of gardens 1½ hours
   Shoes and shirts required
   Phone: 215-388-6741

TYPES OF JOBS AT SEWER PLANT

OFFICE

1. Executive Director
2. Secretaries
3. Clerks
4. Account Assistant
5. Account Clerks
6. Bookkeeper

PLANT OPERATIONS

1. Plant Superintendent
2. Mechanic
3. Assistant Mechanic
4. Foreman
5. Operators
6. Laboratory Technician

COLLECTION SYSTEM AND PUMP STATIONS

1. General Manager
2. Field Inspector
3. Field Maintenance Chief
4. Field Maintenance Men

Have your school librarian send for the film catalog, Educational Motion Pictures
from:
Audio Visual Center
Office for Academic Affairs
Indiana University

(However there is a charge or rental fee for these films).

also, the film catalog from Syracuse University
from:
Syracuse University
Film Rental Library
1455 East Colvin Street
Syracuse, New York 13210 Cost of this catalog $2.50

If you do not have a copy in the school of the Multidisciplinary Guide to Man and Environment, write to:

Dr. Edward J. Ambry, Director
The N.J. State Council for Environmental
Education at Montclair State College
Upper Montclair, New Jersey 07043 Cost $1.00

Write to the National Career Information Center, 1607 New Hampshire Avenue, N.W., Washington, D. C. 20009, for their bibliography No. 8 -- March, 1973 listing information sources for Careers Relating to the Environment.

McHarg, Ian. Design With Nature. (National History Press, Garden City, Long Island, N.Y.)

from

STEPPING STONE ENVIRONMENTAL EDUCATION CENTER

Prepared by: Joyce A. Gaus Illustrated by F. Marron and J. Gaus

DRIED ARRANGEMENTS

The possibilities for variety and creativity in dried arrangements are endless. The types of materials to be found in the area and the imagination of the arranger are the only limiting factors. We are including in "Dried Arrangements" related items such as mobiles, log and branch candleholders, planters, and benches.

Materials and Equipment Needed:

1. A variety of dried or pressed "weeds", flowers, grasses, cones, nuts, seeds and pods, mosses, fungi, lichen
2. Quick drying glue or cement
3. Stapler, pins (insect pins are easiest to blend in), small tacks, nails

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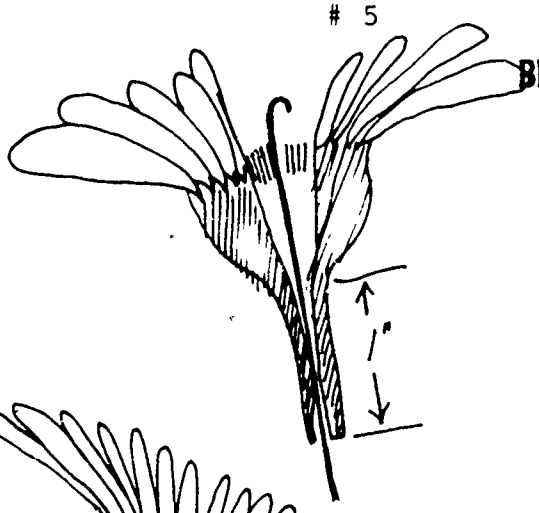

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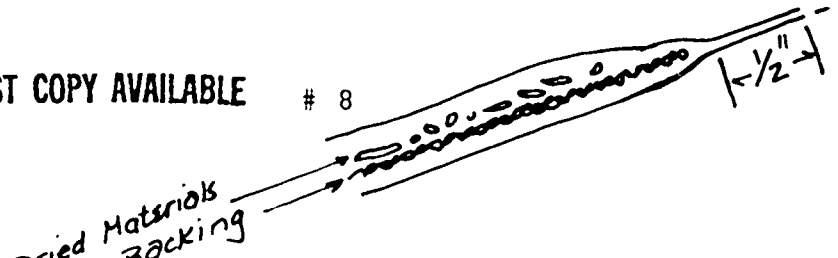

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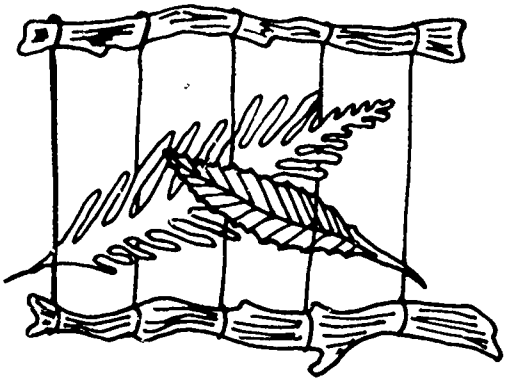

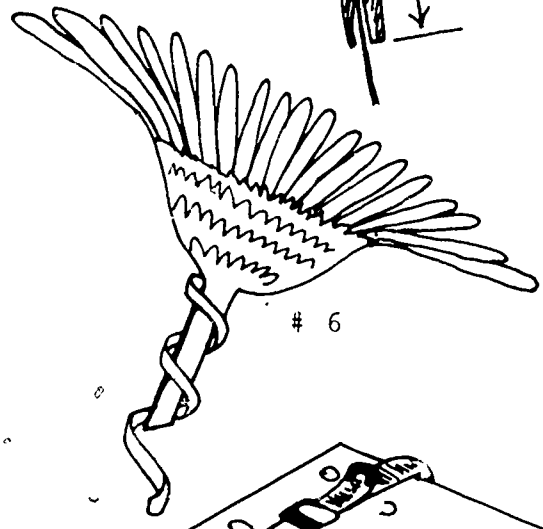

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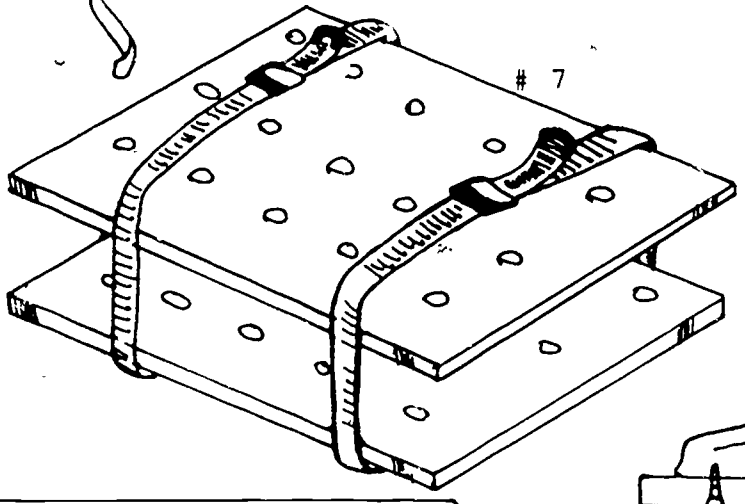

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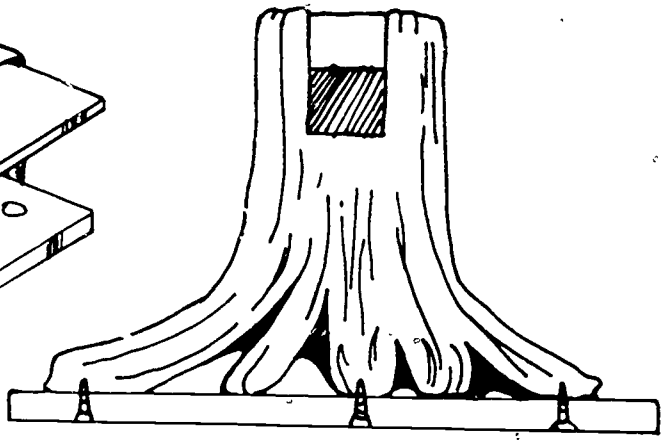

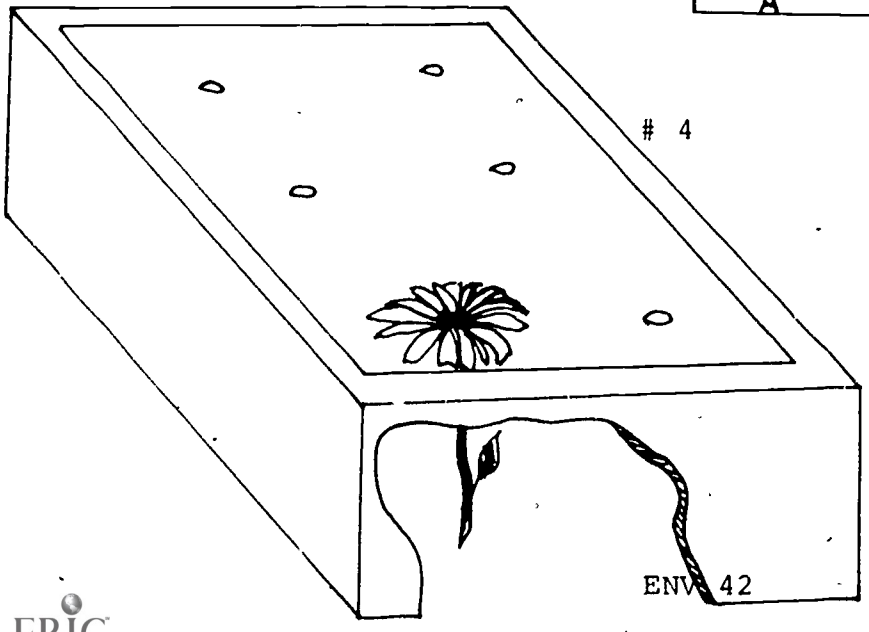

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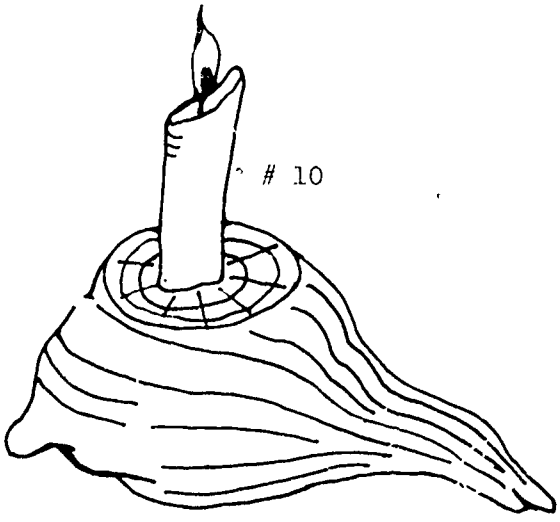

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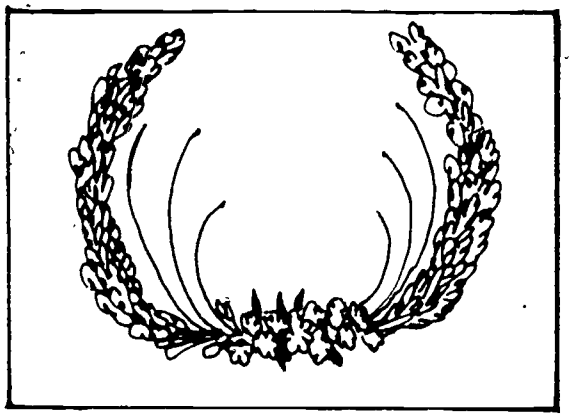
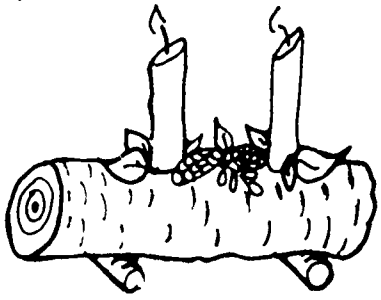
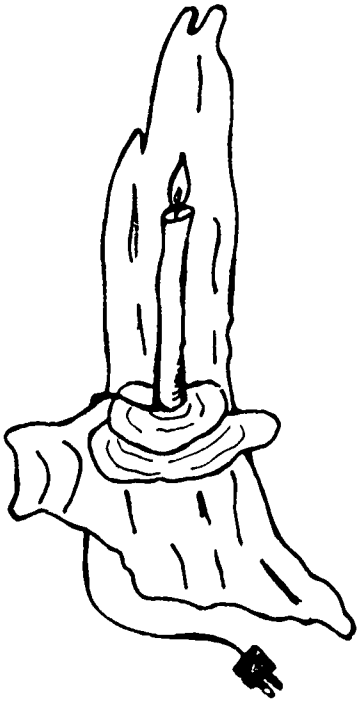
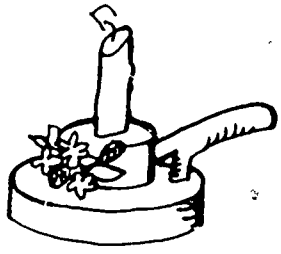
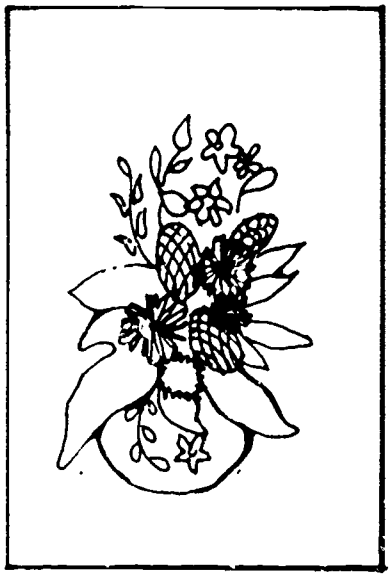


U-Shape

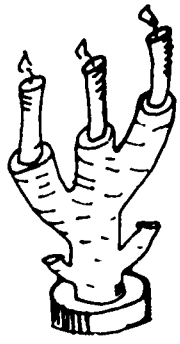


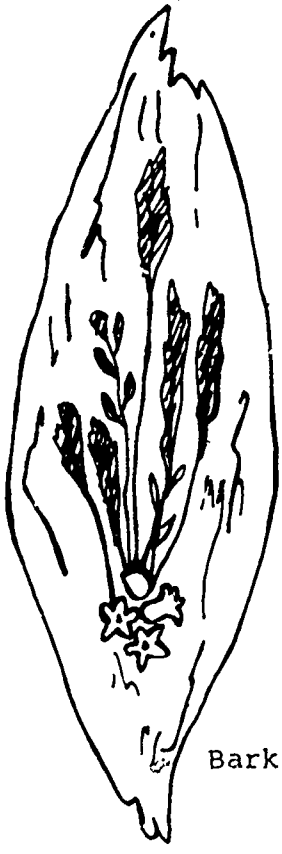






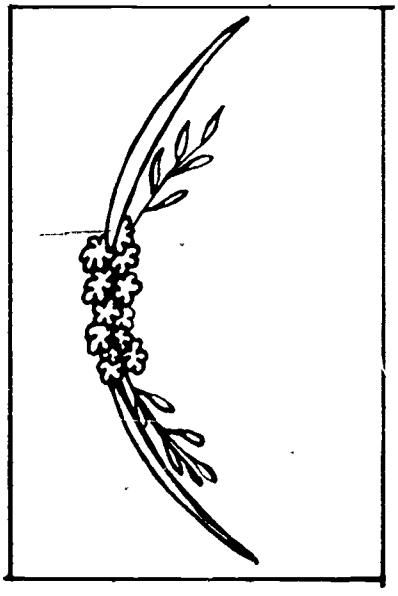
Oval





Bark

L-Shape



Crescent

ENV 43

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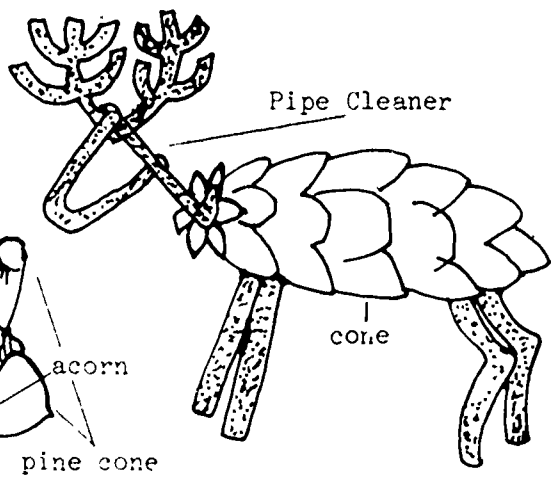

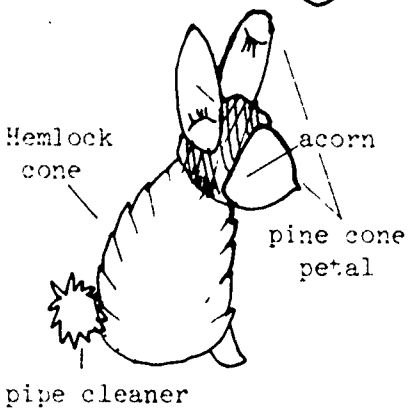

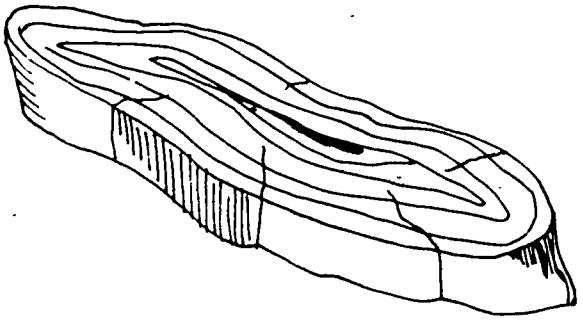

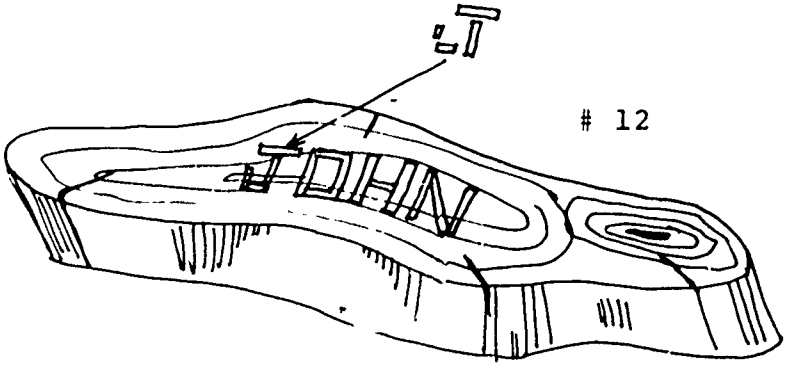

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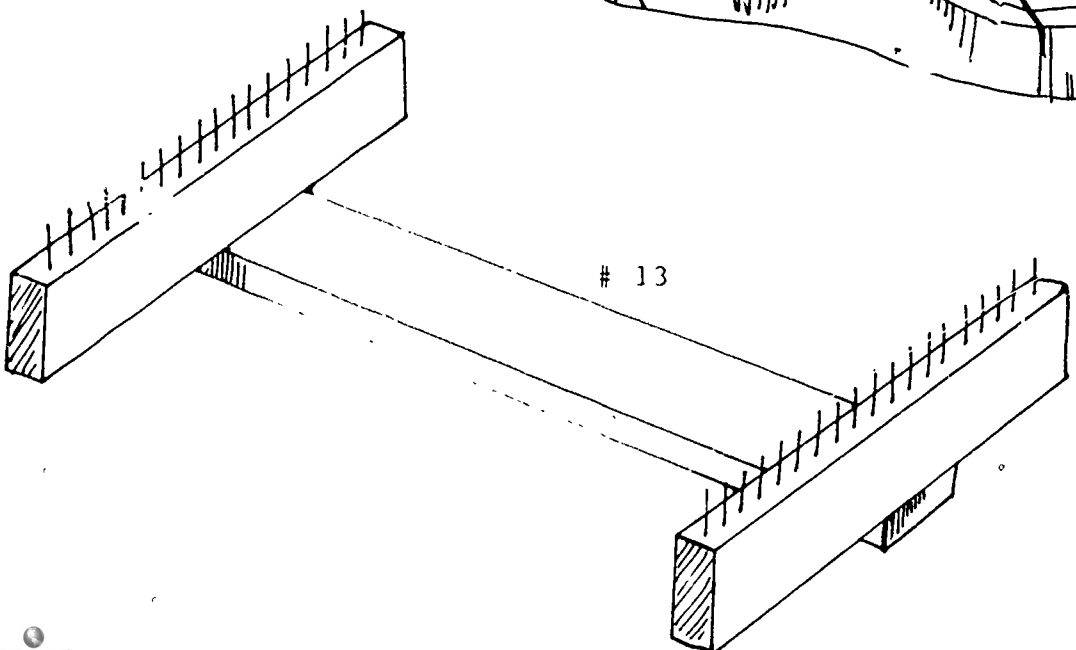

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4. Wood, bark, burlap, velvet, cordoroy, felt, other textured fabrics (plain colors are easiest to work with), shingles, colored paper, cardboard, sandpaper - for backgrounds to mount on
5. Scissors, knife, drill, brace and bit, coping saw, hand saw, hammer
6. String and/or yarn for woven backgrounds or connecting mobiles
7. If you wish to cover wall hangings, use heavy, clear plastic (or glass) and wood or bark for framing; or purchase ready-made picture frames. You will also need screw eyes or tabs to hang with.

Procedure:

I. Preparation of plant materials
   A. Collect materials with a variety of textures, forms, and colors.
   B. Materials may be collected at the end of their "season" after they have dried naturally. To store these materials, tie them loosely in bunches and hang upside down in a dry place.
   C. Air drying is the simplest way to treat materials gathered while still green, but will also produce the greatest change. Petals may fall and colors will change quite drastically - though usually to a beautiful variety of browns, tans, russets, golds, etc.

      1. Bunch green materials (one kind to a bunch) in small bunches. (about 6 Queen Anne's Lace or Goldenrod or 2 doz. grasses or reeds)
      2. Tie the bunches loosely with string and hang upside down in a cool, dark, well ventilated room.

      Note: Materials with seeds (particularly "floating" types such as Milkweed) should be hung where the seeds will not make a mess - perhaps a sheltered spot outdoors.

      3. Large blooms such as mums or zinnias can also be air-dried by using an inverted box. Cut the stems to about 2" then slip the stem through a hole punched in the bottom of the inverted box so the box bottom supports the blossom. FIG. 4

   D. Color can be fairly well preserved by "burying" a blossom in a material that will draw out the moisture quickly. A mixture of 5 parts cornmeal to 1 part borax will work (inexpensive - available at a grocery store) but silica gel (about 5 lb. for $7.00 at a garden or hobby shop) is more affective

as it works faster (cornmeal/borax - 1 to 3 weeks, silica gel - 2 to 7 days). The silica gel leaves the flowers cleaner (the cornmeal/borax leaves a "dust" on the petals) and can be dried in an oven and reused indefinitely. The following directions are for cornmeal/borax as well as silica gel.

1. Cut the flowers, leaving about 1 inch of stem, in the afternoon of a sunny day so they are not damp from dew or rain. Pick only good blossoms at the peak of their color. (Two exceptions - roses should be picked just before full bloom; leave long stems on flowers like stock or delphinium).
2. Insert a short (about 6") piece of thin, stiff wire up through the stem and blossom. Bend it into a hook at the end above the blossom and pull it back down so the hooked end is hidden in the blossom. FIG. 5. Bend the wire to the side below the stem so the blossom can sit level in the silica gel.
3. Pour about 2 inches of absolutely dry silica gel into a container with a tight lid which is deep enough to accommodate the blossoms plus 3 inches of silica gel. (i.e., cookie tin, covered cake pan)
4. Space the flowers, face up, in the container and sift silica gel carefully around and between the petals (you may separate them slightly with a soft artist's paint brush). Cover each flower with about an inch of the silica gel.
5. If the container is deep enough for a 2nd layer, stagger the rows of flowers as too much weight will damage the bottom blossoms.

Note: Stalk flowers (i.e., larkspur) may work better if dried face down. Long flowers (i.e., lillies and snapdragons) may have to be dried in a pail due to their length.

6. When the flowers are completely covered, seal the container with tape and leave in a warm, dry room.
7. After about 2 days (1 week for cornmeal/borax), gently pour off enough silica gel to see if the petals are crisp and dry. If not, recover and check again in a day or two (week to 10 days for cornmeal/borax).

Note: If flowers are dried too long, they get brittle and cannot be handled without breaking.

8. When dry, gently pour off most of the silica gel so the flower can be lifted out without the weight of the gel endangering them.
9. Straighten the wire stems, use green floral tape (garden or hobby shop) to wrap 3 or 4 inches of the wire. Start on the stem or calyx of the flower and work down onto the wire, overlapping the tape as you go. FIG. 6
10. Flowers preserved this way will keep a long time if they are not exposed to direct sunlight (fading) or high humidity (drooping). Store them standing by inserting the bottom of the wire "stem" in a block of styrofoam.

E. Most evergreens can be preserved in the following way:

1. Mix 1 gallon hot water, 4 tablespoons Micronized Iron plant food, 2 cups light corn syrup and 4 tsp. chlorinated household bleach.
2. Peel and pound the bottom 2 inches of the freshly cut stem.
3. Stand the greens in a container of the liquid mixture making sure the liquid level is 1 inch above the smashed part of the stem.
4. As the greens draw the mixture up, the liquid level will drop. Add mixture daily until the liquid level stops dropping.

Note: This liquid mixture will also help keep cut Christmas trees.

F. Most green foliage can be treated with glycerin.

1. Mix 1 part glycerin (drugstore) with 2 parts of hot water.
2. Peel and slit or smash the cut end of the stem (1/2" of a leaf, 1 or 2 inches on a branch).
3. Stand the stems in a container of the glycerin mixture. As the leaves draw up the mixture, the liquid level will drop. Keep adding glycerin mixture until the liquid level stops dropping (usually a week or more).
4. Spray, dip or wipe the foliage on both sides with glycerin mixture each day.

Note: Foliage treated this way will remain supple and will not be affected by humidity.

G. Another way to dry plants is to press them. This method works well with leaves, ferns, grasses, and "flat" flowers. Flowers with a large, thick blossom center or calyx do not press well as the thick portion prevents even pressure on the thinner parts.

1. Place a piece of blotting paper or triple thickness of newspaper on top of a piece of corrugated cardboard of the same size or slightly larger.
2. Lay the plants flat on the newspaper or blotting paper and cover with a second unit of paper.
3. Continue in layers - cardboard, paper, plants, paper, cardboard, paper, plants, cardboard, etc. until all the plants are laid out.
4. End off with a piece of cardboard.
5. These layers must then be pressed firmly between two flat surfaces for at least a week in a warm, dry place.
   a. Lay them on a table and weight them evenly with heavy books or a board and rocks.
   b. Make a press using 2 pieces of 5/8" plywood (that are slightly larger than the cardboard-paper layers) and two straps or pieces of rope long enough to go around the boards and cardboard-paper layers and tie. FIG. 7
      1. Drill 1/2" air holes about 3" apart in rows across and down both boards.
      2. Insert the cardboard-paper layers between the boards.
      3. Press boards firmly together and tie tightly.

II. Suggestions for mounting or arranging dried materials.
   A. Pressed materials are most effective when used in "flat" arrangements (i.e., mounted in a picture frame; sealed under the glass of a glass-topped tray or table).
      1. Work toward a cohesive design rather than a haphazard scattering. Basic design patterns include oval, crescent, V or U shaped, L or reversed L shaped, triangle. The shape and size of the materials being used may help determine the most appropriate basic design. See p. pic.
      2. Lay out the design completely using the larger materials first, then filling in with the smaller ones. After it is laid out, carefully remove the pieces (remembering where they were) until you have just the materials that rest on the background left. Fasten these down using small dabs of clear cement, pins, or tacks (whichever seems most appropriate, will hold best and will not show) and add and fasten the rest of the materials until the design is again complete.

B. Pressed materials can also be used for placemats.
   1. Cut a backing material (fabric or paper) the desired size and shape of the placemat.
   2. Arrange the pressed materials on the backing and fasten with a dab of clear cement.
   3. Cut 2 pieces of self-stick clear plastic (Contac Paper) 1 inch larger all around than the backing material.
   4. Cover the front then the back of the mounted pressed materials with the clear plastic. Be sure to firmly press the overlapping edges of the clear plastic together to form a seal.
   5. Trim the sealed plastic edges slightly to form an even, finished edge. Leave at least 1/2 inch of sealed plastic so the placema can be washed without danger of water leaking in to the backing and pressed materials. FIG. 8

C. Pressed materials also work well in woven wall hangings.
   1. Tie two pieces of wood (driftwood or gnarled branches are interesting) together with pieces of yarn or string so one hangs below the other. Use a number of strands so they are spaced 1 to 1-1/2 inches apart. In tying them, try to get all the strands equally taut. FIG. 9
   2. "Weave" an arrangement of the pressed materials into the strands and fasten them in place with a small dab of clear cement where they touch against the strands. FIG. 9

D. Dried materials (including rough wood) can be used in bouquets, stand-out wall hangings, 3-D pictures, centerpieces, mobiles, collages, sconces, candle-holders, paperweights, pins, etc. See pg. for ideas.

E. For standing arrangements in deep containers (i.e., vases, baskets) "Kitty Litter" is a good, inexpensive material to use to fill the container to stand the stems in. A piece of styrofoam or florist's foam can also be used but may be hard to get into the container.

F. For low containers (i.e., saucer or bowl) attach a piece of foam to the bottom. (Florist's foam fastened with florist's clay works very well. Both available at a florist or garden shop). If desired, the foam can be covered with glycerin-treated leaves fastened by pushing fine hairpins through them into the foam.

G. Before arranging materials, decide how they are to be viewed - on 1 side only (on shelf or mantel) or from all sides (centerpiece).

H. "Stems" may be lengthened by twisting on an additional length of wire.
I. Foliage can be placed separately or wired together or onto other stems.
J. Simple containers of opaque, "antique" materials (i.e., old baskets, dull finish pottery, pewter, copper, etc.) are very effective.
K. Interesting, attractive containers can be simply made with interesting pieces of gnarled wood.
   1. Cut the wood off level at the bottom so it can stand alone (if flared enough) or be mounted on a level slice of wood for a base. Attach the base by drilling up through the base into the wood and attaching with screws from the bottom. FIG. 10
   2. Drill a series of small or one large hole in the top and fill with foam or clay to push the stems into. FIG. 10

CURRICULUM CORRELATION - Science - identification of materials used, suitability of materials for drying, causes of color change in drying, causes of gnarls in wood; Home Economics - interior decoration, color schemes, attractive table arrangements.

WILDLIFE WHIMSIES

Wildlife miniatures can be created from bits and pieces of natural materials. Imaginary animals can be made but it is more interesting to try to copy actual native animals. Individuals or a group can work out a variety of animals in scale with each other, then create a three-dimensional landscape suitable to the habitats the animals actually live in.

Materials and Equipment Needed:

1. A good variety of cones, burrs, nuts, seeds, seed pods, stones, bits of fur and feathers, etc.
2. Pipe cleaners
3. Clear cement
4. For landscape - if desired
   a. Shallow box or box top with styrofoam sheet 1 inch thick (minimum) fitted and fastened in it.
   b. Dried mosses, pieces of bark, branched twigs, dried grass, etc. to simulate trees, logs, fields, shrubs, rocks, etc.

Procedure:

1. Study the shapes of various native animals.
2. Look over the materials on hand until you see an appropriate shape for an animal you have in mind.
3. Glue pieces together and let dry thoroughly.
4. Pipe cleaner can be cut and bent for legs, antlers, etc.
5. Scales from cones may be pulled off to be used as feet, tails, ears, etc.
6. Cones can be trimmed, soaked, and then bent. See pg.

CURRICULUM CORRELATION - Science - Ecology, habitat study, identification of materials used, observation skills; Math - working with a scale.

NATURE JEWELRY

Materials and Equipment Needed:

1. Jewelry "findings" (earring, pin, tie clasp, bolo tie (string tie), etc. available at art store
2. Clear cement
3. Crosscut saw and/or coping saw
4. Sandpaper - coarse, medium and extra fine grades
5. Fine steel wool
6. Paste wax (Butcher's wax)
7. Soft cotton cloth (lint-free)
8. Wood burner (optional)
9. Tweezers
10. Variety of well-cured branches - 1" to 2 1/2" diameter (cedar is particularly effective)
11. Variety of very small dried materials
12. Large nuts; i.e., walnut, butternut

Procedure:

A. Wood or nut "slice" jewelry
   1. Cut 1/4 to 3/8 inch slice off a branch, either crosswise or diagonal. FIG. 11
   2. Using coarse sandpaper, place the sandpaper on the table and rub the wood across it so you are sanding perpendicular to the grooves made by the saw. Sand with the coarse paper until all traces of the saw grooves are gone. The only marks left will be the sandpaper scratches which are perpendicular to the saw grooves. You do not have to sand both sides.

3. Switch to medium grain and sand again, this time using a circular motion (rubbing the wood on the paper, not vice versa). The medium paper should be used until all the straight line scratches from the coarse sandpaper have disappeared.
4. Pad the table with a folded sheet of newspaper and switch to very fine sandpaper, again rubbing the wood on the paper with a circular motion. Continue with fine sandpaper until all visible scratches have disappeared. Scratches will show up as faint white lines across the grain of the wood.

Note: With each sandpaper change, the wood may tend to look worse before it starts to look better as the finer sandpaper shows up scratches that were not previously visible.

5. Switch to a small piece of very fine steel wood and rub it on the wood moving with the grain - circling or looping as the grain goes - until the wood has a fine gloss and no minute scratches show when tipped to the light.

Note: If a design is to be wood-burned, do not wax until after burning.

6. Lightly rub your finger tip across the wax until it is covered with a film of wax (no "gobs", please). Apply a very thin film of wax to the wood. Buff it with a lint-free, soft cloth - hard at first then lightly but rapidly. Apply at least 5 thin coats of wax, buffing well after each coat. The coats must be thin as a heavy one will not buff well and thus leave the wood dull.

Note: "Slices" of large nuts (i.e., walnut, butternut) may be treated as in Steps 1 through 6.

7. The polished wood may be used as is and cemented to the desired finding.
8. If desired, a design may be woodburned on the wood.
   a. Trace several outlines of the wood on paper on which you can plan your design.
   b. Transfer the desired design to the pin with carbon paper.
   c. Burn the design in. (Practice handling the woodburner on scrap wood first).
   d. Steel wool the wood again, then wax as in Step 6, and cement the finding on.
9. A miniature dried arrangement can also be added if wanted.
   a. Plan out the arrangement on the pin using very small dried materials (i.e., berries, bittersweet, scales from evergreen cones, seeds, etc.)

b. Cement each piece on by dipping the back of the piece in cement and placing it on the wood with tweezers.
c. Allow the arrangement to "set" then cement on the finding.

Note: Any of the above may be made into a pendant by:

1. Drilling a hole through the top and inserting a jump ring (art store) or
2. Inserting a small screw eye (hardware store) in the top side of the wood.

B. Nut husks or acorn caps with mini-dried arrangements in them make attractive jewelry - particularly pendants or "dangle" earrings.

C. Animal, leaf, flower, etc. shapes may be cut out of 1/4-3/8 inch thick pieces of wood then sanded as in Section A.

D. "Name" pins can be made distinctively by using very fine twigs from pine or spruce (with the bark peeled off) cut into pieces to form block letters, then glued on wood prepared as in A. FIG. 12

CURRICULUM CORRELATION - Manual Arts - types of woods, wood grains, etc.; Science - tree growth, causes of knots and close grains, identification of woods used.

SOURCES OF FREE OR INEXPENSIVE ENVIRONMENTAL MATERIALS

This compilation of agencies, organizations and industries is provided as a reference of free or inexpensive materials about environmental topics available to schools and community groups. It has been prepared by the New Jersey State Council for Environmental Education.

Those sources which are starred have exceptionally good materials. Most organizations have been cooperative about sending a free copy. Some will send free classroom quantities if the request is written on school stationery and signed by a responsible individual.

Those offering a complimentary copy are generally the most likely to fill free quantity orders.

A.B. DICK, 570 Touhy Avenue, Chicago, Illinois 60648
Air Pollution dittos #70-132. Complimentary to teachers.

AGRICULTURAL RESEARCH SERVICE, Federal Center Building, Hyattsville, Maryland 20782

ALLIED CHEMICAL CORPORATION, Public Relations Dept., 40 Rector St., New York, New York 10006

THE ALUMINUM ASSOCIATION, 420 Lexington Ave., N.Y., N.Y. 10017

AMERICAN CONSERVATION ASSOCIATION, INC., 30 Rockefeller Plaza, N.Y., N.Y. 10020

AMERICAN EDUCATION PUBLICATIONS, Education Center, Columbus, Ohio 43216
Several low-cost, soft-cover booklets are available on environmental topics. These are prepared for students in grades 7-12, and cost $.35 each.
No. 341 Science in City & Suburb (7-9)
No. 342 Secrets of the Sea (7-9)
No. 347 The Earth and Its Story (7-9)
No. 357 What Insect is That (7-12)
No. 362 Our Polluted World (7-12)
No. 364 Physical Geography (7-12)
No. 370 The Conservation Story (7-12)

AMERICAN MEDICAL ASSOCIATION, 535 North Dearborn St., Chicago, Ill. 60610

AMERICAN OIL COMPANY, 910 S. Michigan Ave., Chicago, Ill. 60680

AMERICAN PAPER INSTITUTE, 260 Madison Ave., N.Y., N.Y. 10016
"The Paper Industry's Part in Protecting the Environment", Complimentary copy.

AMERICAN PETROLEUM INSTITUTE, Committee of Public Affairs, 1271 Avenue of the Americas, N.Y., N.Y. 10020
CLEARING THE AIR A Layman's Guide to Atmospheric Purity by Wallace West. Write for bulk cost, if any.
CONSERVING OUR WATERS AND CLEARING THE AIR Study Unit Science and Social Studies Classes, Student Manual. Complimentary copy.

AMERICAN WATER WORKS ASSOCIATION, 2 Park Ave., N.Y., N.Y. 10016 "The Story of Water Supply"

CALIFORNIA REDWOOD ASSOCIATION, 567 Sacramento St., San Francisco, California

CAMDEN COUNTY EXTENSION SERVICE, 152 Ohio Ave., Clementon, N.J. 08021

CHANNING L. BETE COMPANY, INC., 45 Federal St., Greenfield, Mass. 01301
NEEDED: CLEAN AIR: NEEDED: CLEAN WATER: IT'S A DIRTY OLD WORLD. Titles can be combined for quanity orders; write for bulk rates.

CITIZENS FOR CLEAN AIR, INC., 502 Park Ave., N.Y., N.Y. 10016

*COCA-COLA BOTTLING CO., 425 E. 34th St., N.Y., N.Y.

CONCERN, INC., 2100 M. St., N.W., Washington, D. C. 20047
"Eco-Tips" One page card. Consumer habits which reflect concern for the environment, copies available for $5.00/100.

THE CONSERVATION AND ENVIRONMENTAL STUDIES CENTER, Box 2230, R.D. # 2, Browns Mills, N.J. 08015

THE CONSERVATION FOUNDATION PUBLICATIONS, 1717 Massachusetts Ave., Washington, D.C. 20036
Several booklets and reprints on environmental topics are available including:
YOUR RIGHT TO CLEAN AIR: A MANUAL FOR CITIZEN ACTION 96 pages, Complimentary copy.
AN ENVIRONMENT FIT FOR PEOPLE, pamphlet by Raymond F. Dasmann. 28 pages, bulk rates on request ($.20 for 50 copies)
CHALLENGE TO YOUTH: An address by Russell Train at the National Youth Conference on Natural Beauty and Conservation, June 29, 1966. Complimentary copy.
AMERICA THE BEAUTIFUL. An address by Russell Train. Complimentary copy. (Ask for a price list of their other publications).

*CONTINENTAL CAN COMPANY, 633 Third Ave., N.Y., N.Y. 10017

*DELAWARE-RARITAN TUBERCULOSIS AND RESPIRATORY DISEASE ASSOCIATION, Alexander Road, Princeton, N.J.

DELAWARE RIVER BASIN ASSOCIATION, 25 Scotch Rd., Box 360, Trenton, New Jersey 08603

ENVIRONMENTAL PROTECTION AGENCY, Water Quality Office, Public Information, Room 702, 1626 K Street, N.W., Washington, D.C. 20460

EX-CELL-O CORPORATION, P.O. Box 386, Detroit, Michigan 48232

FEDERAL WATER POLLUTION CONTROL ADMINISTRATION, Office of Public Information, Crystal Mall, 1921 Jefferson Davis Highway, Arlington, Virginia 22022

ABOUT BOATS AND WATER POLLUTION: A NEW ERA FOR AMERICA'S WATERS: SHOWDOWN FOR CLEAN WATER. Complimentary copies of these titles available.

FORD MOTOR COMPANY, Educational Affairs Dept., The American Rd., Dearborn, Michigan 48121

FOREST SERVICE, U.S. Department of Agriculture, Washington, D.C.

THE GARDEN CLUB OF AMERICA, 598 Madison Ave., N.Y., N.Y. 10022

GENERAL FEDERATION OF WOMENS CLUBS, 1734 N. St., N.W., Washington, D.C. 20036

GENERAL MOTORS CORPORATION, Educational Relations Service, Warren, Michigan 48090

GENERAL MOTORS CORPORATION, Public Relations Staff, Detroit, Mich., 48202
"Progress Toward Pollution Free Cars" Complimentary copy

GLASS CONTAINER MANUFACTURERS INST., Public Affairs Dept., 330 Madison Ave., N.Y., N.Y. 10017
THE LITTER FACT BOOK: THE SOLID WASTE BOOK. Complimentary copies available

HUMBLE OIL AND REFINING COMPANY, Public Relations Dept., Rm. 4190, P.O. Box 2180, Houston, Texas 77001
YOU CAN HELP KEEP AIR AND WATER CLEAN. Complimentary copy.

INDUSTRIAL FORESTRY ASSOCIATION, 1410 S. W. Morrison St, Portland, Oregon 97205

KEEP AMERICA BEAUTIFUL, INC., 99 Park Ave., N.Y., N.Y. 10016 Materials to Help Keep America Beautiful Catalog and prices.

LEAGUE OF WOMEN VOTERS OF NEW JERSEY, 460 Bloomfield Ave., Montclair, N.J. 07042

METROPOLITAN LIFE INSURANCE COMPANY, 1 Madison Ave., N.Y., N.Y. 10010 HEALTH BULLETIN FOR TEACHERS, "Troubled Water", Volume XXIX, No. 3, 1965

NATIONAL AIR POLLUTION CONTROL ADMINISTRATION, 301 N. Randolph St., Arlington, Va. 22203

NATIONAL ASSOCIATION OF SECONDARY MATERIAL INDUSTRIES, INC., 330 Madison Ave., N.Y., N.Y. 10017
"Guidelines for Effective Recycling. An Action Plan for Conserving Our Natural Resources" Complimentary copy. "Information about Recycling Resources" Complimentary copy.

NATIONAL ASSOCIATION OF CONSERVATION DISTRICTS, P.O. Box 855, League City, Texas 77573

NATIONAL AUDUBON SOCIETY, Educational Services Dept., 1130 Fifth Avenue, N.Y., N.Y. 10028
CONSERVATION FACT SHEETS: Meaning of Conservation; Air Pollution; Water Pollution; Noise Pollution; Population; Solid Wastes; Thermal Pollution; Endangered Species; Pesticides; 99 Suggestions for Action; Bibliography
Sold in following quantities: CFSI--2 complete sets @ $1.25; 50 of any one sheet @ $1.25. Write for catalog: Audubon Aids in Natural Science.

NATIONAL TUBERCULOSIS AND RESPIRATORY DISEASE ASSOCIATION, Contact Local representative, Write for catalog of publications and visual aids. Some titles available are:
AIR POLLUTION PRIMER; IT'S YOUR PROBLEM--AIR POLLUTION; AIR POLLUTION, THE FACTS; WHAT'S YOUR AIR POLLUTION I.Q.?; WHEN AIR POLLUTION IS HEAVY.

NATIONAL WILDLIFE FEDERATION, 1412 16th Street, N.W., Washington, D.C. 20036
"1971 National EQ Index" (issued yearly) Write for bulk prices "Environmental Education" 10¢ each Write for bulk prices LEAFLET: STUDENTS AND TEACHERS: YOU'RE WHERE THE ACTION IS; ENVIRONMENTAL ACTION IDEAS

NEW JERSEY DEPARTMENT OF AGRICULTURE, P.O. Box 1888, Trenton, N.J. 08625

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION, Labor and Industry Bldg., Box 1390, Trenton, N.J. 08625

THE NEW JERSEY STATE COUNCIL FOR ENVIRONMENTAL EDUCATION, at Montclair State College, Upper Montclair, N.J. 07043

*NEW YORK CONSERVATION DEPARTMENT, State Office Building Campus, Albany, N.Y. 12226

PAPER STOCK INSTITUTE, Div. of National Association of Secondary Material Industries, 330 Madison Ave., N.Y., N.Y. 10017 Recycled paper products

PINCHOT INSTITUTE FOR CONSERVATION STUDIES, Milford, Pa. 18337

POLLUTION CONTROL CENTER, Union Public Schools, 2369 Morris Ave.; Administration Bldg., Union, N.J. 07803

PUBLIC AFFAIRS PAMPHLETS, 381 Park Ave. South, N.Y., N.Y. 10016 Hundreds of topics on family relations, social problems, health and science, and inter-group relations are available for $.25 each, or $.20 each for 10-99 copies of same title.
No. 398 Poverty in the U.S.A.
No. 393 A New Look at Our Crowded World
No. 421 An Environment Fit for People
No. 402 The Battle for Clean Air
No. 136 C A New Chapter in Family Planning
No. 373 How to Bring Up Your Child Without Prejudice

REYNOLDS METALS COMPANY, Public Relations Manager, 6601 West Broad St., Richmond, Va. 23261
"Questions and Answers About Aluminum Can Recycling"
"Everything You Always Wanted to Know About Garbage"*
*(But Were Afraid to Ask)

ROCKY MOUNTAIN CENTER ON ENVIRONMENT, 5850 E. Jewell Ave., Denver, Colorado 80222

SCIENTISTS INSTITUTE FOR PUBLIC INFORMATION, 30 East 68th St., N.Y., N.Y. 10020
SIPI Environmental workbooks are available at $1.00 each. Prepayment necessary for others under $10.00
Special price for 10-99 copies - $.75 each. All eight environmental titles (one set) - $5.00
Air Pollution
Environmental Costs of Electric Power
Environmental Education 1970
Environmental Effects of Weapons Technology
Hunger
Nuclear Explosives in Peacetime
Pesticides
Water Pollution

SOIL CONSERVATION SERVICE, 1370 Hamilton St., Box 219, Somerset, New Jersey 08873

SHELL OIL CO., 50 West 50th Street, N.Y., N.Y. 10020

ST. REGIS, 150 East 42nd Street, N.Y., N.Y. 10017

U.S. DEPARTMENT OF AGRICULTURE, Soil and Water Conservation Research Div., Environmental Station, Beltsville, Maryland 20705

U.S. DEPARTMENT OF HEALTH, EDUCATION AND WELFARE, Public Health Service, Environmental Health Service, Rockville, Md. 20852
THE SOURCES OF AIR POLLUTION AND THEIR CONTROL
WORKING TOWARD A BETTER ENVIRONMENT--SOME CAREER CHOICES
THE CITIZENS' ROLE IN AIR POLLUTION
CLEAN AIR FOR YOUR COMMUNITY

U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management, Interior Bldg., C. St. Washington, D.C. 20240
Federal Water Pollution Control Administration, Washington, D.C. 20240
Fish and Wildlife Service, Washington, D. C. 20240
Geological Survey, G.S.A. Bldg., Washington, D.C. 20240
Office of Oil and Gas, Washington, D. C. 20240

WASHINGTON DISTRIBUTION SECTION, Geological Survey, Washington, D.C.
Low cost topographic maps may be ordered (prepaid only). For information on government maps, and New Jersey in particular, write for a copy of the "Index to Topographic Mapping in New Jersey" and a catalog of publications available. They are free.

WESTERN WOOD PRODUCTS ASSOCIATION, Yeon Bldg, Portland, Ore. 97204

WEYERHEUSER COMPANY, Box A-69, Tacoma, Washington 98401

WILDLIFE MANAGEMENT INSTITUTE, 709 Wire Bldg., Washington, D.C. 20005 "Wildlife - The Environmental Barometer"

TO: New Jersey Educators

This is a brief introduction to the many resources and services available for your use at the Edison Center. Please feel a cordial welcome to use them by phoning, writing, or visiting us.

RESOURCES	SERVICES
Entire ERIC microfiche collection of over 85,000 documents with	-Monthly and cumulative indexes. -Free microfiche to microfiche duplication of ERIC documents

a standing order to receive 1,000 additional documents monthly.	-Portable microfiche readers for 3 weeks -Access to ERIC/DIALOG computer search-capability of the N.J. Dept. of Educ.
502 cassettes on all aspects of Career Education	-Duplicate cassettes available upon request of a blank cassette or $1.50 for payment of a blank cassette.
100 Educational Simulation games	-All available for loan.
Audiovisual software (films, filmstrip, filmloop, transparencies)	-All available for loan.
Sony Videotape Unit	-Available for use at $5.00 a day.
450 Periodicals	-Photocopies of articles.
900 Doctoral Dissertations on Microfilm	-Available for loan with portable microreader.
Book collection of up-to-date and key developments in Vocational and Career Education	-All available for loan
Publications (Feedback, Career Education Progress, Special Papers)	-Free upon request

Have the school librarian or audio-visual director or yourself write to the New Jersey State Museum Cultural Center, West State Street, Trenton, New Jersey 08625 for a copy of their film catalog. Phone 609-292-6313. Also ask for price list for various size film reels as cost of film rental depends upon size of film reel. Also ask for ample IBM order cards for requesting films.

Check with your school librarian or audio-visual director, or the school system's curriculum coordinator to see if they have the set of the Learning Directory-The Comprehensive Guide To Instructional Materials In All Media, published by Westhinghouse Learning Corporation, 100 Park Avenue, New York, New York 10017. Phone 212-983-6535.

If the school system does not have this directory, recommend that they purchase the set. However, the cost is $99.95. There are five volumes which are now up-dated with yearly supplements.

There is a very large section on Ecology in these volumes as well as large sections on all other aspects of the curriculum.

Write to the New Jersey Occupational Research and Development Resource Center, Plainfield Avenue, Edison, New Jersey 08817 for their publication, "Grades 7, 8, and 9 Learning Resources for Career Education Winter 1973 Edition."

Write to the New Jersey State Council for Environmental Education at Montclair State College, Upper Montclair, New Jersey 07043. The director is Dr. Edward J. Ambry, and ask for a copy of their most recent publication, Resource Guide to Environmental Education.

Environment and the Schools may be ordered from the National School Public Relations Association, 1201 16th St., N.W., Washington, D.C. 20036. Price $4.00 for a single copy. Ask school librarian to order from the book budget. 1971 Copyright Date.

Another useful publication which you may wish to order is Career Education in the Environment-A Handbook, produced for the United States Office of Education, Division of Vocational and Technical Education by Olympus Research Corporation, 818 18th St., N.W., Washington, D. C. 20006 for sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. Cost not given in publication. Must write for price list.

The recent publication, Opportunities in Environmental Careers, Odom Fanning, Vocational Guidance Manuals, published by Universal Publishing and Distributing Corporation, 235 East 45 Street, New York, New York 10017, 1971, cost $3.25, is suggested reading for the teacher and interested students.

Magazines you may wish to subscribe to are:

Natural History-American Museum of Natural History, New York. Write for cost.

Audubon Society-National Audubon Society, 1130 5th Ave., N.Y., N.Y., Write for cost.
Audubon Junior-Same as above.
N.J. Audubon Magazine-published by the N.J. Audubon Society, 6300 Ewing Ave., Franklin Lakes, N.J. Write for cost.

National Wildlife-National Wildlife Federation, Washington, D.C. Write for cost.

National Geographic and the National Geographic School Bulletin National Geographic Society, 17th and M. Streets, N.W. Washington, D. C. 20036

Cost of National Geographic Magazine is $7.50 a year
Cost of School Bulletin - write for cost

New York State Conservationist-New York Conservation Department, State Office Building
Albany, New York 12226 Write for cost.

SAMPLE OF TRIP PERMISSION SLIP

Middletown Township Public Schools
Middletown, New Jersey

PARENT'S PERMISSION - for trips
School: _____

_____ has my permission to go to _____

_____

on _____. Time of leaving school: _____

Time of return to school: _____.

I hereby relieve the Middletown Township Public Schools of all responsibility beyond that of normal supervision.

I agree that I will pick up my child at the time of return to school, as listed above. (This is very important, as teachers must always remain to supervise until that last child is picked up by the parent.)

Signed: _____
(Parent or Guardian)

Date: _____

ECOLOGY KITS

The following kits are available from Urban Systems, Inc., 1033 Massachusetts Avenue, Cambridge, Massachusetts 02138.

Ecology Kit # 2 Life in the Water

Ecology Kit # 4 What Moves Life

Ecology Kit # 5 Life from Death

For additional information write to Urban Systems, Inc. for price list.

BULLETIN BOARD DISPLAY

TEACHERS--When ordering information for the bulletin board, order two of each item so that both sides can be exhibited.

The bulletin board should be set up before this cycle begins. The following are suggested items which should be ordered and displayed to introduce this cycle. Order items that cost money through your school library fund.

California Redwood Tree. California Redwood Association, 617 Montgomery Street, San Francisco, Calif. 94111. Free.

Tree Chart. Cost $1.75. Massachusetts Audubon Society, Lincoln, Mass. 01773.

101 Things You May Not Know About Water. Free. Should be handed out to students, so order enough for your classes. Mountain Valley Water, 1440 Broadway, N.Y., N.Y. 10018

Lasers. by Hal Hellman. Free. Should be handed out to students to be placed in their notebook or folder they are keeping for this cycle. USAEC, Division of Technical Information, Oak Ridge, Tenn.

Let's Collect Shells and Rocks. Free. Order enough for classes.
Hand out to students.
Shell Oil Company
450 North Meridian Street
Indianapolis, Indiana 46204

Careers In Soil Conservation Service. Order two copies; cost 10¢ each.
Soil Conservation Service
U.S. Department of Agriculture
Miscellaneous Publication No. 717
Supt. of Documents
U.S. Govt. Printing Office
Washington, D. C. 20402

An Engineering Career For You In The Soil Conservation Service. Order two copies; cost 10¢ each.
Miscellaneous Publication No. 715
Address same as above

A Soil Science Career For You in SCS. Order two copies; cost 10¢ each. Miscellaneous Publication No. 716, Address same as above.

Colleges and Universities Offering Professional Education Programs For Careers In The Forest Products Industries. Free. Order one for the bulletin board and then enough to hand out to students.
Wood Industry Careers
National Forest Products Association
1619 Massachusetts Avenue, N.W.
Washington, D. C. 20036

Careers In Forestry. Free. Order two for the bulletin board as well as enough to hand out to the students.
American Forest Institute
1619 Massachusetts Avenue, N.W.
Washington, D. C. 20036

Longwood Gardens Brochures. Free. Order two of each for bulletin board.
Longwood Gardens, Kennett Square
Chester County, Pennsylvania 19348

A Job With The Forest Service: A Guide To Nonprofessional Employment.
Miscellaneous Publication No. 843 cost 15¢
Forest Service
U.S. Department of Agriculture
Supt. of Documents
U.S. Govt. Printing Office
Washington, D. C. 20402

Order the following publications from King Features, 235 East 45th Street, New York, New York 10017. Order at least one of each for the bulletin board, order more if there are enough monies for each student to have one. **(Call your county superintendent's office to see if other teachers are ordering these publications so that you may obtain the lowest possible price).

Environmental Careers

Agri-Business and Natural Resources

Marine Science Careers

1	to	25	copies 25¢
26	to	99	copies 20¢
100	to	499	copies 18¢
500	to	999	copies 15¢
1000	to	4999	copies 13¢
5000	to	9999	copies 11¢
10,000 & over			Special Quote

One publication possible from a florist is Living With Flowers. This publication has recipes and interesting stories about flowers as well as beautiful arrangements. Arrange to see your florist regarding this publication.

Send for Educational Aids from Union Carbide, Sterling Forest Research Center, P.O. Box 363, Tuxedo Park, N.Y. 10987. Cost - free.

Challenge of the Forest: Youth Looks To The Future In Wood. Order two copies for the bulletin board and enough for your students from:
Director
Wood Industry Careers Program
National Forest Products Association
1619 Massachusetts Avenue
Washington, D. C. 20036

Color It Green With Trees. A calendar of Activities for Home Arborists. From: Cost 20¢
U.S. Department of Agriculture
Agricultural Research Service
Supt. of Documents
U.S. Govt. Printing Office
Washington, D. C. 20402

In Your Service: The Work of Uncle Sam's Forest Ranger. Order two for bulletin board. Cost 25¢
U.S. Department of Agriculture
Forest Service A.I.B. 136
Supt. of Documents
U.S. Govt. Printing Office
Washington, D. C. 20402

Cloud Chart. Also ask for free catalog on weather instruments and study aids.
Science Associates
P.O. Box 216
Princeton, New Jersey

Additional information on films, filmstrips, slides, kits, free and inexpensive materials on Conservation, Forests and Forestry, Natural Resources, Nature, Air Pollution, the Environment and other fields as well may be found in the following publications. Check with your librarian or your audio-visual director or coordinator to see if they have these publications. If they do not, recommend that they order them. They will be an excellent guide for them as well as all the teachers in the building. They do cost money, but again, the cost should come from the library account.

Educators Guide to Free Films
Educators Guide to Free Filmstrips
Educators Guide to Free Guidance Materials - A Multimedia Guide

From: Educators Progress Service, Inc.
Randolph, Wisconsin 53956

These publications are published yearly and it is advisable to order them each year to keep abreast of new materials which become available.

Have the librarian-if the school does not have these, order them and they will bill the school later for them.

Free and Inexpensive Learning Materials. Cost approximately $3.00. A biennial publication from:
Division of Surveys and Field Services
George Peabody College for Teachers
Nashville, Tennessee 37203

Sources of Free and Inexpensive Educational Materials. Compiled and edited by Esther Dever.

To obtain copies of this, write to:
Esther Dever
P.O. Box 186
Grafton, West Virginia 26354 Single copy cost is $6.30 postpaid

Additional 16mm films, slides, and brochures plus a catalog of available materials can be obtained on a free loan with borrower paying return postage from:

Radio/TV Film Officer, Office of Public Information
Environmental Science Services Administration
6010 Executive Boulevard
Rockville, Maryland 20852

You may send for a prepared list of sources from which 16mm films featuring water pollution may be obtained from the following:

Office of Public Information
Federal Water Pollution Control Administration
Washington, D. C. 20242

(This administration does not distribute audiovisual materials).

HEALTH AND ENVIRONMENTAL CAREERS CYCLE

INTRODUCTION

Health and Environmental Science Technicians play a significant role in meeting growing community health needs. There are many opportunities today in the Health and Environmental Careers for specialized manpower. Opportunities are virtually unlimited and quite diverse. Each career involves different skills, talents and interests. Each offers its own rewards, challenges and personal satisfactions.

In this cycle, students will be exposed, through "hands-on" activities and experiments, to a variety of careers in the Health and Environmental Sciences. Preparation for these careers may be offered at county colleges, hospitals, and vocational and technical schools in the State of New Jersey.

Students need to be guided by educators toward making better occupational choices or taking a career direction. Without a broad exposure to many careers, students often make hasty and unwise decisions about their futures. Guided properly, selections made by students will be as a result of experimental judgement, and not from a lack of knowledge. The teacher should keep in mind that for a student to make a decision not to enter this field is as important as his making a positive choice.

Many community colleges in the State of New Jersey have made known that they will make their laboratories available to students in the Introduction to Vocations program. The department head of the Health or Environmental Science Department at the county college located in your area may be contacted to arrange a field trip coupled with the "hands-on" activities for the students.

A wide variety of health care facilities, such as hospitals, first aid squads, government agencies, private health agencies and voluntary health agencies have given assurances that they will cooperate fully in all phases of this cycle. Since these facilities may release personnel or their facilities to assist you, it is essential that all contacts be made as early as possible to obtain maximum cooperation.

To enhance this cycle, set up an academic environment for the students which will be of maximum help in developing career awareness. Resources available through the school itself should be utilized:

- Arrange with your school librarian for an area to be set aside in the library on Health Careers.
- Arrange for a similar area to be set up in the guidance department utilizing materials on post-secondary education for Health and Environmental Careers.
- Contact the school newspaper for a possible article on the need for health personnel or contact the local hospital for a guest editorial from a member of their staff.

- Request assistance from the art department for posters. Ask the science department for additional experiments in this cycle.

- The school doctor, dentist and nurse are important resources for this cycle. Let the whole school setting contribute toward the success of this cycle.

Many individuals and organizations have been helpful in designing this career model. Groups which deserve special recognition for their efforts are:

Middlesex County College
Health and Environmental Science Department
Edison, New Jersey 08817

The New Jersey Hospital Association
1101 State Road
Princeton, New Jersey 08540

Office of Health Occupations Education
Division of Vocational Education
225 West State Street
Trenton, New Jersey 08625

Introduction to Vocations Staff
John Adams Junior High School
Edison, New Jersey 08817

CYCLE OBJECTIVES

- To increase student awareness of careers in Health and Environmental Sciences.

- To provide "hands-on" exploratory experiences for students in areas that are related to different careers in Health and Environmental Science.

- To have the students become aware of the curriculum requirements in high school which will be acceptable for entrance into Health or Environmental career programs.

SPECIFIC OBJECTIVES

- Students should be able to list and briefly describe three health and/or environmental careers.

- Students should be able to list the education needed for the careers they listed.

HEALTH AND ENVIRONMENTAL CAREERS CYCLE

Student Inventory: Pre and Post Use

List all the Health and Environmental jobs you know about.

FIRST DAY OF CYCLE	LAST DAY OF CYCLE
1. _____	1. _____
2. _____	2. _____
3. _____	3. _____
4. _____	4. _____
5. _____	5. _____
6. _____	6. _____
7. _____	7. _____
8. _____	8. _____
9. _____	9. _____
10. _____	10. _____

NAME _____

DATE _____ DATE _____

PRE SCORE _____ POST SCORE _____

SCHOOL _____

HEALTH AND ENVIRONMENTAL CAREERS STUDENT INVENTORY

TEACHER'S COPY *indicates correct answer

Have the student circle a letter in the left column for the correct answers.

1. The certified laboratory assistant works under the direct supervision of a:
   a) Nurse
   *b) Medical Technologist
   c) Radiological Technician
   d) Doctor

2. Which of the following could be a task performed by a certified laboratory assistant?
   a) Taking temperatures
   *b) Collecting blood specimen
   c) Giving injections against diseases
   d) Transfusions

3. All high school subjects are important. Of special interest to the certified laboratory assistant are:
   a) Art and music
   b) English and history
   *c) Math and science
   d) Health and gym

4. Certified laboratory technicians spend almost all of their time performing:
   a) Deskwork, filling out forms about patients
   *b) Laboratory tests
   c) Training nurses how to type blood
   d) Clerical duties

5. The diabetic patient must have his urine tested for the presence of sugar. The nurse or aid could use the following to perform this test:
   *a) Clinitest tablets
   b) Salt and vinegar solution
   c) Carbon tetrachloride
   d) Placebo tablets

6. One of the primary objectives of a teenage volunteer program is to:
   *a) Gain knowledge and experience through which to make wise career choices.
   b) Gain summer employment
   c) Gain laboratory skills
   d) Gain spending money

7. An x-ray technician in the normal procedures for x-rays, would do the following:
   a) Arrange the patient in the desired position
   b) Take the x-ray
   c) Keep the records of patients
   *d) All of the above

8. Preparation for a career as a radiologic technologist requires:
   a) 4 years of college
   b) 1 year of college
   *c) 2 years in an approved school
   d) On-the-job training

9. X-rays can reveal the presence of:
   a) Ulcers
   b) Tuberculosis
   c) Heart disease
   *d) All of the above

10. The head of the x-ray team is a:
   a) Nurse
   b) X-ray technician
   *c) Radiologist
   d) Nuclear technician

11. A chemical drink that might be necessary to show body organs on an x-ray is:
   a) Castor oil
   b) Epsom salt
   *c) Barium salts
   d) Milk of Magnesia

12. Inhalation therapy is used primarily in the treatment of:
   *a) Heart and lung ailments
   b) Brain injuries
   c) Patients who have had abdominal surgery
   d) Amputations

13. An inhalation therapist uses which of the following pieces of equipment:
   a) Oxygen mask and tent
   b) Nasal catheter
   c) Respirator
   *d) All of the above

14. An electrocardiograph can reveal problems with the:
   a) Legs and arms
   b) Brain
   *c) Heart
   d) Stomach

15. An EKG technician needs how much preparation beyond high school?
   *a) Less than one year
   b) Two years of training
   c) Two years of college
   d) A bachelors degree

16. An EKG may be taken:
   a) At bedside
   b) In the laboratory
   c) In the home
   *d) All of the above

17. The EEG testing by the technician involves instruments that survey the:
    a) Lung
    b) Heart
    *c) Brain
    d) Legs

18. The training for an EEG technician career is:
    a) 4 years
    b) 2 years
    *c) 3-6 months
    d) 1½ years

19. Rehabilitation has been called the third phase of medical care. The second is diagnosis and treatment. What is the first?
    a) The accident
    *b) Prevention
    c) Emergency care
    d) Health insurance

20. The dental hygienist:
    a) Can drill and fill cavities
    b) Can make and fit dentures
    *c) Can remove stains and deposits from teeth
    d) Can administer anesthesia and remove teeth

21. The education required to become a dental hygienist is:
    a) One year of study in an accredited school of dental hygiene and one year of internship with a licensed practical dentist.
    *b) Two years of study in a recognized school of dental hygiene.
    c) On-the-job training for two years with a dentist.
    d) A four year college diploma and a year of dental school.

22. The responsibility of a dental laboratory technican is:
    a) Examining and treating patient's teeth
    b) Cleaning stains off teeth
    *c) Making and repairing dental restorations such as dentures, crowns, bridges, and inlays.
    d) Drilling and filling cavities.

23. Damaging pollutants that are found in the air are:
    a) Sulfur dioxide
    b) Hydrocarbons
    c) Poisonous chemicals
    *d) All of the above

24. What is the most serious consequence of air pollution?
    a) Property damage
    b) Polluted air
    *c) Health problems
    d) Increased taxes

25. Students preparing for a career as an environmental science technician will become knowledgeable about:

a) Solid waste disposal
b) Air pollution
c) Water treatment
d) All of the above

26. As water is recycled for public use, waste water technicians are involved in the purification procedures. This water is purified at a:
a) Conservation plant
b) Catalytic cracker
*c) Treatment plant

27. A student can begin a career as an air or waste water technician in New Jersey after how many years of training?
a) 1 year
*b) 2 years
c) 3 years
d) 4 years

28. A certified laboratory assistant needs at least 2 years of laboratory school after obtaining a high school diploma.
a) True
*b) False

29. Health careers are only for students with straight A's who can afford college.
a) True
*b) False

30. The practical nurse can perform private nursing duties for the patient.
*a) True
b) False

31. The practical nurse can take and record temperatures, pulse and respiration rates.
*a) True
b) False

32. The field of nursing is open only to women.
a) True
*b) False

33. Anyone with anemia or blood problems of any kind should avoid becoming an x-ray technician.
*a) True
b) False

34. The x-ray technician is in charge of the mechanical aspects of the machine, and must see to it that it is in working order at all times.
*a) True
b) False

35. The inhalation therapist may be given the responsibility of teaching patients, nurses, interns, and other hospital personnel in the use of inhalation therapy equipment for emergency use.
*a) True
b) False

36. The inhalation therapist must have thorough working knowledge of all equipment so he can repair it on the spot.
*a) True
b) False

37. The EKG technician interprets the electrocardiograph he takes.
a) True
*b) False

38. The EEG technician must also record the patients behavior during the testing.
*a) True
b) False

39. An EEG technician must be ready to make all on the spot repair of his equipment.
a) True
*b) False

40. The dental hygienist promotes health by providing professional instruction in the use of tooth brushes and in the relationships between diet and oral health.
*a) True
b) False

41. The dental hygienist is qualified by education to provide patient treatment as prescribed by the dentist.
*a) True
b) False

42. Since the dental laboratory technician must work with a variety of delicate tools and materials, it is essential in this career to have good finger dexterity, vision and color shading abilities.
*a) True
b) False

43. Careers in laboratory technology may involve long-term experiments.
*a) True
b) False

44. A laboratory technologist may be required to record daily observations on long-term charts.
*a) True
b) False

45. Laboratory technology may involve understanding the use of the microscope.
*a) True
b) False

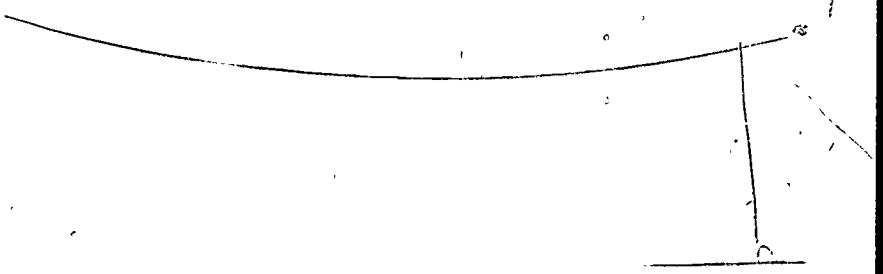
46. Sterilization is a process many laboratory technicians must know how to perform.
*a) True
b) False

47. Clinitest tablets or Keto-Sticks may be used to detect sugar concentration and diabetes.
*a) True
b) False

48. Specific types of bandaging may be the responsibility of a licensed practical nurse.
*a) True
b) False

49. Laboratory procedures and techniques are essential in the medical field.
*a) True
b) False

50. First aid squads fill a vital need in many communities.
*a) True
b) False



CYCLE PROCEDURES

FIRST DAY

Notes and comments

1. Administer the Health and Environmental Careers student inventory. Emphasize that this is an inventory of what they know now about careers in these fields, not a test. There is no need to review the answers with the students. This inventory should be corrected and compared to this same inventory which will be given to the students at the end of the complete cycle for teacher evaluation.

2. To illustrate careers in laboratory technology and environmental science, it will be necessary to set up two long-term experiments, which require incubation time. You may wish to utilize the Micro-Biology Kit and the Air Pollution Kit prepared by Union Carbide:

Union Carbide Corporation
P.O. Box 363
Tuxedo, New York 10987
Telephone: 914-351-2131

The first is an experimental study aimed toward an awareness of micro-organisms. By utilizing culture dishes, commonly used in biology classrooms, bacteria from the surrounding school areas can be studied. (Drinking fountains, bathrooms, telephones.) With careful daily observations and recordings, the student can begin to become aware of careers in laboratory technology.

3. It is suggested that at least 5 to 10 minutes be utilized to set up a second long-term experiment in air pollution. It is again suggested that a kit from Union Carbide be utilized. This kit is economical and involves a self enclosed experiment using actual air pollutants, plants, and involves a study of material utilized by environmentalists.

4. At this time, introduce the students to the use of the microscope, which should be used as much as possible during the observations.

5. Some teachers may choose to begin the Health Careers Cycle by taking a field trip

to the local hospital or another health care agency to arouse interest in the broad area of health careers. Develop the first and second lessons of this cycle with a member of the hospital staff, who may administer the student inventory.

Suggested vocabulary for homework:
a) Culture dish
b) Bacteria
c) Mold
d) Microscope
e) Penicillin
f) Sterilize

SECOND DAY

1. The purpose of this lesson is to illustrate to the students a few test that the licensed practical nurse may perform. The actual tests performed by the students will utilize Clinitest tablets, and Keto-Sticks, to detect sugar concentration, diabetes and sugar by-products in human urine. To simulate urinalysis, it is recommended that various concentration of sugar-water be utilized in the experiments. Conditions permitting, teachers may perform the actual diagnostic test with the student's urine. Both tests are easily performed by following the directions enclosed in the purchased box. They may be purchased at any drug store for: Clinitest - 36 tablets, $1.00; KETO-STICKS - 50 sticks for $2.25.

2. Contact the school nurse, and if possible; arrange to have her conduct the lessons involving the licensed practical nurse.

Suggested vocabulary for homework:
a) Diabetes
b) Clinitest tablets
c) Keto-Sticks
d) Test Tape

THIRD DAY

1. As a career, practical nursing offers the rewards and satisfactions that come from helping others. Simple nursing situations may prove valuable in helping the students gain an awareness of this career.

2. The following materials should be used in exposing the students to three or more types of bandaging, a responsibility that a licensed practical nurse must be adequately prepared for.

Materials needed:
Bandage 4 rolls per class - approximately 29¢ a roll, Tape - adhesive, 2 rolls per class - approximately 39¢ a roll, Scissors

Please refer to diagram 1 for the bandaging procedures. Allow the students the liberty of actually bandaging each other under instruction.

3. Since the actual practice at bandaging might not take up the entire class time, it is suggested that pulse and temperature procedures be added to the lesson. A discussion with the school nurse or science teacher will demonstrate correct methods for the students. A simple variation for the students is to take the pulse before and after the following exercises: up and down steps, and hopping on one foot for twenty seconds.

Suggested vocabulary for homework:
a) Radiologic technologist
b) Recurrent bandage
c) Figure eight bandage
d) Spiral reverse
e) Pulse
f) Respiration

Note: Illustrations of types of bandaging are at the end of the cycle.

FOURTH DAY

1. A radiologic technician is widely needed in modern health. This technician's career is aimed at the diagnostic level.

2. Arrange with the local hospital to have the students visit the x-ray department. If possible, arrange for the hospital to bring portable equipment to the school. There are numerous activities that can be arranged for this lesson. "Hands-on" activities may involve film selection, sandbagging, positioning and machine mathematics. Some of the students may wish to have a taste of the barium, a chemical used when taking certain x-rays. An interesting activity is to have the students view

developed x-ray film of fractures. See if they can locate hairline fractures and other possible medical problems.

Suggested vocabulary for homework:
a) Radiation
b) X-ray
c) Cobalt
d) Barium

FIFTH DAY

1. Since laboratory procedures and techniques are essential in the medical field, it is important that the students do work with realistic concepts over a period of time. Earlier in this cycle, bacteria was collected and cultured. It is the purpose of this lesson to briefly examine these methods in the school or at the local high school. A minimum of one microscope for every two students will be needed.

2. At this time, continue to utilize the same technique in microbe growth by developing cultures from the surface of the skin and inside the student's mouth. The science teacher will show this method.

3. With school administrative knowledge, have the students bring a note in from home with permission to perform blood typing which will be the next lesson. Outline for the students the steps involved in blood typing. This is a simple test to perform and can be explained by a science teacher.

SIXTH DAY

1. The purpose of this lesson is to illustrate to the students one of the important tasks of the laboratory technician, that of blood typing.

2. Obtain from the local hospital, usually at no charge, blood typing serums for Type A, B and Rh.

3. Check with the science teacher or school nurse for assistance in the procedure of having students pierce their finger and type their blood. The other materials involved are: cleansing alcohol, toothpicks and microscope slides. Lancets, the piercing device (one or two per student), may be

obtained from either hospitals or biology teachers. Do not force hesitant students to perform this test. Do not allow students to perform this test without a note from home granting parent permission.

Suggested vocabulary for homework:
a) Blood type
b) Serum
c) Lancet
d) Blood donor
e) Universal donor
f) Universal receiver

Note: Some students may need clarification between the certified laboratory assistant and medical laboratory technician. A laboratory assistant can be trained in one year. The technician must take two years of training and may perform more elaborate laboratory tests. You might also wish to discuss their laboratory careers.

SEVENTH DAY

1. "In a Medical Laboratory" - film available for free loan. For a list of distributors, write the National Committee for Careers in Medical Technology, 9650 Rockville Pike, Bethesda, Maryland 20014 or contact your local chapter of the American Cancer Society. This color movie shows the roles played by various laboratory personnel in the diagnosis and treatment of three patients.

2. Discuss the different careers illustrated in this film.

EIGHTH DAY

1. The inhalation therapy technician aids primarily in the treatment of heart and lung ailments. Under medical supervision, the inhalation therapy technician administers various types of gases used in medical treatment, instructs patients on how to perform therapeutically beneficial breathing exercises and aids in resuscitation efforts.

2. It is the purpose of this lesson to make the students aware of a career as an inhalation therapy technician. Arrange with the local hopsital or first aid squad to have

equipment brought to the classroom. Equipment will be demonstrated showing specific techniques. Try to involve the students. If a therapist is actually obtained for this activity, have him briefly outline his educational background and training necessary for his career.

3. If the health department in the school has a resuscitator, arrange to have the school nurse show the techniques of mouth-to-mouth resuscitation.

NINTH DAY

1. In addition to the personnel who work in a medical laboratory, there are other technicians who perform equally important services in a different setting. The EKG and EEG technicians are also associated with the services provided for the medical specialist, but do not work in the laboratory. The EKG technician records heart action, while the EEG technician records brain waves.

2. Arrange with the local hospital a lesson stressing careers in these two areas. This lesson can either be performed in the hospital or, in some cases, in the classroom. The technician will demonstrate portable equipment using the students. They will also discuss opportunities for the students to pursue a career of this nature.

TENTH DAY

1. Serving as a part of the recovery team, therapists and assistants strive to build hope, confidence, desire and ability in helping patients help themselves. The person who chooses one of the therapy professions as his life's work should have a genuine interest in people and a strong desire to help others. The rewards and advantages of a career in rehabilitation are many, but perhaps the greatest reward is the immense personal satisfaction which comes from helping handicapped men, women and children learn to do things they may have once thought impossible and see them eventually return to society to lead useful, independent lives.

2. There are a number of activities that a teacher can use to illustrate to the students an awareness of this career. The

activities are flexible and the teacher will have no problem adding to the list.

a) Peel a potato with one hand.
b) Combing your hair with one hand.
c) Tying a shoe with one hand.
d) Putting a shirt on with one hand.
e) Putting a sock on with one hand.

Remember to stress that this is a recovery helping career. Also remember that each particular activity is not a skill for the student to master. If he cannot perform it, don't allow him to be discouraged.

3. The local Heart Association has a program for teaching skills to the handicapped. They may be contacted for additional ideas.

Suggested vocabulary for homework:

a) Psychiatric aid
b) Physical therapists
c) Recreational therapists
d) Occupational therapists

ELEVENTH DAY

1. Film - "A Bright Future" - 28 minutes, free loan. This film clearly and interestingly tells of the educational requirements necessary for a career in dental hygiene. It follows typical dental hygiene students through college classrooms and clinics, laboratories and lectures, from aptitude tests through graduation. This film shows the wide variety of careers open to dental hygienists, and depicts one as a practicing member of the dental health team dedicated to helping individuals maintain oral health and prevent dental diseases and disorders. This film is available for loan from:

Bureau of A.V. Service
American Dental Association
211 East Chicago Avenue
Chicago, Illinois 60611

2. In the remaining time, evaluate and discuss the film with the students.

3. Please be aware that there are additional films which may be obtained from the professional organizations. Simply write to the American Dental Association and request the film catalog.

Suggested vocabulary for homework:

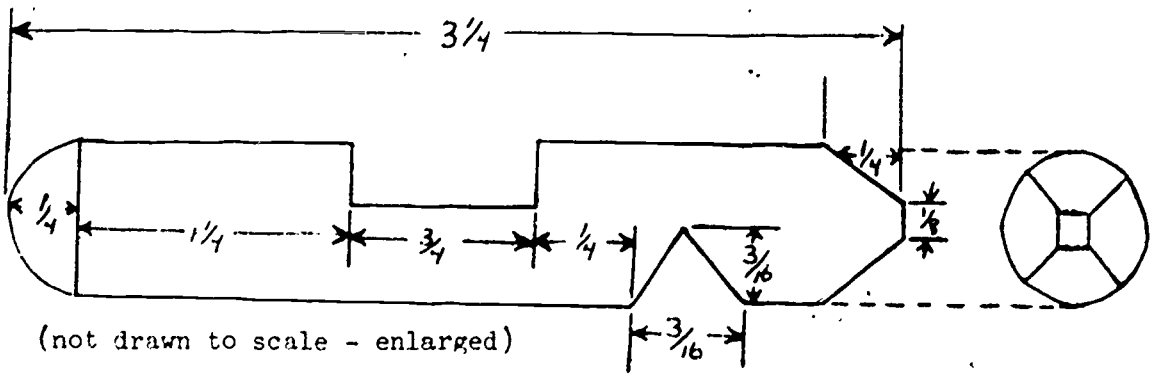
a) Oral health
b) Cavities
c) Dental laboratory technician
d) Dental hygienist
e) Drill
f) Tarter

TWELFTH DAY

1. The purpose of this lesson is to make the students aware of a career as a dental laboratory technician. As specified in training, this technician learns to make dentures, including teeth, crowns, bridges, and orthodontic appliances as specified by a dentist.

2. In this suggested activity, the students, by using only a knife, a ruler and a pencil, will carve a piece of blackboard chalk very carefully into the following dimensions.

Do not use sandpaper nor rub the chalk. It is again important for the teacher to remember that no skill is being taught. The skill and techniques required for perfection come with proper training in this specialty as it does in all the health careers.



(not drawn to scale - enlarged)

THIRTEENTH DAY

1. At this time, it is necessary to contact a resource person to give your students a full range of health career opportunities. Speakers may be found from several sources: community colleges, local hospitals, the New Jersey Hospital Association, area vocational schools and local health care facilities that have a wide range of personnel. The New Jersey Health Career Service publishes annually a resource list of persons located throughout the state of people who may speak on careers.

FOURTEENTH DAY

1. For approximately 20 minutes of this lesson, it is intended that the teacher again give an overview of the health careers in this cycle. To facilitate this effort, arrange to show a sound filmstrip production entitled "A Time For Every Season." The presentation and equipment necessary are available from the New Jersey Health Careers Service in Trenton. The program depicts a day in the life of two teenagers who decide to visit the community hospital and do some thinking about the future.

2. For the remainder of the class, discuss the curriculum requirements and directions for students to take in high school and post-high school training if they desire to enter a health career. Refer to the bibliography for information on curriculum and schools in New Jersey.

FIFTEENTH DAY

1. Earlier in this cycle, a long-term experiment in micro-biology was started by the students. Daily observations were taken, and the culture of bacteria was observed under the microscope. At this time, if you are using the Union Carbide Kit, place the included antibiotics from the Kit into the chambers. Other alternatives for students to try are to bring in household cleaners and disinfectants to see their effect on the bacteria.

2. It is appropriate at this time to analyze and discuss the air pollution experiment which has been operating during the three weeks. Through the bibliography, at the conclusion of this cycle, it is hoped that teachers will obtain additional material on air pollutants for further discussion. The material is readily avaiable from numerous sources and the topics are endless. Remember, however, that the last six days of this cycle are mainly for career awareness. Pollution is a main topic of interest today, it would be well worth the effort to give the students a wider picture of the problems an environmentalist will face in his career.

SIXTEENTH DAY

1. Environmental technicians have a knowledge of water and wastewater treatment, solid waste disposal, and air pollution control. Study time will be well spent in learning public health problems and possible controls. It is the intent of this lesson to allow the students to test a water sample for three properties. They are qualitative tests and do not involve amounts of materials tested.

2. Have the students bring in an obvious sample of polluted water. They will perform three tests: presence of chloride, mercury and a pH test. The materials for these three tests are readily available in the chemistry department of any high school. Middlesex County College, Health Technologies Department, has a kit available of this nature for $2.00. This kit will supply the chemicals, and directions for these tests: The tests are:

a) To indicate the presence of chlorine in water.
b) To indicate the presence of mercury in water.
c) To measure the degree of acidity in water.

These tests can be performed on numerous samples that the students bring in and a resulting discussion in each case should help to clarify their questions.

SEVENTEENTH DAY

1. Show the brief film "Little Man, Big City," approximately 10 minutes long which dramatizes

the plight of today's urban dweller and the noxious effects of his environment. This film is available and on free loan from:

Delaware Raritan TB & RD Association
693 Alexander Road
Princeton, New Jersey 08540
Telephone: 609-452-2112

2. It is appropriate here to terminate all long-term experiments that the students were conducting. At this time, however, allow for student questioning on the pollution and bacterial experiments.

3. Begin a discussion on curriculum necessary in high school for a career in the environmental sciences. Try to give the students the complete scope of environmental health. There is a wall chart prepared by the New Jersey Hospital Association, 1101 State Road, Princeton, New Jersey available on health related careers. This would include general knowledge of careers in healthful environment, food, water resource control and recreation. Information of this nature is readily available from the National Environmental Health Association in Colorado. (See Bibliography). Foster an interest for the guest speaker in environmental science who will present a discussion to the students in the next class period.

EIGHTEENTH DAY

1. Arrange to have a resource speaker come to the school for the purpose of giving the students an overview of a career as an environmental technician. A suggestion for speakers is the Environmental Education Resource Guide listed in the bibliography, and the Rutgers Speakers Bureau located at Rutgers, The State University in New Brunswick. Additional resource persons may be your city or county health officer, or perhaps a student presently enrolled in an environmental technician preparation course. By contacting Middlesex County College Health Technologies Department in Edison, New Jersey, you can obtain information on the curriculum in this area. Remember to advise the speaker before his presentation to alert the students to career opportunities in the environmental sciences.

NINETEENTH DAY

1. To give the students a more complete picture of environmental science careers arrange for a field trip to sewerage treatment or water purification plants. Check beforehand to make certain that the environmental technician will be on the job for the students to observe. Plan an effective field trip, and involve the students with "hands-on" activities at the site, this can serve as a highlight of the cycle.

2. As an alternative for the field trip, give the students a large overview of health careers.

TWENTIETH DAY

1. Administer the post inventory for the Health and Environmental Science Cycle. Compare these results with the previous inventory for evaluation of increased understanding. Please mail these results to the Director of Introduction to Vocations at the State Department of Education in Trenton, New Jersey.

2. Include a final discussion on curriculum requirements for the entire school year. Remember the library and guidance department are cooperating with this effort.

3. For the highly motivated and interested students an optional experiment in air pollution has been added.

TWENTY-FIRST DAY

1. Carbon monoxide, an odorless and colorless gas, has its origin in the incomplete combustion of carbonaceous materials; for example, auto exhaust. It has been known as a noxious inhalant that has its effects because of a strong affinity for combining with the hemoglobin in the blood. When a sufficient amount of carbon monoxide attaches itself to the hemoglobin in red blood cells, it reduces the ability of the hemoglobin to combine with the oxygen, resulting in tissue damage.

Objective: To be able to detect carbon monoxide in the air.

Apparatus and Reagents: Vacuum pump, absorbent cotton, guard gel*, indicating gel*, glass tube, about 7mm. bore, to one hole

No. 000 cork stoppers, sufficient tubing to fit 7mm bore tube, two pieces of glass tube approximately 1 inch in diameter.

* The guard and indicating gel may be purchased from Mine Safety Appliances, Pittsburgh, Pennsylvania.

Preparation of the tube:

a) Clean 7 mm bore filter tube with sulfuric acid, and rinse with distilled water. Dry tube before using.

b) Insert one glass tube into one hole no. 000 cork stopper.

c) Into filter tube, insert a small wad of absorbent cotton, so that it forms a loose pad against the cork.

d) Fill the tube with 5cm length of guard gel.

e) Add 2cm length of indicating gel.

f) Then add a second 5cm length of guard gel.

g) Insert a cotton pad and pack in firmly.

h) Insert second stopper, then insert the other glass tube.

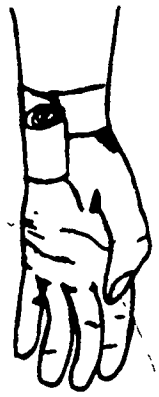
Procedure: Connect hose of vacuum pump to tube and pull air in. A color change to green or blue indicates carbon monoxide.

For additional experiments of this nature, please refer to the Environmental Science Resource Guide listed in the Bibliography.

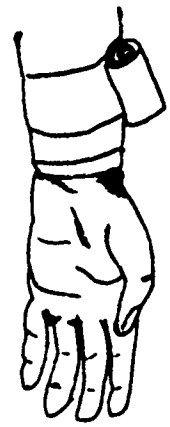
BEST COPY AVAILABLE

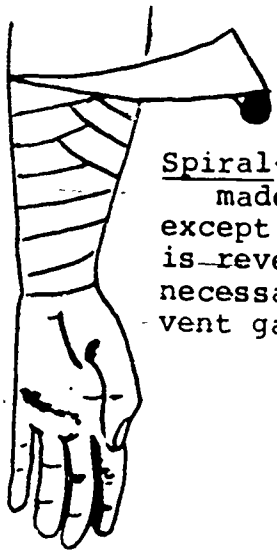
FOUR TYPES OF BANDAGING

Circular- each turn overlaps the previous one.

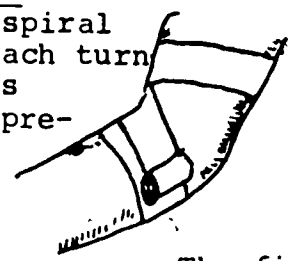


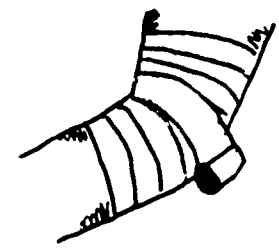
Spiral- each turn overlaps one-half to two-thirds the previous one.



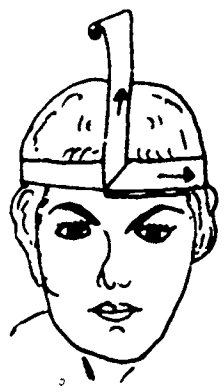


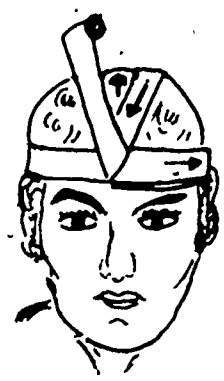
Spiral-Reverse- made like spiral except that each turn is reversed as necessary to prevent gaping.





The figure-of-eight- This bandage is made by forming two loops or oblique turns over a joint. The turns alternately ascend and descend to cover the part.





The recurrent bandage- Circle the part in order to anchor the bandage; the bandage is then reversed and then passed over the midline of the area. It is then passed back and forth in alternate turns on each side, each turn covering one-half to two-thirds of the preceding turn. The bandage is then terminated by another circular turn.

Possible Field Trips for Health Occupations Cycle

1. General hospital - in addition to patient units, visit pharmacy, central supply room, x-ray department, laboratory department, dietary department, main kitchen, medical record department, business office, laundry and supply room.
2. Local water filtration plant.
3. Local sewage plant.
4. Pharmaceutical company.
5. Psychiatric hospital - this is a good area to see occupational therapy, psychology, recreation therapy, music therapy and the maintenance areas of large institutions.
6. Rehabilitation hospital - good area to observe occupational therapy, physical therapy and vocational rehabilitation.
7. School or county dental clinic.
8. Child health conference (baby keep well station)
9. Local health department
10. Schools offering educational experiences in health occupations.
11. Dental laboratory
12. Speech and hearing clinic

Types of Speakers for Health Occupations Cycle

1. School nurse
2. Physician
3. Dentist
4. Pharmacist
5. Physical therapist
6. Occupational therapist
7. Dietitian
8. Nurses aide and/or orderly
9. Sanitarian - may perform sample tests for the students.
10. Dental laboratory technician - ask him to bring impressions, plates, sample materials, etc.
11. X-ray technologist

13. Licensed practical nurse

14. Social worker

15. Dental assistant

16. Medical assistant

17. Dietary aide

18. Housekeeper

19. Medical record librarian or technician

20. Osteopath

21. Chiropractor

22. Podiatrist

23. Speech and hearing therapist

24. Ward clerk (ward secretary)

25. Hospital maintenance person

Agencies

Director
Health Occupations Unit
Division of Vocational Education
225 West State Street
Trenton, New Jersey 08625

Local health agencies

New Jersey Department of Health
Consultative Services
John Fitch Plaza
Trenton, New Jersey 08625

New Jersey Health Careers Service
375 West State Street
Trenton, New Jersey 08615

Some Suggested Materials and Media

American Dental Association Film Catalog. 220 East Superior Street, Chicago, Illinois 60611.

American Hospital Association Film Catalog. 840 North Lake Shore Drive, Chicago, Illinois 60610

American Medical Association Film Catalog. 535 North Dearborn Street, Chicago, Illinois 60610

American Nurses Association - National League for Nursing.Film Library Catalog. 267 West 25th Street, New York, New York 10001

Audio-Visual Support Center Film Catalog. Building 210, Fort Wedsworth, Staten Island, New York 10305.

A Bright Future. (film) Bureau of Audio-Visual Services, American Dental Association, 211 East Chicago Street, Chicago, Illinois 60611.

Careers In Allied Health Services. 16mm. 26 min. color. American Personnel and Guidance Association Film Department, 1607 New Hampshire Avenue, N.W., Washington, D.C. 20009. (Provides an overview of jobs in hospitals and other health care institutions which require less than a baccalaureate degree.)

The Environmentalist - Brief Career Scope. National Environmental Health Association, 1600 Pennsylvania Avenue, Denver, Colorado, 80203.

Film Loan Service Catalog. New Jersey State Museum Film Library, 205 West State Street, Trenton, New Jersey 08625.

Career Opportunities, Health Technicans. edited by Robert E. Kinsinger. Doubleday and Co. Inc., 1970. (150 job descriptions)

Code Blue. 16mm. 28 min., Color. Counselor Films, Inc., 1422 Chestnut Street, Philadelphia, Pennsylvania 19102. (Depicts a black woman delivering a baby and shows the health personnel involved in her hospitalization)

Danger in the Air: Sulfur Oxide and Particulates. Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Education Programs in the Health Field. Reprinted from Hospitals, Journal of the American Hospital Association, August 1, 1970, vol. 44, no. 15, part 2. (Twenty-five health career schools listed by states).

Environmental Education Resource Guide. Delaware Raritan TD and RD Association, 693 Alexander Road, Princeton, New Jersey 08540

Environmental Pamphlets. College of Agricultural and Environmental Sciences. Rutgers, the State University, New Brunswick, New Jersey 08903.

Health Career. 16mm. 13½ min. b&w. Available for loan from the New Jersey State Museum Film Library. (A high school guidance class and their counselor confer with a guest speaker on the opportunities for employment in health work).

Health Careers. Filmstrips (4) color. Lawren Production, Inc., P.O. Box 1542, Durlingame, California 94010. (A selection of four filmstrips covering different types of paramedical occupations.)

Health Careers Summer Orientation Project. 25 mm. 20 min., 20 slides, sound sync. progression, b&w. (A view of selected work station assignments during summer orientation projects in Newark area hospitals and the Burlington County Memorial Hospital).

Health Careers Bibliography. New Jersey Health Career Service, 275 West State Street, Trenton, New Jersey 08615.

Health Career Guidebook. U.S. Department of Labor, Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Health Power To The People. 35mm. 23 min. 136 slides, sound synch. progression, color. National Association of Health Services Executives, Box 28, Town Center Branch, West Orange, New Jersey 07052.

Helping Hands For Julie. 16mm. 30 min., b&w. Available for loan from the New Jersey State Museum Film Library. (Shows how an entire medical team swings into swift decisive action to determine the correct diagnosis).

Horizons Unlimited Handbook, Career Opportunities in Medical and Allied Fields. American Medical Association, 595 North Dearborn Street, Chicago, Illinois 60610.

The Hospital People-Case Study of Hospital Occupations. Blue Cross, Vol. XXI, no. 1, Hospital Service Plan, 500 Broad Street, Newark, New Jersey 07105.

To A Medical Laboratory. 16mm. 28 min. color. National Committee for Careers in Medical Technology. 9650 Rockville Pike, Bethesda, Maryland 20014. (A useful film which shows how a laboratory team works together to track down the causes of disease.)

Is A Career In Health Services For You. 16mm. 14 min. color, Counselor Films Inc., 1728 Cherry Street, Philadelphia, Pa. 19103. (Encourages students in grades 7 through 12 to think about a career in health services.)

Job Descriptions and Organizational Analysis for Hospital and Related Health Service. 1970. U.S. Department of Labor, Manpower Administration, U.S. Training and Employment Service. Washington, D.C.

National Medical Audio-Visual Center Film Catalog. Atlanta, Georgia 02033.

New Jersey Dental Association. 2675 U.S. Highway #1, North Brunswick, New Jersey.

New Jersey Hospital Association Chart on Hospital Careers. Research Park, 1101 State Road, Princeton, New Jersey 08540.

Occupational Outlook Handbook. U.S. Department of Labor, Bureau of Labor Statistics. Washington, D.C.

Orientation to Health Occupations - A Teacher's Guide. Health Occupations Unit, Division of Vocational Education, 225 West State Street, Trenton, New Jersey 08625.

People Who Care. 16mm. 25 min. color. Available for loan from the New Jersey State Museum Film Library. (Shows seven types of careers in mental health.)

A Time For Every Season. 35 mm. 17 min. 80 slides, sound synch. progression, color. Health Careers, Box 28, Town Center Branch, West Orange, New Jersey. (Explains the opportunities and challenges in over forty health careers).

What's In Your Future - A Career in Health. Public Affairs Pamphlet No. 281. Public Affairs Pamphlets, 22 East 38th Street, New York, New York.

Where To Get Health Career Information. National Health Council, Inc., 1740 Broadway, New York, New York.

Care of the Older Adult. Birchenall, Joan and Streight, Eileen. J. B. Lippincott, 1st edition, Philadelphia, Pennsylvania, 1973.

Health Careers Booklet. King Features, 235 East 45th Street, New York, New York 10017.

MECHANICAL CONTRACTING CYCLE

INTRODUCTION

With the interest, help and cooperation of the MECHANICAL CONTRACTORS ASSOCIATION OF NEW JERSEY, this model for a cycle on Mechanical Contracting has been prepared as suggested guidelines for the Introduction to Vocations coordinators and cycling teachers. The sequence of activities has been presented with the understanding that the individual teacher may have to adapt it to fit the needs of their students, school, and community as well as to the available facilities.

Be sure to notify the Mechanical Contractors Association of the starting date as far ahead as possible.

Mechanical Contractors Association
of New Jersey
134 Evergreen Place, 9th Floor
East Orange, New Jersey 07018

Upon receipt of your starting date, the Mechanical Contractors Association will be in touch with the local coordinator to provide help and materials. You may wish to use the following form letter or draft your own, making sure it includes at least the information in this sample:

Gentlemen:

We plan to initiate the Mechanical Contracting Cycle for our Introduction to Vocations students beginning _____, 19____. a.m./p.m., in room #_____.

We would appreciate being able to utilize the slides, film "Anatomy of A City," and the glass piping materials for instruction purposes during this cycle.

We will return all of the materials and film as soon as the instructional period has been completed.

Sincerely,

NAME_____

TITLE_____

SCHOOL_____

_____ (ZIP CODE)_____

PHONE_____ (AREA CODE)_____

CYCLE OBJECTIVES

- To increase student and teacher awareness of the many jobs available in the Mechanical Contracting industry.
- To meet with a Mechanical Contractor and to hear about the opportunities, benefits and training needed for Mechanical Contracting occupations.
- To provide "hands-on" exploratory experiences which are related to different jobs in Mechanical Contracting such as estimating and plumbing.

SPECIFIC OBJECTIVES

- Students will be able to list and briefly describe 3 mechanical contracting jobs.
- Students will be able to list the education and training needed for the jobs they selected above.

PRE AND POST MECHANICAL CONTRACTING STUDENT INVENTORY

*indicates correct answer

Have the students circle one letter in the left column for the answer.

1. The mechanical contractor is most concerned with:
   a) Electrical installation
   b) Insulating specialists
   *c) Heating and cooling
   d) Foundations and footings

2. The purpose of any construction is:
   *a) To serve both the individual and the community
   b) To make beautiful buildings
   c) To fill up land areas
   d) To use up existing building equipment and materials

3. In a ventilating system which two items are generally used?
   a) Radiators and pipes
   *b) Fans and ducts
   c) Chimney and boilers
   d) Drains and accessories

4. The plumbing system in a building is generally dependent upon the natural force of:
   a) Convection
   *b) Gravity
   c) Temperature
   d) Pressure

5. In a wet heating system what is used as the heating agent?
   a) Air
   *b) Water
   c) Denatured alcohol
   d) None of these

6. The mechanical contractor is that contractor who installs the:
   a) General construction
   b) Electrical construction
   *c) Heating, ventilating, air conditioning, and plumbing
   d) Steel construction

7. In a steam heating system, water which returns to the boiler in a liquid form is:
   a) A solution
   b) Evaporation
   c) Steam
   *d) Condensate

8. Building construction usually means the construction of:
   a) Dams and bridges
   *b) Homes, schools and commercial buildings
   c) Railroads and airplanes
   d) None of these

9. Properly defined "air conditioning" means:
   a) Cooling during the summer months
   b) Heating during the winter
   c) Drainage systems and pipes
   *d) Proper temperature and humidity control year round

10. A plumber installs:
   a) The electrical system
   b) Wall supports
   *c) Drainage systems and pipes
   d) Foundations

11. Some plumbing fittings which might be used to hook up pipe connection are:
   a) Vents, sockets, joints
   b) Cubes, boxes, angles
   c) Tees, elbows, wyes, crosses
   d) Protractors, dials, locks

12. Which person would <u>not</u> be considered part of a mechanical contracting firm:
   a) Pipefitter
   b) Plumber
   c) Estimator
   *d) Chemist

13. A hot water circulating system is just the same as a steam heating system:
   a) True
   *b) False

14. Insulation of a building is of <u>no</u> consideration on determining the size of the heating boiler.
   a) True
   *b) False

15. A process piping system may be found in such places as oil refineries and chemical plants.
   *a) True
   b) False

16. When an individual is "taking off" quantities from blueprints for material costs and to find out how much material is needed for a job, he may be called an/a:
   a) Pipefitter
   b) Blueprint reader
   c) Accountant
   *d) Estimator

17. Fresh water to be used for drinking, washing and other domestic uses is almost always carried through:
   a) Black steel pipe
   *b) Copper pipe
   c) Ceramic clay pipe
   d) Cast iron pipe

18. A "piping system" includes:
   a) Plumbing
   b) Heating
   c) Cooling
   *d) All of these

19. Glass piping is new in its application to plumbing and drainage systems:
*a) True
b) False

20. Glass pipe should not be used to carry chemicals since it corrodes easily.
a) True
*b) False

21. Where a piping system is used to heat a building, the ventilating system is separate.
*a) True
b) False

22. A journeyman pipefitter is:
a) An apprentice
b) A laborer
*c) An accomplished craftsman
d) An important contractor

23. An apprentice in the pipefitting industry is:
a) The same as a journeyman
*b) A person who is learning the trade
c) A special teacher
d) Going to become an accountant

24. The mechanical contractor is not a all interested in what the architect does.
a) True
*b) False

25. If one wishes to become a Mechanical contractor one should study:
a) Indian history and folklore
*b) Science and mathematics
c) Music and literature
d) History and farming

26. Most mechanical contracting companies employ:
*a) 10-35 employees
b) 400-600 employees
c) 3000-5000 employees

27. To become a union plumber or steamfitter, one need not worry about graduating from high school:
a) True
*b) False

28. A storm water piping system is used to:
a) Keep a building safe in a storm
*b) Carry rain water and melting snow away
c) Provide fresh water
d) Balance the heating system

29. There are differences in the tasks performed by a plumber and a steamfitter.
*a) True
b) False

30. Piping systems are almost never installed at the job site:
a) True
*b) False

NAME _____

PRE SCORE _____ POST SCORE _____

DATE _____ DATE _____

SCHOOL _____

FIRST DAY

Notes and comments

1. Give the Mechanical Contracting Occupational Student Inventory to the students with no advance preparation on their part. Emphasize that this is an inventory - an assessment of what they know now - and it is not a test. This inventory should be corrected and compared to the same inventory given to the students on the final day of the cycle.

2. For the remaining class time, distribute the student booklet "Pick a Growth Future" and discuss its contents with the students. Note that additional information may be obtained by contacting the Mechanical Contracting Industrial Council whose address is on the reverse cover of "Pick a Growth Future." Students should retain the pamphlet as a guide during this unit, and as an education reference thereafter. Have the students place this pamphlet in his Introduction to Vocations notebook.

3. As further orientation for this cycle, consider this approach: How is the building erected? List (print on the chalkboard) the kind of jobs needed in the building industry, responsibilities, skills needed, etc. For example - Question: What kinds of people and skills were need for building a school? Possible responses are:

a) brick layer
b) architect
c) foreman
d) plumber
e) truck driver
f) laborer

Question: Can we group these jobs into clusters? For example: Would it be logical to have the electricians and the pipefitters together? Possible answers are:

a) architect and draftsman in one group
b) brick layers and carpenters in another
c) plumbers and heating specialists in another

4. In the last five minutes of class time have the students review the job clusters.

a) Have the jobs grouped so that a supervisor could be responsible for getting the most efficient work from the men.
b) Do the studerts know of a relative, friend, or neighbor employed in any of these types of jobs?

SECOND DAY

1. Review the job groupings of mechanical contracting.

2. Show the slide presentation "Careers in Mechanical Contracting" as orientation to the Mechanical Contracting Industry.
   a) The slides include a script.

3. Supplement the slide presentation with a discussion of the educational requirements for Careers in Mechanical Contracting.

Suggested vocabulary for homework:

a) Air condition	g) General contractor
b) Apprentice	h) Journeyman
c) Architect	i) Mechanical contractor
d) Bid	j) Ventilation
e) Process piping	k) Draftsman
f) Pipefitter	l) Plumber

THIRD DAY

1. The intent of this lesson is to illustrate the primary concern of the Mechanical Contractor namely, the installation of piping which comprises the various systems necessary to make a building functional. It further illustrates the technology involved in the work of a plumber as he uses:
   a) Glass pipe in drainage systems
   b) Copper pipe in fresh water systems

2. There are two aspects in today's lesson; Glass pipe manipulation and copper pipe sweating. Both activities may occur simultaneously with the students in the class rotating from one activity to the other.
Note: The teacher should handle the glass pipe and understand its level of difficulty in hooking it together before giving it to the students.

3. At the end of the class period, review the uses of glass pipe. Print these on the board and have the students copy this information in their notebooks.

4. To demonstrate the trap action of the glass pipe, pour colored water through the pipe. (Vegetable coloring is one way of coloring the water.)

5. When you have finished this aspect of the lesson, the glass pipe materials should be repacked in the same identical manner you have received them. This is important as it will prevent breakage when being sent to its next destination.

6. Have the students cut and sweat copper fittings following the teacher's demonstration.
(Prices may need up-dating)
Ell's and tees' - .11¢ each
Solder - 50-50 - 1 can $1.50
Acid brush -2 - @ .05¢ = .10¢
Tubing cutter - 1 - $1.88
Flux - 1 can - .47¢
Propane Torches - 2 - $4.13
Steel wool - 1 roll - $1.00
Sparker - 1 - .30¢

The above prices are from the Sears & Roebuck Catalog.

Note: Much of the equipment can be borrowed or obtained from the school area (including the maintenance department.) Remember - when the students are cutting the pipe and using the propane torches they are to WEAR PROTECTIVE EYE COVERINGS. If you are not certain how to "sweat and fit" check with the men in your maintenance department or your Industrial Arts teacher. Note: Check with your principal that you have the necessary protection for the desk, tables and floor surfaces before you begin this lesson.

7. The design of this "copper fitting and sweating" lesson can be your or your students imaginative planning. To see how well the students have done after they have finished, pour water into one end of this contraption and see if it comes out the other end without too many leaks. If there are many leaks - don't be concerned. You are not teaching a skill at this time. Note: Be sure this is done over a sink or some large receptacle.

Suggested vocabulary for homework:

brazing	propane torches	sparking
copper tubing	safety	sweating
flux	soldering	tubing cutter
apprentice	joint	tee
beaded end	sewer gas	welding
drain	trap	vent
ell	plumbing	flange

FOURTH DAY

1. The purpose of this lesson is to give the students an idea of the work of an estimator. A simulated blueprint or floor plan of a bathroom is provided for you. This material must be duplicated for student distribution. This layout includes costs of copper piping and fixtures. The students are to ESTIMATE the cost of installing the bathroom from the plan provided. The teacher will demonstrate all the steps from a sample on the board. The students will be assisted by the teacher. If you have trouble with this estimating, it may need to be simplified to work with the students. Note: Be sure to have rulers available for each student.

2. Take considerable time to explain the nature of the task that is expected of the students. Put a rough draft on a similar plan on the board and go over the plan with the students. After they seem to have the idea, estimate the cost of installing a bathroom.

3. The emphasis here is that the estimator is a person who will "estimate" the overall costs anticipated in furnishing and installing a mechanical system. This would include such items as labor, equipment and general overhead. The mechanical contractor will submit a bid based on that estimate. The contractor can lose a great deal of money if these estimates are not done correctly.

4. A variation of this lesson may be to have each student draw a plan of his bathroom and/or kitchen and estimate the cost of its replacements.

5. Questions to be answered:
   a) How much does an estimator earn?
   b) How does an estimator get his training?
   c) What courses could a student take in high school?
      Which would help him to become an estimator?

Suggested vocabulary for homework:

blueprint	fittings (pipe connections, such as ell, wye, tee)
building code	purchasing
catalogs	scale
estimator	take-off(terminology which means to determine the quantities of pipe needed from blueprint)
specification	

FIFTH DAY

1. Complete lesson on estimating and review vocabulary.

2. Show movie - "ANATOMY OF A CITY." Make certain that you have previewed the film.

3. Have a follow-up on the film in your class. List the jobs the students saw. List some of the vocabulary.

4. Prepare the students for the speaker who will be there on the following day. The students should be primed with questions (their own) which they can ask the mechanical contractor. (Refer to Introduction to Vocations Student Preparation for Speaker Guidelines.)

Suggested Vocabulary for Homework

contract	sealed bid	designer
customer	superintendent	accountant
estimate	journeyman	profit
site	engineer	foreman

SIXTH DAY

1. A mechanical contractor will speak to the students. The contractor will discuss the various occupations in mechanical contracting including the education, personal requirements, benefits and rewards.

2. Teacher Preparation for the Seventh Day: Since the contractor cannot make two separate trips to the school, the teacher may ask the mechanical contractor to tour the school with him and point out the heating, ventilating, and air conditioning systems as a guide for the field trip the following day.
Note: Guest speaker - mechanical contractor. Notify the main office that the mechanical contractor will arrive. Give the office his name, date and time of arrival. Have one of the students greet the guest at the main office and escort him to the classroom. Have a student prepared to introduce him to the class. Have a student prepared to rise and thank the speaker at the end. Have a student guide the guest out of the building.

3. Use the "Guidelines for Speakers" to prepare the speaker for your students. It is essential that the students be well prepared for the speaker. It is equally important that the speaker be prepared to talk to the students.

SEVENTH DAY

A fitting climax to this unit is a field trip for the class to see the school's heating, cooling and ventilating systems. Be sure the building principal and custodial staff are alerted to this tour well in advance. Be sure the school insurance will cover the students in this extension of the classroom.

Optional: The students ought to be aware of the large volume of construction drawings used for each phase of the construction of the school. Borrow a complete set of plans from the Board of Education Office and give them a chance to realize the complexities of mechanical contracting before the ground can be broken to start construction. Also borrow the book of specifications from the Board of Education Office and look at the section on heating, cooling, ventilating and plumbing.

EIGHTH DAY

1. Have the students take the same inventory of questions they took on the first day of the Mechanical Contracting Cycle.

2. Review the total unit:
   a) Jobs discussed
   b) Companies mentioned
   c) Vocabulary
   d) Places where these jobs are available
   e) Types of training needed
   f) Salary possibilities

Teacher: Evaluate the change in the degree of awareness that has taken place among your students regarding mechanical contracting occupations. Analyze the items on the inventory and evaluate those questions in which little or no change has taken place and those items in which considerable changes have occured. Evaluate the results for additional supplemental instruction.

SCIENCE ENGINEERING TECHNOLOGY CYCLE

INTRODUCTION

This cycle on technical careers has been prepared for the Introduction to Vocations coordinators and cycling teachers. The sequence of activities is presented with the understanding that the individual teachers may have to adapt it to fit the needs of their students, school facilities, and community.

The Science Engineering Technology Cycle has been developed to help students become aware of careers as technicians which require one or two years of training beyond high school. The cycle concentrates on careers requiring an associate degree, which can be earned at many county colleges in the State of New Jersey.

Many people have contributed to this effort. Space will not permit the long list of individuals who have very generously given of their time and energy. However, three groups must be mentioned which have taken special interest in developing this unit:

- New Jersey Council for Research and Development
- Engineering Council for Professional Development
- New Jersey Civil Engineering Technology Advisory Council

These groups may be of further help in the proper implementation of the unit.

CYCLE OBJECTIVES

- To increase student awareness of careers as technicians in the Engineering, Science-Technology related fields.
- To provide "hands-on" exploratory experiences for the students in areas that are related to different careers as technicians.
- To have the students become aware of the curriculum requirements in high school that will be acceptable for entrance into community colleges.

Many community colleges in the State of New Jersey have agreed to make the technical laboratories available to students in the Introduction to Vocations program for "hands-on" experiences. Contact the Department Head of the Engineering-Technologies Department at the county college located in your area to arrange a field trip coupled with "hands-on" experiences for your students.

It is extremely important that you include a discussion of the safety procedures before each lesson. It is suggested that you point out each particular hazard to the student before the experiment. Safety goggles are a must for experiments.

GENERAL INFORMATION

. Remember that you are not teaching a skill. The purpose is only occupational awareness.

. If a student cannot successfully perform the laboratory experiment he does not fail.

. Make sure that this entire cycle is reviewed before teaching. Be aware of the appropriate time the experiments are to be performed in this cycle and that the equipment necessary for the proper execution is on hand. Perform each "hands-on" laboratory test before class.

. Make sure that contacts for field trips, slides, movies, and guest speakers are all made well in advance.

SCIENCE AND ENGINEERING STUDENT INVENTORY

Teacher's Copy
* indicates correct answer

1. What is a technician? Have the students circle a letter in the left hand column for the answer.
   a) An engineer
   b) A laboratory scientist who develops ideas.
   c) A craftsman
   *d) One who assists the engineer or scientist in estimating, drafting, and other duties.
   e) A teacher

2. The high school subjects of vital importance to the preparation of a technician are:
   a) English
   b) Music and literature
   *c) Science and mathematics
   d) Gym and health

3. A technician must go to school for how many years after graduating from high school?
   *a) 1-2 years
   b) 4 years
   c) 5 years
   d) 7 years

4. A person who employs levels, transits and tapes to determine natural and man-made features of the terrain is called a:
   a) Cartographer
   b) Estimator
   c) Chainsman
   *d) Surveyor

5. What instrument is used by technicians to measure angles?
   a) Sextant
   b) Telescope
   c) Level
   *d) Transit

6. Which person would not be part of a survey party?
   a) A recorder
   b) A surveyor
   c) An axeman
   *d) An estimator

7. A convenient pocket calculator is called a:
   *a) Slide rule
   b) Field book
   c) Hand level
   d) Compass

8. On a typical construction project, who would be responsible for such problems as ex. water, foundation conditions, and concrete design?
   *a) A builder
   b) Chemist
   c) Draftsman
   d) Engineer

SET 3

9. Which person is most likely to do soils-testing in the laboratory?
   *a) Technician
   b) Craftsman
   c) Construction worker
   d) Engineer

10. Which person is most likely to be concerned with communications?
   a) Architectural technician
   *b) Electronics technician
   c) Biological technician
   d) Electrical technician

11. Which person is most likely to be concerned about testing radiation on plants and animals?
   a) Chemical technician
   b) Mechanical engineering technician
   *c) Biological technician
   d) None of the above

12. Which of the following would best describe the duties of a mechanical engineering technician?
   a) Design of a mechanism
   *b) Set-up and testing of a mechanism
   c) Manufacture of the mechanism in a machine shop
   d) Selling the mechanisms to various manufacturers

13. The primary purpose of a mechanism is to:
   a) Transmit motion
   b) Modify motion
   *c) Both of the above
   d) None of the above

14. A power lawn mower is an example of the utilization of:
   a) A mechanism
   b) A flexible mechanism
   c) A rigid mechanism
   *d) An engine

15. Which of the following activities would the technician probably not perform in his job?
   a) Use a slide rule
   *b) Work on a production line
   c) Set-up and run experiments
   d) Write reports and analyze data

16. A mechanical engineering technician would not be involved in:
   a) Designing materials for bridges
   b) Testing materials for bridges
   c) Picking out materials to be used in the bridge
   *d) Building the bridge

17. Which one of the following technicians would you find to be involved with machine operation and design?
   a) Electrical
   *b) Mechanical
   c) Machinist
   d) Civil

18. Which one of the following technicians would most likely be involved with plastics and synthetics?
    a) Industrial
    b) Electrical
    *c) Chemical
    d) Civil

19. A mathematical device that is based on high speed electronics and control equipment is a:
    a) Typewriter
    b) Adding machine
    *c) Computer
    d) Compass

20. Which of the following are characteristics of a technologically-literate person?
    a) One who uses models to simulate real situations.
    b) One who communicates with machines so that he uses the machine effectively.
    c) One who can make decisions effectively.
    *d) All of the above.

21. Which of the following engineering technologies takes the longest to train for after high school?
    a) Civil
    b) Chemical
    c) Electronics
    *d) All require about the same time

22. A technician generally would <u>not</u> be involved with:
    a) Concrete
    b) Cars
    c) Chemicals
    *d) Sales

23. An important difference between mechanical drawing and architectural drawing is that:
    a) Mechanical drawing restricts itself to mechanics.
    b) Architectural drawing is less advanced.
    *c) Mechanical drawing will only deal with one material of one type at a given time.
    d) Architectural drawing requires more exact work, since it is more important in designing.

24. Of the following, which one would you find a biological technician performing?
    a) Checking mechanisms in engines
    *b) Controlling and studying feeding habits in animals
    c) Measuring areas for construction locations
    d) Designing electronic instruments

25. Which of the following is useful to a technician?
    a) Charting information from experiments
    b) Drafting skills

c) Knowledge of a slide rule
*d) All of the above

26. Which of the following is not a member of the engineering team?
a) Scientist
b) Technician
*c) Secretary
d) Draftsman

27. To make sure that an experiment is relatively correct, a biological technician will most likely:
a) Repeat the experiment, changing the materials used
b) Discuss the experiment with his immediate supervisor
*c) Run a control experiment
d) Re-check his information for mathematical mistakes

28. The main difference between the electronics and electrical engineering technician is that the electrical technician would not ordinarily be found in the field of:
*a) Computers
b) Power in circuitry
c) Radio and television repair
d) Conductors

29. Which of the following instruments would a chemical engineering technician use to measure very accurate amounts of liquids?
a) Thermometer
*b) Graduated cylinder
c) Balance
d) Cathode

30. A biological technician would most likely be found:
a) Working with missiles
b) Pilot plant operation
*c) Doing pollution research
d) Operating computers

31. An engineering technician preparing in any area would get involved with:
a) Surveying
*b) Instrumentation techniques
c) Laboratory biology
d) Chemical lab procedures

32. The civil engineering technician could be concerned with building new roads or an entire city, dam, or similar structure.
*a) True
b) False

33. One of the tools a technician utilizes is a computer.
*a) True
b) False

34. A technician can never become an engineer.
a) True
*b) False

SET 6

35. Technicians can never be found supervising people.
a) True
*b) False

36. A student failing to take the correct courses in high school can never become a technician.
a) True
*b) False

37. An important skill for any technician to have is mechanical drawing or drafting.
*a) True
b) False

38. Technicians could be found working with scientist on the space program or under the sea doing experiments.
*a) True
b) False

39. In many occupations, skilled technicians often earn as much as a person who has completed a four-year degree program.
*a) True
b) False

40. A person can get training to become an engineering technician even though he currently may be working in another job.
*a) True
b) False

41. A surveyor can be classified as an engineering technician.
*a) True
b) False

42. No matter what kind of technician you decide to train for, employment opportunities are all very good.
*a) True
b) False

43. A student can prepare to be an engineer with just two years of study.
a) True
*b) False

44. Most technicians find their occupations rewarding and satisfying.
*a) True
b) False

45. Electrical technicians generally do not work in the field of computers.
*a) True
b) False

46. A chemical engineering technician would utilize graduated cylinders to accurately measure liquids.
*a) True
b) False

47. Civil engineering technicians are involved in machine design and operation
    a) True
    *b) False

48. Biological technicians are <u>not</u> concerned about the effects of radiation on plants and animals
    a) True
    *b) False

49. All technicians are generally skilled in the use of a slide rule.
    *a) True
    b) False

50. A person who assists the engineer or scientist in estimating, drafting and other duties is a technician.
    *a) True
    b) False

CYCLE PROCEDURES

FIRST DAY	Notes and comments
1. Administer the student inventory, which will take approximately 25 minutes. Emphasize that this is an inventory of what the students know now. It is not a test. There is no need to review the answers with the students. This inventory should be corrected and compared to the same inventory given to the students on the final day of the cycle. 2. In the remaining time, set up the first of two controlled long-range biology experiments. A minimum of 4 mice are needed for a dietary experiment. Use two for a control and two to be fed a diet which is deficient in some vitamin or mineral. Vitamin A is suggested, as the sick mice could just be put back on a regular diet to correct this at the end of the cycle. A day-by-day observation of their behavior and recording of these physical changes on a daily chart is essential to understanding the duties of a biological technician. 3. If time remains, emphasize that a technician is part of a team. The team consists of a scientist, engineer, technician and craftsman. 4. Suggested terms for homework: a) scientist b) engineer c) technician d) technology e) craftsman	
SECOND DAY	
1. Review the vocabulary homework and continue to review each day's vocabulary before beginning the day's work in this cycle. 2. Set up the second of the two long-range controlled biology technology experiments. Use seeds of the quick germinating type, such as radish, corn, or tomatoes. Have the students get a portion of them irradiated by X-rays at a dental office or hospital. Place the seeds on a suitable growing media. Make certain that the students have a control group. Have the students make daily observation reports and record on charts, as this is essential to understand	

the duties of a biology technician. It may be desirable to give the students first hand experiences with irradiated seeds utilizing "See Gro" Kits prepared by:

Union Carbide Corp.
Sterling Forest Research Center
P.O. Box 363
Tuxedo, New York 10987
Telephone: 914-351-2131

Write and ask for price lists and ordering information from the above address. Union Carbide also markets a genetics kit which appropriately illustrates another duty of the biology technician. This information is available upon request from Union Carbide.

3. The teacher should be able to provide a simple slide rule for all students. The emphasis of this lesson is that a "slide rule" is one of the tools of a technician. The teacher should assess the mathematics abilities of the students and program the lesson so that they can be successful in some aspect of the slide rule. If you are not familiar with a slide rule, check with the school mathematics teachers. Variety shops and stationery stores can supply these slide rules for as little as eighty-eight cents (.88¢). Hopefully, each student can be provided with his own slide rule to keep.

4. For homework, provide a few problems that the students will be successful in completing. Here is an example:

> A civil engineering technician knows that he needs one bulldozer to clear 500 square feet of earth in one day for a field 20 feet by 25 feet. Determine how big the area is and how many bulldozers the technician would order to complete the job in one day? Limit this first try at the slide rule to multiplication.

THIRD DAY

1. Continue the lesson on the slide rule, this time emphasizing appropriate division. Assign a couple of problems that the students will be successful in completing.

2. Here is an example of a typical problem:

A civil engineering technician needs to solve the following problem:

How many cement blocks would you need, each 12" long, to build the first row of a wall 98" long?

Another Example:

An electrical engineering technician knows that in an electric circuit, the voltage equals the current times the resistance. This can also mean that the resistance equals the voltage divided by the current. If the current is 6, and the voltage is 72, resistance = _____ ohms?

3. Review the problems assigned with the possibility of incorporating these typical engineering technician problems scaled down to the level of your students.

FOURTH DAY

1. Another tool of a technician is familiarity with the skills of mechanical drawing. Arrange with the mechanical drawing teacher, a lesson involving an awareness of the fundamentals necessary to become skilled in mechanical drawing. Try to emphasize blueprint reading, design and drawing, showing the students why drafting is a major tool in a technician's ability to communicate. If possible, design a lesson so that the students actually use mechanical drawing (drafting) equipment, and answer questions about the blueprint.

FIFTH DAY

1. The next three lessons try to conceptualize the duties of a civil engineering technician.

2. For the first lesson, contact the local (town, borough, or city) engineer and explain what you are trying to teach. Our experiences indicate that he will be able to teach a lesson on the responsibilities of a surveyor, using a transit or level and other equipment with the students for "hands-on" activities. He will also be able to show how to do the next two lessons which conceptualize tasks that are performed by a civil engineering technician.

SIXTH DAY

1. The purpose of this lesson is to illustrate

to the students one of the most important tasks a civil engineering technician performs. This task is testing for the strength of concrete. It is called a "slump cone" test.

2. Utilizing the following materials; cement, gravel, sand, water, and 16 oz. conical cups, have the students mix the ingredients. The important point to get across to the students is that as more water is added, the cement mixture weakens. When less water is added, more structural strength results in the concrete. The test is performed by putting these various mixtures into the 16 oz. cups, inverting the cup, then measuring the degree of "sag" from the top of the cup when this mixture is no longer supported by the cup. The result will show the students that more "slump" indicates less strength in the concrete, while no "slump" indicates stronger concrete.

Suggested vocabulary for homework:

a) concrete
b) cement
c) gravel
d) slump
e) sag

SEVENTH DAY

1. One of the important tasks a civil engineering technician performs is to test soil(s) for permeability. This test helps determine the strength of soil and it's degree of support. The test is called a Permeability Test.

2. The materials needed for this test are: glass tubing (8" x 1"), beakers, stoppers, and rubber tubing. Use 3 different soil samples such as clay, sand and loam. Pour measured amounts of water into the glass tubing packed with these soil samples and time the flow of water for the soil's permeability. Tests like this performed by a technician help the engineer to plan a construction site.

Suggested vocabulary for homework:

a) permeability
b) density
c) soil sample
d) soil testing

EIGHTH DAY

1. Before beginning the mechanical engineer-

ing unit, it will be necessary to introduce one of the Chemical Engineering Technician experiments.

2. This is approximately a 2-week long experiment in crystal growing.

3. Contact the high school chemistry teacher, or the community college chemical engineering technology department and obtain instructions on crystal growing.

4. A good experiment can be conducted using copper sulfate or alum and water. Obtain the chemicals from your local high school or scientific supply house at least three weeks prior to the experiment.

5. The importance of this long-term experiment is to show the student that forms of elements can be studied in different physical states and that the chemical engineering technician may be directed to study them.

NINTH DAY

1. The next three lessons conceptualize the tasks that a mechanical engineering technician performs. To help you appreciate these lessons you should contact your local community college mechanical engineering department head who will be glad to assist you in developing these lessons.

2. The first lesson (see Appendix, diagram one) is designed to show the students "linkages" of three, four, and five components. This lesson can be very easily performed by the students with five tongue depressors and five paper fasteners. Have holes drilled in the end of the depressors for the students so that the depressors will not break easily.

3. The purpose of this lesson is to show that three linkages give support, four linkages yield a transfer of motion, and five linkages give non-support. Practical applications are in bridges, steam engines and a baby carriage, respectively. The important point to make at the conclusion of this lesson is that a mechanical engineering technician must have an understanding of linkages.

4. Make transparancies (see Appendix, diagram 4) of a simple brake system, reciprocating

engine, clutch, or steering system of a car. Then challenge the students to create these linkages with the tongue depressors.

Suggested vocabulary homework:

a) link
b) mechanism
c) support
d) rotary motion
e) pivot

TENTH DAY

1. Among the many interesting tasks that a mechanical engineering technician is asked to perform is the "Strength of Materials" test. One way of determining the strength of materials is to measure the deflection that a given length of material (metal) will bend from a fixed point (fulcrum).

2. To perform this deflection test use several metal rods about 26 inches long and ¼ inch in diameter, and a series of weights. Have the students anchor a rod in a horizontal position and by fixing various weights at the other end they can easily observe the deflection from the horizontal. All of the students will quickly perceive that different metals have different qualities. This test requires four measurements: distance from the fulcrum to the weight, the weight, the deflection, and the diameter of the rod. The students should produce a chart of these measurements. By mathematical application of these measurements a mechanical engineering technician can incorporate better materials in the design of a mechanism.

Suggested vocabulary homework:

a) deflection
b) stress
c) strain
d) torque

ELEVENTH DAY

1. Another interesting task a mechanical engineering technician performs is "materials analysis." This specific heat test is designed so that the students will understand the concept that different materials (in this case metals) transfer heat at different rates. This is called heat exchange or thermodynamics.

2. Materials needed for this experiment are beakers, water, thermometers, and different metals about ½" square and unmarked so the students cannot identify them.

3. To perform this experiment the students need to weigh the unknown metal sample. Then put it into a beaker of boiling water until the metal has had time to reach the temperature of 212F. Remove the metal sample and put it into a beaker of cooler water whose temperature and volume has been measured. In a few minutes record the temperature of the water. By this experiment, a mechanical engineering technician can determine, with the aid of a formula, what the specific metal is. The formula is:

$$\text{Specific heat: } \frac{(\text{mass of cold } H_2O) \times (\text{change of temperature})}{(\text{Change in temperature of metal}) \times (\text{weight of metal})}$$

See Appendix, diagram six for a table of specific heat values.

TWELFTH DAY

1. It is suggested that at this time you review with the students the activities up to this point. To supplement the group discussion you may wish to obtain the film, To Build A Future, from:

. John Shuler
Building Contractors Association of New Jersey
500 Morris Avenue
Springfield, New Jersey 07081

or

. Construction Industry Advancement Program
401 Cooper Landing Road
Cherry Hill, New Jersey 08034

or

. Robert Briant
Heavy Highway and Construction Industry Advancement Fund
P.O. Box 307
2411 Pennington Road
Trenton, New Jersey 08534

Be certain to order it before beginning this cycle. At this time distribute pamphlets and give-aways which can be ordered from the

bibliography. It is essential to stress to the students that all of them can become technicians provided they have the interest, motivation and desire to succeed. It should be pointed out that many successful technicians are those who have taken vocational courses such as machine, electrical, automotive and print shop in addition to the required courses necessary for entrance into a community college.

THIRTEENTH DAY

1. It would be appropriate if at this time a field trip could be arranged to a community college. Remember to request that "hands-on" experiences be provided at the college for the students. This field trip should include a full orientation of the engineering, technology department.

FOURTEENTH DAY

1. The next series of lessons conceptualize some of the tasks that electrical and electronics engineering technicians do. If possible, you should contact your nearest community college and ask the electrical--electronics-- engineering department ead to assist in developing the next series of lessons. Another good source of information is the high school science teacher. It is strongly urged that you involve the students in a discussion on electrical safety before beginning these lessons.

2. The first lesson illustrates to the students many of the tools that an electrical technician will use. One recommended activity to demonstrate these tools is to perform a color code check on resistors. By utilizing batteries, voltmeters, ammeters, and resistors students can be provided with the same apparatus that an electrical engineering technician might use. It is suggested that the students use the slide rules to obtain values for the resistors and check the color used with the accompanying chart. (See Appendix, diagram 7).

Suggested vocabulary homework:

a) voltmeter
b) ammeter
c) resistor
d) conductor
e) electrician
f) electrical technician

FIFTEENTH DAY

1. One of the tasks an electrical engineering technician frequently performs is the use of simple electrical equipment in testing various circuits. It is suggested that you provide a 1½ volt battery for the students and have them develop a simple circuit, to ring a bell or light a bulb. Follow that with two batteries in a curcuit by showing them how to use a voltmeter and ammeter in these circuits. The final step in this lesson is to use the voltmeter, ammeter, and resistor showing ohms law. (See Appendix, diagram 3).

Suggested vocabulary homework:

a) battery
b) current
c) transistor
d) voltage
e) oscilloscope

SIXTEENTH DAY

1. Another electrical device used by an electrical engineering technician is a diode. It is important to stress that the electrical engineering technician performs many tasks associated with "electrical power" while the electronics technician involves himself with computers, radar, etc. The diode is a device which illustrates the regulation of electrical power.

2. To have the students perform this lesson, place a diode in a curcuit. (Diodes may be purchased at any electrical supply house, approximately 10 for $1.00). The concept for the students to appreciate is that the diode in a circuit allows the current to flow in one direction If the diode is reversed, the circuit will not work. Vary this lesson with two diodes.

Suggested vocabulary homework:

a) direct current
b) alternating current
c) diode
d) amplify

SEVENTEENTH DAY

1. The purpose of this group of labs is to

illustrate to the student that an electronics engineering technician works with computers and must have a background in electrical circuitry.

2. It is suggested that the coordinator of this program contact the local community college electrical engineering department and obtain laboratory information on basic "and/or" circuits. (See Appendix, diagram 2).

3. These lessons can be very easily set up by using batteries, switches, and light bulbs, obtainable from the school science laboratory, or from the high school science laboratory, or the high school science department.

4. Practically speaking, the "and/or" circuits can be applied to pay telephones, pilot ejection seats, and school fire-alarm systems.

5. It will take two class periods to complete these lessons.

6. It is also suggested that use of diagrams and a very slow approach be used as these lessons are performed. Demonstrate what the students will perform.

Suggested vocabulary homework:

a) computers
b) electronics
c) switches
d) logic circuit
e) circuit, or circuits, and/or circuit

EIGHTEENTH DAY

1. Continuation of previous day's activities.

NINETEENTH DAY

1. This experiment is a sample of the logic that the electronics engineering technician might be called upon to use.

2. By utilizing one extra switch, have the students try to wire, completely on their own, a circuit that can be turned on or off from two places. Have them spend one-half of the period trying to do this in the laboratory on their own. The second half of the period is to be used to check their work and to demonstrate the correct circuit.

3. It is suggested that a practical applica-

tion of this circuit be discussed.

Suggested vocabulary homework:

a) open circuit
b) closed circuit
c) electronics engineering technician
d) troubleshooter

TWENTIETH DAY

1. Show the film Six in Electronics from: Engineer's Council for Professional Development, 345 East 47th Street, New York, New York 10017.

2. This film portrays the everyday life of six different men who are electronics engineering technicians.

3. It is suggested that the film be followed with a discussion.

TWENTY-FIRST DAY

1. Review the lessons involved in the electrical and electronics engineering technician clusters. To supplement the group discussion, you may wish to order (ahead of time) pamphlets and other materials to be distributed at this time. An electrical-electronics bibliography is given to each student at the end of this unit.

TWENTY-SECOND DAY

1. This would be an appropriate time to arrange a field trip for the students. Any business or industry that employs technicians would be an appropriate site for visitation. Suggested sites for visitation are chemical companies, construction sites, architectural firms, oil companies, engineering firms, pharmaceutical companies, and science research companies. It is essential to prepare the students for the trip. Refer to the field trip checklist as you complete your arrangements.

TWENTY-THIRD DAY

1. The purpose of this cluster of lessons is to illustrate to the students typical experiments that a chemical engineering technician might perform.

2. It is suggested that all materials and laboratory information be obtained from the local high school chemistry department.

3. For the first laboratory, obtain information on a simple experiment involving paper chromatography. This can be easily performed with filter paper, flare pens, test tubes, and alcohol. Allow the students to keep the resulting chromatograph.

4. Since this experiment only takes 10-15 minutes to set up, and must be left still for the remainder of the period, it is suggested that the students perform additional experiments this period. Using chemical indicators and household products such as vinegar and ammonia, have the students identify the liquids as being acid or base. By a simple color change, the students can be led to relative success in this activity.

Suggested homework:

Give the students several pieces of litmus paper and have them test various products around their home as acids or bases and have them bring in the results posted on a chart.

TWENTY-FOURTH DAY

1. The purpose of this lesson is to show the students that solving problems using electrochemistry is another task that a chemical engineering technician should expect to encounter.

2. This experiment is designed to see if solutions will work as wires in lighting light bulbs. Arrange with the high school chemistry teacher for the apparatus and equipment necessary to perform this experiment in electrochemistry.

3. Be sure to include a discussion on safety before beginning the experiment. Allow time for the students to clean up. Have the students answer the questions in chart form.

Suggested vocabulary homework:

a) pilot plant
b) electrode
c) conduct
d) chromatography

TWENTY-FIFTH DAY

1. The intent of this lesson is to further expand the students conceptualization of chemical engineering technology. This lesson is designed to give the students an idea of electroplating, and may be supplemented with a review of chemical indicators in the electroplating solution.

2. Arrange with the high school chemistry teacher to have the necessary equipment and apparatus, (all in functioning order) before beginning a simple experiment in copper electroplating. Effectiveness will be enhanced if the material to be plated has the student's name etched in it and he is allowed to keep it.

3. The instructor should be aware that this experiment will need more pre-class preparation than the other experiments. As the experiment is performed, discuss the background knowledge that a technician must possess to properly understand the varied experiments which he sees and works.

Suggested vocabulary homework:

a) electroplating
b) anode
c) cathode
d) copper plating
e) circuit

TWENTY-SIXTH DAY

1. The purpose of this lesson is to allow the students time to discuss and evaluate the three long-term experiments they were conducting in biology and chemical engineering technology.

2. Terminate the crystal growing experiment and discuss with the students the role of the technician in controlling this experiment. Allow the students to keep the crystals. Discuss with them the value in growing crystals.

3. Have the students make final observations and summarizations of the condition of the mice. Correct the diet of the mice. Put them back on Vitamin A. Discuss how often it was necessary in this experiment to care for the mice. Supplement the discussion with a brief synopsis of the vitamin deficiencies and

possible experiments that could be conducted to test them.

4. Make the final evaluation and discussions on the effect of irradiation on seeds. Discuss the role of the technician in controlling the experiment.

5. Clean up the entire laboratory area as the experiments are concluded. Arrange to return all equipment. You may also wish to show a film, hand out pamphlets or other literature to the students at this time. Refer to the chemical-biological bibliography at the end of this unit for sources of materials.

TWENTY-SEVENTH DAY

1. Arrange to have a guest speaker from some business or industry who is responsible for the employment or supervision of technicians. Suggested speakers are personnel directors of large industrial companies or someone who has a broad overview of the engineering, science-technology scene and can discuss career opportunities in this field with the students. Remember it is just as important to prepare the students for the speaker as it is to prepare him for the students.

TWENTY-EIGHTH DAY

1. As a follow-up on an overview of the entire engineering technician field, arrange to have a speaker come to the school to discuss a particular cluster of careers. It is suggested that this speaker be a young adult recently graduated from a community college who probably has the necessary empathy for the students.

TWENTY-NINTH DAY

1. This very important lesson is to present to the students the required courses necessary for them to take in high school so that they may be adequately prepared for admission to a community college to further their education. Remind the students again that some of the most desirable courses for a student to pursue, in addition to his science and mathematics courses, are those in vocational education.

2. Machine, automative, print, electrical and mechanical drawing shop courses, among others, will help a student who wishes to become a technician. Give the students the complete list of

Technical Education Careers in New Jersey institutions, issued by the State Department of Vocational Education, and discuss the contents.

3. Distribute any published materials you may have for the students interest. Allow the students time to pursue any particular interests they may have in the engineering science-technology field.

THIRTIETH DAY

1. Have the students take the same inventory of questions they took on the first day of this engineering science technology cycle.

Review the entire unit, outlining:

- clusters of technician careers
- technician occupational opportunities
- community colleges and institutions
- course requirements needed in high school

2. The coordinator should evaluate the change in the degree of awareness that has taken place in his students by analyzing the questions on the inventory. (Remember, this is not a test). If possible, evaluate the entire cycle and mail a copy of both scores for each student to the State Introduction to Vocations Office.

BIBLIOGRAPHY

There are three (3) agencies which publish or produce a great deal of information regarding Technicians and Technical Education.

1. American Society for Engineering Education
   1 Dupont Circle
   Washington, D.C. 20036

2. Engineers' Joint Council
   345 East 47th Street
   New York, New York 10017

3. Superintendent of Documents
   U.S. Government Printing Office
   Washington, D.C. 20402

Some of the publications are as follows:

Occupational Outlook Handbook
U.S. Dept. of Labor, Bureau of Labor Statistics
Washington, D.C.

Careers in Technical Occupations - OE 80032
U.S. Government Printing Office
Washington, D.C.

Engineering Guidance Ideas - Five Thoughts
Engineers' Council for Professional Development
Engineers Joint Council
345 East 47th Street
New York, New York 10017

Salaries of Engineering Technicians
Engineering Manpower Commission
Engineers' Joint Council
345 East 47th Street
New York, New York 10017

Pre-technical Post High School Programs
(A suggested guide) F.S. 5,280:80049
U.S. Government Printing Office
Washington, D.C.

The Engineering Technician
American Society for Engineering Education
1 Dupont Circle
Washington, D.C. 20036

Engineering and Science Technicians 1550-88
U.S. Government Printing Office
Washington, D.C.

Characteristics of Excellence in Engineering Technology Education
American Society of Engineering Education
1 Dupont Circle
Washington, D.C. 20036 SET 24

Engineering Technology Careers
National Council of Technical Schools
1507 "M" Street, N.W.
Washington, D.C. 20005

Job Opportunities in Civil Engineering Technology
California State Personnel Board
801 Capitol Mall
Sacramento, California 95814

Keys to Careers in Science and Technology (price $1.00)
National Science Teachers Association
NEA Publication Sales
1201 16th Street, N.W.
Washington, D.C. 20036

You and Your Child's Career
B'nai B'rith Vocational Service
1540 Rhode Island Avenue, N.W.
Washington, D.C. 20036

Manual for Engineering Career Advisors (price 50 cents)
Engineers' Council for Professional Development
345 East 47th Street
New York, New York 10017

Career Opportunities and Preparations (PRF-63A)
Educational Publications
General Electric Company
Schenectady, New York 12305

TECHNOLOGICAL SOCIETIES AND ORGANIZATIONS

American Institute of Aeronautics and Astronautics, Inc.
1290 Avenue of the Americas
New York, New York 10019

American Institute of Chemical Engineers
345 East 47th Street
New York, New York 10017

American Institute of Industrial Engineers, Inc.
345 East 47th Street
New York, New York 10017

American Institute of Mining, Metallurgical and Petroleum Engineers
345 East 47th Street
New York, New York 10017

American Nuclear Society
244 East Ogden Avenue
Hinsdale, Illinois

The American Society for Engineering Education
1 Dupont Circle
Washington, D.C. 20036

The American Society of Agricultural Engineers
420 Main Street
St. Joseph, Michigan 49085

American Society of Civil Engineers
345 East 47th Street
New York, New York 10017

The American Society of Mechanical Engineers
345 East 47th Street
New York, New York 10017

The Engineering Institute of Canada (Affiliate)
2050 Mansfield Street
Montreal 2
Quebec, Canada

Engineers' Council for Professional Development
345 East 47th Street
New York, New York 10017

The Institute of Electrical and Electronics Engineers, Inc.
345 East 47th Street
New York, New York 10017

National Council of Engineering Examiners
Box 752
Clemson, South Carolina 29631

Demand for Engineers and Technicians
Engineers' Joint Council
345 East 47th Street
New York, New York 10017

A Bright Future For You As A Chemical Technician And Careers Ahead In Chemical Industry
Manufacturing Chemists Association
1825 Connecticut Avenue N.W.
Washington, D.C. 20009

Science and Engineering Careers in Government (price 30 cents)
(Descriptions of beginning jobs for young people)
Superintendent of Documents
U.S. Government Printing Office
Washington, D.C. 20402

The Technician and Tomorrow (PRE-14)
Educational Publications
General Electric Company
Schenectady, New York, 12305

Elsbree, Hohn J.,
"Manpower," Chemical and Engineering News, Career Opportunities Issue,
March 11, 1968, p. 35A ff.
American Chemical Society
1155 Sixteenth Street, N.W.
Washington, D.C. 20036

"The Engineer and Technicians,"
Chemical Engineering Progress
May, 1967, p. 26ff.
American Institute of Chemical Engineers
345 E. 47th Street
New York, New York 10017

Careers for Women as Technicians (WB Bulletin 282)
U.S. Department of Labor
Women's Bureau
Washington, D.C. 20009

*Technician Career (price 50 cents)
Opportunities in Engineering Technology
American Society for Engineering Education
2100 Pennsylvania Avenue, N.W.
Washington, D.C. 20037

Can I Be A Technician? Let's Find Out
Public Relations Staff
General Motors Corporation
Detroit, Michigan 48202

*We recommend this publication as the most practical single source of information on technician careers.

National Institute of Ceramic Engineers (Affiliate)
4055 North High Street
Columbus, Ohio 43214

National Society of Professional Engineers (Affiliate)
2029 K. Street, N.W.
Washington, D.C. 20006

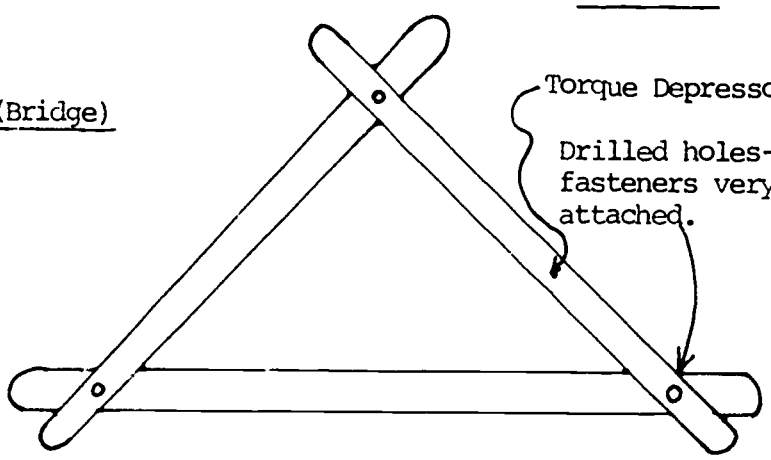
Society of Automative Engineers
2 Pennsylvania Plaza
New York, New York 10001

APPENDIX

MECHANISMS - LINKAGES

DIAGRAM 1

1A - 3 Links
Used for Support (Bridge)



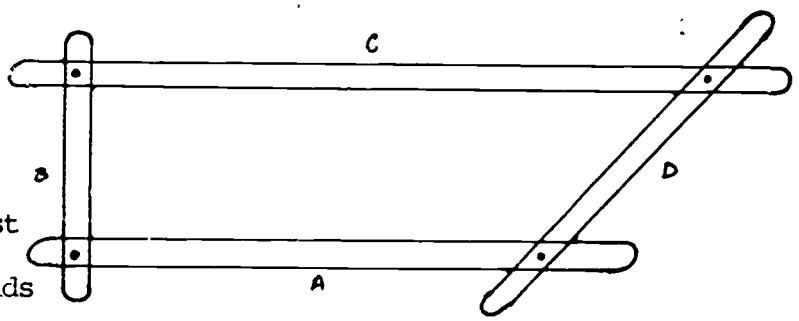
1B - 4 Links
Used to Transfer Motion

1 Transfer Rotary
Receive Rotary From
Junction DC to BC

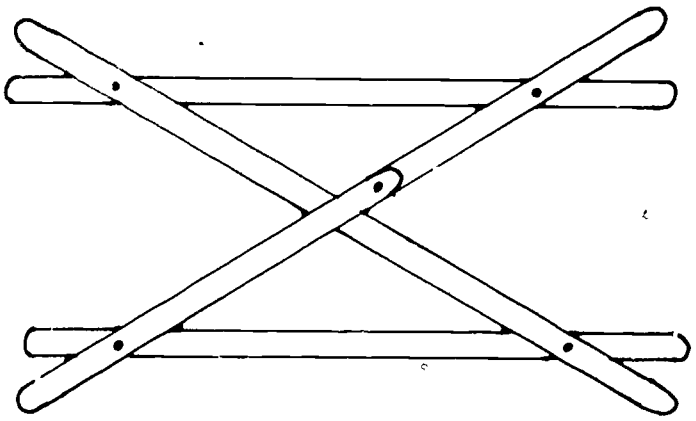
2 Transfer Rotary
Receive Back and Forth
From Junction DC to BC

CONDITIONS FOR 1
C (A + D - B)
or
C (B + D - A)

FOR 1 Lengths of Links must be as follows:
any other combination yields 2



1C - 5 Links
Non-Support (Baby Carriage)

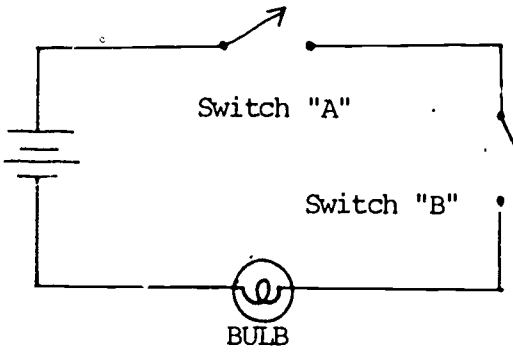


Link Pivot Firmly Attached At First To Have Only 4 Links - Then Collapsed To Give 5 Links And Resulting Non-Support.

1A "AND" CIRCUIT

DIAGRAM 2

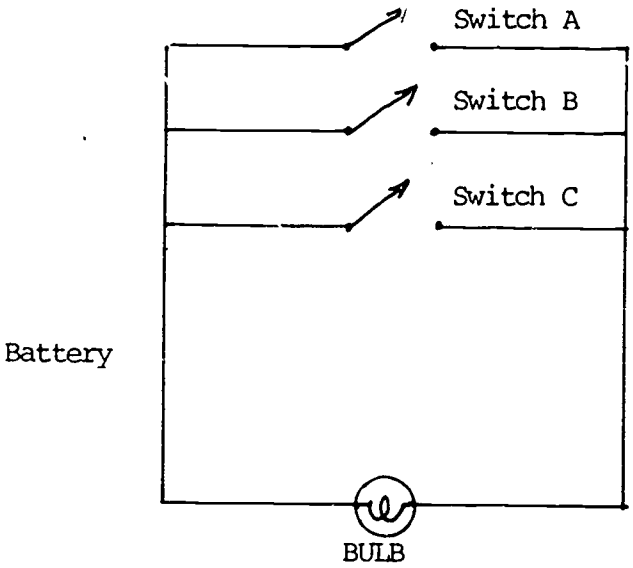
*Pay Telephone—To Get Dial Tone (Or Current) You Must Lift The Receiver and Deposit 10¢



Both Switch "A" and Switch "B" Must Be On To Light The Bulb

Lines Represent Wires

1B "OR" CIRCUIT

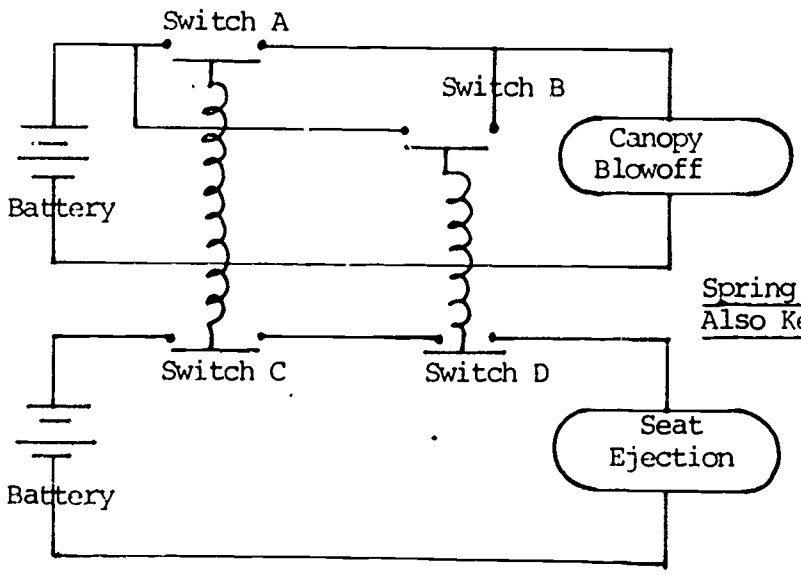


Either Switch "A"
or "B"
or "C"
Will Light The Bulb

*Fire Alarm System Pull Switch At Any Box - Alarm Rings

1C "AND"/"OR" CIRCUIT

PILOT EJECTION SYSTEM



Either "A" or "B" For Canopy Blowoff

Spring Keeps A + C In Same Position
Also Keeps B + D In Same Position

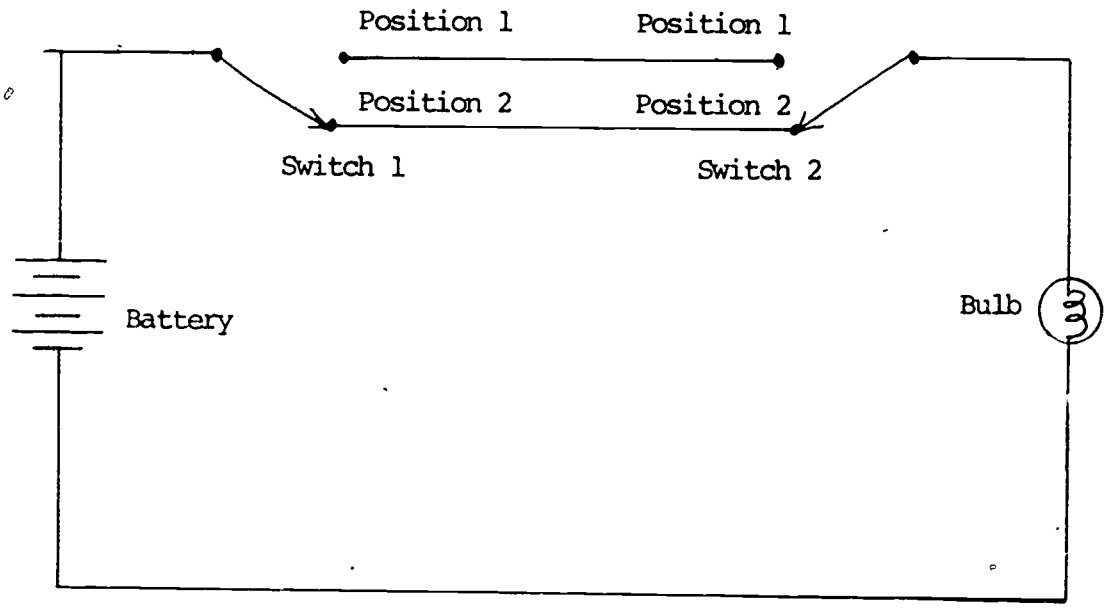
You Need Switches A+B+C+D For Seat Ejection. By Switching A - You Also Get C By Switching B, You Also Get D. Since You Need C + D For Ejection And You Can Only Get Them By Switching A + B.

YOU NEED ALL FOUR FOR THIS CIRCUIT TO WORK

CIRCUIT WHICH WILL WORK ON AND OFF FROM TWO DIFFERENT PLACES

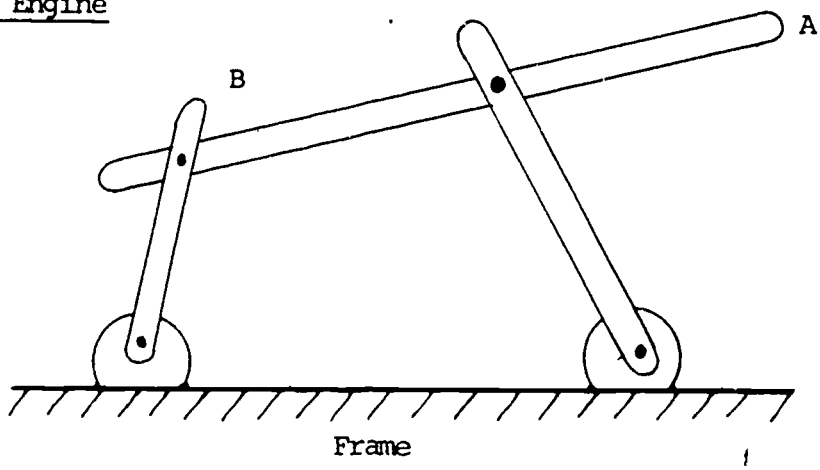
DIAGRAM 3

NOTE: This Circuit Is Commonly Found in Hallways In Homes To Operate The Hall Light From Two Switches, One At Each End Of The Hall

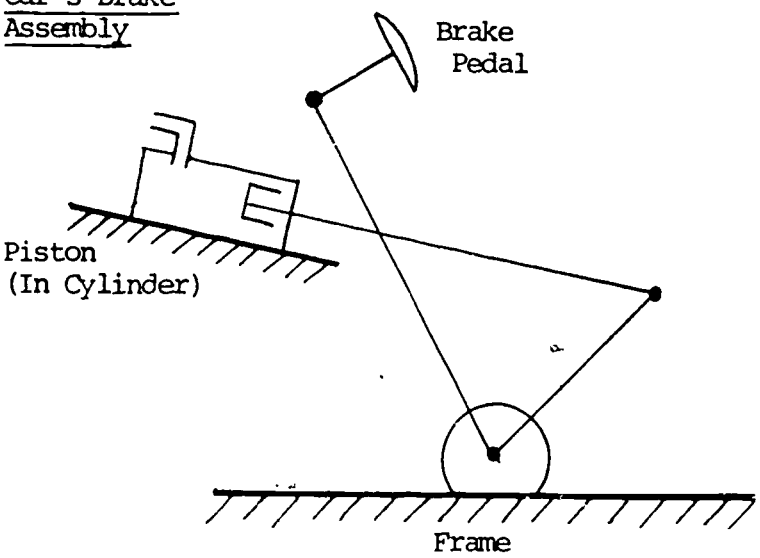


Switches 1 and 2 Can Be Alternated To Either Position 1 or 2, Thus A Person Can Control Lamp From Either Place.

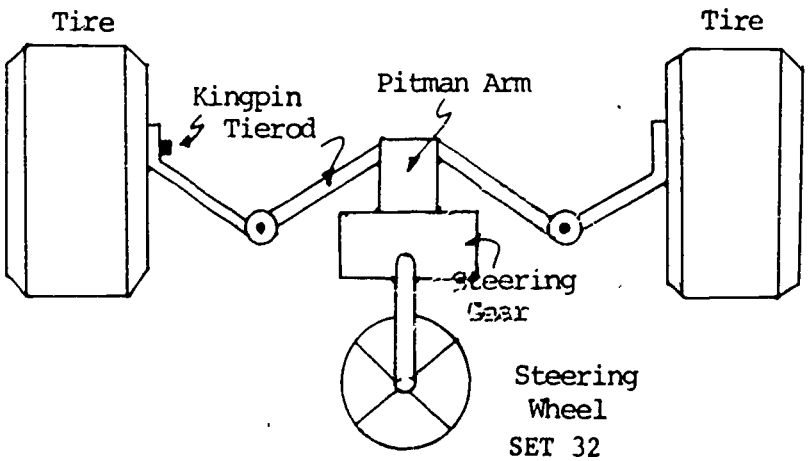
A. Transmit Motion By Rotating A Or Sliding B
Steam Engine



B. Car's Brake Assembly



C. Car Steering System



SET 32

MECHANISMS APPLICATION

DIAGRAM 5

A SIMPLE RECIPROCATING STEAM ENGINE
(Optional for Interested Students)

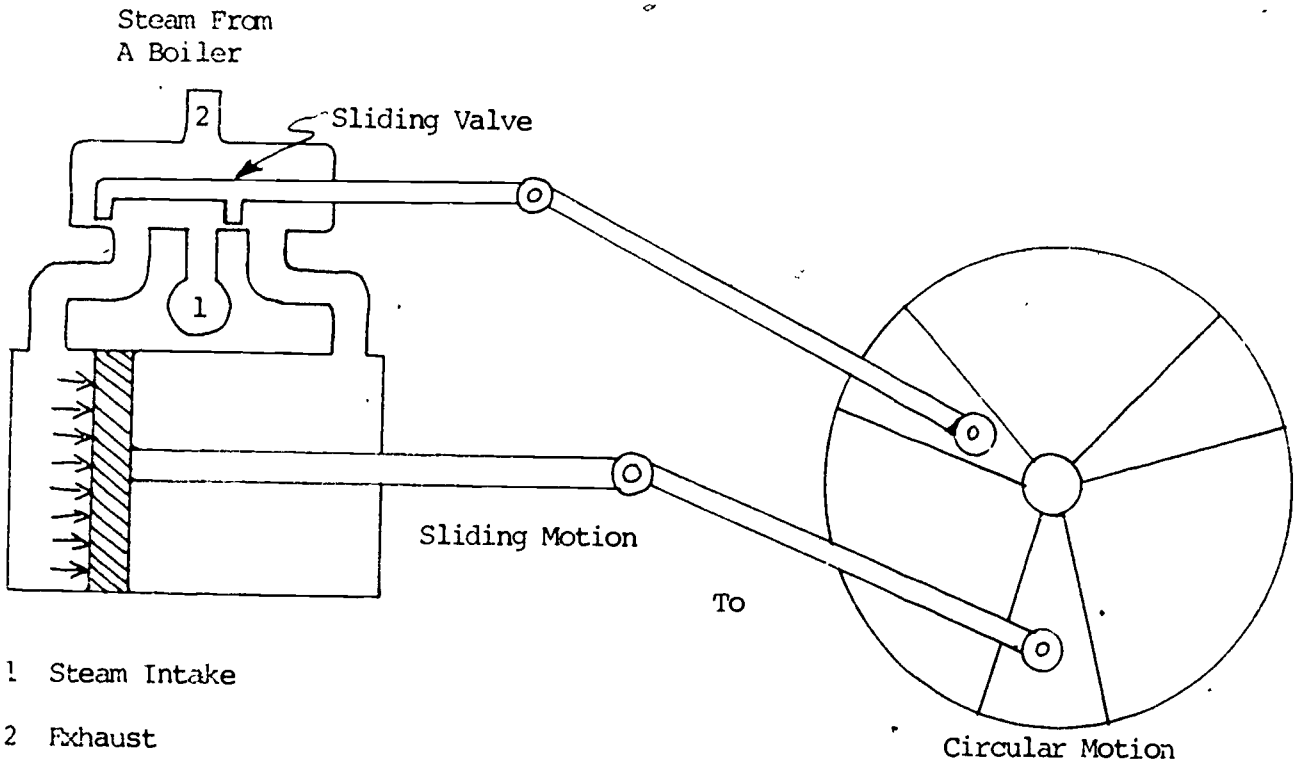


DIAGRAM 6

SPECIFIC HEAT OF METALS

METAL	SPECIFIC HEAT VALUE
Aluminum	.214
Brass	.092
Copper	.091
Iron	.107
Lead	.031
Mercury	.033
Platinum	.032
Silver	.056
Tin	.071
Tungsten	.032
Zinc	.092

DIAGRAM 7

RESISTORS - COLOR CODE

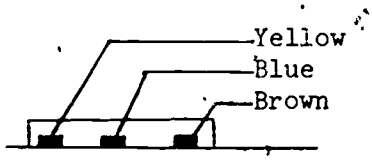
DIRECTIONS: Start with the band closest to an end of the resistor. Count bands of colors - not the resistor's color.

COLOR	1st Band Only	2nd Band Only	3rd Band Only
Black	0	0	x 1
Brown	1	1	x 10
Red	2	2	x 100
Orange	3	3	x 1,000
Yellow	4	4	x 10,000
Green	5	5	x 100,000
Blue	6	6	x 1,000,000
Violet	7	7	None
Gray	8	8	None
White	9	9	None

You must take the value of each color in order of the band if it appears as, see below.

Don't count the color of the resistor.

EXAMPLE:



Yellow = 4
Blue = 6
Brown = x 10

Value: 460

SMALL BUSINESS CYCLE

INTRODUCTION

In America, all businesses were once small businesses. Some of the smallest concerns of yesterday are now the medium-size or large-scale corporations of today and tomorrow. Only an idea, diligence, skill, initiative and hard work can and will make it happen. The purpose of this cycle is to make today's young people aware of the career possibilities and opportunities that exist in the small business industry.

This model for a cycle on small business careers has been prepared for the Introduction to Vocations coordinators and cycling teachers. The sequence of activities is presented with the understanding that the individual teachers may have to adapt it to fit the needs of their students, their school facilities and their community.

Many individuals contributed to the design of this cycle. Credit must go to Lou Resciniti, Conackamack Junior High School, Piscataway, New Jersey, Mort Shenker, Trenton State College and Dr. Emanuel Orlick of the Small Business Administration, all who participated in the writing of a previous small business cycle. Special recognition must go to Mr. Martin Kornfeld, a Guidance Counselor at Herbert Hoover Junior High School in Edison, New Jersey for the work he did in compiling the information, designing the activities, and writing this cycle.

CYCLE OBJECTIVES

- To increase student and teacher awareness of the numerous types of small businesses.
- To help students become aware of the possibility of owning their own small businesses.
- To meet with proprietors of small business concerns and to learn of their operations.
- To provide "hands-on" exploratory experiences for the students in areas related to small business ownership and operation.
- To make students more aware of the curriculum requirements in high school that will be of value to them should they aspire to become a small business owner.

SPECIFIC OBJECTIVES

- The students will be able to write four personal characteristics needed to succeed in a small business.
- The students will be able to list three small business opportunities that they have learned about in this cycle.
- The students will be able to do simple research about three small business categories.

AWARENESS EMPHASIS

Many students are unaware of the career opportunities that exist in the field of small businesses. This cycle has been developed to broaden their understanding to include careers and ownership of small businesses, so that when students are ready to make career decisions, these decisions will be well thought out and will be the wise decision for each individual.

The teacher should make a mental note that for a student to make up his mind not to enter this career field is as important as his making a positive choice. Small business careers are not for everyone. Some individuals will prefer employment with larger companies. Other students will decide that it is preferable to be an employee rather than an employer. All of this is understandable and has been compensated for in this cycle.

There are youngsters, however, who, even in their junior high school years, aspire to or imagine that they would like to have a small business which they could call their own. It might be a gasoline station, a bakery, a dress shop, a beauty parlor, or literally thousands of other types of small businesses.

In this cycle, we will look at all the facets that are involved in a small business operation. Students will have opportunities to deal with: decision-making, planning, organizing, directing and controlling a small business. They will have the occasion to learn about themselves, their characteristics, and their personal qualities. The important concepts in this unit are to experience and to begin thinking about career choices. Once the student sees, touches, tastes and feels, he will then be better prepared to begin these processes. Armed with these experiences, each student will be able to begin making some decisions for himself.

STUDENT SUCCESS

Emphasize that <u>every</u> student in your class can become a successful small business employee or employer, owner or proprietor. Make them aware of the qualities which are necessary to be successful in this field.

- A strong interest in a particular career in the small business field.
- A willingness to take the high school courses which will assist you in this field.
- A willingness to work hard in the small business field, either as an employee seeking promotion, or as a proprietor of a small business.
- The ability to get along successfully with people.
- The desire to succeed.

GENERAL INFORMATION

Small business embodies the spirit of free, competitive enterprise. It is an area where individualism prospers and in which opportunity exists for the energetic and the hard-working.

The owning and operating of a small business suits the personality and independent attitude of people from many different walks of life. Thousands of individuals who would find it extremely difficult to work for someone else, find business ownership and management more to their liking. One has only to reflect back into the past history of this country to find names such as Henry Ford, Frank Woolworth and Andrew Carnegie, all individuals who began with little money, small businesses, and all who became very wealthy as a result of the growth and prosperity that developed from those small businesses.

In time, every young man and young women must face the inevitable question of "What am I going to be?" Choosing an occupation is not a simple process, as it brings young people into contact with society, the world of work, and a tremendous variety of occupations. It requires careful investigation of one's interests, abilities and aptitudes. Specific occupations must then be investigated to determine if a particular career field really appeals to the student. A well-informed person chooses a job for value; because he likes the type of work that he will be doing, and because he feels that he can be reasonably successful in this career field, both presently and in the future. A un-informed person does not choose a job in this manner and generally makes a poor choice.

This cycle has been written for a period of ten days. Some of the activities and lessons that have been prepared in this cycle could conceivably be covered in the "Know Yourself" and/or the "Secretarial" cycles that are in your present school programs. If this is so, then certainly this cycle would be more effective with a decreased amount of days.

Remember that you are not teaching a skill. A specific teaching objective is occupational awareness. If a student cannot successfully perform the "hands-on" activities he does not fail.

The entire cycle must be completely reviewed before teaching. Be aware of the appropriate time the "hands-on" activities are to be performed and have the necessary equipment on hand. Perform each activity before doing it with the class.

Make sure that your contacts for field trips, slides and guest speakers are made well in advance.

It is imperative to follow all the necessary safety rules and regulations as set forth by your board of education.

USE OF RESOURCES

To enhance this cycle, set up an environment for the students that will be of maximum assistance in developing career awareness. Certain aspects of your school and community should be utilized in this endeavor.

- Arrange with your school librarian for an area to be set aside in the library on small businesses, careers in business and successful men and women in the business world - both biographical and autobiographical.

- Arrange for an area to be set up in the guidance department with information on post-secondary education for business careers.

- Contact the Small Business Association, Chamber of Commerce and other local businessmen associations in your community. They will be most happy to provide you with information, materials and guest speakers.

- Request assistance from the different departments within your school, the art department could provide you with posters and the mathematics department with business-math problem-solving sheets, the English department with resume and job application information.

- Students could inquire of their parents, friends and neighbors as to the types of work that they do.

- A student survey of the community could be developed to determine what types of small businesses are needed in your area.

SMALL BUSINESS CAREERS

PRE AND POST STUDENT INVENTORY

List the small businesses that are present in your community.

FIRST DAY OF CYCLE	LAST DAY OF CYCLE
1.	1.
2.	2.
3.	3.
4.	4.
5.	5.
6.	6.
7.	7.
8.	8.
9.	9.
10.	10.
11.	11.
12.	12.
13.	13.
14.	14.
15.	15.

Name of Student _____

Pre Score _____ Post Score _____

Date _____ Date _____

School _____ Teacher _____

SMALL BUSINESS CYCLE PRE AND POST STUDENT INVENTORY TEACHER'S COPY

*indicates correct answer

Have the students circle the correct answer in the left column.

1. It is always better to be an employee in a large company rather than in a small company.
   a) True
   *b) False

2. Individuals who seek information about small businesses can obtain this information from the Small Business Administration.
   *a) True
   b) False

3. Owners of small businesses can seek financial aid from the Small Business Administration when they are first ~~starting~~ out and/or when they are expanding their business operations.
   *a) True
   b) False

4. Very few high school students ever think about owning their own small business.
   a) True
   *b) False

5. Small business is an area in which opportunity exists for the energetic and industrious individual.
   *a) True
   b) False

6. It is generally expected that you will work less hours as an owner of a small business than as an employee of a business.
   a) True
   *b) False

7. It is not important to obtain legal advice before beginning your own business.
   a) True
   *b) False

8. When applying for a loan to start a small business, every applicant is expected to have some money of his own or other assets to be placed in this venture.
   *a) True
   b) False

9. Insurance protection is important if you own your own business.
   *a) True
   b) False

10. The gross profit of a business is the difference between the retail sales price and the wholesale price of goods sold.
    *a) True
    b) False

11. A woodworking shop may be a part-time business which has grown out of a hobby.
*a) True
b) False

12. Before setting up your own retail flower shop, it is necessary to own or lease many acres of land.
a) True
*b) False

13. After a man works for six months in the upholstering business, he is usually ready to open up his own upholstery shop.
a) True
*b) False

14. Many successful shoe repair shop operators have learned their craft through on-the-job training.
*a) True
b) False

15. It is not necessary to have a college education before attempting to open your own business.
*a) True
b) False

16. A business owned by two men is called a:
a) Proprietorship
b) Corporation
*c) Partnership
d) None of the above

17. In preparing to study careers, a person should first take a careful look at himself and his:
a) Aptitudes
b) Interests
c) Abilities
*d) All of the above

18. Small businesses are important in our country because:
a) They take business away from larger companies.
b) They give people jobs.
*c) They embody the spirit of free, competitive enterprise.
d) They give the customer more for his money.

19. A producer is an individual who:
*a) Makes a particular article.
b) Does a service for his customers.
c) Buys wholesale goods.
d) None of the above

20. An employer of a small business is responsible for:
a) The treatment of his customers.
b) The planning and organizing of his operation.
c) All employees and all decisions
*d) All of the above

21. The best way to obtain a working knowledge of a business is:
    a) To ask your friends about it.
    *b) Through actual work experiences in that business.
    c) To read a book about it.
    d) To write to the Small Business Administration.

22. The largest cause of business failure may be attributed to:
    a) Not enough training
    b) Lack of money
    c) Employees' stealing
    *d) Poor management

23. The major function of operating your own business is:
    a) Training your own employees
    b) Record-keeping and paying bills
    *c) Keeping your customers happy and making a profit.
    d) Having merchandise well displayed in your shop.

24. A business that sells its products only to the public is called a:
    *a) Retail business
    b) Cooperative
    c) Wholesale business
    d) Corporation

25. In trying to decide on the location for your small business, it is important that you consider:
    a) The neighborhood in which you plan to locate your business.
    b) The different types of stores and shops that will surround your business.
    c) The parking facilities and accessibility to your shop.
    d) All of the above.

FIRST DAY: STUDENT INVENTORY

Notes and comments

1. Administer the student inventory to your class. It will take approximately 20 minutes. Emphasize that this is an inventory of what they know now about small businesses, and that it is not a test. There is no need to review the answers with the students. This inventory should be corrected and then compared with the same inventory given to the students on the final day of this cycle. In this way, it will be possible to chart the students' progress, and to determine what elements of the small business cycle proved to be of value and importance to each student in the class.

2. In the time remaining, provide the class with vocabulary lists that will benefit them in the study of small businesses. The teacher should mimeograph this list and place it on the blackboard. The students are to keep this glossary of terms in their Introduction to Vocations notebook for further reference and use. These definitions may be gone over orally and discussed in class, or they may be given as a dictionary usage exercise and then discussed, depending upon teacher preference and the time remaining in the class period.

Suggested vocabulary:

a) Businessman
b) Single Proprietor
c) Small Business
d) Necessities
e) Luxuries
f) Services and Goods
g) Consumer
h) Producer
i) Standard of Living
j) Labor Market
k) Inflation
l) Supply and Demand
m) Competition
n) Profit
o) Employee
p) Employer

3. Time permitting, have the class think over and discuss the following questions:

a) In your opinion, what small businesses of today could become successful big businesses in the future?
b) Can you suggest a product or service that is currently not sold that could turn into a successful small business?

Suggested Homework Assignment:

Please note: Homework will only be given in this cycle to reinforce the day's learning activities and experiences, or to provide the class with career awareness of which they previously had no knowledge.

Name some small businesses in your community. Do they produce goods or services? What are the goods or services that they produce? Example: Johnson's Taxi Company produces a service. The Bulova Watch Company produces a product. Note: This list does not have to be written.

SECOND DAY: STUDENT ASSESSMENT OF SELF

Before a young man or young woman actually decides what he/she desires to do with their lives, a great deal of self-analysis and investigation must be done. Students must consider their interests, their aptitudes, their abilities, and their limitations. Included in this day's lesson are several self-analysis sheets so that each student, with the assistance of his/her classmates and teacher, will begin to assess all the important factors which are critical in learning about one's self and in choosing a career.

1. Explain to your class the purpose of this student assessment sheet. Note: Examples of different types of assessment sheets are illustrated here. The teacher need only to utilize one of those provided, or if the instructor desires, he may originate his own assessment form. (These assessment sheets will be found at the conclusion of the second day's activities.

3. Review yesterday's definitions and the homework assignment. Acceptable answers on the homework will include things like: Sam's Barbership - a service; the Edison Baker - goods and services.

4. Have the class determine the relationship that each of the terms below have to small businesses.

a) Merchandise
b) Wholesale
c) Retail
d) Credit
e) Charge Accounts
f) Mass Production
g) Partnership
h) Corporation

Suggested Homework Assignment:

a) Each student in the class is to get a letter of the alphabet. He is to write down the names of as many small businesses as possible that are present in your community and begin with the letter he has been assigned. This will be due tomorrow Day Three.

b) Explain to the class that Day Three will be spent analyzing the important factors to be considered in choosing possible career fields of study. Tell the class to give some serious thought, between today and tomorrow, as to How they would actually go about making a career choice. What factors would influence them?

STUDENT ASSESSMENT INVENTORY

Read the following questions. Analyze their content and respond by checking the appropriate box on the right side of this questionnaire that expresses your feelings about your personality traits and characteristics.

	Yes	No
1. Are you courteous?		
2. Are you considerate of others?		
3. Are you dependable?		
4. Are you punctual?		
5. Are you patient and understanding?		
6. Are you able to talk well?		
7. Are you a good sport, and if need be, a gracious loser?		
8. Are you conscientious?		
9. Are you a hard worker?		
10. Are you honest and trustworthy?		
11. Are you good at judging people?		
12. Do you try to get out of embarrassing situations by avoiding the truth?		
13. Do you have many friends?		
14. Do you lose your temper easily?		
15. Do you care about your fellow man?		
16. Can you give orders?		
17. Can you get people to respect you?		
18. Can you be a good teacher and show others your skills?		
19. Can you get people to work for you and do a good job for you?		
20. Can you be a good boss?		
21. Is your physical appearance presentable?		

	Yes	No
22. Will your general health permit you to work hard and long hours?		
23. Do you pay your bills and debts promptly?		
24. Are you a good manager with money?		
25. Would you prefer being an employer rather than an employee?		
Student Comments:		

STUDENT ASSESSMENT INVENTORY

These are your own employment traits and characteristics. Rank yourself in each category by placing a check (✓) in the box that you feel best illustrates your personal characteristics and traits.

Your Characteristics	Superior	Good	Average	Below Average
PHYSICAL TRAITS				
Health				
Appearance				
Vision				
Hearing				
MENTAL ABILITIES				
General Intelligence				
Imagination				
Memory				
Creativity				
Initiative				
PERSONALITY QUALITIES				
Honesty				
Reliability				
Loyalty				
Promptness				
Thoroughness				
Cooperation				
Perseverance				
Courtesy				
Cheerfulness				
Flexibility				
Self-Confidence				
LEADERSHIP QUALITIES				
Ability to Direct Others				
Ability to Plan				
Ability to Organize				
Ability to Work with Others				
Ability to Accept Criticism				
Ability to Accept Responsibility for Decisions				

What does this questionnaire tell you about yourself? Explain: _____

THIRD DAY: STEPS TO TAKE IN CHOOSING A CAREER

1. Review last evening's homework. Have the class make a list of all the small businesses that they have uncovered in the community. This list, along with one that is provided at the conclusion of today's lesson, is to be placed in each student's Introduction to Vocations notebook.

2. Form small groups in your classroom. Allow these groups 15 minutes to come up with a list of criteria that would be important in choosing a small business career. At the conclusion of this time, have a spokesman from each group recite his group's findings to his fellow classmates. A sample list should include some of the following:

a) Study your interests and abilities.
b) Consult your teachers, counselors, parents and friends for advice and assistance.
c) Visit the school guidance department and/or public library for information.
d) Visit public employment offices, companies, and factories where people work at occupations that seem interesting.
e) Learn as much as possible about jobs that appeal to you.
f) Arrange an interview with a worker whose job interests you.
g) Find out the job requirements, duties, salaries, benefits, and the outlook (needs) for this type of worker and his services in the future.
h) Begin seeking and developing the necessary skills and training for this job. This can be done by taking high school subjects that relate to your field of interest, and if possible, working part-time in this field.

3. Discuss with the class the importance of their education. Ask them the following questions: If they dropped out of school today, what types of jobs do they think they would find? How many employers would want to interview a high school dropout? Does a job that looks attractive at age fourteen, still look as promising at age twenty-five or thirty?

Students are to be made to understand that they should begin thinking about careers that they will enjoy doing and which will provide them an adequate income and benefits as well as future growth and opportunities.

Suggested Homework Assignment:

a) Using the help-wanted ads section of your local newspaper, prepare a list of the number of jobs in your field of interest, plus the amount of salary that is offered in these ads.

b) Problem-solving exercise: If you were faced with the problem of either going into a small business proprietorship for yourself, or going into a big business as an employee, with the possibility of working your way up to the top, what choice would you make? Why? Give your reasons in a short paragraph.

Materials:

a) Newspapers will be needed for this activity. The students will be expected to bring them from home, and as well, the teacher will provide newspapers for students who do not have accessibility to them.

TYPES OF SMALL BUSINESSES

service station	bookkeeping service	babysitting service
construction business	motel ownership	restaurant ownership
hardware store	dry cleaning store	automatic vending service
carwash	shoe repair shop	camera shop
bookstore	flower shop	pet shop
music store	jewelry store	employment agency
drive-in restaurant	handicrafts business	nursery business
variety store	mobile homes	plumbing contractor
heating contractor	air conditioning repairman	electrical shop
printing shop	woodworking shop	boys and mens' apparel shop
soft-frozen dessert stand	furniture retailer	upholsterer
girls and womens' apparel shop	trucking business	window display business
window shade business	hobby shop	gift shop
barber shop	beautician shop	interior decorating
merchandise wholesaler	painter of portraits and pictures	painter: interior / exterior
photographer	real estate business	wallpaper shop
paperhanger	lawn service maintenance	roofing business
exterminator	coin and stamp shop	bicycle shop
telephone answering service	carpet shampooers	tailor
domestic worker	professional housekeeper	pilot
delivery service	butcher shop	private caterer
landscape architect	glazier	driving range (golf)

tree surgeon	house mover	musician
piano tuner	taxi service	cabinetmaker
bakery shop	asphalt and paving service	carpenter
private sanitation service	private janitorial service	TV repair shop
sign painter	farmer	

These are only a few small businesses. Can you name some more?

_____	_____	_____
_____	_____	_____
_____	_____	_____

Many of these businesses need special preparation. If you are interested, you must begin thinking about acquiring this preparation. Your Introduction to Vocations instructor, your teachers, guidance counselor and parents will be helpful in answering any questions that you might have regarding these fields. You should seek out much of this information on your own, just to satisfy your own needs and curiosity.

Martin Kornfeld, Herbert Hoover Junior High School, Edison, New Jersey

SMALL BUSINESS INFORMATION

Have the students place these information sheets in their notebooks. It will prove to be helpful information for them if they are considering careers in the small business industry.

The Small Business Administration:

The Small Business Administration was established in 1953. Its purpose is to aid the small businessman and to see that he is not being taken advantage of by the bigger business concerns. Information on insurance, laws and operation of a small business can be obtained from this agency. Free materials describing various small businesses can be obtained by simply filling out an order form. The main Small Business Administration Office is located at 970 Broad Street, Newark, New Jersey 07102. The Small Business Administration also provides the following services.

- They assist small concerns in getting credit.
- They help small firms get a fair share of government contracts.
- They aid small businesses in the solution of management and production problems.
- They provide financial assistance for owners of small businesses that have been destroyed by acts of God (wind, fire, hurricanes, floods).

Business Ethics and Morals:

A small businessman must provide service to his customers. He must illustrate that he is honest, sincere, reliable, reputable and reasonably priced. If he exhibits these qualities, then it is only fair to assume that his customers will keep coming back to him. Would you frequent a store where the salespeople were unfriendly? Would you buy in a store that advertised dishonestly or was not reliable? The small businessman gets to know most of his customers. They trust him and take pride in dealing with him.

The Small Businessman and his Location:

The small businessman who is in retail sales should limit the selection of his location to an area that is suitable to the nature of his particular business. Here is a list of important items to consider in choosing a proper location:

- Is the store location attractive and accessible to customers?
- Are there adequate parking facilities?
- Is the store located in an area where you will attract the type of clientele that you are seeking? (Example: Would you put an exclusive dress shop in the poorest section of town? The answer is no. An exclusive restaurant should be placed in the middle class to upper-middle class section of the community).

. Is there competition for your product or service located nearby? If so, does this bother you?

. How much are taxes and rent for your shop? How long is the lease? Is it renewable?

. Is there room for possible expansion in this store?

. Are the people pleasant and friendly in this neighborhood?

. Do you feel that this location will help make a success of your business?

FOURTH DAY: FIELD TRIP TO THE SMALL BUSINESS COMMUNITY

1. Arrange a field trip to the small business community. If your Introduction to Vocations program meets in the afternoon, then set the trip up for the morning session of the same day. This will allow the students not only the opportunity to observe various small businesses in action, but also the advantage of getting some immediate feedback and reinforcement from their classmates and teachers all in the same day.

Plans for the success of this venture must be made well in advance. Allow approximately four hours for this field trip. It should be noted here that the small business concerns to be visited are ones that lend themselves well to "hands-on" activities and student projects. If the individual teacher feels that he/she desires to interchange a field trip activity with a daily lesson plan to better meet the needs of his students, then by all means he should do so.

The possible small businesses to be visited include: a printer's shop; an upholstery shop; an optician's shop; a locksmith's shop; and a local grocery store. In each small business, we expect to learn a great deal about their operation and hopefully, to partake in some "hands-on" activities such as setting type, weaving material, grinding lenses, making keys, and bagging canned goods and food products for our local groceryman.

Possible substitute small business concerns to visit might include: a bakery; a dry cleaning store; a horseback riding and livery stable; a sign painter's shop; a muffler service and repair shop; a carwash; a boat maker's yard, and a floor tile store. This list can be endless. Use the Yellow Pages of the telephone directory to determine small businesses in your local district.

At the conclusion of the field trip, return to school for lunch and the afternoon classes. When your class appears for the Introduction to Vocations program, discuss with them the events and activities that took place during the morning session. Did they like it? Dislike it? Did they learn anything about small businesses that they did not know previously?

3. Review yesterday's homework assignment. Ask the class why an individual might prefer going into his own business rather than working for someone else. Have the class analyze the importance of location for small business concerns. Provide a problem-solving ditto that involves student decision-making and illustrates the significance that location plays for the small businessman. See diagram: In-Class Location Problem

Suggested Homework Assignment:

a) The term "chain-of-command" means the order of importance of each individual. Make or draw a simple diagram illustrating the "chain" process of a small business in your community. (see the attached sample)

CHAIN-OF-COMMAND DIAGRAM

Part-time Salesclerk and Porter (Student)	Full-time Salesperson Does 50% Stock Work & 50% Sales	Full-time Salesperson Does 25% Stock & 75% Sales	Head Salesperson Does only sales; In command when Boss is not present	Properietor-Boss Has complete responsibility for store, merchandise, customers and employees

This diagram also could look like this:

Boss: Full Responsibility
Owns shop, Responsible for all

|

Head Salesperson
Second in command

|

2nd Salesperson
Does mostly sales limited stock work

|

3rd Salesperson
Does half saleswork and half stock work

|

Part-time Helper
Student: Does stock work, some sales and acts as porter, cleaning up, etc.

Martin J. Kornfeld, Herbert Hoover Junior High School, Edison, New Jersey

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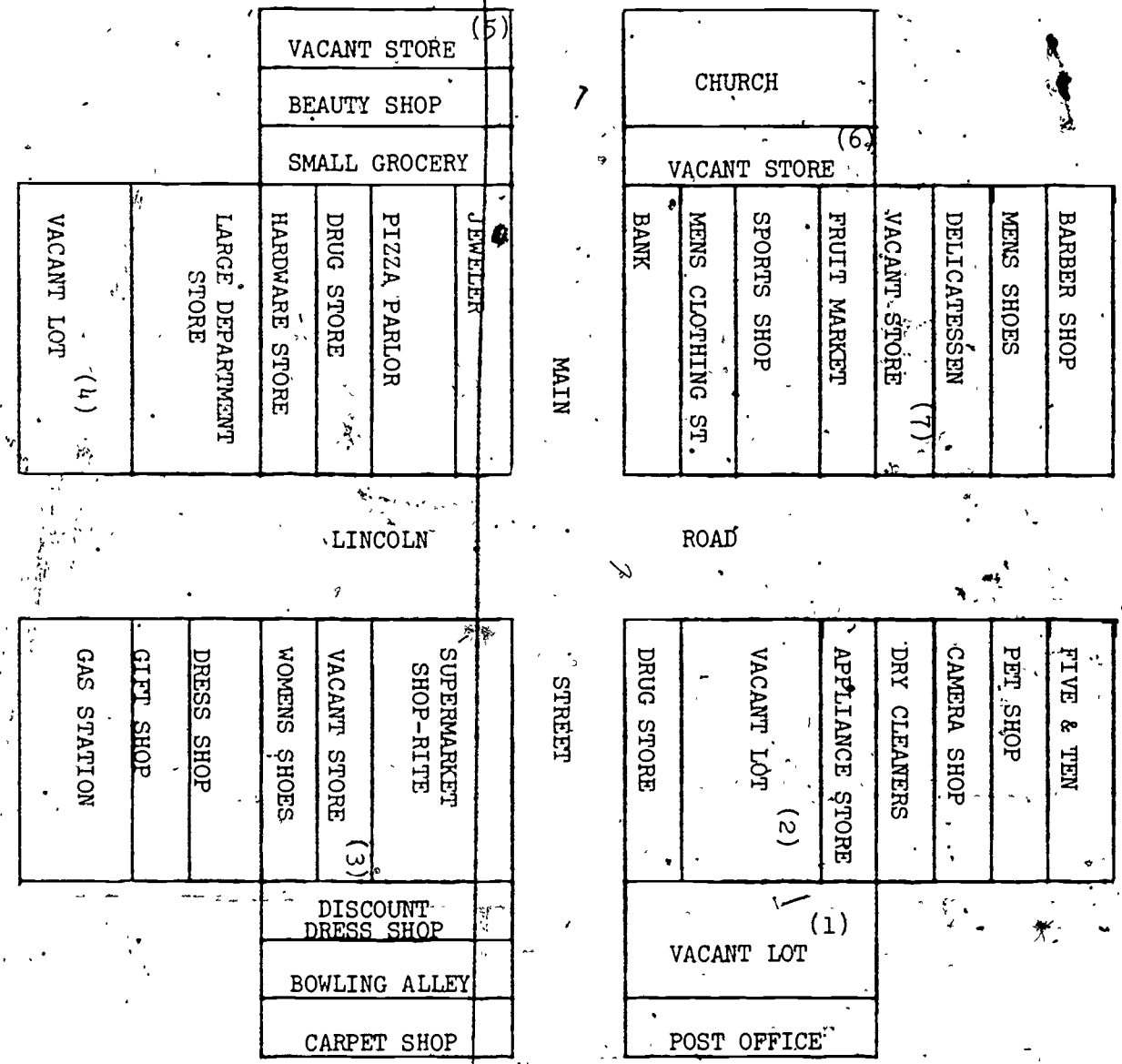
IN-CLASS LOCATION PROBLEM

This morning we visited a number of small businesses. We learned that many factors contribute to the success or failure of these businesses. A good location is just such a factor. In the diagram below, make decisions regarding small businesses by answering the questions accompanying this diagram. Good Luck!



There are four vacant stores and three vacant double lots in this diagram. Larger businesses would undoubtably need the larger lots.

1. If you wanted to open a liquor store, would this community have a need of your goods and services?

2. Would you build your tavern in vacant store 5 or 6? Why? Why not?

3. Could this community use another gas station? If not, why? If so, where would you put it and why?

4. You always wanted to have your own women's dress shop. Now that you have the money, you decide to do so. Where do you think the best vacant store location will be? Why?

5. Where would you place a movie theater in this community?

6. Can you suggest good locations for the fire and police departments? Give reasons for your answers.

7. Would an ice cream store do better in vacant stores 5, 6, or 7? Why?

8. Which vacant stores and vacant lots would be the most expensive to rent? Explain your answers.

Answers for the Teacher:

1. Yes, there are no other liquor stores.

2. No, the reason being that the tavern would be too close to the Church.

3. Yes, the gasoline station could be effective at any of the three locations. At vacant lot two, it would be in the heart of the business sector. In vacant lot one it would be the only station on Main Street and next to the Post Office. In vacant lot four it would be opposite its competition and this would make this location the least favorable. However, it must be remembered that this is a corner location and less accessible to heavy traffic than locations two and three.

4. The best location for a women's dress shop would be vacant store five or seven. Vacant store three is ruled out due to the heavy competition from the surrounding shops.

5. Any of the vacant lots would make a fine movie theater. Lot two is right in the center of town. Lot one is next to the Post Office, and vacant lot four has a corner location.

6. Vacant lot two is the ideal location for the police department. It is in the center of town and opposite the bank. The fire department would best be served by vacant lot four. This lot is on a corner and would allow the fire department the quick getaway that they need in emergencies.

7. An ice cream parlor would do best in vacant store seven. More people would pass this location as it is on the main thoroughfare.

8. Vacant stores two and three would be the most expensive stores to rent due to the fact that they are centrally situated. Vacant lot two would probably be the most expensive lot, again, due to its central location.

FIFTH DAY: THE WINDOW SHADE BUSINESS

The purpose of this lesson is to help students become aware of the career opportunities that exist in the window shade business. Students should be notified in advance as to what will take place during this lesson.
Individual students could bring in to class various decals and pictures that would highlight the "hands-on" activity for the day.

1. Arrange to have as a guest speaker, the proprietor of a local window shade establishment. Ask the owner in advance, to tell what it is like to operate a small business; the advantages, disadvantages, types of shades made, costs and profits, should all be mentioned during the presentation. Allow approximately 25 minutes for this activity.

2. With the assistance of your guest, explain to the class that now they will make their own window shades. Materials needed include: wooden window shade rollers, several staple guns, electric irons, pieces of wood approximately 1" long by ¼" wide, small rings that screw into the bottom of the shades, thin cotton fabrics, and several cans of a product called "Makeashade."

3. Students are to select one of the cotton fabrics in the classroom and cut the materials so that it is equal to the width of the wood on the roller. The average home window is approximately 48" long so have the students allow a bit extra and cut their material at 54". This material is then to be ironed so that it is free of all wrinkles.

4. Take the bottom of this material, measure off 1½" and fold. Place the thin piece of wood into this fold, cut off the extra wood, and either stitch or sew up the material.

5. Staple the top of the fabric onto the wood rollers. Six to eight staples running across the roller in a straight line should be sufficient.

6. Spray a starch-like substance called "Makeashade" over both sides of each shade. Allow to dry fully. Take the small rings that are left and screw one ring into the wood at the bottom of each shade. Now your shade is complete.

Note: Some teachers may prefer to work with a retail shade that is already put together. Shades purchased this way are a bit more expensive, but do cut out some of the time involved. Students can paste decals, pictures and other novelties on clear shades and in this way accomplish the activity with less work.

Materials:

a) Wood rollers may be obtained in a number of ways. They can be saved from old shades, they can be made, and they can be purchased from a window shade wholesaler. Wholesale roller prices are presently approximately 70¢ per shade if you are purchasing enough for one class, and 50¢ per shade if you are buying in quantity. These prices are from the Aladdin Shade and Blind Co., 866 Elizabeth Avenue, Elizabeth, New Jersey. (Wholesaler)
b) Staple guns will probably be found in your shops as well as in your school custodian's workshop.
c) Irons and ironing boards will be found in the Home Economics Department and/or can be borrowed from the homes of the students.
d) The thin wood pieces 1" long by ¼" wide can be purchased from the wholesaler, bought at a retail store, or gotten in your wood shop.
e) The small rings that pull the shade up and down can be purchased from the wholesaler, a hardware store, or taken out of used shades.
f) The cotton fabrics can be obtained from home, purchased from a fabric store at an inexpensive price, or even donated by an understanding merchant.
g) "Makeashade" spray starch must be purchased. Its price is $2.98 per can and each can should do four to six shades. This product can be found in your larger discount retail stores.

Suggested Homework Assignment:

Students are to visit small businesses near their homes. Suggested places to visit include a pizza parlor, a carwash, yarnshop, a small grocery store, a muffler repair shop, a gift shop, and a jewelry store.

SIXTH DAY: THE PIZZA PARLOR BUSINESS

The purpose of this lesson is to illustrate to the students how the pizza parlor business operates and the career possibilities that exist in this field.

1. Have a proprietor of a local community pizzeria come in to speak to your class. Allow approximately 20 minutes for the presentation and demonstration with a discussion to follow.

2. Explain to the class that they are now going to learn how to make real Italian pizza!

3. Have the class break into small groups with approximately 4-5 youngsters in a group. Provide each group with a rolling pin, mozzarella cheese, tomato sauce, food seasonings, flour, and a small portion of dough.

4. Have your guest speaker demonstrate how to properly knead the dough. With the assistance of your speaker, allow each student to knead his group's dough. (Needless to say, of course, all students have washed their hands)!

5. With the guidance of the speaker, home economics teacher or cafeteria director, apply cheese, seasoning, and tomato sauce to the dough, and place in the ovens. Allow to cook at 450 degrees until done. Your class' reward or punishment - be as it may - will be to eat their own product. Good Luck!

Suggested Homework:
Explain to your class that every businessman must keep records. Included in these records are bills that he must pay and checks from the bank to indicate that he has paid them. Tell your class that the homework is a lesson in record-keeping and balancing a checkbook. Mention to the class that this is an important function of owning and operating a small business. This assignment is due Day Eight.

Materials:
In our case, the local pizzeria proprietor agreed to provide all the necessary ingredients for making the pizza at a minimal charge of 40 cents per student. If you are unable to arrange this, then here is a listing of the

items that you will need to purchase. Note: Your cafeteria or Home Economics Department may have these items on hand in your school.

a) Several rolling pins will be needed - depending upon the number of small groups that will work in the classroom.
b) Mozzarella cheese will be needed. It is suggested that you discuss the amount needed with your speaker since he is an expert in this field.
c) Tomato sauce can be purchased at the supermarket. Small cans are approximately 10 - 20 cents depending upon the specific brand that is used.
d) Food seasonings and flour can also be purchased at the supermarket. Amounts to be used have not been listed here due to the varying sizes of Introduction to Vocations classes that will perform this activity.
e) Dough can be bought from the local pizzeria or from a bakery that specializes in making this item. The cost of this item varies and is dependent upon the number of students in the class and the number of groups that there are.

HOMEWORK ACTIVITY: BOOKKEEPING

You are the sole proprietor of a small grocery store on Elm Street. This past month your business took in $2,200 in total receipts. From this money all bills are to be paid. Here are the bills.

1.	Greenview Dairy Supplies	$183.46
2.	Fred's Wholesale Meat Market	450.00
3.	Royal Canned Goods Wholesaler	292.51
4.	Mr. Albert Jones (owner of building that you are renting) Monthly rental charge	250.00
5.	Bell Telephone Company	20.05
6.	Public Service Gas and Electric	67.40
7.	Waterford Insurance Company (building and employee insurance)	61.25

Deduct 10 cents for each check that is written. Determine how much net profit was remaining after all the bills were paid.

BALANCE SHEET

DEPOSITS	YOUR RECORDS	CHECK AMOUNT
$2,200.00	No: 1 Date: _____ 19_____	$2,200.00
	Pay To _____	$_____
	Memo	Total
	No: 2 Date: _____ 19_____	
	Pay To _____	$_____
	Memo	Total
	No: 3 Date: _____ 19_____	
	Pay To _____	$_____
	Memo	Total
	No: 4 Date: _____ 19_____	
	Pay To _____	$_____
	Memo	Total
	No. 5 Date: _____ 19_____	
	Pay To _____	$_____
	Memo	Total
	No: 6 Date: _____ 19_____	
	Pay To _____	$_____
	Memo	Total
	No: 7 Date: _____ 19_____	
	Pay To _____	$_____
	Memo	Total

Did you deduct 10 cents for each check? What was your total gross for the month? What is your net profit?

YOUR CHECKBOOK

3rd National Bank
of Podunk

No: 1
Date: _____ 19____

Pay to the Order of _____ $_____

_____ Dollars

Memo: _____ Signature: _____

012345

3rd National Bank
of Podunk

No: 2
Date: _____ 19____

Pay to the Order of _____ $_____

_____ Dollars

Memo: _____ Signature: _____

012345

3rd National Bank
of Podunk

No: 3
Date: _____ 19____

Pay to the Order of _____ $_____

_____ Dollars

Memo: _____ Signature: _____

012345

3rd National Bank
of Podunk

Date: _____ No: 4

Pay to the Order of _____ $_____

_____ Dollars

Memo: _____ Signature: _____

012345

3rd National Bank
of Podunk

No: 5
Date: _____ 19____

Pay to the Order of _____ $_____

_____ Dollars

Memo: _____ Signature: _____

012345

3rd National Bank

No: 6
Date: _____ 19____

Pay to the Order of _____ $_____

_____ Dollars

Memo: _____ Signature: _____

012345

3rd National Bank

No: 7
Date: _____ 19____

Pay to the Order of _____ $_____

_____ Dollars

Memo: _____ Signature: _____

012345

SEVENTH DAY: THE WALLPAPERING AND PAPERHANGING BUSINESS

The activities planned for this lesson will provide students with the opportunity to see what it is like to own a wallpaper shop, and how wallpaper is hung properly.

1. Define the following terms and illustrate a sample of each item to the class:

The wet look wallpaper	Seam roller
Flocked and foil paper	Wallpaper paste
Sanitas paper	Paste brush
Vinyl paper	Razor knife
Plumb line	Smoothing brush

2. Discuss with the class the reasons why people decide to wallpaper rooms in their homes.

3. Explain to the class that they will have an opportunity to try wallpapering during this class period. Review the terms mentioned above, and make the class aware of the hazards of using a razor knife incorrectly. Insist on enforcement of <u>all safety rules</u> when handling this equipment.

4. Mix a small amount of wallpaper paste in a pail. Follow the directions on the package, adding water accordingly.

5. Obtain from your woodshop, custodial services, or from a retail store, a couple of 4 x 8 foot sheets of scrap wood, wallboard, plywood, cardboard or masonite. Stand these materials up against the classroom wall and try to make them staticnary.

6. Take a roll of wallpaper and measure it to coincide with the sheets of wallboard. If the wallboard is 4 x 8' 2", then make the wallpaper 4 10, allowing an extra inch at the top and the bottom for waste. Every subsequent cutting of the wallpaper will be done to match with the pattern of the previous sheet.

7. Take the paste brush, dip it in the pail of paste, and then brush it on the back side of the wallpaper.

8. Place the wallpaper on the wall utilizing the plumb line, the smoothing brush, and the seam roller.

1. Discuss with the class the types of services that barbershops and beauty salons offer to their customers.

2. Have the students define these terms aloud:
   a) Wash and set
   b) Rinse
   c) Coloring
   d) Trim
   e) Styling
   f) Razor Cut

3. Take a poll of the class to see what is commonly paid for mens' and womens' haircuts. Analyze whether long hair is still in, or whether short hair is coming back.

4. Ask the class if they have ever seen the shaving commercials on television. Tell the students that in this lesson they will all have the opportunity to do some shaving.

The activity allows the class to shave balloons so as to get the idea of how to apply lather and use a safety razor without breaking the balloon.

a) Give each student a round balloon. Allow them to blow their balloons up and to draw faces on these balloons using Magic Markers. Students are to be sure to leave some room between the eyes, ears, nose and mouth so that the lather can be applied to these areas.
b) Tie these balloons tightly to a cardboard box so that they will not fly around loosely when the students shave them.
c) Instruct the class to wear raincoats, old shirts, lab coats, or aprons, to protect themselves in case a balloon or two should break while in the process of being shaved!
d) Using a can of shaving cream, lather the balloons using upward strokes.
e) Shave the balloons using downward strokes. Tell the students to keep their razors straight. They are to rinse the razor after each stroke. Absolutely no horseplay will be tolerated with the razors!
f) Discuss the results of the shaving experiment. Ask the class if they would enjoy this type of work.
g) Review the homework of Day Six. This was the exercise on writing checks and record-keeping. Have several members of the class place their totals on the blackboard.

Materials:

a) Wallpaper paste comes in a package. For approximately 70 cents you can purchase enough paste to wallpaper an entire room. Students can often bring leftover paste from home.

b) Scrap wood, wallboard, plywood and masonite. Possibly these items will be around your school. Inexpensive paneling can be purchased or donated and the backside of the paneling can be used for this activity. Sheets of wallboard or masonite can be purchased for approximately $2.50 each. Heavy cardboard from packing cases for refrigerators are another source (free).

c) Odd rolls or outdated wallpaper can be bought for about 50 cents a roll. Many people purchase too much wallpaper and are then left with extra paper. A few inquiries in your school or to parents should produce wallpaper for the entire class.

d) Wallpapering tools: These tools normally come in a kit which sells for approximately $1.98 in either wallpaper or hardware stores. However, most people who have ever wallpapered rooms still have retained these kits, and thus, borrowing these kits would make the purchase of these tool unnecessary.

As an alternate activity, allow students to cut some pictures from magazines, wallpaper or newspapers, and paste them on pieces of scrap wood. Use a sponge or roller for the removal of all air bubbles. Test drying time, matching seams and the ability to hold on different surfaces. These pieces of wood can then be stained with walnut wood stain applied sparingly with a cotton swab. Before doing the staining, it is suggested that after the pictures have dried on the wood, a diluted solution of white glue and water be applied over the pictures to prevent the wood stain from rubbing out the picture. After staining, let the picture dry. Use a spray varnish or shellac and lightly spray the entire picture. Allow to dry and re-spray the following day. These pictures can be framed or hung and make pleasant wall decorations.

EIGHTH DAY - THE HAIR STYLIST/BEAUTY SALON BUSINESS

The purpose of this lesson is to help students become aware of the career opportunities that exist in setting up and owning a barbershop, a hair stylist shop or a beauty salon.

Materials:

a) A package of round balloons can be purchased in most grocery and variety stores for approximately 25 cents.
b) Cardboard boxes can be obtained freely from supermarkets and other types of stores.
c) One can of shaving cream. Any type will do. The cost is approximately $1.00 and fifty shaves or more should be obtained from the single can.
d) Several safety razors are needed for this activity. If possible, have each student bring in a safety razor from home. No razor blades are to be brought in to the school. It will be the responsibility of the individual Introduction to Vocations teacher to provide this item.
e) A few containers or pails that will be filled with water and then used to rinse the student's razors.
f) Paper towels and a mop to clean up any spillage or mess that might occur during this activity.

NINTH DAY: THE HAND-JEWELRY AND GIFT SHOP BUSINESS

The lesson for this day is multi-purposeful. Students will be given the opportunity to learn about the hand jewelry and gift shop businesses. through the "hands-on" activities. Discussion will take place on the advantages and disadvantages for the small businessman in allowing his customers to have credit.

Group work will be instituted during this lesson and the students will be called upon to role-play and make thought-provoking decisions.

1. Divide the class into three groups. Each group is to select a chairman who will provide leadership in the group and will act as spokesman. Give each group one of the three problem-solving situations that is listed below. Allow 15-20 minutes for the groups to interact and reach their decisions. Have the spokesman for each group present his groups' findings to the rest of the class.

SITUATION A: Suppose Fred opened up a bicycle shop. He has new and used bicycles for sale. Bobby Johnston, aged 16, offers Fred $25.00 for the used 26" Rollo English Racer that is in the store. Fred makes an oral agreement with the Johnston boy, and Bobby is to return that evening with all of the money. Shortly thereafter, another young man offers Fred $35.00 for the same bicycle. What would you do if you were Fred? Why?

SITUATION B: You are the proprietor of a small appliance store. Mr. Huderton purchases an electric can opener for $21.00. This can opener has a year's guarantee supplied by the manufacturer of this product. One week later, Mrs. Huderton returns with the can opener claiming that it does not work properly. You examine the product and agree with her that it is defective. What do you do? Do you give her another one that works properly? This means that you are stuck with the broken one. Or do you tell her to use her guarantee and mail it back to the manufacturer?

SITUATION C: Your hobby shop has been plagued by an epidemic of recent shoplifting. You lecture your employees to be on the lookout for possible shoplifters. One of your employees catches a thirteen year old girl attempting to steal a model airplane worth $6.00. You interrogate the girl and she begins to cry. She indicates to you that it is her brother's birthday and that she was trying to steal the airplane to give it to him. What do you do? Your employees are waiting to see what you do, especially since you told them that all shoplifters would be taught a severe lesson. Do you call the police? Her parents? Let her go? The decision is entirely up to you!

2. Pass out the credit card applications to the class. Allow them to look it over. Discuss with them the pro's and con's of credit cards. Discuss whether or not a small businessman should give credit to his customers.

3. Have the class list items that can be found in gift shops and inexpensive jewelry stores. Explain to the class that they will now have the opportunity to make some of the items that they have just mentioned. The "hands-on" activity will be to create flowers out of liquid plastic material, attractive pins from stones and metal backings, and fashionable rings from pieces of metal and copper.

4. Provide the class with flexible wires. These wires are then shaped into leaves and flowers. Dip these wires into a special liquid plastic solution and allow them to dry. In a short time the flower is completed. Add other flowers to produce a bouquet. Have the students bring in attractive rocks and stones. Have the students polish and shine them. Utilize an electric polisher-tumbler if it is possible to do so. Glue the less attractive side of the stone to the pin backing, and the project is finished.

Gather throwaway pieces of metal and copper from the metal shop. Bend and file this material until it forms the shape of a ring. Burnish and decorate the ring until it meets your specifications.

Materials:

a) Liquid flower plastics are produced by commercial companies. The hobby shop in your area will carry a variety of kits that will make this item. Some of the kits are called: The Fantasy Film Boutique Flower Group Pak, The Dippity-glas Mini Kit, the Twist N' Dip Kit, and DeCor Dip. The prices vary. For instance, the Fantasy Film Group Pak is $15.95, but it can produce 100 flowers for a cost of 16 cents per flower.
b) Stones and rocks will be brought in by the students. The pin backings can be purchased at any hobby store. The backings are generally sold 12 for $1.00.
c) The rings will be made out of left-over scraps of metal and copper from your metal shop. This project should not cost anything, however, plyers, hammers and other shop equipment will probably be needed to assist in the design of the rings.

Suggested Homework Assignment:

Remind the class that Day Ten is the last day of the cycle. Four or five previously selected students are to bring their bicycles into the building to assist us in the activity which will deal with owning and operating a bicycle repair shop. Arrangements have to be made with the custodian of the building so that the bicycles are not harmed and are kept out of the other students' way until the time for the beginning of the Introduction to Vocations class.

CLASS ACTIVITY: CREDIT CARD APPLICATION

KORNFELD'S KORNER DEPARTMENT STORE
CREDIT CARD APPLICATION

Application Number 124683 Date _____ 19___

Last Name First Middle

Single ( ) Married ( ) Divorced ( ) Widowed ( )

Address City State Zip

Spouse's First Name Do you own your own Home (Rent) (Other)

Explain: _____

How long have you resided at this address? _____

Where did you live previously and for how long? _____

Name of Employer: _____

Address of Employer: _____

Your Title: _____ Yearly Income: _____

Present Age: _____ Home Telephone: _____

Work Telephone: _____ Give two personal references and their addresses: _____

I bank at _____
Name of Bank

_____ I have credit accounts with the following companies: _____

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Supplementary Class Activities

1. Discuss advertising and how it affects the operation of small businesses.

2. Have the students write down the names of the products that are listed below. They are to react to each item by placing the first brand name that comes to mind for each product. Then ask the students why and how they selected these particular brand names. Discussion to follow.

a) New automobile	d) Soap	g) Bread
b) Candy	e) Soda	h) TV sets
c) Shampoo	f) Toothpaste	

3. Ask the students to select two advertisements that especially appeal to them. Have each student list the key phrase(s) or slogan(s) in each commercial that makes the advertisement interesting. Example: The Noxema commercial in which the beautiful young lady states: "Take it off, take it all off!"

4. Game activity: There are a number of educational games that provide the students with business simulation experiences. A few of these games are listed below:

a) Introduction to Business Practice. This game is produced by McGraw-Hill. Its purpose is to provide practice business exercises for the students. Set of transactions, contracts, checks and balances and record-keeping are all simulated during this activity.

b) Life Careers. This game is produced by Academic Games Associates. Experiences in this game will allow students to explore various life styles, careers, and decision-making situations.

c) Venture. This game is produced by the Proctor and Gamble Company. It is a business simulation exercise and allows the students the opportunity to act as top management officials and to particpate in the owning and operating of their own businesses.

These games may be borrowed from the Residential Manpower Center, Building 871, Kilmer Campus, Plainfield Avenue, Edison, New Jersey. (See Mr. Edward York)

TENTH DAY: THE BICYCLE SALES AND REPAIR BUSINESS AND CULMINATING ACTIVITIES

The purpose of this lesson is to illustrate to the students the various career opportunities that exist in the bicycle sales and repair shop field. A description of the bicycle industry, terms, and how to start a bicycle business will all be discussed. The post-inventory survey will be administered during this lesson and all the material covered in this cycle will be reviewed.

1. Provide and discuss the following bicycle terms:
   a) Chain
   b) Sprocket
   c) Bead of tire
   d) Ten-speed gears
   e) Ferrule
   f) Wing nut
   g) Center-pull mechanism
   h) Spokes
   i) Brake block
   j) Cables
   k) Derailleur
   l) Kickstand

2. Have students in the class name the brands of their bicycles and discuss the bicycle industry.

3. Role-play a situation in which one student will act as a bicycle shop proprietor and another student will act as a potential customer.

4. Allow the class to demonstrate general repairs on the bicycles in the classroom. Such things as oiling, fixing spokes, adjusting lights, horns and seats and checking the air pressure in the tires could all be accomplished during this lesson.

5. Administer the post-inventory survey.

6. Provide the class with a checklist for starting a business. Discuss this list and review the entire small business cycle with them.

Materials:

a) As mentioned previously, approximately four bicycles will be needed for this activity.
b) Bicycle tools will be needed. Such things as air pumps and air pressure gauges can be brought in by the students.
c) Wrenches, plyers and oiling cans can be obtained from your school shops.
d) Newspapers should be brought in and placed underneath the bicycles so that the classroom remains clean.

CHECKLIST FOR STARTING A BUSINESS

Students should understand the importance of careful thought and evaluation before beginning to think seriously about starting their own businesses. Here is a list of important items to be considered:

1. Have I a clear understanding of my abilities, aptitudes, interests, goals and expectations?

2. Do I possess enough education, knowledge and experience in this field to make a success of this business?

3. Do I have enough capital to begin this business and to keep it going?

4. Have I selected a satisfactory location?

5. Have I duscussed this matter with my parents, guidance counselor, teachers, friends and professionals in this field?

6. Am I weighing carefully the advantages and disadvantages of a small business?

7. Am I aware of the records that I will have to keep and of the laws and regulations that will affect my business?

8. Have I given thought to my future and the future of this business 10 to 15 years from now?

9. Can I see myself wanting to do this for the rest of my life?

10. Will I be happy owning my own business and being in this field?

OTHER SUGGESTED SMALL BUSINESS ACTIVITIES

Listed below are several small businesses that lend themselves to "hands-on" activities and could be utilized as either daily or supplemental lessons in this cycle.

Donut Shops: Visit a donut stand like Dunkin Donuts. Arrange to have the students participate in the preparation of this product. If this is not feasible, then create your own donut shop in your school. Prepare the donuts either in the school cafeteria or in the Home Economics Department.

Dry Cleaning Stores: Have the class simulate activities that would normally take place in a dry cleaning establishment. Allow students to bring in clothing for pressing and removal of stains. Students could use commercial preparations to remove the stains and could learn about temperature settings on irons, as well as how to press and fold different types of garments.

Floor Tiling and Carpeting Store: Discuss with the class the different types of floor coverings that are available. Borrow samples from a local establishment to illustrate to the class. Explain the procedures involved in laying carpet and linoleum squares with the self-sticking back. Have the students particpate in putting down a floor of this type.

Furniture Refinishing: Obtain from the wood shop several pieces of scrap wood (oak, pine or plywood). Stain some of this wood and leave the remainder of the wood natural. Apply scuff marks, scratch marks and liquid stains. Use stain removal techniques and refinishing techniques to repair the different types of damage that might occur to household furniture. Have the students compare the leading commercial liquid and paste waxes. Let them test these waxes for durability, resistance to water and shine.

Gas Station Business: "Hands-on" activities might include checking oil, cleaning windows, checking the water in car batteries, and determining the amount of air pressure in automobile tires. This could be done at a local gas station or in your school parking lot.

Guest Speakers: Many different types of guest speakers are available in the small business community. A lawyer, an insurance salesman or an official from the Small Business Administration could be considered for this activity.

Roofing Business: A visit to a construction site or a new housing development could provide students with the opportunity to see roofers as they apply their trade. A "hands-on" activity for the class might be building and shingling small wood projects such as birdhouses, doghouses and tree houses.

Rug Cleaning and Floor Polishing Business: A professional in this field or a custodian at your school could demonstrate this activity to the class. Members of the class could then assist in applying the brushes, the wax, and in operating the floor polisher.

Shoe Repair Shop: "Hands-on" activities could include the making of sandals, moccasins, and tongs. The proper ways to repair and replace heels and soles on shoes could also be explored, as well as the different methods that are used in applying shoe polish.

Tailoring Business: Activities might include the sewing of buttons onto shirts and dresses, the repairing of ripped garments, and the cuffing and hemming of skirts and slacks.

Upholstery Business: A local upholstery shop might be visited. Old lawn furniture chairs and lounge chairs could be taken apart and replaced with new wood and webbing to simulate the work of an upholsterer. Each student could be provided with an opportunity to try his hand at this activity.

Window Display Business: Explain to the class that it is an art to decorate store windows. Suggest to the class that they pay close attention to the different ways that merchants decorate their windows and shops. Perhaps a professional window decorator could demonstrate his craft for the students. In turn, the class could break into groups and decorate the windows and bulletin boards in the school. Note: this is an excellent activity to pursue around the time of the winter religious holidays!

BULLETIN BOARD SUGGESTIONS FOR THE TEACHER

. Free pamphlets can be obtained from the Small Business Administration. These pamphlets are colorful and informative. They could be posted on the classroom bulletin board and will create an attractive appearance.

. The New York Daily News publishes articles on various types of small businesses. These articles can be found on the same page as the daily crossword puzzle.

. Students could cut want-ads out of their newspapers and utilize these ads in a bulletin board project.

. Students could make cardboard replicas of the small businesses in the community. These could be stapled on the bulletin board with a statement beneath it as to the function of each particular small business.

FREE HANDOUTS FOR THE STUDENTS

. Write to the Small Business Administration, 970 Broad Street, Newark, New Jersey for a listing of all their free materials.

. Write to Carol Hausen, c/o the Consumer Education Center, Johnson Wax, Racine, Wisconsin 53403. Johnson and Johnson will provide you with enough free booklets and pamphlets on their products for the entire class!

. Exploring the activities in this cycle will enable you to obtain some free handouts for your class. Examples: A wallpaper or paint store could provide you with booklets about their products; Linoleum and carpeting shops may provide booklets or samples for your class.

ERIC

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TEXTILE CYCLE

INTRODUCTION

With the interest and cooperation of the Phi Psi Textile Fraternity, the Philadelphia College of Textiles and Science, the Fashion Institute of Technology and the Textile Industries Council, the Textile Cycle has been prepared for the Introduction to Vocations coordinators and cycling teachers. The sequence of activities has been presented with the understanding that the individual teachers may have to adapt it to fit the needs of their students, school, and community as well as to the available facilities.

CYCLE OBJECTIVES

. To increase student and teacher awareness of the many jobs available in the textile industry.

. To provide "hands-on" exploratory, manipulative experiences which are related to different jobs in the textile industry.

. To meet with people from the textile industry to learn about the opportunities, benefits and training needed to work in textiles occupations.

. To provide trips to textile industries, schools and colleges.

SPECIFIC OBJECTIVES

. Students should be able to list and briefly describe three textile occupations.

. Students should be able to list the education needed for the three textile occupations they described.

TEXTILE CYCLE STUDENT INVENTORY

*indicates correct answer

Have the students circle one letter in the left column for correct answer.

1. Some fabrics are bonded.
   *a) True
   b) False

2. Sport and leisure time clothing equal 40% of the textile industry.
   *a) True
   b) False

3. Jacquard weaving uses punchcards.
   *a) True
   b) False

4. In colonial days in America there was no textile industry.
   *a) True
   b) False

5. Military organizations have heavy textile requirements.
   *a) True
   b) False

6. Textile mills were built along a river for power and cities developed around the mills.
   *a) True
   b) False

7. Lindbergh's plane had fabric covered wings.
   *a) True
   b) False

8. Design is an important part of the textile industry.
   *a) True
   b) False

9. Textiles are used for health.
   *a) True
   b) False

10. Textiles are now made which can resist extremes in temperature and are also static free.
    *a) True
    b) False

11. Edison used a carbon skeleton of a cotton thread for the filament in the first light bulb.
    *a) True
    b) False

12. The textile industry is second to agriculture and food.
    *a) True
    b) False

13. The United States textile industry is the largest textile business in the world.
*a) True
b) False

14. About 15% of our population earns a living in the textile business.
*a) True
b) False

15. Yarns are made from threads or twisted fibers.
*a) True
b) False

16. Animal, vegetable or man-made fibers are used to make yarn, fabric, and garments.
*a) True
b) False

17. Textiles have been designed to protect military men from the frigid blasts of the Artic and to keep them cool in the stifling heat of the tropical jungles.
*a) True
b) False

18. In addition to the uniforms, bedding and tents, textiles are necessary for truck covers, temporary field kitchens and hospitals.
*a) True
b) False

19. Textiles can be manufactured to resist mildew and fire.
*a) True
b) False

20. Barracks bags, life rafts, bullet proof vests, signal flags, fire hose and parachutes are all manufactured by the textile industry.
*a) True
b) False

21. The special parachute that brings the space capsule back to earth from outerspace was made from specially designed cloth.
*a) True
b) False

22. Special radomes, or air-filled, coated-fabric structures have been built to house missiles and also the Telstar station in Andover, Maine.
*a) True
b) False

23. A coated fabric is a special fabric that is covered with another substance to give greater strength and to make it air-tight.
*a) True
b) False

24. Blends of man-made and natural fibers make very good fabrics which have the best qualities of both.
*a) True
b) False

25. There is a method whereby a thin layer of foam-type material is attached to cloth to make it stiffer or heavier. This is called lamination.
*a) True
b) False

26. Non-woven material has been increasing in use. To make this, fibers are pressed together and made to stay with a special process as if glued. This is used as filters, linings for suiting, diapers, napkins, and draperies.
*a) True
b) False

27. Nuclear radiation can be used to make fibers or cloth able to resist mildew or rot.
*a) True
b) False

28. More than half of this nation's textiles are made in North and South Carolina.
*a) True
b) False

29. The linking together of threads which run up and down and threads which run across the material to form cloth is called weaving.
*a) True
b) False

30. When cotton comes from the boll on the plant in the field, it is a tangled mass of fibers.
*a) True
b) False

31. Many plants where yarn and cloth are made are one story, air-conditioned mills with modern machinery tended by skilled workers.
*a) True
b) False

32. Textile mills now make cloth at a rate of about 15 miles per minute, day and night, for a total of nearly 15 billion square yards of cloth per year, or enough to reach the moon and back twice each month.
*a) True
b) False

33. Bleaching is a finishing process.
*a) True
b) False

34. Untreated gray cloth from the mills must go to the finishing plant to have an enzyme bath. This removes the sizing of starch with which the warp yarns have been treated to strengthen them for weaving.
*a) True
b) False

35. Yarn is often dyed before weaving by a process called package weaving.
*a) True
b) False

36. Cloth is also dyed after weaving for solid color fabrics.
*a) True
b) False

37. Computerized dyeing perfects the dye technologist's art so that exact shades can be reproduced.
*a) True
b) False

38. Textile machinery was the first step toward the computers we know today.
*a) True
b) False

39. Glass is a natural fiber.
a) True
*b) False

40. The definition of "textiles" is the manufacture of fabric by the process of weaving.
a) True
*b) False

41. The first American flag was woven by Betsy Ross during the late 1700's.
a) True
*b) False

42. Silk worms are found in North America as well as in the Orient.
*a) True
b) False

43. Jacquard looms are used when a higher degree of design capability is desired.
*a) True
b) False

44. Celulosic materials are used to make paper, rayon and other products.
*a) True
b) False

45. Paper and related products manufacturing is often considered part of the textile industry.
a) True
*b) False

46. Finishing is the final step in the manufacture of a fabric for sale.
a) True
*b) False

47. The greatest advance in the dyeing of fabrics was the development of chemical pigments which have replaced natural pigments such as indigo.
*a) True
b) False

48. Australia is the greatest wool producing country in the world.
*a) True
b) False

49. Astroturf is woven on very wide looms.
a) True
*b) False

50. Textile products are used in the manufacture of auto tires, lamp shades, and blinds.
*a) True
b) False

51. Fire retardant finishes are being sought by many textile concerns because of government regulation.
*a) True
b) False

52. Knitting, weaving and tufting are all methods of fabric manufacturing use for high productivity.
*a) True
b) False

53. Pollution is recognized by all as a great problem. Textiles may be of some importance in combatting this menace.
*a) True
b) False

54. Today there are textile fabrics being woven out of glass fibers.
*a) True
b) False

55. Anything that is woven is considered to be a textile.
*a) True
b) False

56. A piece of machinery for weaving yarns into a textile fabric is called a loom.
*a) True
b) False

57. One meaning of REVOLUTION is complete change. As this term applies to textiles, it refers to the Industrial Revolution.
*a) True
b) False

58. The spinnerette is used in making synthetic fibers.
*a) True
b) False

59. The dyeing of fabrics is only a fad.
a) True
*b) False

60. Denim fabric, popularly used in jeans, was introduced during the gold rush as tent fabric.
*a) True
b) False

61. Fake fur is made by a method similar to that used for velvet.
*a) True
b) False

62. The NASA label on the uniforms of the Apollo 14 Astronauts was woven of fiberglass because it doesn't burn.
a) True
*b) False

63. Most of the sales work of the textile manufacturer is done in New York City.
*a) True
b) False

64. Thermal blankets are so constructed that they hold heat in and thereby keep you warm without being heavy in weight.
*a) True
b) False

65. The great ability of textile manufacturer's to adapt to changing tastes has kept them in business in all types of market situations.
*a) True
b) False

66. The main types of textile companies in New Jersey are those in knitting and chemistry.
*a) True
b) False

67. Many two-year college students continue their education at a four-year college for textile occupations.
*a) True
b) False

68. Testing of textile products is an occupation that can be obtained with a high school education.
*a) True
b) False

69. Programming, typing, sales forecasting and advertising are all important occupations in the textile industry.
*a) True
b) False

70. A "textile engineer" may be vice-president in charge of manufacturing, plant manager, director of research, quality control manager, plant engineer, or technical director of manufacturing and would hold a college degree.
*a) True
b) False

71. A quality control inspector requires a four-year college degree.
a) True
*b) False

72. A textile plant manager requires a Textile degree.
a) True
*b) False

73. Textiles are used for:
a) Clothing
b) Furnishings
c) Industrial uses, i.e., airplanes, tires, spacesuits, breaklining, and fire hose
*d) All of the above

74. Raw materials used for making textiles are:
a) Cotton
b) Wool
*c) Both of these
d) None of these

75. Textiles are made by:
a) Weaving
b) Knitting
*c) Both of these
d) None of these

76. Chemically made fibers are:
a) Nylon
b) Rayon
c) Polyester
d) Fiberglass
*e) All of these
f) None of these

77. The textile industry produces the fibers for:
a) Tires
b) Spacesuits
c) Rugs
d) Bed sheets
e) Bedspreads
f) Clothes
g) Upholstry
h) Drapery
*i) All of these
j) None of these

78. Textiles contributed to transportation with:
a) Conestoga Wagons
b) The Clipper Ship
c) Automobile tires
*d) All of these
e) None of these

79. Fabrics are now made which:
a) Are wrinkle-resistant
b) Are stretch-free
c) Need no ironing
*d) All of these
e) None of these

80. Some animal and vegetable fibers are:
a) Hemp
b) Cotton
c) Wool
d) Flax
*e) All of these
f) None of these.

81. Color is imparted to textiles by:
a) Dyeing the yarn
b) Dyeing the fabric
c) Printing on the fabric
*d) All of these
e) None of these

82. An automobile uses several forms of textiles such as:
a) The convertible top
b) The upholstery
c) The inner cord in tires
d) The carpeting
e) The water hose to the radiator
f) The covering for electric wires
*g) All of these
h) None of these

83. Textiles are used by:
a) Military ground forces
b) Fighters and transports in the sky
c) Ships at sea
d) Submarines under the sea
*e) All of these
f) None of these

84. Coated fabrics are used in many ways by industry such as:
a) Conveyor belts
b) Pipelines for gasoline and oil
c) Storage tanks for oil and other liquids
d) Filters for chemicals
e) Flameproof uniforms
*f) All of these
g) None of these

85. The fiber used most often in the manufacture of fabric is:
a) Wool
b) Dacron
*c) Cotton
d) Nylon

86. Jute backing is most often connected with:
a) Wallpaper
*b) Carpeting
c) Upholstery
d) Vinyl car roofs

87. The chief advantage of knitted fabrics over woven fabrics is:
*a) Flexibility
b) Sewability
c) Quality

88. The original method of carpet manufacturing was:
*a) Weaving
b) Tufting
c) Sewing

89. One of the greatest challenges the textile industry faced in 1970 was heavy importing of fabric from:
*a) Japan
b) South America
c) Israel

90. America's textile industry began in:
*a) New England
b) The Middle Atlantic States
c) The south-Eastern States

91. The first of the giant retailers to offer fire-retardant children's sleepwear was:
a) Penny's
*b) Sear's
c) Montgomery Ward

92. The first man-made fiber was:
a) Acetate
b) Nylon
*c) Rayon

93. This fiber was introduced in:
a) 1926
*b) 1911
c) 1942

94. A four-year college degree would be required for the following job:
a) Loom Weaver
b) Loom Fixer
*c) Plant Manager
d) Shipping Foreman

95. A two-year college degree would be required for the following job:
*a) Junior Designer
b) Director of Research
c) Chief Dryer
d) Raw Material Handler

96. A stylist, who designs the unusual and beautiful patterns that are printed or worked into textile products, would require the following level of minimum education:
a) Less than high school
b) High school
*c) Two year college
d) Four year college

97. The purchasing department of a textile company would employ people with a minimum education of:
a) Less than high school
*b) High school
c) Art school
d) College

98. The purchaser of a textile company would have completed:
a) Less than high school
b) High school
c) Two year college
*d) Four year college

99. The purchasing department of a textile company would employ people with a minimum education of:
a) Less than high school
*b) High school
c) Art school
d) College

100. A purchaser of a textile company would have at least an education of:
a) Less than high school
b) High school
c) Two year college
*d) Four year college

CYCLE PROCEDURE

FIRST DAY

Notes and comments

1. Arrange books and textile display materials on the chalk rail and central table. Display student work from the Fashion Institute of Technology. (2 year technical college) in New York. Also student work from the New York High School of Fashion and Textiles. (High school students who are interested in attending this high school should request permission to attend from the local board of education.)

2. The teacher should become familiar with Textile information from the following publications:

- Textile Merit Badge Booklet, Boy Scouts of America, Route #1, New Brunswick, New Jersey 08903. Price: 45¢.

- The Wonderful New World of Textiles, (A Resource Unit for Teachers of Intermediate and Upper Grades). An eight page article. Free copies.

- Your Career in Textiles -- An Industry -- A Science -- An Art, a sixteen page pamphlet. Educational Department, American Textile Manufacturers Institute, Inc., 1501 Johnston Building, Charlotte, North Carolina 28202.

- Your Executive Career in Textiles, a ten page pamphlet. Free copies may be ordered from the Director of Admissions, Philadelphia College of Textiles and Science, School House Lane and Henry Avenue, Philadelphia, Pennsylvania 19144.

3. Administer the Textile Inventory to the students. Emphasize that this is an inventory not a test. It will serve to assess what the students know about the textile industry. This inventory should be corrected and saved to compare with the post-inventory given to the students on the last day. Do not rush the students. There is no time limit.

4. Give a brief overview of the textile industry to the students.

5. Show the filmstrip: Textiles -- Measures of Civilization. $2.00 each.

There is a student booklet to accompany the filmstrip at .25¢ per booklet. If you want to use it, order it well in advance from:

American Textile Manufacturers Institute
1501 Johnston Building
Charlotte, North Carolina 28281

6. Ask the students to note the different occupations seen in the filmstrip. Help the students compile a job list on the blackboard using manuscript printing.

7. It is suggested that the following lists be duplicated for the student to put in their notebooks.

Advertising
Billing & Other Clerks
Bookkeepers
Colorist
Converter
Converting Clerks
Credit Managers & Assistants
Department Heads
Designer
Directors
Distribution
Dyeing
Engineer
Executive
Export Sales
Finishing
Garment Manufacture
Inventory Control
Merchandising
Phone Operators
Print Designer
Printer
Production Coordinator
Promotion
Quality Control
Receptionists
Retailer
Sales
Sample Department
Secretaries
Show Room Salesmen & Attendants
Stenographers
Stylist
Traffic
Treasurer & Assistants

8. College courses offered in textile education may lead to careers in:

Computer Technology
Fashion Sales Promotion
Industrial Organization
Industrial Purchasing
Knitted Fabric Design
Managerial Accounting
Marketing
Personnel Administration
Piece Goods Sales
Process Analysis
Sales Management
Textile Chemistry & Dyeing
Textile Converting
Textile Design
Textile Distribution

Textile Manufacturing Textile Testing
Textile Printing Woven Textile Design
Textile Sales

. Graduates from the colleges that grant textile degrees are earning competitive salaries. The textile industries are placing workers at all levels. Currently the Philadelphia College of Textiles and Science requires College Board scores of 400 for entrance into all degree programs except for engineering, which has a higher score cut off.

SECOND DAY

1. Show Textile Art from Tapestries to Jeans... An introduction to man's expression of his appreciation for the beauty of his surroundings through art and design. 63 frames with 12 inch record price: $3.50. Order from:

American Textile Manufacturers Institute
1501 Johnston Building
Charlotte, North Carolina 28281

. Follow with discussion of the different jobs the students have seen in the film.

METHODS OF MAKING FABRICS

. It is advisable to know these methods because the way each fabric is made has an effect on how a garment will look, feel and perform. Knowing the different ways cloth can be made will help you buy the right fabric for each garment. This will give you a better performing garment and save you and your parents money.

. Visual Assist:- Show a piece of gabardine cloth (woven) and a piece of Tricot cloth (knitted). Note the stiffness of the gabardine and the softness and drapability of tricot. Do Not Mention the exact methods of creating these fabrics at this time.. Tell the students that there is a different method for making each of these fabrics.

HOW FABRICS ARE MADE

. Weaving: When one group of "Warp Threads" running up and down "Interlace" with

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another group of "Filling Yarns" that run across it is called weaving.

Visual Assist: See Figure 1 and 2. Demonstrate. Use a large piece of brightly colored cardboard 36" x 30". Cut slits 3" wide by 32" long. Do not cut the top or bottom. Use a bright but contrasting shade of cardboard and cut 10 strips 3" wide by 36" long. Insert the strips in the slitted cardboard in the form of the plain weave (one over, one under).

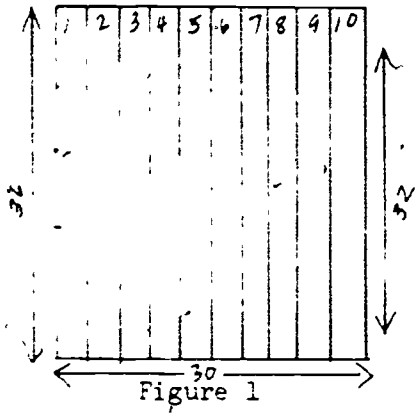

Figure 1

Cardboard cut with vertical strips

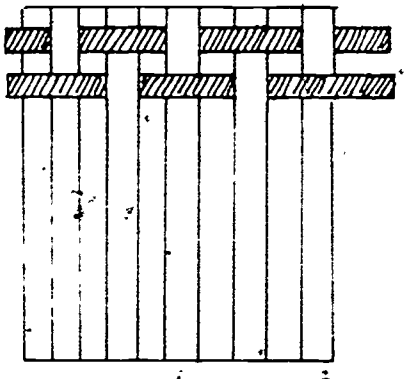
Figure 2

The piece of pre-slit cardboard is called the warp thread. (Figure 1). These move up and down to help weave the fabric.

a) The raising and lowering will be imitated by slipping the pre-cut strips, alternating first "over one," then "under one" across the slitted cardboard. The next strip will start "under one" and alternate across the slitted cardboard.

b) By entering the second strip as described, it will act as though there were two harnesses. One for the odd numbered threads, (1,3,5) and one for the even numbered threads, (2,4,6). This will produce a weave as shown in Figure 2.

c) The pre-cut strips act as the filling yarn that goes across the fabric.

Give each student a pre-slit piece of thin cardboard, 6" wide by 8" high and give pre-cut strips 1" by 6" thin cardboard of a contrasting color. Have students do weaving.

. Visual Assist: Show the students different types of shuttles with bobbins within them.

. Other Helpful Terms:

Yarns -	a group of fibers twisted together
Warp -	The group of yarns which run up and down in a woven fabric
Filling -	The group of yarns which run across in a woven fabric
Shuttle -	The boat-like device which carries the filling yarn wound on the bobbin

. Basic Weaves:

Plain -	Checkerboard is the strongest
Twill -	The pattern of diagonals shows the dirt least
Satin -	Long floating yarns. This is the weakest weave

. Demonstrate the Twill using 36" x 30" cardboard.

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THIRD DAY

1. Transfer the Plain Weave to actual yarn by giving each pupil a cardboard with the holes across the top and the bottom. Figure 3 and 4. Use thick yarn so the students can see the results quickly.

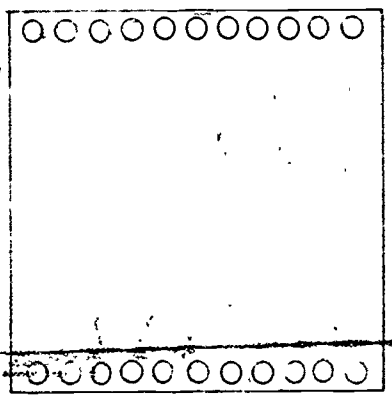

Figure 3

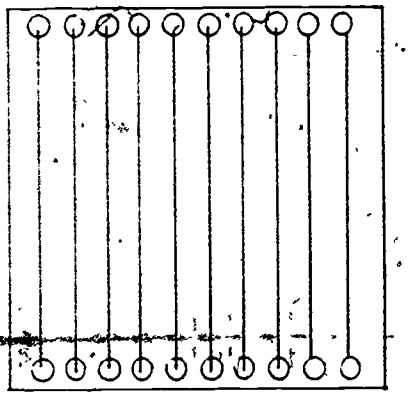

Figure 4

. Pass yarn through the top holes from the back.

. Knot the end so the yarn does not pull through. Bring it down the face of the

cardboard and through the hole.

. Knot the yarns at the back of the hole at the bottom as well.

. There is now a set of yarns going up and down at specific intervals across the cardboard.

. Have the students select a bright colored yarn and weave the plain weave.

Optional Method for Student Weaving:

. Start the students with simple weaving using 7" x 9" cardboards which have been knotched on both short edges. Make a loop to fasten the yarn at the first knotch before starting. Thread the yarn around the knotches lengthwise. Using a bobby pin or any simple shuttle, weave in and out, across the lengthwise threads.

. A fairly thick yarn will show results more quickly during the short time of the class period.

* See the printed supplementary weaving pages.

Advantage of Woven Fabrics:

. See book Textiles -- Fiber to Fabric. Page 82.
  a) Can be cut on an angle (bias) to give different look.
  b) Long wearing
  c) Creases and pleats stay in
  d) Keeps you warm in high winds (Insulative)
  e) Generally snag resistant
  f) Can be successfully finished with finishes like water proofing that other types of cloth construction can not (Knitted)

Methods of Making Fabrics:

. Show movie 4R. Obtain from:
  Mr. William Moore
  Burlington House
  Division of Burlington Industries
  1345 Avenue of Americas
  New York, New York 10019

Show:

. Jacquard punch cards
. Jacquard design sample to scale
. Jacquard fabrics

. The Jacquard punchcards were the first form of programmed manufacturing in the United States and may well have been the forerunner of IBM.

FOURTH DAY

Knitting - Knitting is making a fabric by pulling one loop through another as the yarn passes across the needles.

Visual Assist: Samples of knitted fabrics.

. Introduce the Knitting Knobby (Horse Reins). This will demonstrate the knitted fabric in use today. These may be ordered from:

Delaware Dry Goods Company
1600 Newport Pike
Wilmington, Delaware 19399
Cost: $4.14 per dozen

. Directions are complete with each knitting knobby.

. Be sure you have enough yarn for all the students to participate.

. Have the students make the reins.

. The "Horse Reins" may also be knitted on empty spools with 4 nails in one end.

Figure 5

Advantages of Knitted Fabrics:

- Naturally elastic and form fitting (shape retentive)
- Natural breathability
- Produced less expensively
- Produced quickly
- True drapability in many single knit constructions

Disadvantages of Knitted Fabrics:

- Poor creases and pleat retention
- Tendency to sag out of shape
- Tendency to snag
- Tendency to "run"
- Tendency to "pill" (little balls of fiber on surface of cloth)

FIFTH DAY

Felting: Felting is making a fabric by pressing wool fibers together with the help of hot water and pressure.

Visual Assist: Pull some wool fibers from yarn or an old sweater. Place a hand full of the wool fiber in a tray or saucer. Pour hot water over it. This will become soggy. Drain off excess water. Press the wet mass of fibers together between two flat surfaces. Show a sample of felt.

Advantages:

- Can be easily molded (when hot and wet) into any shape and will stay.
- Can be cut without yarn unravelling (no yarns).
- An inexpensive way of making a fabric.
- Acts as an insulator.

Disadvantages:

- Little drapability
- Punctures easily and difficult to resew.
- Tendency to sag out of shape easily.
- Tendency to make you warm (not very porous).

Bonding: Bonding brings two pieces of fabric together with an adhesive in between them.

Laminating: Laminating is applying a layer of polyester foam on the back of a face fabric (called a foamback) or sticking a layer of polyester foam between two fabrics in a face fabric and a lining fabric.

Reasons for Laminating:

- To give warmth with weight (acts as insulator).
- To keep face fabric from shifting.
- To give a bulky heavy fabric appearance with light weight fabrics.

Visual Assist: Show pieces of laminated fabrics. Peel back the face fabric and show foam. (Obtain samples from local fabric shop).

The textile industry is working toward making such fabrics completely washable or dry cleanable--depending on end use with no fabric separation (delamination) and no shrinkage.

Visual Assist: Copper (industrial sample), Mary Lou Hang Tag overhead Transparency, cloth sample.

Homework Assignment: Find two advertisements for bonded or laminated garments. See if you can tell by the picture or the writing under the picture if the garment is bonded or laminated.

Other Methods of Making Fabrics:

Tufting: Tufting forces thick yarns into an already woven or knitted backing in a simple chain stitch method.

- The tops of the yarns can be cut or left uncut and the back of the fabric coated with an adhesive to hold the yarns in place.
- Over 85% of all domestic carpets are now made in this way.

Visual Assist: Show the backing of a piece of carpeting with the stitching exposed.

Non-wovens: Non-wovens are a group of fibers held together by heat and pressure. Sometimes an adhesive is used to hold these fibers together. Non-wovens can be made to feel firm or soft and drapable.

Use of Non-wovens:

- Interlining of garments
- Disposable garments and home furnishings

Visual Assist: Show samples of non-woven disposable garments such as diapers, dresses and underwear.

Lace: Lace is a complicated network of yarns made into patterns by intertwining yarns.

Types of Lace:

- Real--(hand-made)--very expensive
- Machine made--less expensive
- Raschel--(actually knitted)--least expensive

Visual Assist: Show samples of real lace, machine made lace and Raschel.

SIXTH DAY

Tie-Dyeing:

- Be sure the students are fully aware that Tie-Dyeing will take place so that they can bring an apron, smock, old shirt or some protective garment to wear.
- Be sure that soap, water and paper towels are available for the clean up of the students.
- Be sure that some pieces of white cloth (old sheets or pillow cases will do) are available for students who can not bring their own material.
- Cover work surfaces with several sheets of newspaper.
- Have a container available for throw-away and clean up.
- Have plenty of thin, strong string available to tie the cloth or have plenty of elastic bands to wrap the cloth.
- Have scissors for cutting.
- Prepare some way of hanging the dyed material for drying.

You will need plastic or metal containers to hold the dye. (Such as plastic ice cream containers or tin cans with smooth edges). These can be discarded after Tie-Dyeing. Throwaway paint buckets are also good containers for the dye. Rit or Tintex are suggested as possible dyes. These are easily mixed with water. Follow the directions on the dye labels and in the booklets.

If sinks are not available to rinse the dyed materials with cold water prepare a substitute way in advance. Be sure to rinse the dyed cloth thoroughly so colors will not bleed. Then ring out as much liquid as possible.

Before starting the Tie-Dyeing, be sure you have obtained (for each student to put in his notebook) the following:

Tie-Dyeing---The Great Color Explosion With Rit which can be ordered from:

. Miss Rit (Free)
Best Foods Division CPC,
International
1137 West Morris Street
Indianapolis, Indiana 42606

Beautiful Batik, Fancy Fabrics --
Questions and Answers About Dyeing

. Consumer Service Department (Free)
A Division of CPC International Inc.
International Plaza
Englewood Cliffs, New Jersey 07632

Be sure to have a pair of plastic gloves for each student. Two addresses for ordering the gloves are:

. Sunset House
180 Sunset Hills
Beverly Hills, California 90213
#73940 Glove Roll (100 gloves, 50 pair) $2.99

. New Jersey Scientific Co., Inc.
Railroad and Olcott Avenue
Middlebush, New Jersey
(Roll of 100 plastic gloves - 50 pairs, $4.95)

SEVENTH DAY

Plan field trips to a local fabric shop and clothing manufacturer.

EIGHTH DAY

Testing:

Flammability of Textiles:

- Be sure the work surfaces are protected. Using metal tweezers to hold the cloth, conduct burning tests over a tray. (Inexpensive metal foil or flat pans will do).
- The teacher may select from a wide variety of fabrics, assigning at least four different ones to each student. Have the students record the results and share the results with each other.
- Tests of the following fabrics might be included:

cotton	silk
fiberglass	denim
polyester	wool
linen	synthetics

- Point out that students should be aware of the dangers in some fabrics such as those used in Halloween costumes and some toys. Urge them to learn to read labels for safety.

Durability of Textiles:

- Abrasion Resistance: the degree to which a fabric is able to withstand surface wear and other frictions such as rubbing and chafting.
- Place the Abrasive Machines over the edge of the tables or work surfaces.
- Give each group a package of 2 x 3 inch pieces of cloth using pieces of the same materials used for Flammability Tests.
- Using masking tape, (½ or ¼ inch) fasten a piece of cloth on the Abrasive Machine. Have the students record the number of turns it takes to wear a hole in the fabric. Have the students record on the mimeographed sheets. (See sample sheet at the end of this cycle.)

Water Repellency Test:

- Using a variety of fabrics, sprinkle a few drops of water on each. If the water beads the material is water repellent.

- Take a dry piece of the materials which are not water repellent. Spray the cloth with Scotch Guard. Let dry. Try the sprinkled water test again to see if the water now beads instead of penetrating the cloth.
- Refer to the classroom experiments prepared by Miss Kathleen Hyde of United tates Testing. These are at the end of this cycle.

NINTH DAY

Plan a field trip to the Philadelphia College of Textiles and Science. Contact:

- Ms. Judy Kipp
  Director of Institutional Advancement
  School House Land and Henry Avenue
  Philadelphia, Pennsylvania 19144
  Phone: 215-843-9700

  or

- Dr. Arno Solfer
  Director of Admissions
  Fashion Institute of Technology
  227 W. 27th Street
  New York, New York 10001

- When going to New York City a trip to visit The Mill at Burlington House should be included. Contact:
  Mr. Paul Correri
  Manager of the Exhibit
  1345 Avenue of the Americas
  New York, New York 10019
  Phone: 213-333-7510

This brief trip is extremely informative and well worth seeing.

TENTH DAY

Re-administer the inventory. Save for scoring and compare Pre and Post Inventories.

- Summarize the textile cycle with the students.

Optional:

- Show the movies of the Burlington Industries Commercials. These are short, entertaining and colorful.
  Obtain from:
  Mr. Charles Singley
  Burlington Industries
  1345 Avenue of the Americas
  New York, New York 10019

FREE LEAFLET

weaving

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on a card loom

A fascinating and inexpensive way of weaving belts, bands of braiding, and other narrow pieces, by a method that's been in use for hundreds of years. You make your own loom, out of cards and a few odds and ends see below, you pick your own design, you have a choice of materials—strong, firm O.N.T.® "SPEED-CRO-SHEEN" cotton for belts, softer Knitting Worsted for colorful bands of trimming, especially attractive on felt garments.

Filing card dividers, which are usually of thin, strong cardboard that doesn't bend or break easily, make excellent loom cards. The 14 loom cards we indicate below will make a band ¾" to 1" wide. Fewer cards will make a narrower band. You could use more cards and make a wider band, but we don't recommend it for beginners—the set up becomes unwieldy and hard to handle. The amount of thread of each color that you will need will depend on the length of your piece and the pattern you select see "How to Make the Design". For your information, a ball of O N T. "SPEED-CRO-SHEEN" contains 100 yards of thread, a 1-oz. skein of "RED HEART" Knitting Worsted, 60 yards of yarn. When weaving with wool yarn, you thread the cards with the yarn, but you wind the shuttle with a soft cotton such as J & P COATS "KNIT-CRO-SHEEN" or Bedspread Cotton.

YOU WILL NEED FOR THE LOOM

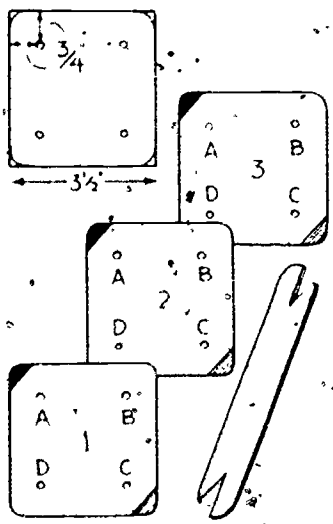
Sufficient filing card dividers (they come in different sizes) to make fourteen 3½ square loom cards

One tongue depressor to make a shuttle

Two 40" shoelaces to keep ends tied

Hole puncher

HOW TO MAKE THE LOOM CARDS



1. Draw and cut out one loom card 3½" square. Round corners slightly. Mark place of holes as shown. Punch holes.

2. Using this card as a pattern, mark, punch and cut out all 14 cards.

3. Number each card as shown, from 1 to 14. Letter the holes on each card a, b, c and d, always in the order shown. This is very important for the threading. Color two diagonally opposite corners as shown, to make it easy to spot a card that is out of line.

4. Fashion the tongue depressor into a shuttle as shown.

HOW TO MAKE THE DESIGN

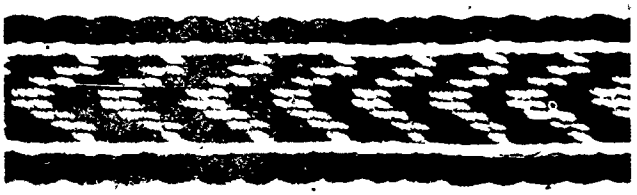
On graph paper, mark off 14 squares across, numbered 1 to 14 one for each card. Mark off 4 squares down, lettered A, B, C and D one for each hole. Each of these squares represents one thread.

Fill the squares in the marked off area, using colored pencils corresponding to the colors you are going to use. This represents one repeat this repeat may be reversed in weaving as will be shown later. Keep design simple.

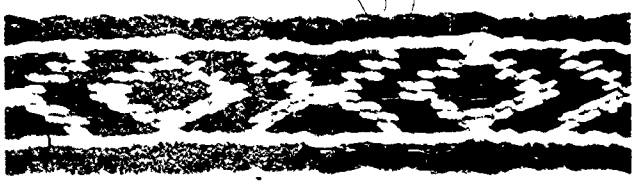
Here are graphs and finished work for sample designs

ARROW DESIGN (two variations)

graph



keep rotating cards forward



2 complete turns tip 8 times forward
2 complete turns backward

DIAGONAL STRIPES

graph

keep rotating cards forward

WAVY LINES

graph

complete turn tip 4 times forward
complete turn backward

ERIC

FREE LEAFLET

weaving

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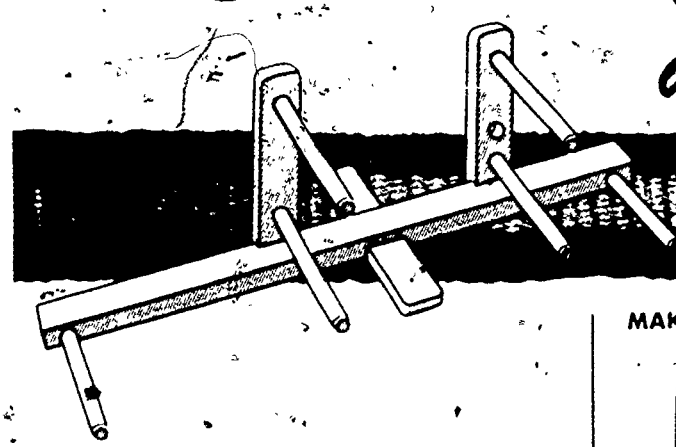
with the inkle loom



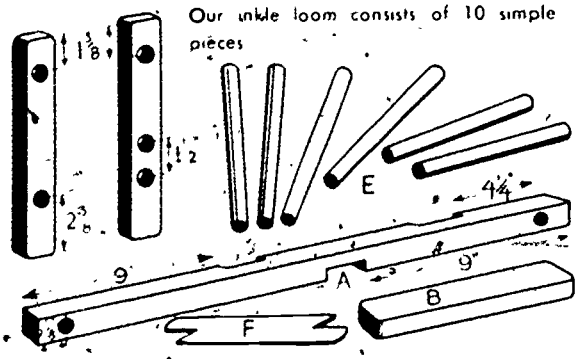
This is an old old loom, still used by certain Indian tribes It is of very simple construction You can buy it, but it can be made in your school shop Inkle means a woven strip, on the loom shown here it can be made up to 3" wide and about 38" long This length plus 16" represents the warping length of this loom which will have to be fully warped even for shorter pieces

For **materials** you may choose strong, firm O N T. "SPEED-CRO SHEEN" cotton, or softer "RED HEART" Yarns, such as Knitting Worsted or finer Super Fingering Yarn When warping with wool yarn, you wind your shuttle (for weft of weave) with a soft cotton, such as J & P COATS "KNIT-CRO-SHEEN" or Bedspread Cotton.

The **amount of material** you need will depend on width of strip and thickness of thread It will help you to know that there are 100 yards in a ball of O N.T. "SPEED CRO-SHEEN," 60 yards in a 1 oz skein of Knitting Worsted, 158 yards in a 1-oz. skein of Super Fingering Yarn.

WHAT YOU NEED TO MAKE THE LOOM

Our inkle loom consists of 10 simple pieces



A — 1 base piece 1¼ x 1¼ x 24" with one hole at each end and 3 cut outs to fit posts and foot piece

B — 1 foot piece ¼ x 1¼ x 9"

C — 1 post ¼ x 1¾ x 9" with two holes as shown

D — 1 post ¼ x 1¾ x 9" with three holes as shown

E — 4 dowels ¼" in diameter and 7" long, fitting tightly into the holes in post and base piece

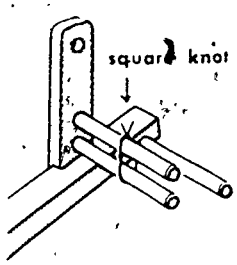
All pieces have slightly rounded corners and are well sanded

F — Fashion **shuttle** out of a tongue depressor, as shown

ASSEMBLING THE LOOM:

Foot piece is fitted and screwed at right angles to base piece as shown above The two posts are fitted and screwed to the base piece as shown Dowel pegs are placed as shown

MAKING HEDDLES:



Even if your loom comes supplied with heddles, it is better to make your own

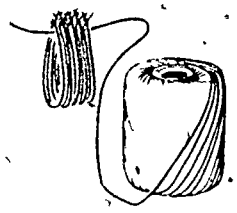
Place peg D into lower hole Tie a string around pegs E and D as shown, making a tight square knot, clip ends to about ½" Slip heddle off the pegs

The number of heddles needed depends on the width of woven band For practice, make a 40-warp belt (see photograph above) for which you'll need 20 heddles

SETTING UP THE WARP

Band is prettier in more than one color Arrange your colors in stripes on the loom Our **sample belt** was made in tan and ecru in the following proportions Tan—12 threads, Ecru—16 threads, Tan—12 threads

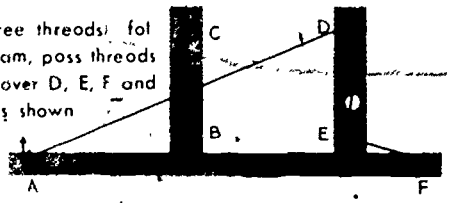
Always count threads on peg D.



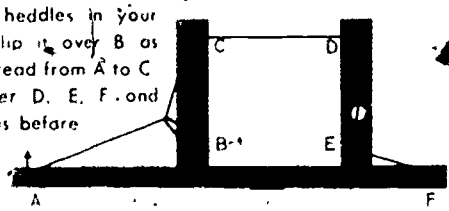
Pass end of first color thread through all heddles and tie in a bow knot to peg A. Slip a finger through heddles and hold them in your hand while hand travels around loom, placing thread on pegs

The loom is warped in two alternating cycles of **free threads** and **heddle threads.**

1st cycle free threads) following diagram, pass threads from peg A over D, E, F and back to A as shown



2nd cycle heddle threads) following diagram, release one of the heddles in your hand and slip it over B as you carry thread from A to C continue over D, E, F and back to A as before



Continue in this manner, alternating the two cycles, laying one thread carefully next to the other **Keep threads** rather loose Bring all heddle knots to under side

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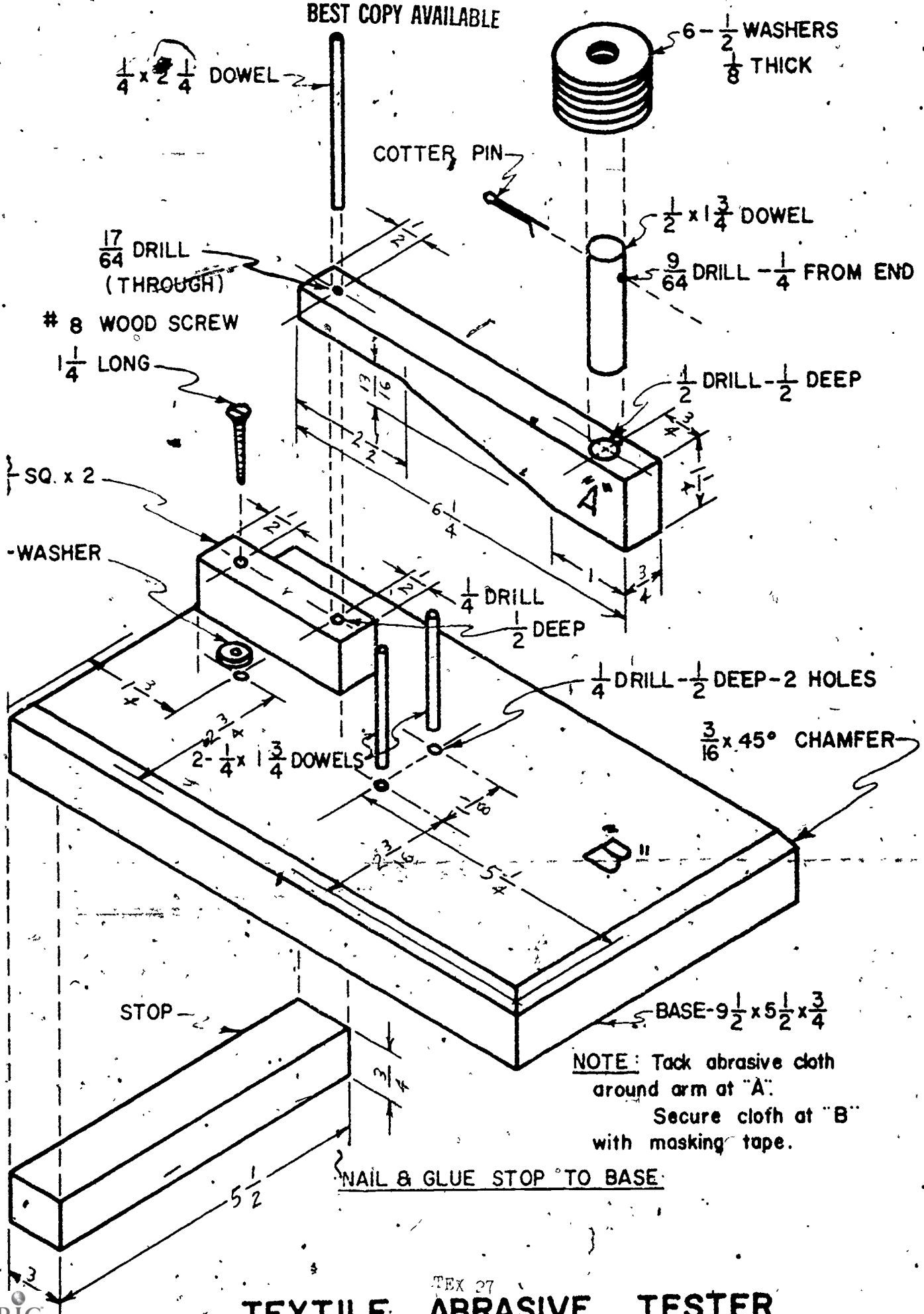

TEX 27

TEXTILE ABRASIVE TESTER

POSSIBLE CLASSROOM EXPERIMENTS

1. Dimensional Change

Note the differential between the washed sample and the stitch made prior to washing or compare with the unwashed mate. This difference has occurred after one washing in an automatic washing machine at the hot cycle setting.

Method of Test
- Draw diagram of test item prior to washing.
- Wash by recommended method. Hand wash for delicate items. Machine wash for durable items such as socks, T-shirts and jeans.
- Line dry or dry by placing on a towel or a flat surface. Take care not to distort the sample.
- When completely dry, place against sketch to note change.

2. Rate of Absorbency

Note the longer area of discoloration on the all cotton samples. These samples have been suspended in colored water for the same length of time (two minutes).

A faster rate of absorbency and greater total absorbency are contributing factors to comfort since perspiration is dispersed better.

Method of Test
- Fill a flat pan with water to a one-inch level.
- Add a few drops of food coloring or liquid dye so absorption can be noted more readily.
- Suspend samples in water so base of sample just touches pan. Be sure samples hang free and do not tough each other.
- After one or two minutes remove samples, allow to dry and note difference in height the water traveled. The greater the difference the faster the rate.

3. Total Absorbency

Illustration of how much water a sample will absorb and the difference in absorption of fabrics is a simple matter. Choose a highly absorbent fabric such as terry toweling, quilted padding or guaze diaper fabric and a smooth relatively absorbing fabric such as sheeting or shirting.

Weight measurements made initially and after immersion permit one to calculate the percent of absorption.

Method of Test
- Cut a 12" x 12" sample.
- Fold twice to make a 6" x 6" square.
- Fill a sufficiently large vessel(dishpan) with at least a 3" depth of water.

. Weigh sample.
. Place sample on water surface and allow to sink to bottom of pan.
. Allow sample to stay submerged for one minute.
. Clasp by one corner and suspend sample above water until the stream of water ceases running and forms droplets.
. Immediately reweigh the sample.
. Calculate percent of absorption.

$$\frac{\text{Absorbed Weight - Original Weight}}{\text{Original Weight}} \times 100$$

4. Presence of Excessive Sizing

To determine if a sample has an excessive amount of sizing (a non-durable finish to lend hand and weight to a fabric) rub the fingernail over the surface of the sample. Heavily sized samples will give off a white powder. Frequently mattress covers and pads are heavily sized. Mere handling will often cause sizing to come free in considerable quantity on the cheaper grades.

5. Water Repellency

Fabrics such as raincoat fabrics often are treated with finishes that make them water repellent. One can easily determine if a fabric has been given a finish of this type by flicking a few drops of water on the surface. Water will bead on the surface of a fabric with a water repellent finish.

To determine if the finish is of a durable or non-durable type, wash or dry clean, three times, by the recommended method, and repeat the test. Samples with durable water repellent finishes will show the water beading on the surface of the fabric.

6. Odor in Fabrics

Some fabrics with finishes have objectionable odors, especially when moist. Moisture from perspiration or inclement weather can cause objectionable odors such as fish, wet dog or burnt chemical.

For this experiment let us enlist the aid of our friends in the Chemistry Department to make us a small batter of 2% Sodium Carbonate solution. Using an eyedropper, spot the sample with the solution. Poorly finished permanent press fabrics will give off an odor which is easy to detect.

7. Resistance to Pilling

Pills are little unsightly balls that form on the surface of fabrics, primarily the stronger man-made fiber fabrics. While the evaluation of pilling is conducted in an instrument which automatically tumbles three 4½" x 4½" samples, the results can be duplicated by rubbing two samples of the fabric, one against the other. It took only 125 rubs to produce the fiber disturbance in the accompanying sample.

Method of Test

. Cut two identical size samples.
. Rub one against the other with smooth even strokes covering most of the surface.
. A suggested fabric is an infant receiving blanket. Most of these pill readily.

8. Permanent Press Evaluation

Here is a project for the school which has a washer and dryer available or can make arrangements for a trip to a laundromat.

Permanent press fabrics and garments are often referred to as items with a built-in memory. When washed in accordance with instructions, they will return to their original appearance. Care must be taken to assure that washloads are not overloaded and that items of similar weight are washed together. Satisfactory results can not be obtained if a raincoat and shirt are washed together even though temperature requirements may be identical. While a reasonable degree of acceptance is obtainable by hanger drying, best results are generally obtained when samples are dryer dried.

Method of Test

. Select two identical garments. Retain one for comparison.
. Wash second garment in washer using a four pound washload. Yard square samples of cotton fabric can be used to make the difference between the weight of the garment and four pounds. If hang tag does not designate temperature to be used, wash at 120 F. For washers which do not have a medium temperature, control check the water temperature with a food thermometer. An alternative is to use warm water setting and garment which specifically states to wash at warm cycle.
. Dry in dryer. Remove garment immediately after drying. To determine drying time on first run check periodically. Often 30 minutes is sufficient drying time for medium weight permanent press items.
. Repeat process four times for a total of five washes.
. Immediately hang on hanger.
. Compare garment for appearance of fabric, seam puckering and smoothness of trim using identical garment which was retained.

9. Staining Test

Sample of fabric which has a claim for a stain repellent finish can be evaluated for the effectiveness of the finish by staining with three drops of stain using an eye dropper to dispense the staining media.

Olive oil, orange juice, cola beverage, coffee, catsup, and chocolate drink are a satisfactory selection as the group represents oil borne and water borne stains and stains with colorants which often prove problematic.

Method of Test

. Place three drops of each stain on fabric using an eye dropper. Leave ample space between stains.
. Blot excess stain from sample using paper toweling. The stain will bead on the surface of many stain repellent finish fabrics.
. Identify the area by circling stain with an indelible pen.
. Wait a few minutes for stain to dry and then clean by recommended method. Wash if washing is recommended or spot with cleaner.
. Inspect for stain in a well lighted area.

10. Colorfastness to Washing

Note the change in color of the light beige portions between the small sample of original fabric and the large washed sample. Also note how the attached sample of test cloth has picked up dyestuff during the washing process.

Method of Test

. Cut a small sample approximately 2" x 4".
. Attach a 2" x 2" specimen of plain white cloth.
. Wash in a mild soap solution.
. Retain a piece of original cloth for comparison.
. Remove plain white cloth and replace with a new 2" x 2" specimen. Rewash sample. This will illustrate if the sample is of the type which requires several washings to remove excess dye.

11. Colorfastness to Light

Note the small light area. This area was exposed in a Fade Ometer for one hour. You can achieve the same effect by using the following procedure.

Method of Test

. Cut a small specimen.
. Cover one half of the specimen with cardboard or retain an equal size specimen for comparison. If the fabric is a print fabric, be sure to expose all colors and that the retained specimen contains all colors.
. Expose in direct sunlight. Most samples will take at least 10 hours of direct sunlight exposure to show a shade alternation.

12. Colorfastness to Crocking

Note the rub off of color which has occurred. For your experiment you might try indigo denim as these often show crocking.

Method of Test

. Take a small piece of white cotton fabric.
. Place fabric over finger and rub cloth twenty times with a smooth gentle stroke.

. Inspect white cloth for color rub off. This is dry crocking.
. Take another small piece of white cloth fabric and immerse in water.
. Place between two paper towels to absorb excess moisture.
. Again with cloth over finger rub fabric twenty times in same manner. This is wet crocking.

Compiled by:
Miss Kathleen Hyde
of
U.S. Testing, New Jersey

CYCLE APPENDIX I

Read Fiber Labels For Clues To Better Clothing Care

Fiber identification is an important clue to better care and use of modern fabrics. The Textile Fiber Identification Act, effective March 3, 1960, was passed to help you with the selection and care of today's fabrics.

This regulation requires the identification of fiber content on wearing apparel, accessories, draperies, rugs, and bedding - whether made in the United States or imported. The percentage or amount of each fiber in the fabric must also be given.

You should become familiar with some new names to get the most benefit from this law. The primary source of each fiber must be listed on the hang tag or label. This is called its GENERIC, or family name. Close to it you will find its trade name.

For example, you will see:

GENERIC (FAMILY) NAME	TRADE NAME
Rayon	Bemberg
Acrylic	Orlon
Polyester	Dacron

We are already familiar with the old standby generic or family names such as cotton, linen, silk, and wool. Labeling of wool has been required for some years.

The many other textile names on the market today and the promise of more tomorrow will be very confusing unless you become familiar with the newer generic or family names and then associate them with the trademark names.

What's In A Name

Below is a list to help you. The trade names grouped under each generic or family name indicate fibers of similar characteristics. The following charts can serve as a guide for appropriate use and care of fabrics.

GENERIC (FAMILY) NAME	TRADE NAME	USES
Cotton		Wearing apparel Household goods
Linen		Wearing apparel Window Treatment Household Linens
Rayon	Cupioni, Bemberg, Fortisan, Cordura, Colaray, Jetspun, Colorspun	Wearing apparel Curtains & Draperies Linings

- Rayon needs careful handling in washing because it looses its strength when wet.
- Avoid using chlorine bleaches on re-finished fabrics unless the label says it is safe to do so.
- Remove oily stains before washing resin-treated fabrics. Coloray, Jetspun, and colorspun are solution-dyed rayons and are highly resistant to fading.

GENERIC (FAMILY) NAME	TRADE NAME	USES
Silk		Apparel, lining
Wool		Apparel, Blankets

- Use cool temperatures in washing and pressing to prevent yellowing.
- Use little agitation and avoid rubbing wool when wet to prevent felting and shrinkage.

GENERIC (FAMILY) NAME	TRADE NAME	USES
Rubber	Lastex	Foundation garments Surgical Hose
Spandex	Lycra	Swimwear

- Do not expose to excessive sunlight or heat; protect from oils, fats, and greases (lotions or creams).
- Wash frequently to remove body oils.
- Let garment rest after each wearing.

GENERIC (FAMILY) NAME	TRADE NAME	USES
Acetate	Celanese, Estron, Chromspun, Colorsealed, Celaperm	Wearing Apparel Lingerie
Triacetate	Arnel	

- Acetate fabrics require low temperatures. Triacetate can take a higher temperature.
- Water - borne stains can be easily removed.
- Remove oily stains before washing.
- These fibers are dissolved by paint remover and nail polish remover.
- Celanese, estron and arnel are sensitive to fading from atmospheric gasses.
- Chromspun, Colorsealed, and Celaperm are highly resistant to fading.

GENERIC (FAMILY) NAME	TRADE NAME	USES
Acrylic	Creslan, Zefran, Orlon, [illegible]lan	Knitted apparel Blankets, carpeting Fur-like fabrics

Modacrylic	Verel Dynel	Fleece and pile fabrics Underwear Carpeting
Hybrid	Darvan	Knits Fur-like fabrics
Nylon	Nylon Caprolan	Wearing apparel Lingerie Outerwear in knits and woven fabrics
Polyester	Dacron, Teron, Vycron, Yodel	Wash and wear apparel Suitings Window treatments

- These fibers require lower washing, drying, and pressing temperatures.
- Water-borne stains can be wiped or washed off easily.
- Oily stains are more difficult to remove. They should be pre-treated and removed before washing.
- Wrinkles from these fibers tend to keep their shape, require little pressing.
- They are moth and mildew resistant.

More About Labels

Remember that many of these fibers are used in blends. The percentage of each fiber must be listed on the label. For example, a man's shirt may be labeled 65% Dacron and 35% cotton. Because of the high percentage of Dacron, you would handle the fabric at the lower temperature required for Dacron, and pre-treat oily, stained areas, such as the collar, before washing. Also you would know that the shirt should keep its shape and require less ironing.

Each different part of an article must be labeled for fiber content. The label on a fur-like fabric might read 100% nylon pile, 100% cotton back. A jacket label might read: 100% nylon, Interlining 100% rayon.

How Will Yard Goods Be Labeled?

Although, every few yards of fabric cannot be labeled, the bolt will be clearly labeled. As you buy fabric by the yard, jot down the fiber content and other useful information.

Suppose You Buy A Remnant?

According to the law, remnants don't have to be labeled as to fiber content. If not labeled, there will be some identification on the remnant or near the counter which says - "Remnants of an undetermined fiber content."

If A Very Small Amount Of One Fiber Is Used With One Or More Other Fibers, Will The Percentage Be Given?

Five percent or less of a fiber does not have to be identified but the label must read "other fiber."

Should You Look For Other Information?

Yes, because fiber content is just one clue for you. Beside trade names for fibers, there are trade names for yarn processes, and also textile finishes such as crease resistant, wash and wear, water repellent, and shrinkage-controlled finishes.

Many manufacturers give specific instructions for care. These are your best guides.

Look for performance and care information as well as the fiber content and SAVE THOSE "HANG TAGS."

Your clues to better care will be lost unless you save those hang tags. Write a description of the garment or article on the tag. Then file it for ready reference just as you file a recipe. It will be handy at laundry or dry cleaning time.

Compiled by:
Miss Arlene Maisel
Highland Park High School
Highland Park, New Jersey

Textile Terminology

1. Acetate - a generic name for a cellulose acetate fiber.

2. Acrilan - a trademark of Monsanto for its acrylic fiber. It is made in both staple and continuous filament form.

3. Acrylic - a manufactured fiber in which the fiber forming substance is any long chain polymer composed of at least 85%, by weight, acrylonitrile units (CH$_2$-CH)
CN

4. Applique - decoration in which material is cut out and sewed, embroidered or pasted on another material.

5. Asbestos - a non-metallic mineral fiber which is not flammable. (Theater curtains, iron board covers).

6. Ban-Lon - a crimped yarn in which the unprocessed filaments are textured or crimped and then thermo-set in a stuffer box. Ban-Lon is a trademark name of Joseph Bancroft & Sons.

7. Batiste - a sheer, fine material originally made from cotton, but is also made from rayon, polyester, wool or silk.

8. Broadcloth - a tight and plain-woven lustrous cloth with a crosswise rib. Made of cotton, blends and man-made fibers.

9. Brocade - rich Jacquard-woven fabric with all over, interwoven design of raised figures or flowers.

10. Burlap - course canvas-like fabric made of jute, hemp or cotton. Also called gunny.

11. Camel Hair - hair from camels, wool-like in texture.

12. Cashmere - from the cashmere goat. Resembles wool. Hair is soft, strong and silken-like.

13. Cheviot - sports coating, lightweight cheviot tweed from the Cheviot sheep of Scotland.

14. Chiffon - a thin, guaze like, soft material.

15. Chevron - herringbone weaves or prints in zigzag stripes.

16. Corduroy - a cut filling, pile cloth with narrow to wide wales which run in the ways direction of the goods and made possible by the use of an extra set of filling yarns in the construction.

17. Dacron - (pronounced Day-cron). A trademark of DuPont for polyester fiber. Is noted for its crispness and strength.

18. Damask - firm, glossy Jacquard-patterned fabric is similar to brocade, but flatter and reversible. Linen, cotton, rayon or silk.

19. Denim - cotton cloth, is rugged and serviceable. Standard denim is made with indigo-blue dyed ways yarn and a gray or mottled white filling.

20. Embroidery - ornamental needle work on fabric done by hand or machine.

21. Glass Fiber - a manufactured fiber in which the fiber forming substance is glass.

22. Hand Spun - yarns which are spun by hand, or fabrics made from these yarns.

23. Khaki - made of cotton, wool, worsted or linen, or a combination of these fibers and man-made fibers. Was first used as the color of uniforms in 1853-56.

24. Lace - open, porous material, embroidered design.

25. Linen - linen is the product of the flax plant.

26. Mohair - comes from the Angora goat. $2\frac{1}{2}$ times as strong as wool.

27. Muslin - generic term for a wide variety of cotton fabrics.

28. Nylon - a manufactured fiber in which the fiber forming substance is any long chain synthetic polyamide having recurring amide groups (-O-NH-) as an integral part of the polymer chain.

29. Oxford - soft material made on repeat-basket weaves, the fabric soils easily because of the soft, bulky filling used in the goods.

30. Pile Fabric - certain yarns project from a foundation texture and form a pile on the surface. Corduroy and velvet are cut. Terry cloth is uncut.

31. Polyester - man-made such as Dacron, Kodel, and Fortrel.

32. Rayon - Rayon is a generic term. Man-made of cellulose that has been spun into thread.

33. Satin - very smooth, lustrous face effect while the back of the material is dull.

34. Suede Fabric - woven or knitted cloth finished to resemble suede leather.

35. Taffeta - a fine plain weave fabric smooth on both sides, usually with a sheen on its surface.

36. Tapestry - is power-loomed on dobby looms and Jacquard looms. Ornamental embroideries.

37. Tire fabrics - heavy duck.

38. Eyelet - a small hole or perforation embroidered on material.

TERMS USED IN MANUFACTURE OF FABRIC

1. Abrasion Resistance - degree to which a fabric is able to withstand surface wear and other friction such as rubbing, chafing, etc.

2. Bleaching - remove natural and other types of impurities and blemishes of various types from goods; takes out coloring matter and makes cloth white.

3. Bonding - fabric to fabric bonding. Two materials cemented together.

4. Carding - a process of opening and cleaning textile fibers which separates fibers from each other, lays them parallel; makes them into a thin web and condenses them into a continuous untwisted strand of fibers.

5. Colorfast - does not loose color during the normal life of the garment.

6. Crease Resistance - is done by the use of synthetic resins or other chemicals on materials to cause it to resist and then recover, if needs be, from wrinkling.

7. Double Knit - a fabric knitted with a double stitch on a double needle frame to provide double thickness.

8. Embossing - a popular effect made on cloth by passing it between rollers, each set having one smooth and one embossed roller.

9. Fireproofing - 100% fireproof.

10. Fire-Retardant - fabric treated with special chemical agents to make them retardant or resistant to fire.

11. Jacquard - a method of weaving using punched cards according to motif desired.

12. Lamination - the joining of two or more layers of materials by the use of an adhesive, a binding agent, or heat, joining a face fabric to a foam back in bonded fabrics.

13. Mercerizing - a finishing process used on cloth. A sodium hydroxide solution is put on the material to increase its strength and affinity for dyes.

14. Sanforized - fabric has been preshrunk and will shrink no more than 1%.

15. Scotchgard - gives material a water repellent finish.

16. Sizing - adding a size mixture to warp yarn to make the yarn smoother and stronger to withstand the strain of weaving.

17. Thread Count - the number of warp and filling threads per inch of woven cloth.

18. Warp - the yarns which run vertically or lengthwise in woven goods.

Compiled by:
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RESOURCE LIST OF COMPANIES AND ASSOCIATIONS

Associations, manufacturers, and other business firms have prepared informational materials--written in non-technical language--to assist consumers in the selection and care of the family's clothing. In addition, some of these same groups have developed audio-visuals for use with schools, consumers and other groups.

The organizations listed below may be contacted for information and/or assistance with a Consumer Conference on Clothing. Sample copies of publications should be requested well in advance of your conference. Examine them carefully to determine which ones will be appropriate to distribute at your meeting. It is advisable to preview films.

Some organizations charge a small fee for leaflets and booklets. Films are often free on loan, except for return postage.

Depending on the size of the audience and the city, speakers may also be available. When contacting organizations about speakers, supply as much information as possible--purpose, date, place, anticipated attendance, type of audience, topics to be covered, etc.

FIBERS AND FABRICS

Organization	What's Available
AMERICAN HOME ECONOMICS ASSOCIATION 1400-20th Street, N.W. Washington, D.C. 20009 202-737-0153	Textile Handbook, a semi-technical reference on fibers, fabrics, and finishes. $2.00 per copy.
AMERICAN TEXTILE MANUFACTURERS INSTITUTE, INC. Public Relations Department 1501 Johnston Building Charlotte, North Carolina 28202 704-[illegible]-4734	.16 mm. film, "Can You Imagine?" shows role of textiles in daily life. (Free on loan from any office of Modern Talking Picture Service). .Free on loan from ATMI is a filmstrip with record which describes and shows the processes of textile manufacture.
AMERICAN WOOL COUNCIL Division of American Sheep Producers Council 200 17th Street Denver, Colorado 80202 303-244-3451	Leaflets and 16 mm. sound-color films on wool fibers and fabrics. Write for current list of educational aids.
CELANESE FIBERS MARKETING COMPANY Consumer Education Department [illegible] Fifth Avenue New York, New York 10036 212-[illegible]-2000	Booklets, leaflets and color filmstrip on contemporary fibers and fabrics. Leaflets available free in quantity.

EASTMAN CHEMICAL PRODUCTS, INC. Education Department, Fibers Division 260 Madison Avenue New York New York 10016 212-679-1820	Leaflet on durable press fabrics.
FMC CORPORATION American Viscose Division Product Information Services 350 Fifth Avenue New York, New York 10001 212-524-7200	Aids include fiber facts booklet, pocket size booklet on fibers, 35mm. color sound filmstrip and 16 mm. color film on manufacture and end-use application for fibers. Write for current list of educational aids.
GOOD HOUSEKEEPING The Institute 959 Eighth Avenue New York, New York 10019 212-265-7300	Booklets on durable press, stretch fabrics and expandable fashions. Possible speaker.
HOUSEHOLD FINANCE CORPORATION Money Management Institute Prudential Plaza Chicago, Illinois 60601 312-944-7174	Information on fibers and fabrics included in filmstrip and booklet on Your Clothing Dollar. Write for current list of educational aids.
J.C. PENNEY COMPANY, INC. Educational & Consumer Relations 1301 Avenue of the Americas New York, New York 10019 212-957-6612	Folder on Understanding Today's Textiles. Contact manager of local Penney store for sample copy.
MAN-MADE FIBER PRODUCERS ASSOCIATION, INC. Educational Director 350 Fifth Avenue New York, New York 10001 212-563-4671	Man-Made Fiber Fact Book. Color filmstrip on man-made fibers and fabrics.
NATIONAL COTTON COUNCIL OF AMERICA Home Economics Department 1918 North Parkway, Box 12285 Memphis, Tennessee 38112 901-677-1500	Leaflets, booklets, and posters on cotton--from field to fabric. 16mm. color films free on loan. Write for Catalog of Educational Materials.
SEARS, ROEBUCK AND COMPANY Consumer Information Services D/703 7401 Skokie Boulevard Skokie, Illinois 60076 312-677-1500	Young Fashion Forecast (booklet and filmstrip) includes information on fibers and fabrics. Up-dated semi-annually. Write for current list of educational aids.

WHAT'S NEW IN HOME ECONOMICS
466 Lexington Avenue
New York, New York 10017
212-340-1500

Facts About Fibers, a 60-page reprint from that magazine's fiber-of-month series. Includes information about natural and man-made fibers. One to ten copies $2.00 each, discount on large quantities.

CLOTHING SELECTION

AMERICAN INSTITUTE OF MEN's & BOY'S WEAR
1290 Avenue of the Americas
New York, New York 10019
212-581-8210

Booklets, audio-visuals, prepared speeches, fashion show scripts, and Dress Right Program for Youth. Write for current list of educational aids.

CHANGING TIMES
Reprint Service
1729 H Street, N.W.
Washington, D.C. 20006
202-298-6400

Reprints from issues of Changing Times magazine on how to buy men's suits. Write for current Index of Changing Times Articles and price list.

GOOD HOUSEKEEPING
Bulletin Service
959 Eighth Avenue
New York, New York 10019
212-265-7300

How-to-buy information included in booklets on durable press (25¢ per copy) and stretch fabrics (15¢ per copy). Bulk rates available.

HOUSEHOLD FINANCE CORPORATION
Money Management Institute
Prudential Plaza
Chicago, Illinois 60601
312-944-7274

How-to-buy information included in filmstrip and booklet on Your Clothing Dollar. Write for current list of educational aids.

McCALL'S PATTERNS
Educational Director
230 Park Avenue
New York, New York 10017
212-983-8620

Posters and wardrobe planning charts. Possible speaker. Write for current list of educational aids.

J.C. PENNEY COMPANY, INC.
Educational & Consumer Relations
1301 Avenue of the Americas
New York, New York 10019
212-957-6612

Consumer buying guides (for shoes, men's dress shirts, swimwear, foundation garments for teens, etc.) and consumer buying filmstrips (for general clothing selection, sweaters, shoes, and fabrics by the yard). Contact manager of local Penney store.

SEARS, ROEBUCK AND COMPANY
Consumer Information Services D/703
7401 Skokie Boulevard
Skokie, Illinois 60076
312-677-1500

Booklets and filmstrips on selection of outerwear and underfashions included in Hidden Values Series. Write for current list of educational aids.

THE SPERRY & HUTCHINSON COMPANY
Consumer Relations
330 Madison Avenue
New York, New York 10017
212-983-7923

Booklet on How to be a Better Shopper includes section on girl's and women's clothing sizes and shopping tips.

CARE OF CLOTHING

AMERICAN HOME ECONOMICS ASSOCIATION
1600-20th Street, N.W.
Washington, D.C. 20009
202-387-0158

Textile Handbook includes section on laundering and care of fabrics. $2.00 per copy.

AMERICAN APPAREL MANUFACTURERS ASSOCIATION, INC.
1000 K Street, N.W.
Washington, D.C. 20006
202-337-7177

Voluntary industry guide on permanent care labeling of textiles.

ASSOCIATION OF HOME APPLIANCE MANUFACTURERS
Public Relations Department
20 North Wacker Drive
Chicago, Illinois 60606
312-236-2921

Leaflets and annotated bibliography of articles on laundering clothes. Proceedings from 1966 Home Laundry Conference. Write for current list of educational aids.

CELANESE FIBERS MARKETING COMPANY
Consumer Education Department
522 Fifth Avenue
New York, New York 10036
212-867-7200

Care of clothing included in Fibers for Contemporary Fabrics booklet.

CHANGING TIMES
Reprint Service
1729 H Street, N.W.
Washington, D.C. 20006
202-298-6400

Reprints from issues of Changing Times magazine on care of clothing. Write for current Index of Changing Times Articles and price list.

EDISON ELECTRIC INSTITUTE
750 Third Avenue
New York, New York 10017
212-986-4100

Booklet on proper laundry techniques and stain removal chart. Contact the home service director of the local utility company of Edison Electric Institute for sample copies.

GENERAL ELECTRIC COMPANY
Consumers Institute
Appliance Park
Louisville, Kentucky 40225
502-452-4105

Leaflets on Laundering. Possible speaker.

GOOD HOUSEKEEPING
The Institute
959 Eighth Avenue
New York, New York 10019
212-265-7300

Care of clothing included in booklets on durable press and stretch fabrics. Possible speaker

HOUSEHOLD FINANCE CORPORATION
Money Management Institute
Prudential Plaza
Chicago, Illinois 60601
312-944-7174

Care of clothing included in filmstrip and booklet on Your Clothing Dollar. Available at cost--quantity discounts. Write for current list of educational aids.

LEVER BROTHERS COMPANY
Consumer Education Manager
390 Park Avenue
New York, New York 10022
212-688-6000

Leaflets and wall chart on care of clothing.

THE MAYTAG COMPANY
Home Service Department
512 North Fourth Avenue, West
Newton, Iowa 50208
515-792-7000

Encyclopedia of Home Laundry. Leaflets on care of clothing and how to read a hang tag. Write for sample copies. Possible speaker

NATIONAL BETTER BUSINESS BUREAU, INC.
230 Park Avenue
New York, New York 10017
212-684-7377

Leaflet, Your Money's Worth. Cleaning and Laundering, discusses buyer-customer responsibilities. Available from local BBB's or the National BBB.

NATIONAL INSTITUTE OF DRYCLEANING
Public Relations Director
909 Burlington Avenue
Silver Springs, Maryland 20910
301-589-2334

Drycleaning. Bulletin service. Possible speaker.

NATIONAL RETAIL MERCHANTS ASSOCIATION
The Technical Committee
100 West 31st Street
New York, New York 10001
212-244-8780

Voluntary industry guide on care labeling of today's textiles.

THE PROCTER & GAMBLE COMPANY
Home Economics Department
P.O. Box 599
Cincinnati, Ohio 04520
513-562-2347

Filmstrips and teacher's manual on care of clothing. Possible speaker.

SOAP AND DETERGENT ASSOCIATION
Cleanliness Bureau
485 Madison Avenue
New York, New York 10022
212-751-6080

A leader's reference listing generic types and descriptions of cleanliness products. 16 mm. sound color film, "The Pursuit of Cleanliness," explains how detergents work.

WESTINGHOUSE ELECTRIC CORPORATION
Public Relations--Consumer Group
3 Gateway Center, Box 2278
Pittsburg, Pennsylvania 15230
412-255-3800

Booklets on techniques of laundering and drying clothes. Possible speaker.

WHIRLPOOL CORPORATION
Home Service Department
Benton Harbor, Michigan 49022
616-925-0651

Leaflets, movies and filmstrip. Possible speaker.

TEXTILE AND APPAREL ECONOMICS

AMERICAN APPAREL MANUFACTURERS ASSOCIATION, INC.
2000 K Street, N.W.
Washington, D.C. 20006
202-337-7177

16 mm. sound film on apparel manufacturing. Available on loan for $15.00. Fact sheets and booklet, Focus-Economic Profile of the Apparel Industry. Write for list of publications.

AMERICAN WOOL COUNCIL
Division of American Sheep Producers Council, Inc.
909 17th Street
Denver, Colorado 80202
303-244-2451

Leaflets on wool production, processing and manufacturing in United States.

MAN-MADE FIBER PRODUCERS ASSOCIATION, INC.
Educational Director
350 Fifth Avenue
New York, New York 10001
212-563-4671

Man-Made Fiber Fact Book contains information on industry-plant investment, research and capital expenditures, number of employees, etc.

NATIONAL COTTON COUNCIL OF AMERICA
1918 North Parkway, Box 12285
Memphis, Tennessee 38112
901-276-6783

Economic studies, consumer surveys, etc. on cotton production, processing, manufacturing, and end uses. Write for current Catalog of Educational Materials.

HISTORY AND GENERAL INFORMATION
Boy Scouts of America
North Brunswick, New Jersey 08902

Textile Merit Badge Pamphlet. (45¢ per copy). Excellent and interesting information and pictures.

Educational Materials Available from:

American Textile Manufacturers Institute
1501 Johnston Building
Charlotte, N.C. 28281

May 1973

BOOKLETS, PAMPHLETS AND OTHER PRINTED MATERIALS

Care-Labeling Wall Chart--NEW--Poster 22" x 28" explains and interprets new care labels required by law on clothing. Excellent teaching aid for consumer education, home economics and distributive education classes at all age levels. Also of use in retail stores. 1 copy free to each teacher. Additional quantities: $10 per hundred.

In Textiles A Career With Every Job--NEW--Eight-page pamphlet describes textile career opportunities in broad terms. Makes the general point that the textile industry offers careers to persons with diverse interests and educational backgrounds. 1 copy free. Quantity orders: $10 per hundred.

Wonderful New World of Textiles - Resource and study unit on textiles, primarily for intermediate and upper grade teachers but of reference value to older groups. Complete with suggested activities and projects. Eight-page pamphlet includes a brief history of textiles, explanation of spinning, weaving and finishing, description of promising new ways to form fabric without weaving or knitting. 1 copy free to each teacher.

Swatch Chart - Fabric display chart with swatches and samples of 48 basic fabrics and raw materials. Shows selected textile products in different stages of production. Each fully explained. Price: $3.50.

Bulletin Board Poster - Dramatizes scope, sophistication and importance of textile end products. 1 copy free to each teacher.

Mankind's Magic Carpet - 24 page, full-color booklet that tells in picture-story form how textiles have contributed to civilization and industrial progress throughout history. Primarily for intermediate and upper grades but of interest to older groups. 1 copy free to each teacher. Classroom quantities (30): $6.

Textiles for You - 16 page booklet outlines step-by-step procedures for making textiles. Covers all major manufacturing operations from opening to finishing. For all ages. 1 copy free to each teacher. Classroom quantities (30): $6.

How Textiles Are Made - New simplified version of "Textiles for You," for the elementary-age youngster. Ran originally as two-page advertising insert in Grade Teacher. Explains textile-making in simplest language. Up to 30 copies free to teachers as long as supply lasts. Additional quantities: $2.75 per hundred.

A Profile of Textiles - 16 page booklet containing basic facts about the textile industry. Topics include size, distribution, processes, products, prices, profits, and problems. For all adult readers, including high school and college students. 1 copy free. Additional quantities: $20 per hundred.

Textiles In The Making--NEW--Answers the question textile people get most from outside the industry. Tells how textiles are made. This 14½ minute, 16mm educational movie explains simply and dramatically the basic processes that go into the manufacture of woven and knitted fabrics. Excellent for social studies classes, introductory home economics and textiles courses. Also of general interest. Has been used by textile companies for employee and customer orientation. Available free on loan from Association-Sterling Films (see list of film libraries attached). May also be purchased from American Textile Manufacturers Institute for $75 per print. Available from: Frank Wolf, Manager, 600 Grand Avenue, Ridgefield, New Jersey 07657.

FILMSTRIPS

Textiles--A Good Place to Grow--NEW--Introduces the student to career opportunities in the textile industry. This 58 frame, full-color sound filmstrip features photos and actual voices of people who work in textiles. Gives students an over-all view of the great variety of skills and talents that the textile industry employs. Subject matter ranges from hourly-wage to professional and technical positions. Includes filmstrip, 12-inch recording and copy of script. Price: $3.50.

Textile Art From Tapestries to Jeans - An introduction to the role of textiles in man's expression of his appreciation for the beauty of his surroundings through art and design. Of interest to classes in home economics, art appreciation, decorating, clothing, consumer education and fabric design. 63 frames with 12-inch record: Price: $3.50.

Textiles for Everyone - Explains and illustrates each of more than 20 manufacturing processes needed to produce finished cloth. Sixty frames, color. Includes 35mm filmstrip and 12-inch record for use in manual or automatic projectors. Price: $3.50.

Textiles--How They Get To Where You Shop - Tells how today's textile products reach the consumer; describes channels of distribution, explains trends and important developments in manufacture and end use of textiles. Price: $3.50.

Textiles--Measure of Civilization - An unusual approach to the role of textiles in the history of civilization and industrial progress. 43 frame silent filmstrip in full color. Teacher's guide included. Price: $2.

ERIC

INDEX TO NON-PRINT INSTRUCTIONAL MATERIALS IN TEXTILES - 1973

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INTRODUCTION

The Index to Non-Print Instructional Materials in Textiles is the result of an exhaustive survey of media producers and distributors as well as major textile manufacturers in the U.S. It includes title, descriptions and acquisition information about 16mm films, 2x2 slides, videotapes, film loops, audio tapes and microscopic slides which can support textile academic programs on all levels.

In virtually all cases the descriptions are those of the distribution agency. No attempt has been made to ascertain the quality or appropriate audience for each of the titles. Contact the producer/distributor directly for more information. Previewing when possible, is encouraged to allow each user to exercise his own judgment based on his specific needs.

This Index is intended to provide textile educators/trainers with a bibliographical guide to non-print (films, film loops, 2x2 slides, videotapes, audio tapes, microscopic slides) materials. This listing of over 100 entries has been compiled by the Office of Instructional Technologies Services at North Carolina State University School of Textiles in Raleigh, N.C.

Contents:

This index is divided into three principal sections

1. Subject Guide
2. Alphabetical Guide
3. Directory of Producers and Distributors

Subject Guide

The subject category represents those headings germane to the content of the materials as taken from the producers descriptions. The title may appear under several categories. The codes enclosed within the parentheses following each title represent the media format:

AC - Audio Cassette
FS - Filmstrip
MS - Microscope Slide
VC - Video Cassette
2x2 - Slide
8mm - Cartridge Film
16mm - Reel Film

For a description of the material and its sources consult the Alphabetical Guide.

Alphabetical Guide

This section contains the individual titles. Each item includes the following data:

1. Title
2. Producer's or distributors content description
3. Length in minutes (where appropriate)
4. Number of components (where appropriate)
5. Producer and/or distributor

Directory of Producers and Distributors

After identifying an item of interest, contact the producer directly for acquisition of the material or for additional information.

Producers and distributors of instructional materials related to the field of textiles are invited to submit new publication information, directly (additions and/or corrections) to the Office of Instructional Technologies, N.C. State University, School of Textiles, Raleigh, N.C. 27607.

Thomas L. Russell
Instructional Technologist

Apparel

Apollo Pressure Suit (16mm)
Artic Clothing (8mm)
Body-Coverings, 1968 (2x2)
Clothes Around the World (16mm)
Clothes We Wear, The (16mm)
Clothing (2nd Edition) (16mm)
Clothing Cues for Young Men (FS)
Consumer Fabric Education Series (FS)
Cotton Clothing: From Field to You (FS)
Cotton to Clothing (16mm & VC)
Five Clues to a Winning Wardrobe (FS)
Lunar Space Suits (16mm)
Silk...Cocoon to Clothing (16mm & VC)
Singer Generations, The (16mm)
Story of Cotton, The (FS)
Textile Art From Tapestries to Jeans (FS)
T-Shirts (16mm)
Well Mannered Look (16mm)
Wonderful World of Nylon, The (16mm)

Arts & Crafts

Batik (16mm)
Body-Coverings, 1968 (2x2)
Fabrics International (2x2)
History of Dyed and Printed Textiles, A (FS)
Home Decorating Slides (2x2)
International Tapestry Biennale, 1969 (2x2)
Intersection of Line, 1968 (2x2)
Javanese Batiks, 1970 (2x2)
Lenore Tawney, 1968 (2x2)
Macrame (16mm)
Macrame (FS) (2)
Macrame, 1971 (2x2)
Macrame Techniques, 1971 (2x2)
Masterpieces of Western Textiles, 1969 (2x2)
Pioneer Crafts (8mm)
Sculpture in Fiber, 1972 (2x2)
Textile Art From Tapestries to Jeans (FS)
Textile Touch, The (16mm)
Textiles (Africa) (FS)
Textiles: Rossbach/Westphal, 1968 (2x2)
Tie Dye, 1972 (2x2)
The Dye Techniques, 1972 (2x2)

Arts & Crafts - continued

Vera Paints Ibiza in the Sun (16mm)
Wall Hangings, 1969 (2x2)
Wall Hangings of the Dreyfus Corp. 1971 (2x2)
Weaving (FS)
Weaving (8mm) (2)
Weaving (16mm)
Weaving I: Simple Looms (8mm)
Weaving II: Waffle Looms (8mm)
Weaving III: Box Loom (8mm)
World of the American Craftsman: The World and Work of Dorothy Young (16mm)
Woven Forms, 1963 (2x2)
Woven Walls by Olga deAmaral, 1970 (2x2)

Careers

101 Does Its Bit (16mm)
Orientation to Textiles (FS)
Textile Industry Careers (16mm)
Textiles - A Good Place to Grow (FS)
Textiles (Industry) (FS)

Chemistry

Physical Chemistry of Polymers (16mm)
Polymerization by Addition (8mm)
Polymerization by Condensation (8mm)

Design

Consumer Fabric Education Series (FS)
Cotton Clothing: From Field to You (FS)
Fabrics International (2x2)
Textile Art From Tapestries to Jeans (FS)
Textile Touch, The (16mm)
Vera Paints Ibiza in the Sun (16mm)

Fashion

Clothing Cues for Young Men (FS)
Five Clues to a Winning Wardrobe (FS)
Wonderful World of Nylon, The (16mm)

Arts & Crafts - continued

Vera Paints Ibiza in the Sun (16mm)
Wall Hangings, 1969 (2x2)
Wall Hangings of the Dreyfus Corp. 1971 (2x2)
Weaving (FS)
Weaving (8mm) (2)
Weaving (16mm)
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Textile Touch, The (16mm)
Vera Paints Ibiza in the Sun (16mm)

Fashion

Clothing Cues for Young Men (FS)
Five Clues to a Winning Wardrobe (FS)
Wonderful World of Nylon, The (16mm)

Fibers - Natural

Basic Fibers in Cloth (16mm)
Cloth-Fiber to Fabric (16mm)
Clothes We Wear, The (16mm)
Cotton Clothing: From Field to You (FS)
Cotton - From Fiber to Fabric (16mm)
Cotton in Today's World (16mm)
Cotton Picking and Ginning (16mm)
Cotton to Clothing (16mm & VC)
Eli Whitney (16mm)
Eli Whitney Invents the Cotton Gin (16mm)
Fibers and Civilization (16mm)
Fibers and Fabrics (MS)
From Flax to Linen (16mm)
Identifying Fabrics by Solubility (8mm)
Pioneer Crafts (8mm)
Pioneer Spinning and Weaving (16mm)
Silk...Cocoon to Clothing (16mm)
Silk...Cocoon to Clothing (Pakistan - 8mm)
Silk Fibers (MS)
Silk Fibers (16mm)
Story of Cotton, The (FS)
Story of Cotton (AC)
Story of Wool, The (FS)
Story of Wool (AC)
Textile Fibers (MS)
Textiles for Today (FS)
Textiles (Industry) (FS)
Way It is With Man-Made Fibers, The (16mm)
Wool (16mm)
Wool Processing in the United Kingdom (8mm)

Fibers - Synthetic

Basic Fibers in Cloth (16mm)
Cloth-Fiber to Fabric (16mm)
Clothes We Wear, The (16mm)
Fibers and Civilization (16mm)
Fibers and Fabrics (MS)
Fibers and Films (16mm)
Identifying Fabrics by Solubility (8mm)

Fibers - Synthetic - continued

Polymerization by Condensation (8mm)
Rayon Today (FS)
Synthetic Fibers - Nylon & Rayon (16mm)
Textiles for Today (FS)
Textiles (Industry) (FS
Way It Is With Man-Made Fibers, The (16mm)
Wonderful World of Nylon, The (16mm)

Finishing

Artic Clothing (8mm)
Batik (16mm)
Consumer Fabric Education Series (FS)
Cotton-From Fiber to Fabric (16mm)
Cotton to Clothing (16mm & VC)
Fire Under Control (16mm)
History of Dyed and Printed Textiles, A (FS)
Pioneer Spinning and Weaving (16mm)
Step Out on Color (16mm)
Story of Wool, The (FS)
Textiles (Africa) (FS)
Tie-Dye Techniques, 1972 (2x2)

Industrial Uses

Facts About Tires (16mm)
Fibers and Civilization (16mm)
Fibers and Films (16mm)
Home Decorating Slides (2x2)
Step Out on Color (16mm)

Knitting

Cloth-Fiber to Fabric (16mm)
Consumer Fabric Education Series (FS)
Intersection of Line, 1968 (2x2)
Knitting (8mm)
Way It Is With Man-Made Fibers, The (16mm)

Nonwovens

Consumer Fabric Education Series (FS)
Intersection of Line (2x2)
Textiles: Rossbach/Westphal, 1968 (2x2)
Way It Is With Man-Made Fibers (16mm)

Printing

Cotton Clothing: From Field to You (FS)
History of Dyed and Printed Textiles, A (FS)
T-Shirts (16mm)
Vera Paints Ibiza in the Sun (16mm)

Social Studies

Artic Clothing (8mm)
Clothes Around the World (16mm)
Clothing (2nd Edition) (16mm)
Cotton in Today's World (16mm)
Eli Whitney (16mm)
Eli Whitney Invents the Cotton Gin (16mm)
From Flax to Linen (16mm)
Guatemala, Land of Looms (16mm)
History of Dyed and Printed Textiles, A (FS)
Javanese Batiks, 1970 (2x2)
Masterpieces of Western Textiles, 1969 (2x2)
Pioneer Crafts (8mm)
Pioneer Spinning and Weaving (16mm)
Silk...Cocoon to Clothing (Pakistan) (8mm)
Story of Cotton (AC)
Textile Industry of Hong Kong (8mm)
Textiles (Africa) (FS)
Textiles --- How They Get to Where You Shop (FS)
Textiles in the Making (16mm)
Textiles--Measure of Civilization (FS)

Social Studies - continued

Tie-Dye, 1972 (2x2)
Weaving (FS)
Weaving (8mm) (2)
Wool Processing in the United Kingdom (8mm)

Space

Apollo Pressure Suit (16mm)
Fire Under Control (16mm)
Lunar Space Suits (16mm)
Wonderful World of Nylon, The (16mm)

Spinning

Cloth-Fiber to Favric (16mm)
Clothes We Wear, The (16mm)
Consumer Fabric Education Series (FS)
Cotton Clothing: From Field to You (FS).
Cotton to Clothing (16mm &VC)
Pioneer Spinning and Weaving (16mm)
Story of Cotton, The (FS)

Textile Industry

101 Does Its Bit (16mm)
Effective Supervision for Textiles, (16mm)
Orientation to Textiles (FS)
Singer-Generation, The (16mm)
Textile Industry Careers (16mm)
Textile Industry of Hong King (8mm)
Textiles - A Good Place to Grow (FS)
Textiles for Everyone (FS)
Textiles--How They Get to Where you Shop (FS)
Textiles (Industry) (FS)
Textiles in the Making (16mm)

Weaving

Artic Clothing (8mm)
Cloth-Fiber to Fabric (16mm)
Clothes We Wear, The (16mm)
Consumer Fabric Education Series (FS)

Weaving - continued

Cotton Clothing: From Field to You (FS)
Cotton to Clothing (16mm & VC)
Guatemala, Land of Looms (16mm)
Hands and Threads (16mm)
International Tapestry Biennale, 1969 (2x2)
Intersection of Line, 1968 (2x2)
Lenore Tawney, 1968 (2x2)
Pioneer Carfts (8mm)
Pioneer Spinning and Weaving (16mm)
Sculpture in Fiber, 1972 (2x2)
Story of Cotton, The (FS)
Story of Wool, The (FS)
Textile Touch, The (16mm)
Wall Hangings, 1969 (2x2)
Way It Is With Man-Made Fibers, The (16mm)
Weaving (FS)
Weaving (8mm) (2)
Weaving (16mm)
Weaving I: Simple Looms (8mm)
Weaving II: Waffle Looms (8mm)
Weaving III: Box Loom (8mm)
Weaving, 1968 (2x2)
Woven Forms, 1963 (2x2)
Woven Walls by Olga deAmaral, 1970 (2x2)

APOLLO PRESSURE SUIT

Sets forth the intravehicular and extravehicular condition of an Apollo mission with a summary of the Extravehicular Mobility Unit. Details the donning, doffing, and use of the Pressure Garment Assembly, including the Portable Life Support System and OPS components of the EMU.

This 25-minute 16mm film was produced in 1968. It is available on free loan from NASA Manned Spacecraft Center. Order number MSC-470.

ARTIC CLOTHING

Contrasts in the clothing of Eskimos and Laplanders are demonstrated in this film. Weaving, sewing and the utilization of colors and natural products are shown in detail.

This 8mm cartridge film runs four (4) minutes and may be purchased from Valiant I.M.C.

BASIC FIBERS IN CLOTH

Compares the length, strength, absorption power, elasticity, heat conductivity, cleanliness and washability of the major fibers. Describes their effectives for home use.

This 16mm film runs ten (10) minutes and may be rented (in North Carolina only) from the University of North Carolina.

BATIK

This sensitive film in full color shows the process of dyeing cloth by the age-old Batik method. Close-up photography shows the preparation of materials and the gradual creation of a design by successive applications of wax-resist and dyes.

With each repetition of the basic sequence, another step in the process is singled out for detailed demonstration. Several variations in tools and methods are also seen. Finally all wax is removed to reveal the multi-colored design.

The film explores most of the basic techniques and artistic possibilities of Batik work in an interesting and informative fashion. It is technically and artistically outstanding.

Rent or purchase this 12-minute, 16mm film from RMI Film Productions, Inc.

BODY-COVERINGS, 1968

An exhibition of clothing but not fashion.

There are 48 slides in this series. They may be rented or purchased from the American Crafts Council.

CLOTH-FIBER TO FABRIC

Illustrates how fibers are produced, spun into threads, and woven into fabric. The film shows the processing of natural fibers and the production of synthetic fibers. Power looms with rapidly moving shuttles or knitting machines make the thread into cloth. Young viewers will discover that cloth is made from many different materials, and has many uses in addition to the most familiar one - clothing. Cotton, wool, nylon, asbestos, and glass are used for tents, rugs, parachutes, flameproof cloth, and many other products. Collaborator: Emilie U. Lepthien, Principal, Wicker Park Elementary School, Chicago, Illinois...

This 11 minute, 16mm film may be rented from Modern Talking Pictures or purchased from Coronet Instructional Materials. Also may be rented (in North Carolina only) from the University of North Carolina.

CLOTHES WE WEAR, THE

Discusses animal, plant and synthetic fibers; how fibers retain heat; primitive and modern methods of spinning and weaving. Develops appreciation of the value of clothes.

This 11 minute, 16mm film may be rented from Indiana University AV Center or purchased from Churchill Films.

CLOTHING (2nd Edition)

Points out that people wear clothing for protection and comfort. Fiji islanders wear simple, light clothing; Eskimos dress in heavy cloth and fur; while firemen, cowboys, and deep-sea divers wear clothing suited to their particular jobs. Collaborator Paul R. Hanna, Ph.D. Stanford University.

This 11 minute, 16mm film may be rented or purchased from Encyclopedia Britannica Educational Corporation.

CLOTHING CUES FOR YOUNG MEN

The film is used as an educational device to tell teenage boys about fabrics used in today's clothing, and give fashion tips on how to select a wardrobe.

This filmstrip comes with a student leaflet and is available from Celanese Fibers.

CONSUMER FABRIC EDUCATION SERIES

Developed by Jane Ellen Roberts, Home Economics teacher, this series presents important concepts about modern fabrics and relates them to practical shopping application. Series includes: FIBERS INTO YARNS - explains difference between fibers and yarns, how fibers are made into yarns, carded, worsted, blended related information; FABRIC CONSTRUCTION - demonstrates various methods of

CONSUMER FABRIC EDUCATION SERIES - continued

fabrication such as knitting, weaving, felting, and shows many different weaving methods and patterns; FABRIC FINISH - explains sizing, napping, glazing and processes involved by permanent-press, shrink resistant and other modern fabrics;

COLOR AND DESIGN - explains colorfast, how different fabrics differ in degree of colorfastness, relative durability; SHOPPER'S HIDDEN TREASURE - Tips on what to look for and what to avoid when buying fabrics.

This series of five (5) filmstrips may be purchased from Deseo Educational Corporation.

COTTON CLOTHING: FROM FIELD TO YOU

Cotton Clothing: From Field to You consisting of six captioned filmstrips in full color, all dealing with the processing of cotton from growing to retaining.

Titles:

1. Cotton Growing & Ginning
2. Cotton Spinning & Weaving
3. Designing Cloth for Clothes
4. Silk Screen Printing
5. The Garment Factory
6. The Retail Store

These filmstrips may be purchased from Imperial Film Company, Inc. or Valiant I.M.C.

COTTON-FROM FIBER TO FABRIC

This film illustrates the partnership of science and nature in producing today's version of the fiber which has served man for 5,000 years. Time-lapse photography shows the cotton plants emerging from the ground, growing, flowering and fruiting. Animated drawings show the cellular development and structure of the cotton fiber. The wonders of the laboratory are shown where new finishes make modern cotton crease - and wrinkle - resistant, waterproof, stainproof, easier to care for.

This 23 minute, 16mm film may be rented or purchased from McGraw-Hill Films.

COTTON IN TODAY'S WORLD

Through scenes filmed in Egypt, India, Mexico, Indonesia, and England, this film presents a brief historical background of the growing of cotton and indicates its important place in the

economy of the world today. Modern American methods of growing, spraying, picking and ginning cotton are shown, as well as some of the finished products. Collaborator: Zoe A. Thralls, Professor of Geography, University of Pittsburg.

This 11 minute, 16mm film is available in both black and white and color. It may be rented from Modern Talking Pictures and purchased from Coronet Instructional Materials.

COTTON TO CLOTHING

The cross-country journeys that will turn cotton into clothing are interesting ones. This film introduces the many processes involved in the manufacture of clothing from raw cotton; to the gin for baling; to the mill for carding, spinning, weaving, and dyeing; to the clothing factory for sewing, pressing, and boxing; and to the retail store for selling. Perhaps a cotton farmer sometimes wears a cotton shirt that originated in his own field a year ago.

Open-ended narration encourages the students to further explore the subject.

This 11 minute, 16mm film is also available in Video Cassette format. It may be rented or purchased from AIMS Instructional Media Services, Inc.

COTTON PICKING AND GINNING

Nearly ten million Americans earn their living by growing, processing, manufacturing, and selling cotton and its products. It is still the principal farm crop of the Southern States. Cotton picking in most areas of the United States begins in August, 165 to 170 days after planting, and continues in some sections of the cotton belt into December. A large amount of cotton grown throughout the world is picked by hand. Pickers go into the fields with long sacks hung over one shoulder and pick the cotton as they move between the rows. When the bags are filled, they are taken to a trailer for weighing and the picker is given a ticket showing the weight of the cotton in his sacks as he is paid by the pound.

Today in an ever increasing number of cotton fields, a new kind of cotton picker is being used. This machine can pick cotton as much as fifty times faster than a man can pick it by hand. The whirling spindles of the mechanical pickers pull the fibers free from the plant and streams of air suck the cotton into the hopper. The picking machines then transfer their loads to trailers that carry the cotton to the gin.

At the gin each load is weighed and numbered. The cotton is fed into the gin where the seeds are separated from the fibers, the seed-free lint is compressed into bales, and the bales are stacked in the gin yard awaiting shipment to the warehouse. Each

bale is sampled and graded. The price paid for cotton is determined by its fiber length, strength, quality, and cleanliness.

This 11 minute, 16mm film may be purchased from Paul Hoefler Producations.

101 DOES ITS BIT

(New) - The textile industry's big film which covers everything from what the outside of a textile plant looks like to what the inside makes. Along the way, the 16mm picture looks at both textile people and the industry's importance to the economy. It also previews some of the innovative developments in the exciting new world of textiles. In short it is a contemporary look at a contemporary industry. And it's all accomplished within a provocative and entertaining format.

This 27½ minute, 16mm film is available on free loan from Modern Talking Pictures or for purchase from the American Textile Manufacturers Institute.

EFFECTIVE SUPERVISION FOR TEXTILES

Effective Supervision for Textiles was specially designed as a training series for supervisors and management personnel in South Carolina's largest industry. An advisory committee representing the major textile fields guided the planning and design of material and subject matter, developing each presentation in a textile setting for accuracy, applicability and practicality.

Produced through the cooperation of the South Carolina Textile Manufacturers Association, the State Board of Technical Comprehensive Education, and the South Carolina Educational Television Network, the nine-part series is distributed through S.C. ETV's industrial training division, Education Resources Foundation.

Each of the nine segments include a 30-minute, 16mm color film, a participant's guide and a conference leader's guide. Content of the programs answer the following questions.

Human Relations	Communications
Work Methods	Training
Motivation	Labor Turnover I
Work Measurements.	Labor Turnover II
	Leadership

These films may be rented or purchased from the Educational Resources Foundation.

ELI WHITNEY

Dramatizes the life story of Eli Whitney, inventor of the cotton gin. Also describes Whitney's experiments in designing

ELI WHITNEY - continued

tools and building machinery for the manufacture of muskets, which made him a pioneer of mass production. Collaborator: Harold F. Williamson, Ph.D. Northwestern University.

This 18 minute, 16mm film is only available in black and white from Encyclopedia Britannica Educational Corporation. This film can be rented (in North Carolina only) from the University of North Carolina.

ELI WHITNEY INVENTS THE COTTON GIN

Reconstructs the events of May 27, 1793, when Eli Whitney completed the first working model of his cotton gin. From the You Are There series.

This 27 minute, 16mm film can be rented (in North Carolina only) from thre University of North Carolina.

FABRICS INTERNATIONAL, 1961

Fabrics International, 1961 - the fabric designer and industry: examples of experimental and producation fabrics.

There are 35 slides in this series. They may be rented or purchased from the American Crafts Council.

FACTS ABOUT TIRES

This film's primary orientation is toward driving education classes at the high school level. It discusses tire construction, purchasing, and how to make tires last longer. It includes a teacher guide and filmstrip.

This 18 minute, 16mm film is available on free loan from E.I. duPont de Nemours & Company, Inc.

FIBERS AND CIVILIZATION

Tells the story of man's use of nature's fibers, the development of man-made fibers like acrilan and colorful use of fibers in homes, business and clothes.

This 27 minute, 16mm film can be rented (in North Carolina only) from the University of North Carolina.

FIBERS AND FABRICS

Seed Hair Fibres: Cotton, Kapok, Milkweed, O.S.S.
Bast Fibres: Flax, Hemp, Jute, O.S.S.
Animal Fibres: Wool, Angora, Camel, Alpaca, Silk
Darnel, Orlon, Dacron, Threads of each. O.S.S.
Fibre Glass, Asbestos, O.S.S.
Seed Hair Fibres: Cotton Cloth (Plain), Cotton and Rayon Blend O.S.S.

FIBERS AND FABRICS

Bast Fibres: Hemp and Jute (Retted), Strands from Rope O.S.S.
Animal Fibres: Wool and Silk, O.S.S.
Textile Fibres: Silk, Rayon, Nylon
Textile Fibres: Silk, Wool, Cotton, Linen, W.M.
Fibres: Silk, Wool, Nylon, Dacron
Fibres: Rayon, Orlon, Cotton, Flax
Fabrics: Silk, Satin, Rayon
Fabrics: Corduroy, Knit Woven

Nasco's Special Dual Purpose Slides - A combination of three (3) threads crossed at the center demonstrate use of the microscope (depth of field) and to teach comparison of textile threads. To determine the order of mounting requires careful focusing and the use of the high power lens. Red, blue, and yellow colors are used, and the set will include a key to mounting order.

Cotton, Silk, Linen in 3 combinations of colors (yellow, blue, red), (red, blue, yellow). Set of 3 slides.

Rayon, Nylon, Dacron in 3 combinations of colors (yellow, red, blue), (red, blue, yellow), (blue, yellow, red). Set of 3 slides.

These prepared microscope slides available individually for purchase from NASCO.

FIBERS AND FILMS

This film illustrates the manufacture of rayon, acetate and cellophane including pulp production at Ketchikan, Alaska. The diversified uses of "Avisco" fibers in apparel, home furnishings and industrial applications are shown as well as end uses for packaging films.

This 20 minute, 16mm film is available on free loan from Waverly Fabrics.

FIRE UNDER CONTROL

Shows extensive tests performed by MSC and its contractors on many types of materials to determine their fire-resistant characteristics. Shows many new fire-resistant and fire-proof materials used in spacecraft and adapted for use on numerous earth applications.

This 13 minute, 16mm film was produced in 1972. It is available on free loan from NASA Manned Spacecraft Center. Order number MSC-71-558.

FIVE CLUES TO A WINNING WARDROBE

The film is used as an educational device to tell teenage girls about fabrics used in today's clothing, and gives fashion tips on how to select a wardrobe.

This filmstrip comes with a student leaflet and is available from Celanese Fibers.

FROM FLAX TO LINEN

Portrays in rich color photography the complete story of one of the first widely used fabrics. A well-documented study of the processes necessary to produce the finest linen. Illustrates ways of life on an Irish flax farm, with typical scenes of a family at work and at play. Provides an overview of the country noted for its fine linen.

This 10 minute, 16mm film may be rented or purchased from AV-ED Films.

GUATEMALA, LAND OF LOOMS

The story of the fabulous fabrics of Guatemala in all their riotous colors, it portrays the tale of two young native fabric buyers starting from Chicicastenango, toting pack baskets on their backs in which they carry the fabrics they are to buy from village weavers along the mountain trails. Weaving of the fabrics is shown and the history of the locale is discussed. Woven into the story of the fabric buyers is a commentary on the customs, religion, and way of like of the villagers visited.

This 30 minute, 16mm film may be rented or purchased from AV-ED Films.

HANDS AND THREADS

The hum of busy hands through the complex web of threads on a rug loom is delicately orchestrated, scored so that no movement is wasted. The mill chants with the rhythm of an orchestra pit; the looms lilt like giant harps. Thread by thread, piece by piece, the intricate woven design builds to a crescendo, thrilling its own symphonic serenade that echoes back from the countryside surrounding the workshop. And then the final tones resound; the rug is complete; the mill falls silent for the night. The powerful musical score and absence of narration command unique visual and aural participation from the viewer.

This nine-minute, 16mm film may be rented or purchased from Films Inc.

HISTORY OF DYED AND PRINTED TEXTILES, A

This series of eight filmstrips by the head of a department of visual arts and crafts relates the history of textiles both to the social history of the different periods and places and to the techniques used. Furthermore these techniques are related to their use in school and college at the present time. The notes also contain suggestions for further research and practical work suitable for different age groups.

Batik
Tie and dye
Bark cloth, dyed and painted techniques
The ancient world
Chintz: Block and plate 1650-1800
Chintz: Block, plate and roller 1800-1900
Roller and screen 1900-1960
Screen printing 1960 onwards

These eight (8) filmstrips may be purchased individually from Visual Publications.

HOME DECORATIVE SLIDES

A series of 22, 35mm color slides with accompanying script illustrating the use of textiles containing "Avisco" rayons in professionally designed rooms. Many novel ideas are pictured, among them a three-dimensional wall handing consisting of fabrics stapled over wood blocks, and shades made of bedspreads to conceal linen storage shelves.

These 22 slides may be purchased from Waverly Fabrics.

IDENTIFYING FABRICS BY SOLUBILITY

Solubility is a characteristic property useful in identifying materials. Four samples, one of wool, cotton, nylon and acetate are placed in separate test tubes containing acetic acid, sulfuric acid, hydrochloric acid, and bleach. The students observe the reaction of each fabric with each solvent and are asked to prepare a solubility table. In the final sequence, samples of unknown red and white fabric are placed in the four solvents and the student is asked to identify the two constituents of the fabric. This experiment was adapted from industrial tests for fabrics as described in "Textile World."

This four (4) minute, 8mm film may be purchased from Hol, Rinehart and Winston.

INTERNATIONAL TAPESTRY BIENNALE, 1969

Weaving principally of a non-pictorial nature in large scale by international craftsmen.

This set of 48 slides may be rented or purchased from the American Crafts Council.

INTERSECTION OF LINE, 1968

(Calif. State College at Fullerton) - fabric construction menthods -- weaving, looping, braiding, knitting -- as shown in historic and contemporary textiles.

The set of 54 slides may be rented or purchased from the American Crafts Council.

JAVANESE BATIKS, 1970

Collection of Jane Gehring, mainly historical.

This set of 60 slides may be rented or purchased from the American Crafts Council.

KNITTING (Series)

North Carolina State University School of Textiles has produced this series of single concept films to show, in detail, these knitting actions or operations.

Titles:

Knitting Machine - General
Mounting & Timing a Pattern Wheel
Pattern Wheel Operation
Building a Pattern Wheel
Knitting Action: Single Knit-Sinker Top
Knitting Action: V-Bed
Knitting Action: Interlock
Knitting Action: Raschel
Knitting Action: Tricot
Knitting Action: Circular Knit
Knitting Action: Single Knit

These 11, 3 minute, 8mm films were produced in 1973 and may be purchased individually from the North Carolina State University School of Textiles.

LENORE TAWNEY, 1968

Weavings and constructions of the late 1950's through 1969.

This set of 36 slides may be rented or purchased from the American Crafts Council.

LUNAR SPACE SUITS

Andy Astronaut, an animated character, introduces the hazards Apollo lunar astronauts will encounter. Identifies the Extravehicular Mobility Unit (EMU) and describes each article of the EMU. Poses problems of extravehicular mobility

LUNAR SPACE SUITS - continued

and life support on the Moon and shows efforts of the Manned Spacecraft Center to overcome these problems.

This 18 minute, 16mm film was produced in 1966. It is available on free loan from NASA Manned Spacecraft Center. Order Number MSC-272.

MACRAME

The filmstrip, "Macrame", introduces the viewer to the two basic knots and several sample variations in a clear, step-by-step manner...a number of apparel and home accessories are also shown.

This film strip comes with a narrative on cassette tape and may be purchased from Hester and Associates.

MACRAME

The first complete survey of macrame from ancient times to the great popular revival of today. Features rare examples; Victorian nautical objects; the best contemporary works. Teacher's Guide has clear step-by-step instructions.

This filmstrip comes with a narrative on either LP record or cassette tape and may be purchased from the Educational Dimensions Corporation.

MACRAME

The first film on an old craft which has become a new art form. The work of an outstanding macrame artist illustrates the ways in which color, texture, and design can be presented through knotting of twines of different fibers and colors, ranging from fine cord to rope. The film shows clearly how to make the few basic knots, and how to combine them to form simple and useful objects such as belts, necklaces, handbags, and wall hangings.

This 15 minute, 16mm film may be rented from the University of Illinois and purchased from ACI Films, Inc.

MACRAME, 1971

Contemporary knotted hangings and forms by 23 American craftsmen.

These 44 slides may be rented or purchased from the American Crafts Council.

MACRAME TECHNIQUES, 1971

Mary Walker Phillips constructs a hanging with knotting techniques.

These 59 slides may be rented or purchased from the American Crafts Council.

MASTERPIECES OF WESTERN TEXTILES, 1969

(In the collection of the Art Institute of Chicago) - Western textiles ranging from early Peruvian to 20th century; tapestries, silks, velvets, needlework, lace and prints.

These 140 slides may be rented from the American Crafts Council.

ORIENTATION TO TEXTILES

The unit explains the importance of the textile industry and traces step-by-step the manufacturing of cloth from the unopened package of fibers through the weaving process and the inspection of the cloth in the cloth room.

This filmstrip, cassette tape, teacher guide, and student booklet package may be purchased from Clemson University.

PHYSICAL CHEMISTRY OF POLYMERS

Demonstrates how molecular size and shape, the way molecules pack together and the strength of forces between molecules affect properties of polymers.

This 22 minute, 16mm film can be rented (in North Carolina only) from the University of North Carolina.

PIONEER CRAFTS

In pioneer days, each community was able to provide for itself most of its own requirements. A few necessities such as tools and weapons had to be imported. As needs became greater and the population increased, jobs became more specialized. This trend was accelerated when the first heavy industries brought new forms of power.

These three sets of beautiful Film Loops have all been shot at historic sites. The action has been meticulously researched so that every detail is authentic. Watching the films, your students will almost get the feeling that they have been born in an earlier century. A teacher's guide and suggested lesson plan is printed on each Film Loop box. Wool Into Yarn, Flax Into Thread and Weaving.

These three (3) 8mm films may be purchased from Holt, Rinehart & Winston, Inc.

PIONEER SPINNING AND WEAVING

Illustrates the making of linen, wool, and linsey-woolsey fabrics from materials grown on the farm. Shows flax being processed into linen thread from harvesting through retting, drying, braking, switcheling, and hatcheling to the actual spinning of linen thread. Pictures the shearing of sheep, cleaning and carding of fleece, spinning of woolen thread, and weaving and dyeing of cloth.

This 10 minute, 16mm film may be rented or purchased from Indiana University.

POLYMERIZATION BY ADDITION

A very small quantity of initiator (Benzoyle Peroxide) is added to a test tube of monomer (Methyl Methacrylate). Animation explains the part played by the free radical and the additive effect of "long chain components", whilst in live action one can clearly observe the increasing viscosity of the liquid in the test tube as it "transmogrifies" into the end product - Perspex!

This 8mm film may be purchased from Valiant I.M.C.

POLYMERIZATION BY CONDENSATION

Real Nylon, yards and yards of it, made in the school lab. And all from two small breakers of solution, identified as $HO_2C - CO_2H$ - and $H_2N - NH_2$. The function of the "interface" is shown, and elaborated in Animation to show the derivation of the polymer and the water of condensation.

This 8mm film may be purchased from Valiant, I.M.C.

RAYON TODAY

A sound filmstrip in color tells the story of the world's first man-made fiber - its history, today's advanced manufacturing processes, and current applications.

This filmstrip and recording may be purchased from Waverly Fabrics.

SCULPTURE IN FIBER, 1972

Off-loom works by 12 contemporary craftsmen.

These 45 slides may be rented or purchased from the American Crafts Council:

SILK...COCOON TO CLOTHING

A vivid presentation of Royal Thai silk production, as contrasted in a native village and in a Bangkok factory, both using the same age-old techniques.

This 15 minute, 16mm film or videocassette may be rented or purchased from AIMS Instructional Media Services, Inc.

SILK - COCOON TO CLOTHING (Pakistan)

Demonstrates methods used to produce silk in Pakistan today; gives examples of many finished products. Small cocoons are softened in hot water, and end threads are separated, gathered and drawn onto large drums. Loops are then dried for bleaching and weaving.

This four (4) minute, 8mm film may be purchased from Demco Educational Corp. or Valiant I.M.C.

SILK FIBERS (Microscope slide)

Yellow, blue, and red silk fibers crossing at one point.

This prepared microscope slide may be purchased from Ward's National Science Establishment, Inc.

SILK MOTH

Exciting close-up photography accompanied by unobtrusive music brings to the screen the life story of the mulberry silk worm moth. The mating act begins with the male attracted to the female by an odor emitted by a special gland. Microphotography reveals the egg laying process and shows the tiny caterpillars emerging from the egg after a few days. The process of metamorphosis begins. Voracious consumption of mulberry leaves and successive shedding of skin finally results in a full-grown caterpillar. During the stage, a cocoon is spun and the caterpillar transforms itself into a chrysalis. In 20 days the moth emerges and the life cycle begins again. Basic purpose of the film is to encourage youngsters to observe, interpret their observations and to discuss their own ideas.

This seven (7) minute, 16mm film may be rented or purchased from Films Incorporated.

SINGER GENERATIONS, THE

WATCH Singer Lockstitch and Chainstitch industrial sewing machines, button sewers, pressing equipment and integrated Sewing Units in actual producation conditions.

SINGER GENERATIONS, THE - continued

SEE the progress in development of Singer industrial sewing machines from the 1940's to the 1970's.

WATCH production techniques used in the 1940 era, compared to those of today's modern plants.

SEE the fantastic increase in speed, ease of operation and efficiency.

WATCH the rhythm, the beautifully coordinated motions of skilled operators in action.

This 16mm film is available on free loan from the Singer Company.

STEP OUT ON COLOR

Gives the viewer everything he or she should know to select carpeting to meet the decorating and performance needs of today's home.

This 17 minute, 16mm film is available on free loan from E.I. DuPont de Nemours & Company, Inc.

STORY OF COTTON

This tape on cotton in the U.S. will add impetus to any upper elementary social studies program. This tape orally presents the facts of this product and is designed to stimulate interest in this vital subject to cause each student to do additional research and study.

This audio cassette may be purchased from Valiant I.M.C.

STORY OF COTTON, THE

Step-by-step progress from growth and harvesting through ginning, spinning, weaving and manufacturing of clothing.

This filmstrip may be purchased from the Society for Visual Education, Inc. (SVE)

STORY OF WOOL

This tape orally presents the facts of this product and is designed to stimulate interest in this vital subject to cause each student to do additional research and study.

This audio cassette may be purchased from Valiant I.M.C.

STORY OF WOOL, THE

Ranching, shearing, dyeing, weaving (34 frames)

This filmstrip may be purchased from the Society for Visual Education, Inc.

SYNTHETIC FIBERS - NYLON AND RAYON

Reveals how science and technology have made possible the development of artificial fibers for making rayon and nylon. Shows some of the processes used in making these fibers and ways in which they are useful to man.

This 14 minute, 16mm film can be rented (in North Carolina only) from the University of North Carolina.

TEXTILE ART FROM TAPESTRIES TO JEANS

An introduction to the role of textiles in man's expression of his appreciation for the beauty of his surroundings through art and design. Of interest to classes in home economics, art appreciation, decorating, clothing, consumer education and fabric design.

This filmstrip, with LP record may be purchased from the American Textile Manufacturers Institute.

TEXTILE FIBERS (Microscope slides)

Cotton, linen, and hemp fibers.

These prepared microscope slides may be purchased from Ward's National Science Establishment, Inc.

TEXTILE INDUSTRY CAREERS: MANUFACTURING

Manufacturers are by far the largest employers in the United States. The textile industries, like all areas of manufacturing, require people from many different backgrounds and with many different skills. Employment opportunities are as varied as the multitude of natural and man-made fabrics being produced. Designers create the product, scientists develop the necessary techniques, quality control personnel constantly monitor the finished product, and operators run the complicated machines. Stenographers, sales engineering, tool and die making, and unskilled labor also play major roles in the production of textiles.

This 17 minute, 16mm film may be rented and purchased from Films, Inc.

TEXTILE INDUSTRY OF HONG KONG

Some of the most beautiful and artistically made clothes in the world come from Hong Kong. As our cameras watch, the industrious Chinese work in the textile factory preparing thread, bolts of material and clothing for consumer use.

This 8mm film may be purchased from Valiant I.M.C.

TEXTILE TOUCH, THE

Macrama rug-hooking and loom-weaving are three rewarding techniques of expressing creativity with textiles. With the ancient folk-art of macrama, knots are tied in creative and intricate patterns. Rug-hooking an old technique for producing floor coverings has more recently been utilized to create decorative works to be hung as tapestries. The timeless art of hand weaving on a loom has almost always been a process where design has been created by the artist as he weaves. Photographed with exceptional depth-of-field to capture the texture of the materials, The Textile Touch gives art students a solid introduction to these textile techniques and encourages them toward freedom from the constraints of traditional designs.

This 11 minute, 16mm film may be rented or purchased from Oxford Films, Inc.

TEXTILES (Africa)

African textiles are world-famous for their colorful patterns and unusual textures. This filmstrip gives step-by-step explanations of African textile production, from cloth-making to dyeing and decorating.

This filmstrip, one out of a series entitled Africa: Musical Instrument, Textiles Jewelry and Architecture comes with narrative on either LP record or cassette tape. It may be purchased from Warren Schloat Producations, Inc.

TEXTILES--A GOOD PLACE TO GROW--(NEW)

Introduces the student to career opportunities in the textile industry. This 58-frame, full-color sound filmstrip features photos and actual voices of people who work in textiles. Gives students an over-all view of the great variety of skills and talents that the textile industry employes. Subject matter ranges from hourly-wage to professional and technical positions.

This filmstrip with narration on LP record may be purchased from the American Textile Manufacturers Institute.

TEXTILES FOR EVERYONE

Explains and illustrates each of more than 20 manufacturing processes needed to produce finished cloth.

This filmstrip with narration on LP record may be purchased from the American Textile Manufacturers Institute.

TEXTILES FOR TODAY

A story describing the major man-made and natural fibers on the market today including their properties and end uses.

This filmstrip with resource book and student leaflet is available from Celanese Fibers Marketing Company.

TEXTILES--HOW THEY GET TO WHERE YOU SHOP

Tells how today's textile products reach the consumer; describes channels of distribution, explains trends and important developments in manufacture and end use of textiles.

This filmstrip may be purchased from the American Textile Manufacturers Institute.

TEXTILES (Industry)

Textile production from sources of raw materials to finished products; natural, man-made and synthetic fibers; terminology of industry; employment opportunities.

Series - United States
Subseries - American Government and Economy
Subseries - Our Major Industries

This filmstrip is one (number 5) in a series entitled Our Major Industries available for purchase from Filmstrip House, Inc.

TEXTILES IN THE MAKING

Answers the question textile people get most from outside the industry. Tells how textiles are made. This movie explains simply and dramatically the basic processes that go into the manufacture of woven and knitted fabrics. Excellent for social studies classes, introductory home economics and textile courses. Also of general interest. Has been used by textile companies for employee and customer orientation.

This 14½ minute, 16mm film is available on free loan from Association Sterling Films or may be purchased from the American Textile Manufacturers Institute.

TEXTILES -- MEASURE OF CIVILIZATION

An unusual approach to the role of textiles in the history of civilization and industrial progress.

This filmstrip, with teacher's guide, may be purchased from the American Textile Manufacturers Institute.

TEXTILES: ROSSBACH/WESTPHAL, 1968

Non-loom and quilted textiles from one-man exhibition at MCC.

These 26 slides may be rented or purchased from the American Crafts Council.

TIE-DYE, 1972

Historical and contemporary examples.

These 67 slides may be rented or purchased from the American Crafts Council.

TIE-DYE TECHNIQUES, 1972

Eileen Richardson demonstrates various approaches to tie-dye.

These 80 slides may be rented or purchased from the American Crafts Council.

T-SHIRTS

How do they make T-shirts? A visit to a company which makes T-shirts and then silk screens them with almost anything you can think of.

This four (4) minute, 16mm film may be purchased from NBC Educational Enterprises.

VERA PAINTS IBIZA IN THE SUN

Idea, Sketch, Design, Print -- How does it happen? Visit the beautiful island of Ibiza off the coast of Spain with famed American designer Vera. Watch her capture the essence of the island in watercolor on paper. Then learn how Vera's designs are translated onto textiles, using the knowledge and skill of color chemists, artists, technicians and craftsmen. When the giant silk screens are finally ready and the pots of glowing colors mixed, it is eminently satisfying to watch the Ibiza motif become a printed fabric.

This 20 minute, 16mm film may be rented or purchased from Warren Schloat Productions, Inc.

WALL HANGINGS, 1969

(Musuem of Modern Art) - the first major exhibition of MOMA devoted to the contemporary weaver; the works are not concerned with pictorial aspects of weaving, but involve the extension of formal possibilities of the craft.

WALL HANGING OF THE DREYFUS CORP., 1971

A collection of 14 contemporary wall hangings by 11 international craftsmen.

These 32 slides may be rented or purchased from the American Crafts Council.

WAY IT IS WITH MAN-MADE FIBERS, THE

The film describes the four classifications and characteristics of natural fibers and describes in detail the six classifications of man-made fibers, their characteristics and advantages, especially those made by DuPont. It untangles the maze of names of fibers as opposed to the processes applied to fibers and illustrates fabric construction, including weaves, knits, bonds and laminates.

This 27-minute, 16mm film is available on free loan from E.I. duPont de Nemours & Company, Inc.

WEAVING

Shows typical daily activities of a family on the reservation at Hidden Springs, Arizona. A blend of old and new is apparent in the buildings, methods of transport, and sources of fuel. After a morning meal the whole family works in the irrigated corn fields.

This 8mm film is one of a series on the Navajo Indians and may be purchased from Holt, Reinhart & Winston.

WEAVING

Constructs a simple cardboard loom and shuttle and stresses the variation of texture which can be achieved with everyday materials -- from wool to soda straws, pipe cleaners to metal foil.

This 8mm film may be purchased from Holt, Reinhart & Winston.

WEAVING

Your students will see the similarities and differences between the weaving of today and that of the past as a practical and artistic form.

This filmstrip with narration on either LP record or cassette tape may be purchased from Educational Dimensions Corporation.

WEAVING

After demonstrating the basic principal of interlocking fibers which is the foundation of this art, the film presents a variety of weaving methods which may be executed with the simplest kind of equipment, including backstrap loom, cardboard looms, and box looms. Visuals showing weavers using things other than traditional yarns (twigs, grasses, paper, etc.) will greatly encourage students to experiment on their own with new kinds of materials.

This 15 minute, 16mm film may be rented from the University of Illinois or purchased from ACI Films, Inc.

WEAVING I: SIMPLE LOOMS

The cardboard and oatmeal box looms are utilized to demonstrate weaving techniques for elementary school children. Examples are used to illustrate several design variations using each loom.

This four (4) minute, 8mm film may be purchased from Valiant I.M.C. or Hester and Associates.

WEAVING II: WAFFLE LOOMS

Demonstrations of loom construction, threading, tying, and textural possibilities of waffle weaving - an excellent weaving experience for the elementary school child.

The four (4) minute, 8mm film may be purchased from Valiant I.M.C. or Hester Associates.

WEAVING III: BOX LOOM

A fruit crate can become a loom. Many kinds of warp materials from nature - grasses, grain stocks, and an occasional colored thread are utilized.

This four (4) minute, 8mm film may be purchased from Valiant I.M.C. or Hunter and Associates.

WEAVING, 1968

Weaving by 40 American craftsmen.

These 85 slides may be rented or purchased from the American Crafts Council.

WELL MANNERED LOOK

It includes a brief, historical survey of textiles for clothing good-grooming in DuPont textile fibers.

This 22 minute, 16mm film is available on free loan from E.I. DuPont de Nemours and Company, Inc.

WONDERFUL WORLD OF NYLON

DuPont's film covering the 25 year history of nylon, the first truly synthetic fiber.

Film covers not only this fiber, but also the newer fibers it inspired. It traces the fibers from the complexity of the science laboratory to home and apparel fashions and the new space age.

This 13 minute, 16mm film is available on free loan from E.I. DuPont de Nemours & Company, Inc.

WOOL (FROM SHEEP TO CLOTHING)

(From sheep to clothing). Traces the story of wool, from a sheep range to the knitting mill. Shows shearing, baling, and shipping to the mills, where it is finally woven into sweaters. Collaborators: Robert Homer Burns, Ph.D. and Alexander Johnston, University of Wyoming.

This 11 minute, 16mm film may be rented or purchased from Encyclopedia Britannica Educational Corporation.

WOOL PROCESSING IN THE UNITED KINGDOM

The people of the Hebrides Island have developed a sound economy based upon a unique method of wool processing which is shown in this film.

This 8mm film may be purchased from Valiant I.M.C.

WORK OF THE AMERICAN CRAFTSMAN: THE WORLD & WORK OF DOROTHY YOUNG

Dorothy Young is a weaver and throughout this film she discusses the role weaving has played in her life and the life of her husband, Dr. Lloyd Young. She started weaving while at Keene State College in New Hampshire where Dr. Young was president of the liberal arts school. Dorothy Young likes using natural reeds and grasses in her work and is seen gathering and using these materials. After retirement Dr. Young also took up weaving and in the film he is seen being installed as president of the Sharon Arts Center in Lincoln, New Hampshire. Through weaving the Youngs work and live in harmony with each other and with nature.

This 30 minute, 16mm film may be rented or purchased from Indiana University.

WOVEN FORMS, 1963

Three-dimensional woven forms by American weavers, Lenore Tawney, Alice Adams, Sheila Hicks, Dorian Zachai and Claire Zeisler.

These 39 slides may be rented or purchased from the American Crafts Council.

WOVEN WALLS BY OLGA DE AMARAL, 1970

From a solo exhibition. These slides may be rented or purchased from the American Crafts Council.

TEX 48II

DIRECTORY OF PRODUCERS AND DISTRIBUTORS

ACI Films Inc.
35 West 45th Street
New York, New York 10036

AIMS Instructional Media
Services, Inc.
P.O. Box 1010
Hollywood, California 90028

American Crafts Council
Research & Education Department
44 West 53rd Street
New York, New York 10019

American Textile Manufacturers
Institute
1501 Johnston Building
Charlotte, North Carolina 28281

AV-ED Films
7934 Santa Monica Boulevard
Hollywood, California 90046

Celanese Fibers Marketing Company
Consumer Education Department
522 Fifth Avenue
New York, New York 10036

Churchill Films
662 North Robertson Blvd.
Los Angeles, California 90069

Clemson University
College of Education
Vocational Education Media Center
Clemson, South Carolina 29631

CORONET Instructional Materials
65 East South Water Street
Chicago, Illinois 60601

DEMCO Educational Corporation
Box 1488
Madison, Wisconsin 53701

Educational Dimensions Corp.
Box 488
Great Neck, New York 11022

Educational Resources Foundation
2712 Millwood Avenue
Columbia, South Carolina 29250

E.I. duPont deNemours & Co., Inc.
Motion Picture Section
Advertising Department
Wilmington, Delaware 19898

Encyclopedia Britannica
Educational Corp.
(West) 2494 Teagarden Street
San Leandro California 94577
and
(East) 1822 Pickwick Avenue
Glenview, Illinois 60025

Films Incorporated
1144 Wilmette Avenue
Wilmette, Illinois 60091

Filmstrip House, Inc.
432 Park Avenue South
New York, New York 10016

Hester and Associates
11422 Harry Hines Boulevard
Dallas, Texas 75229

Holt, Rinehard and Winston, Inc.
383 Madison Avenue
New York, New York 10017

Illinois, University of
Visual Aid Service
704 South Sixth Street
Champaign, Illinois 61822

Imperial Film Company, Inc.
Educational Development Corp. Bldg.
P.O. Drawer 1007
Lakeland, Florida 33803

Indiana University Audio-Visual
Center
Bloomington, Indiana 47401

McGraw-Hill Films
Sales Service Department
330 West 42nd Street
New York, New York 10036

Modern Talking Pictures
160 E. Grand Avenue
Chicago, Illinois 60611

NASA Manned Spacecraft Center
PTD Audiovisual and Motion Picture
Houston, Texas 77-58

NASCO
Fort Atkinson, Wisconsin 53538

NBC Educational Enterprises
30 Rockefeller Center
Room 1040
New York, New York 10020

North Carolina State University
School of Textiles
Office of Instructional
Technology Services
Box 5006
Raleigh, North Carolina 27607

Oxford Films, Inc.
1136 N. Las Palmas Avenue
Los Angeles, California 90038

Paul Hoefler Productions
7445 Girard Avenue
P.O. Box 1313
La Jolla, California 92037

RMI Film Producations, Inc.
4916 Main Street
Kansas City, Missouri 64112

The Singer Company
Industrial Products Division
Educational Department
500 Finderne Avenue
Somerville, New Jersey 08876

Society for Visual Education, Inc.
(SVE)
1345 Diversey Parkway
Chicago, Illinois 60614

University of North Carolina
Bureau of Audiovisual Education
111 Abernathy Hall
Chapel Hill, North Carolina 27514

Visual Publications
P.O. Box 19
716 Center Street
Lewiston, New York 14092

Ward's Natural Science
Establishment, Inc.
P.O. Box 1712
Rochester, New York 14603 (East)
and
P.O. Box 1749
Monterey, California 93940 (West)

Warren Schloat Producation, Inc.
Pleasantville, New York 10570

Waverly Fabrics
Division of F. Schumacher & Company
58 West 40th Street
New York, New York 10018

TEX 48MM

TRANSPORTATION CYCLE

INTRODUCTION

With the cooperation of DELTA NU ALPHA, TRANSPORTATION FRATERNITY, INC. of New Jersey, number 153, this cycle on transportation has been prepared as a suggested guideline for Introduction to Vocations coordinators and cycling teachers. This sequence of activities has been presented with the understanding that the individual teachers may have to adapt it to fit the needs of their students, school, school facilities and community.

When planning to do this cycle requests should be made in writing to:

William F. Dahms, Director
Introduction to Vocations Program
DELTA NU ALPHA Transportation Fraternity
105 Ridge Road
Cherry Hill, New Jersey 08034
Phone: 609-429-4391

Upon receiving your starting date, DELTA NU ALPHA will contact the local coordinator to provide help, materials, and assistance in arranging speakers, field trips, and the Transportation Game.

CYCLE OBJECTIVES

- To increase the student and teacher awareness of the many and varied occupations and career opportunities available in the transportation field.
- To provide "hands-on" manipulative, exploratory experiences.
- To provide on-site transportation occupational trips.
- To provide speakers from the transportation occupations in the classroom.

SPECIFIC OBJECTIVES

- Students will be able to list and briefly describe three transportation jobs.
- Students will be able to list the education and training needed for the three jobs they selected above.

DELTA NU ALPHA

TRANSPORTATION FRATERNITY, INC.

Tri County Chapter of New Jersey No. 153

☐ We would like to initiate the Transportation Unit for our Introduction to Vocations students.

☐ We do not plan to initiate the Transportation Unit for our students.

Name _____

Title _____

If you have requested the Transportation Unit for your school, please fill in the following:

School _____

Address _____ Zip Code _____

Phone _____ Area Code _____

Grade _____ Section _____

# of boys _____ # of girls _____

# of teachers _____

Preferred date for unit _____, 19 _____

Please contact:

William F. Dahms, Co-Chairman
Educational Committee
Delta Nu Alpha Transportation Fraternity, Inc.
105 Ridge Road
Cherry Hill, New Jersey 08034
Phone: 609-429-4391

PRE AND POST INVENTORY

TRANSPORTATION OCCUPATIONS: STUDENT INVENTORY

List the Transportation jobs you know about.

FIRST DAY	LAST DAY
1.	1.
2.	2.
3.	3.
4.	4.
5.	5.
6.	6.
7.	7.
8.	8.
9.	9.
10.	10.

Name of Student _____

Date _____ Date _____

Pre Score _____ Post Score _____

School _____

PRE AND POST STUDENT INVENTORY

TEACHER ANSWER SHEET (*indicates correct answer)

Have the students circle one letter in the left-hand column for the answer.

1. A dispatcher for a transportation company is most concerned with:
   a) driving a truck
   b) loading freight
   *c) arranging for the movement of freight and vehicles
   d) none of these.

2. The transportation industry is concerned with:
   a) travel of personnel
   b) truck and rail freight
   c) water freight
   d) air freight
   *e) all of these

3. All freight that is transported can be classified as:
   a) bulk
   b) packaged
   c) loose
   *d) all of these

4. Among the duties of the traffic manager are:
   a) handling of tariff rates and charges for transportation
   b) routing of freight
   c) supervision of warehouses
   d) moving of personnel and household goods
   *e) all of these

5. Some freight carriers can handle only special commodities.
   *a) True
   b) False

6. A transportation company is responsible for breakage and damage in the handling of freight.
   *a) True
   b) False

7. A transportation company is responsible for the loss of property in the transportation of freight.
   *a) True
   b) False

8. A platform manager in a freight terminal supervises:
   a) checkers
   b) cargo handlers
   c) Fork lift operator
   *d) all of these

9. Most companies want men who have completed their high school education for truck drivers.
   *a) True
   b) False

10. Airplanes transport only passengers.
   a) True
   *b) False

11. Computers and data processing methods are used in the transportation industry.
   *a) True
   b) False

12. Which of the following industries in the United States is the greatest employer of manpower:
   a) steel industry
   *b) Transportation (air-rail-truck-water, pipe line)
   c) oil industry

13. A transportation manifest is a:
   *a) list of cargo
   b) a law put out by the I.C.C.
   c) a freight claim
   d) all of these

14. A truck driver keeps a "log" which shows:
   a) list of addresses for his destination
   *b) a diary of what he had done during the day
   c) how the cargo is stored on his truck
   d) inventory of equipment

15. Industries are usually looking for traffic managers who are:
   a) high school dropouts
   b) high school graduates
   *c) people with training beyond high school
   d) any person who had directed traffic (a policeman) or has had safety patrol experience

16. The trucking industry is not concerned with safety.
   a) True
   *b) False

17. The initials I.C.C. stand for:
   *a) Interstate Commerce Commission
   b) Iowa Community College
   c) Inter Church Council

18. The minimum age for interstate truck drivers is (I.C.C. Regulations):
   a) 17
   b) 18
   *c) 21
   d) 25

19. Women are largely excluded from the transportation industry.
a) True
*b) False

20. Jobs women now hold in the transportation industry include:
a) truck drivers
b) traffic managers
c) owners of companies
*d) all of these

21. A sales manager of a transportation company :
a) sells trucks and truck parts
b) sells the cargo which the trucks carry
*c) tries to convince companies to ship their goods by his trucking firm

22. An advantage of shipping freight by air is:
a) reduces inventory
b) eliminates long term storage
c) fills emergency needs
*d) all of these

23. Air freight rates are:
a) cheaper
b) about the same as trucking
c) about the same as rail
*d) higher than most forms of transportation

24. Some trucks have electronic warning systems.
*a) True
b) False

25. The person who decides where the cargo is to be placed in a ship is called:
*a) first mate
b) supernumerary
c) captain
d) stevedore

26. "Humping" in a freight yard is:
*a) sorting freight cars
b) repairing freight cars
c) track repair
d) none of these

27. Present day cargo handling methods permit the loading of a trailer directly onto a ship.
*a) True
b) False

28. In transportation, the term "Piggyback" means:
*a) the loading of trailers on railroad flat cars
b) an agricultural term
c) a pension fund for traffic managers

29. The transportation industry provides training for various job categories.
*a) True
b) False

30. Trucks haul:
a) 50% of all tonnage
b) 10% of all tonnage
*c) 3 out of 4 tons of all freight

Name of Student _____

Date _____

Pre score _____ Post score _____

School _____

ERIC

BEST COPY AVAILABLE

INTRODUCTION TO VOCATIONS AUTOMOBILE INFORMATION INVENTORY (*indicates correct answer)

QUESTIONS	ANSWERS
1. Automobile insurance is now compulsory in the State of New Jersey.	Yes *, No___, Maybe___
2. Insurance is less expensive if you have passed the Driver Education Course in High School.	Yes *, No___, Sometimes___
3. It costs more to buy a car on time payments.	Yes *, No___
4. You need collateral to borrow money to purchase a car.	True *, False___, Sometimes___
5. It is not safe to pick up "hitch hikers" at any time.	True *, False___
6. It is childish and illegal to "drag race" while driving on the highway.	True *, False___
7. Wearing a seat belt may help you to keep from having a serious injury if you have an accident.	True *, False___
8. It is very easy to become accustomed to wearing a seat belt.	True *, False___
9. When driving 50 miles per hour you should keep at least 5 car lengths between you and the car in front of you.	True *, False___
10. In snowy or icy weather it is a good idea to keep a box of sand in the trunk of your car.	True *, False___
11. Wet leaves on the road can be as dangerous as ice or snow.	True *, False___
12. More people have been killed in car accidents than in all the wars the United States has had.	True *, False___
13. If you have a record of accidents or traffic violations your insurance costs may go up.	True *, False___
14. Traffic violation points are cummulative for three years.	True *, False___

ERIC

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15. When you have a learners permit you may not drive a car unless you are accompanied by a licensed driver.

True *, False

16. A speeding violation may cost you the court charges plus at least $1 per mile for each mile above the posted speed limit.

True *, False

17. What does a blinking red light mean?

Stop *, Go, Slow, Caution

18. What does a blinking yellow light mean?

Stop, Go, Slow, Caution *

19. What does a broken white line in the center of the road mean?

Keep to the right, It may be safe to pass *, Stay in line

20. What does a solid yellow line with a broken white line along side of it mean?

Passing from either direction is permitted, Passing from the side with the solid yellow line is permitted, Passing from the side with the broken white line is permitted *

21. Car insurance for one year for teenagers may cost at least:

$75, $125, $275 *

22. At night when an approaching car does not dim the high beam headlights you should:

Dim your lights *, Put your high beams on, Put your lights out

23. You may lose your drivers license if you accumulate:

9 points; 12 points *, 20 points

24. What does a double solid yellow line in the center of the road mean?

Safe to pass, Not safe to pass *

25. The owner of a car must have the car inspected three times a year.

True, False *

CYCLE PROCEDURE

Have the students add the Transportation information to their notebooks.

Information for the teacher	Notes and Comments
FIRST DAY 1. Administer the inventory to the students (emphasize that this is not a test). The intent is to assess what they know about transportation occupations. 2. Following the inventory, have the students help the teacher list, in print, on the chalk board, the various methods of transportation of goods and people. Five methods of transportation should be listed: air, rail, truck, water and pipe line. Under each mode, print the jobs the students know. When you have exhausted their knowledge, ask "Are there any jobs that are similar - that is, there are certainly typists in all business offices of transportation." Can we identify other possible answers? Safety managers, people who unload and load the materials, etc.. 3. Review the job clusters during the last few minutes of the class period. 4. Homework questions: . Find at least two people who have jobs in transportation. These may be neighbors, friends or relatives. . What are their titles? . What do they do?	
SECOND DAY 1. Review the students homework and first day's lesson. 2. Introduce resource materials, slides of different jobs, charts and pamphlets. Distribute an outline of transportation jobs for the students to insert in their notebooks. 3. Homework - vocabulary - Have the students define the following words as they pertain to transportation: Ship — Dunnage Shipper — Cargo Carrier — Load	

Industry
Warehouse
Truckload
Interstate Commerce Commission
Industrial Traffic Manager

Freight Bill
Carload
Bill of Lading

THIRD DAY

1. A field trip by previous arrangement. One student may be elected secretary to make the necessary arrangements. The following jobs should be explained at the site:

- Over the road driver
- Mechanic
- Helper
- Insurance manager
- Sales manager
- Safety manager
- Rate clerk
- Computer operator
- Secretarial work
- Dispatcher

2. Review homework while on the bus enroute home.

3. Prepare the students for the speaker, who will be there on the following day. The students should be primed with questions (their own), which they can ask the Transportation Industrial Traffic Manager. (Refer to Introduction to Vocations Student Preparation for Speakers Guidelines).

FOURTH DAY

Guest speakers

1. Review the jobs described at the "on site" or field trip to the trucking terminal.

2. Have the students prepared for the guest speakers, who should be an Industrial Traffic Manager and a Carrier Representative. The guest speakers should cover such topics as:

- Job responsibilities
- Job opportunities
- Education requirements necessary for these jobs
- Industrial Traffic Manager should make clear that his function is a "purchaser of transportation services."

If possible, have speakers bring "give-aways" for the students and a variety of display materials.

3. Student responsibilities:
   Have one of the students greet the guests at the main office and escort them to the classroom.
   Have one of the students prepared to introduce the speakers.
   Have a student prepared to rise and thank the speakers at the end.
   Have a student guide the guests out of the building.

4. It is essential that the students be well prepared for the speakers. It is equally important that the speakers be prepared to talk to the students.

FIFTH DAY

1. Review the essential points the speakers covered.

2. Dispatching lesson.

3. Have the students work with dispatching by using a form of seating charts and cards to insert. You will need a minimum of 1 "Dorothy Seating Chart" and 20 cards for every 20 students. Among the places the Seating Charts can be be purchased is:

   J.L. Hammett Company
   Union, New Jersey

   1 Dorothy Seating Chart @$.40
   60 Insert Cards .10

4. The purpose of the lesson is to zero in on a specific job, a dispatcher, and an attempt to give a "hands-on" experience about what a dispatcher's responsibilities are.

5. Set up a sample Dorothy Seating Chart as a dispatch sheet and explain to the class. A sample of dispatch lesson should be sent with cycle.

6. At the conclusion of the lesson have the students answer these questions for their homework:
   How does a dispatcher get his training?
   What income can a dispatcher expect to earn?
   Vocabulary:

   Spotter — Over the road driver
   Reefer — Humping (railroad term)
   Local truck driver

SIXTH DAY

"On-the-Move" a game of transportation.

Have the games set up for student participation. Games of transportation will be provided by Delta Nu Alpha at a nominal cost of $5.00 per game. These games are played by 4 students, like the game of "Monopoly," and are designed to graphically illustrate the broad scope of occupations and people necessary to make our transportation industry function. The game may be played for one period or two. (Try to arrange double periods for the game).

SEVENTH DAY

1. Administer post-inventory - compare results to see if awareness growth has occurred.

2. Review unit.

3. Discuss with students what they like and what they did not like. Would a job as a carrier in transportation appeal to them?

POSSIBLE ADDITIONAL CLASSROOM LESSONS

DISPATCHING LESSON

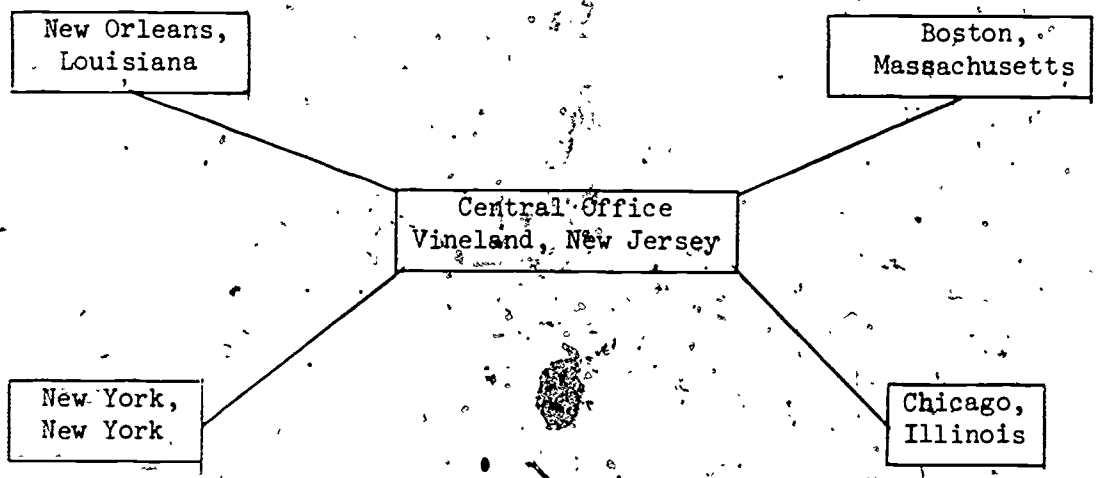
What record keeping system does a trucking company have to maintain?

1. What trailers are available for loading?
2. What trailers are being loaded and where they are being loaded?
3. What does a driver do when he delivers his trailer to a destination and how does he get a loaded trailer for his return trip?
4. What system is used to keep track of all of these?

The focus of this lesson is the Dispatcher. (The Dispatcher is responsible for assigning and keeping track of trailers and trucks).

BACKGROUND INFORMATION

For the purpose of this lesson it might be said that a trucking company is composed of a central office and several terminals. Most of these terminals are located at distances (in other states) far from the central office. The below diagram illustrates that point.



A trucking company may have as many as fifty terminals. For the purpose of this lesson a trucking company with four terminals will be used.

A Dispatcher is located at each terminal. The central office has a Central Operations Board which has up to the minute information from each of it's outlying terminals.

The central office then coordinates all movements of freight. When a terminal assigns a truck and trailer to a destination the central office must be notified immediately. Different kinds of trailers are identified by letters and/or numbers. Examples of these identifications may include:

R-124 - Refrigerator trailer, #124, these trailers are called reefers.
S-461 - Side door trailer #461.
F-372 - Flat bed trailer #372
387 - No letter in front of a trailer number indicates an ordinary trailer.

First call - Owens Corning Fiberglass wants three (3) trailers. Assign trailers 387, 428, and 181 to the O.C.F. The spotting truck will take them there. Take the cards 387, 428, and 181 and print under the numbers O.C.F. on each. Place these cards in the trailers being loaded column.

Second call - Mrs. Pauls, Inc. requests a refrigerated trailer. Assign "reefer" R-17. Take the card R-17 and print under the number Mrs. Pauls, Inc. Place in the first column.

Third call - Robertson Tile Company wants a trailer with a side door. Assign trailer S-302. Place it in the trailer being loaded column.

Fourth call - Concrete Steel Company requests a flat bed trailer. Assign trailer F-151, put CSC under F-151. Place it in the first column.

When the trailers are loaded the shipper will call the Terminal Dispatcher. The Terminal Dispatcher will send the Spotter to have the trailer spotted back to the terminal:

1. Call from O.C.F. that trailers 387 and 181 are loaded. When these trailers are spotted put cards 387 and 181 in the loaded trailers at terminal column.

2. Call from Mrs. Pauls, Inc. warehouse that R-17 is loaded. R-17 is spotted. Place card R-17 in the loaded trailers column.

3. Call from Robertson Tile Company that S-302 is loaded. S-302 is spotted. Place S-302 in the correct column.

Question: What trailers have not yet been loaded?
Note: Trailers 428 and F-151 are not yet loaded.

Now the Over the Road Driver is assigned the tractor which he will drive to its destination.

1. Willie Mays is assigned to take trailer 181 to R.C.A., New Orleans. Put Willie Mays under O.C.F. and NEW ORLEANS under his name and place it in the correct column. (Destination in transit).

2. Jerry West - R-17 to A&P warehouse in BOSTON. Print correct information on card and place it in the correct column.

3. S-302 - Joe Namath to I.B.M. in CHICAGO.

Note: Trailer 387 is waiting for an assigned driver.

When the Over the Road Driver delivers his shipment he then reports to the nearest company terminal.

ON THE MOVE RULES
(A game of transportation)

1. 2 to 6 players may play the game.

2. Each player receives $2,500 in the following denominations:
   1 - $1,000.00
   1 - 500.00
   5 - 100.00
   6 - 50.00
   7 - 20.00
   6 - 10.00

3. Each player is to select a different token.

4. A player contracts to deliver a quantity of goods from the "point of origin" to the "destination." He does this by selecting the top card from the "Industrial Traffic Manager" pile and if the card has options (air, rail, water, truck) the player may select whichever means he wants. He puts the card in front of him and rolls the dice. If the Industrial Traffic Manager's card has no option but indicated what method of transportation a player is to select, then the player must use that means to ship the cargo. Once a player selects a card and rolls the dice he cannot change his mind.

5. A player rolls dice to see how many places he is to go. Players are to take turns in a clockwise direction.

6. Terminals

   a) If a player lands on a terminal he may buy that portion of the terminal from the bank for the purchase price shown on the board.
   b) If another player lands on that terminal that is owned by someone else, he must pay the service charge which is shown on the owner's card.
   c) If a player owns all 4 parts of a terminal (air, rail, water, truck) he may exchange all four cards for a single owner's card and build a warehouse and pay the bank its construction price shown on the card. An opposing player landing on a terminal with a warehouse must pay the warehouse fee.
   d) If a player owns all four terminals but has not built any warehouses and an opposing player lands on one of these terminals, the player must pay the service charge only.
   e) A player in need of money may sell the terminal or warehouse back to the bank for ½ the purchase price.
   f) A player may sell his part of the terminal to another player for whatever price he can get or exchange it for what he considers the best deal.

7. Report to Dispatcher

   a) If a player lands on a place that indicates he reports to dispatcher, he must select the card from the pile. There are four dispatchers, one for each method of transportation. The player must select a card from that pile in which he is transporting the cargo.

b) For example, if a player has contracted to deliver a carload of goods by AIR and lands on the spot "report to dispatcher" he must select a card from the dispatcher pile labeled AIR.

c) The player must follow the directions on the card. A player is to go directly to the place indicated on the card.

8. When A Player Arrives At Destination

a) When a player goes completely around the board and arrives at "destination" which is the starting point or "point of origin" he collects the contracted fee from the bank and turns the Industrial Traffic Manager card to the bottom of the pile.

c) Example - If a player is on a New York truck terminal he must roll a 3 on both dice or a three on one of them to arrive at the destination. If he does not roll the number then he waits his next turn.

d) When a player does arrive at his "destination" the sequence of events is this:

1. He collects his contracted fee from the bank, then returns the Industrial Traffic Manager card to the bottom of the pile.
2. He waits his next turn.
3. At his next turn he selects a card from the top of the Industrial Traffic Manager pile and selects the mode of transportation and then rolls the dice.

9. If the owner of a terminal fails to notice that a player lands on his property, he cannot charge him a service charge or warehouse fee after the next player in turn rolls the dice.

10. Any business deals, trades, etc., can be initiated only during a players turn.

11. The bank never goes bankrupt, it always has enough money to meet its obligations.

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MINI-CYCLES FOR INTRODUCTION TO VOCATIONS

Introduction to Vocations teachers have been active in developing units and cycles beyond those provided by the State Introduction to Vocations staff. A number of these efforts, which may be used to supplement the preceeding cycles follow:

BEEKEEPING UNIT

DAVID GREGORY

UNIT GOALS

- Each student shall become more aware of the world of the social insect - the honeybee.
- Each student will gain a better understanding of the social structure of the bee colony.
- Each student will gain a knowledge of the construction and operation of the bee colony.
- Each student shall understand the role of the honeybee in agriculture.
- Each student will participate in the different activities and job-related experiences that are part of the operation of the bee colony.
- Each student will develop an understanding of the maintenance and operation of the bee colony and how it relates to the following:

1. Advertising
2. Marketing and selling honey
3. Marketing and selling beeswax
4. Honey production
5. Fair displays
6. Diagnosis and treatment of diseases
7. Plants and trees (Biology)
8. Processing honey
9. Feeding the colony
10. History of beekeeping
11. Budgeting and bookkeeping

UNIT OBJECTIVES

- Each student will make a list of the different honeybee body parts, by use of a chart or diagram.
- Students, learning through classwork and practical experiences, will be able to describe and list information on the following list of topics concerning the construction and operation of the bee colony.

1. Division of labor (Social structure).
2. Life cycles (Metamorphosis) (Biological).
3. Bee types (Queen, worker, drone) (Biological).
4. Swarming (Social structure).
5. Colony construction and component parts:
   a) brood chamber
   b) supers
   c) frames
   d) foundation
   e) bottom boards
   f) telescoping cover
   g) section supers
   h) shallow and deep supers

6. Honey types and identity (Biological).

7. Tool use and identification:
   a) hive tool
   b) bee veil
   c) bee brush
   d) smoker
   e) bee feeders
   f) extractors
   g) bee gloves
   h) uncapping equipment

(Mechanical)

. Each student will have at his disposal a list of Publications concerning beekeeping available in the Club Library:

1. ABC and XYZ of Beekeeping - A. I. Root Co.
2. A & I Root Bee Supply Catalog - Medina, Ohio
3. Beekeeping For Beginners - U.S. Dept. of Agriculture
4. Beekeeping In Ontario - Ontario Dept. of Agriculture
5. Caring For Bees In The School - Ontario Dept. of Agriculture
6. Diseases of Bees - U. S. Dept. of Agriculture
7. First Lessons In Beekeeping - C.P. Dadant
8. Gleanings In Bee Culture - A.I. Root Co.
9. Honey Honeys - New Jersey Beekeepers Association
10. Information About Bee Culture - U.S. Dept. of Agriculture
11. The Story of Honey - Ontario Beekeepers Association
12. Using Bees To Pollinate Crops - U.S. Dept. of Agriculture
13. Walter T. Kelley Co., Bee Supplier - Clarkson, Kentucky
14. Woodman's Bee Supplies - Grand Rapids, Michigan
15. Woody Honey Plants - New Jersey Dept. of Agriculture
16. How to Keep Bees & Sell Honey - Walter T. Kelley

. Each student will have a knowledge of the marketing and selling of the honey produced by his hive.

. Each student will be able to identify and define the following list of terms:

1. After Swarms
2. American Foulbrood
3. Apiary
4. Bee Dance
5. Bee Bread
6. Bee Metamorphosis
7. Beeswax
8. Brood
9. Capped Honey
10. Caucasian Bees
11. Chuck Honey
12. Cleansing Flight
13. Cluster
14. Comb Foundation
15. Caticomb
16. Drawn Combs
17. Drone Brood
18. Drone Layer
19. Bysentary
20. European Foulbrood
21. Extracted Honey
22. Extractor
23. Food Chamber
24. Frame
25. Granulated Honey
26. Honey
27. Honey Comb
28. Honey Flow
29. Hybrids
30. Italian Bees
31. Larva
32. Mating Flight
33. Natural Swarm
34. Nectar

35. Nurse Bees
36. Field Bees
37. Piping
38. Play Flight
39. Pollen
40. Propolis
41. Queen
42. Queen Cell
43. Ripe Honey
44. Royal Jelly
45. Self- pollination
46. Smoker
47. Sting
48. Swarm
49. Travel Stain
50. Uniting
51. Wax Glands
52. Wintering
53. Wired Foundation
54. Worker Bee
55. Worker Comb

UNIT PROCEDURE

. Each student, in order that he may care for his own hive, will need to have practical experience and training in the following areas:

1. Handling the bees.
2. Hive parts and management.
3. The inhabitants of the hive.
4. Races of bees.
5. Honey plants.
6. Spring management.
7. Swarm prevention.
8. Handling swarms.
9. Supering the colony.
10. Removing the surplus crop.
11. Fall management.
12. Wintering the bees.

. Approximate cost for one beekeeping hive unit.
Beginners' outfit includes:

1) One standard hive including metal cover, 10 frames, deep super bottom board, spacer and inside cover. All wood parts come in the flat, with nails and directions.
2. 10 sheets wire - ply foundation.
3. 43 support pins - for above foundation.
4. One bee veil.
5. One Boardman feeder.
6. One bee smoker.
7. One 10 inch hive tool.
8. One book, "Starting Right With Bees" or "How to Keep Bees & Sell Honey." (This depends on which company you order from).
9. One pair coated cloth bee gloves.
10. One 3 lb. package of bees and laying queen.
(Total cost of beginners' outfit is $43.75).

. Each student will need a permission form signed by his or her parents granting permission for him or her to participate in the program. A copy of the permission slip is attached.

. Attached is a sheet illustrating the interior of a beehive.

. Possibly the most educational beekeeping set-up is the observation hive which can be set-up in the classroom.

Many job-related experiences can be realized through a program such as beekeeping. By participating in this program students are exposed to different kinds of activities and experiences that stimulate and direct interest toward a particular job or job cluster. Below is a listing of some of these jobs or job clusters. Note that job clusters often contain hundreds of jobs.

1. Agriculture
2. Apiarist
3. Advertising
4. Bee inspector
5. Biology
6. Bookkeeper
7. Botanist
8. Business
9. Display Designer
10. Foods
11. Lab Assistants
12. Maintenance
13. Management
14. Mechanics
15. Medical-health field
16. Pollination agents
17. Sales
18. Sciences
19. Secretaries
20. Teachers
21. Veterinarians
22. Zoologists
23. Laborers
24. Artists
25. Gardening

SAMPLE PARENTAL PERMISSION FORM

Dear Parent:

The Mt. Olive Upper Elementary School has organized a new program in the art of keeping bees. We feel that the activity will be informative as well as a new and interesting experience for the students participating. The program is being directed by one of our teachers, Mr. David Gregory, who is an experienced beekeeper.

Your permission is requested before we will allow your child to participate in the program. Since many people are allergic to bee stings, it will be necessary for you to sign this form.

Thank you for your anticipated cooperation and if you have any questions, please feel free to contact the school.

Sincerely,

David Gregory
Introduction to Vocations
Coordinator

_____ has my permission to participate in
(Student's Name)
the Beekeeping Program at the Upper Elementary School.

_____ _____
(Parent's signature)

GLOSSARY OF BEEKEEPING TERMS.

1. After Swarms - Swarms which leave a given colony with a virgin queen after a swarm of the same season has already left it.

2. American Foulbrood - A contagious bacterial of bees which affects the larval and pre-pupal stages and is caused by Bacillus larvae.

3. Apiary - A collection of colonies of bees; also the yard or place where bees are kept. Bee yard.

4. Bee Dance - The worker bees in a normal colony perform various dances - like movements as a basis for communication. The best known bee dance was interpreted by Professor Karl Von Frisch. In this dance, the bees indicate the direction, distance and kind of food available to other bees of the hive.

5. Bee Bread - The pollen of flowers gathered by the bees, mixed with honey, and desposited in the comb. See "pollen."

6. Bee Metamorphosis - Bees pass through three stages or complete metamorphosis before becoming perfect insects: first the egg, then the larva, and next the nymph. The following will serve to show how this is accomplished.

	Queen days	Worker days	Drone days
Incubation of the egg	3	3	3
Time of feeding the larva	5	5	6
Larva spinning cocoons	1	2	3
Resting period	2	3	4
Pass from larva to nymph	1	1	1
Time in the nymph state	3	7	7
Total period of growth	16	21	24
Hatching takes place on	4	4	4
Bee leaves its cell	16	21	24

7. Beeswax - The wax secreted by honeybees from eight glands with the ventral adominal segments and used in building their combs. It is composed of variable quantities of cerotic acid and palmitic acid. Bees may consume from 8 to 20 pounds of honey to secrete one pound of beeswax.

8. Brood - Young developing bees in the egg larval and pupa state not yet emerged from their cell.

9. Capped Honey - Combs of honey in which the bees have closed the end of each cell with a thin layer of wax. Also sealed honey.

10. Caucasian Bees - A gentle race of black or dark-colored bees introduced into America from the Caucasus. They are inclined to propolize heavily.

11. Chuck Honey - A type of honey pack containing one or more pieces of comb honey covered with liquid honey in the same container.

12. Cleansing Flight - The flight of the bees from the hive after long confinement, as in the spring; when they void their feces in the air.

13. Cluster - The hanging together of a large group of bees one upon another, e.g. a cluster of swarming bees. See "Winter Cluster."

14. Comb Foundation - Thin sheets of beeswax embossed to form a base on which the bees will construct a complete comb of worker cells.

15. Cut-comb Honey - Comb honey cut into various sizes, the edges drained and the pieces wrapped or packed individually.

16. Drawn Combs - Completed brood or honey comb.

17. Drone Brood - Brood which matures into drones, reared in larger cells than worker bees and normally from infertile eggs.

18. Drone Layer - A queen that can lay only infertile eggs which develop into drones.

19. Dysentary - The discharge of fecal matter by the bees with the hive. Many conditions may contribute to this disease: starvation, low quality food, moist surroundings or nosema infection.

20. European Foulbrood - An infectious larval disease of bees caused by Streptococcus pluton. See "Foulbrood."

21. Extracted Honey - Honey that has been removed from the comb by an extractor.

22. Extractor - A machine for removing honey from the comb, consisting of a round can in which is mounted a revolving reel carrying a set of combs from which the cappings have been removed. The honey is thrown out by centrifugal force without destroying the combs.

23. Food Chamber - A hive body filled with honey for winter stores.

24. Frame - Four pieces of wood joined at the end to form a rectangular device for holding honey comb. It consists of one top bar with shoulders, one bottom bar and two end bars. A series of frames are held a bee space apart in a vertical position in a hive invented by Langstroth in 1851.

25. Granulated Honey - Honey that has crystallized or candied and has changed from a liquid to a solid.

26. Honey - A sweet viscid material produced by bees out of the nectar of flowers, composed largely of a mixture of the two sugars, dextrose and levulose, dissolved in about 17 percent water. It also contains small amounts of sucrose, mineral matter, vitamins, protein, enzymes, etc.

27. Honey Comb - The mass of hexagonal cells of wax built by honeybees in which they rear their young and store honey and pollen. The cells are built two to back with a common wall. See "Drone Comb," and "Worker Comb."

28. Honey Flow - A time when nectar is plentiful and bees produces and store surplus honey.

29. Hybrids - The offspring resulting from a cross between different races, varieties, selections, and occasionally species of bees, as between black and Italian bees.

30. Italian Bees - The most common race of bees for honey production. They were first successfully introduced into this country about 1860. The first three dorsal segments of the abdomen are banded with yellow. There are also four and five banded strains.

31. Larva - (plural Larvae) A developing bee in the worm stage; unsealed brood. Second stage of bee metamorphosis.

32. Mating Flight - The flight taken by a virgin queen during which she mates in the air with one or more drones. Normal queens mate 6 to 8 times with usually 2 or more mating flights.

33. Natural Swarm - A swarm of bees issuing spontaneously from a parent hive to form a new colony. The old queen leaves with the swarm a few days before virgin queens emerge and fight among each other for the right to carry on the reproductive process for the old colony.

34. Nectar - A sweet liquid secreted by nectaries located chiefly in flowers and on leaves of plants.

35. Nurse Bees - Young worker bees that feed the larvae and do other work inside the hive. They are generally three to ten days old.

36. Field Bees - When worker bees become about 16 days old, they begin the work of flying abroad to collect nectar, pollen, water and propolis and are then called field bees.

37. Piping - A series of sounds made by a queen, louder than any sound made by a worker, consisting of a loud, shrill tone, succeeded by several others, each sound shorter than the one that precedes it. A laying queen is seldom heard to pipe; a virgin perhaps always pipes at intervals after emerging from her cell and in response to her piping may be heard the "quahking" of one or several virgins in their cells, if such are in the hive, the "quahking" being uttered in a lower key and in a more hurried manner than the piping.

38. Play Flight - Short flights taken in front of the hive and in its vicinity to acquaint the young bees with their immediate surroundings. Sometimes mistaken for robbing or preparation for swarming.

39. Pollen - Dust-like grains formed in the anthers of flowering plants within which are produced the male elements or sperm. The protein food essential to bees for the raising of brood.

40. Propolis - A kind of glue or resin collected by the bees and chiefly used to close up cracks and anchor hive parts. Also called "bee glue."

41. Queen - A fully developed female bee: the mother bee.

42. Queen Cell - A cell in which a queen is reared, having an inside diameter of about 1/3" hanging downward an inch or more in length.

43. Ripe Honey - Honey left in the care of the bees until it contains 18.6 percent of water or less and has undergone the complete change from nectar to honey. Usually capped honey.

44. Royal Jelly - A milky white finely granulate jelly secreted from the pharyngeal glands of nurse bees, used to feed the queen and the young bees.

45. Self-pollination - To transfer pollen from the male to the female parts of the same plant.

46. Smoker - A device which burns special fuels to generate smoke for the purpose of subduing bees during colony manipulation.

47. Sting - The queen and worker bees' weapon of offense. It is an ovipositor modified to form a piercing shaft through which a painful organic secretion is injected into the wound.

48. Swarm - The aggregate of worker bees, drones and queen that leave the mother colony to establish a new colony. Swarming is the natural method of propagation of the honeybee colony.

49. Travel Stain - The darkened appearance upon the surface of comb honey when left on the hive for some time. Caused by bees tracking propolis over the surface as they walk over the comb.

50. Uniting - The combining of two or more colonies to form one large colony. Usually special precautions must be taken to minimize fighting among the strange colonies as they are united.

51. Wax Glands - The eight glands of a honeybee which secrete beeswax. They are located in pairs on the last four visible ventral abdominal segments.

52. Wintering - The care of bees during winter and in preparation for winter to insure their survival.

53. Wired Foundation - Comb foundation which has wires embedded vertically during manufacture for the purpose of preventing the finished comb from sagging in hot weather.

54. Worker Bee - A female bee whose organs of reproduction are undeveloped; well named "worker" because workers do all the work of the colony except laying eggs.

55. Worker Comb - Comb having cells which measure about five to the inch, in which workers may be reared and honey or pollen stored.

BEAUTY CULTURE UNIT

OCCUPATIONAL REQUIREMENTS

. A good personality is required in dealing with temperaments of all kinds. Because of the intimate nature of personal serice, applicants for work in beauty culture are examined on this point first.

. Salesmanship and business ability is required of the least ambitious operator. She must be at least able to sell confidence in her own ability.

. Typical knowledge. The need for technical knowledge is evidence by the fact that cosmetology has been brought under the jurisdiction of state law. It was recognized that the KNOW HOW to master the skills was not sufficient to insure public protection against injury. Emphasis is now placed on the knowledge of WHAT, WHEN AND WHY of the skills performed.

. Personal Characteristics. Beauty culture offers an exceptional opportunity for the practitioner to be a good example of the work by bringing out her own best points. There is no substitute for a good appearance. Meticulous care should be given to good grooming at all times, not only in clothing but in every detail of bodily care.

. Physical Characteristics

a) General health
b) Freedom from allergy toward common substances used in beauty shops, such as soaps, dyes, creams, lotions and waving solutions.
c) Size: It has been suggested that 5 feet should be the minimum height for any operator, although many short operators have been successful.
d) Weight: For the sake of appearance and efficiency, both men and women should try to keep their weight at the correct figure for their height.
e) Posture: For an occupation like beauty culture, that requires long periods of standing and walking about, correct posture is most important. Prospective beauticians should be willing to wear sensible shoes.

. Mental Characteristics to be considered:

a) Poise, or mental balance, is an important as posture or physical balance. The beauty operator must know how to handle all kinds of situations and temperaments. There must be no display of temper or unwillingness to serve for any reason.
b) Speech: a pleasing voice is an asset which can be developed, as can any skill. Use of good English should also be required.
c) Manner: in general behavior, which includes a good sense of humor, appropriate to the occasion; a cheerful disposition; a sense of dignity and self-respect.

d) Memory for name, faces and countless other details will be helpful. To remember and greet a person by name is always a compliment.

e) Patience is not only a virtue in the social world, but useful in business.

f) Artistic sense. It goes without saying that beauty is an art, but it does not always follow that art is beauty. A practical sense of art and a keen sense of color and line, balance and proportion, are keys to inspiration.

Mechanical dexterity. The prime requisites are to develop deftness and speed in using the hands. The wrists and fingers must be flexible and strong.

FIELDS OF SPECIALIZATION

The general operator in the shop must be ready to perform all services rendered in the shop with the exception of electrolysis and body contour service.

Special operators are engaged for only those services which come within the range of their filed of specialization, such as:

a) Hair stylists may do nothing but cutting and shaping for the styles they create. All other services which are preliminary steps to the style will be done under the direction of the hair stylist.

b) Permanent waver may do nothing but wrap permanent waves, with the help of an assistant who does all the preparation for the permanent including the shampoo and the neutralizing. Occasionally, a permanent wave specialist may also do the haircut and styling.

c) Hair coloring technician may do all the haircoloring and bleaching service unassisted, or there may be assistants doing the work under the direct supervision of the technician.

d) Facial experts may also specialize in scalp treatments, or they may just confine their skills to the care of the face - which may include superfluois hair removal (except electrolysis) and make-up.

e) Make-up specialists, in many cases, are in positions outside of the beauty shop where there is no call for facial skills. Their services may include:

1. Make-up for daytime and evening
2. Photographic, television, and theatrical make-up
3. Correction of cosmetic defects, expecially valuable to the mortician. The make-up specialist may also be a sales person in a large beauty salon where a make-up bar is featured. She offers a courtesy service in make-up to each patron who wishes it.

f) Salesperson. A salesperson may also be a make-up specialist in addition to having full charge of supplies; cosmetic display, inventory and purchasing and keeping sales records and accounts for customers and distributors.

g) Supervisor. To become a supervisor, the cosmetologist must be skilled in all practical operations and have many years of general experience.

Those that sponsor chains of beauty shops and the proprietors of concessions in department and drug stores, employ supervisors for inspection of their shops and for some training of their operators to insure uniform service, competence, and efficiency.

h) Manager. The manager may simply be a person trained in business, more qualified in bookkeeping and finances than in the technical knowledge of cosmetology. In the average shop, however, the manager, at some time, has been an operator and is therefore qualified to discuss beauty service with the patron, be the receptionist, take appointments, and tend to the business details in running a shop.

i) Manicurist. May do all the manicuring in a small shop or be one of the many in a large shop. Sometimes the manicurist may also specialize in facial and scalp treatments.

j) Electrologist. A specialist in electrology does nothing else. This branch of cosmetology is under special regulation in some states and some shops do not offer it at all. In many large shops, where the service is in great demand, all the service related to the removal of superfluous hair is in charge of the one qualified expert. Women who wish to work in their own homes can offer this limited service, provided the specialist has a license and conforms to local sanitary regulations.

Possible Speakers From:

Roux
Powers Modeling School
L'Oreal
Charles of the Ritz
Revlon
Local Beauty Shops
Helene Curtis
Bonat
Avon

Possible Trips:

Wig Boutique
Beauty Culture School
Vocational School
Museum
Theaters (Stage make-up)

Possible Filmstrips:

Charm in the Beauty Salon
Milady Publishing Company
3839 White Plains Road
Bronx, New York 10467

Possible Vocabulary:

Permanent wave
Haircoloring
Set
Styling
Rinse
Polish
Cosmetics
Lipstick
Lipbrush

POINT PLEASANT BEACH HIGH SCHOOL
Trenton Avenue
Point Pleasant Beach, N. J.

INTRODUCTION TO VOCATIONS - BUSINESS EDUCATION

Bulletin Board — A display of work done by Introduction to Vocations students in 1968, 1969 and the first group in 1970.

Textbooks — At the front of the room all of the textbooks used in the various business subjects under discussion were displayed. The useful prupose for the display was to tie together the explanation of the various courses and the text materials used.

Blackboard — The blackboard was used to list occupations and courses that are helpful in the particular job, and to demonstrate shorthand. On the last day of class, each girl's name was written on the board in shorthand so that she could try to copy it.

Newspapers — Newspapers were the starting point of the unit. The classified section was studied by each student in order to get a listing of jobs that required one or more business subjects. This was an easy and natural situation to get everyone talking about business, asking questions and offering opinions.

Equipment — The following pieces of equipment were available to the group: Typewriters (electric and manual), mimeograph, liquid duplicator, ten-key adding machines, printing calculator, key-driven calculator, mineoscope, lettering guides, shade guides, stylus.

Projects — Liquid Duplicator. Each student was asked to bring in an idea that they wanted to duplicate--notepaper, French-fold card, article, etc. They were to plan it so that it would require drawing, printing, and/or typewriting and writing. Each person was given a full sheet of master paper (purple) and strips of red, blue, green and black master carbon. Those who had a project and completed it were permitted to run it off on the liquid duplicator. All of the students had an idea and they all had experience in running off their master, and cleaning up after their job.

Mimeograph. Each student was given a stencil and twenty pieces of paper. Again, they were encouraged to use this media in such a manner as to include the use of the mimeoscope, stylus, letter guide, typing and possible writing. Each student ran off her stencil and cleaned up the working area. All students participated in this project.

Ten-Key Listing Machine

All students had an opportunity to use the ten-key adding machine. They were encouraged to try using touch system--but time was short, and so they resorted to the easiest method: For practice material we used deposit slips and/or checks taken from an old Business Machine course set. This added a little interest.

Printing Calculator

Students had an opportunity to use the printing calculator after they used the adding-listing machine. They got experience in multiplication by figuring the extension on invoices and/or sales tickets taken from a Business Machines course set. This seemed to be more realistic than using text material. They got experience in division by proving that their multiplication was correct. The students liked this machine--it fascinated them. They were able to get experience in substraction on one or both of the machines--adding machines or the printing calculators.

Key-Driven Calculator

We used several pages from a workbook on office machines for this equipment. It seemed to be the better way to take care of the situation. All of the students used this machine and it gave them a basis for comparison with other equipment.

Typewriters

Typewriters were used some part of most everyday. This group had some training in our fifth-sixth grades. Therefore, it was relatively easy to work with them on the typewriters. With some of the other groups, it has seemed better to take a day or two to teach home position and some of the key locations by use of the "Chalkboard Method of Teaching Typing."

The second group of students concentrated on learning how to set up a personal business letter, fold the letter, type the envelop, and insert the letter into the envelop.

Other

The second group was able to get some practical experience. The Office Practice class was preparing a memeographed program. This group was able to collate, staple, and fold the programs. The girls rotated while they were doing this work, so that all of them were able to experience this kind of work. At the same time one of the staff members was having stencil work prepared by one of the advanced students, and the I.V. group were able to run off the stencils. These two projects added to the course.

CAREERS IN ADVERTISING

Christine Rankin
Middle School
Asbury Park, New Jersey

FIRST DAY

A discussion (lecture style) of advertising in general. Class was asked to fill out a simple questionnaire which focused on their reactions to advertisements which they see daily on television, on the streets, in the stores and outdoors. From the replies, the class discussion centered on the question of "What is advertising?" and "Why do we need or use advertising?" From this point, the element of persuasion was emphasized by the instructor and various examples of persuasive appeals were given. (This was done by the use of magazine pictures which were arranged in poster form ahead of time. eg: "Yummy Campbell's soup for the best lunch ever.")

SECOND DAY

Discussion continued focusing on the element of persuasion. Students were taught about appeals to:

a) the emotions
b) self-interest
c) curiosity

Examples of each type of appeal were given. Special attention centered on the sample 10' x 22' billboard which hung on the front wall of the classroom. The sign advertised 7-Up and the students had fun thinking of the commercial songs and jingles as well as other picture ads they remembered which advertised 7-Up. From this point, the discussion turned to the need for comparative advertising. The instructor spoke on some of the ways advertisements "fight" over the distribution of the family income. Areas such as household necessities, food, clothing and extras, ranging from bicycles to dolls, were considered.

The students then listed all of the approaches and the media over which these types of advertisements (for such products) are carried. The media covered with examples given were:

a) magazine ads
b) the radio commercial
c) the television commercial
d) outdoor signs
e) direct mail (even the "sandwich-sign man" was demonstrated)

THIRD DAY

Class began with a discussion of the types of job positions available in the advertising business. Dittos of various jobs and their descriptions were handed out. During the second half of the period, emphasis was given to the planning that goes into the design of an ad for a magazine or poster. The instructor demonstrated the placing of a heading, copy, and illustrations on a page. Students were then divided into groups and chose a product which they wanted to advertise.

Some products chosen were: cereal, shaving cream, candy, detergent, and an event (Career Day). Students were to think up a slogan, a song, a poster, and a new container for their product.

FOURTH DAY

A brief review of the approach to planning an ad was given. Then, students broke into groups and began to plan their designs. Paper, scissors, stencils and markers were distributed for each group. The instructor supervised and assisted each group.

FIFTH AND SIXTH DAY

Group project work continued throughout these two days.

SEVENTH DAY

Class began with a display of the products prepared for selling through the student's original ads. "Rocket Cereal," "Icy Shaving Cream," and "Super Shapies" candy were the best items created. The class then observed a series of slides taken in the Asbury Park area which demonstrated the use of outdoor advertising (eg. billboards, window displays, gasoline signs, signs on trucks, busses, trains, etc.). This was very successful.

EIGHTH DAY

Dittos were distributed at the beginning of class. These papers listed several terms to know in the advertising field. Each term was read and explained. Then, the students observed a video-taped interview with Mr. Wagner from the J.C. Williams, Co. Mr. Wagner is an artist with J.C. Williams and he is in charge of the design for outdoor billboards. Questions were answered after the film was finished.

Students were then introduced to the idea of designing posters and name-tags to advertise the Introduction to Vocations Career Day. Ideas were discussed until the end of the period.

NINTH AND TENTH DAY

These final days in the course were devoted to preparing advertisements for Career Day. Groups worked on individual projects with the help of the teacher.

Because advertising is a vocation which requires great breadth of interests and abilities, it is difficult for any one person to become expert in all aspects of the business. Therefore, many people who enter careers in advertising, enter the field in specialized areas. Some of the personal qualifications which help people to advance in the business are imagination, curiosity, enthusiasm, articulateness, and the ability to analyze problems. Educational qualifications include a good general background, with, if possible, college courses in advertising, the ability to write and speak good English, and selling experience.

The positions available in this field are:

Advertising Copywriters: The copywriters create the basic framework of the advertisements with their headlines, text and slogans. The best copywriters think in words and in pictures--and suggest the best ways to present a product. Preparation includes emphasis in English and creative writing, economics, psychology, and sociology. Copywriters are usually hired by advertising agencies and must be people who can take criticism and bounce back with new ideas.

Art Directors: The art director sketches the design for an ad on a layout pad. He tries to think of human interest and eye appeal. To prepare for this kind of work, young people should get the best possible art training, with emphasis on the practical aspects, and on communicating ideas visually rather than on verbal or written expression.

Artist: Finished products on art advertisements are usually done by an artist who is self-employed. The work is demanding, but very interesting.

Media Buyers: Media buyers gather a vast amount of information about the relative size and type of the reading or listening audiences which can be reached in various ways, and the cost of advertising in each of these or any combination of them. The media director makes up a plan which will reach the most people with the greatest frequency and the least cost. eg. television, radio, newspaper, magazines.

Research Workers: These people gather and analyze facts which are required in the planning and production of advertisements. The research worker uses mail, telephone and personal interviews to get his information. Preparation for such jobs should include study of sociology, economics, and psychology. It is hard work, but very rewarding.

Production Worker: A production worker handles all technical aspects of the advertising business. For instance, they do the filming of TV commercials, the photography

for picture ads, set up the stands for outdoor billboards, etc. On-the-job training is the most beneficial preparation for this kind of work.

Account Executives: The account executive is responsible for all the activities on the accounts which they supervise. The account executive handles relations between the agency and its clients. The job is a great responsibility for it is the central point from which the accounts of the agency operate. Graduate training in college is usually necessary.

Advertising Managers: Advertising managers are the executives in charge of the advertising and promotion activities of corporations, as well as publications of other media. They try to coordinate jobs between the client, the agency, and the employees.

Business Manager: Handles the details of a business from accounting to orders to benefits and employment details. A person who wants this type of work must prepare himself with a background in business.

Words to Remember for Advertising:

agency: The advertising company which prepares and places advertisements in various media to promote distribution and sale of a client's product.

campaign: A series of ads using a unified theme - "Pepsi Please.

commercial: Ad advertisement which is prepsented over television or radio.

direct mail: Any kind of advertising that goes directly to the prospective buyer through the mail-letters, leaflets, samples, etc.

display: Any sign or exhibit designed for either a company's employees or for people of specific interests.

market research: The gathering, recording and analyzing of facts relating to the sale and promotion of goods and services from producer to consumer.

mass market: A large or general market as opposed to a special market.

mass selling: The selling of a product on a large scale; as to to the public.

medium: Channel or means of communication.

point-of-sale-advertising: Which is placed at the location where the product is sold.

prime-time: The hours between 7 and 11 P.M. --- the hours when more people watch TV, and with fewer distractions than during the day.

space and time buyer: The advertising employee who buys a section of time on radio or television or space in magazines and newspapers, to be used for ads.

Advertising Notes:

In advertising, the seller of a product competes with other sellers of similar products to get the attention of the buyer. (eg. cars)

Also, the seller competes against different products for a share in the family income.

Ads are designed to appeal to the:
a) emotions
b) curiosity (persuasive appeals)
c) self-interest

Ads have three parts:
a) Heading
b) Illustration (Layout and Final Production)
c) Copy

Advertising Questionnaire:

Please answer the following questions as honestly as you can because I will use your replies to help me develop a better program next year.

1. The program "Careers in Advertising" was designed to give you some idea of the work of the advertiser; the areas his job can cover (eg: radio, TV, magazines); and an awareness of some of the job positions available in this line of work. Do you feel that these areas were covered in this session?

   Yes

   No

   Comment:

2. Which type of advertising discussed in the course appealed to you the most?

   Why?

3. Which activity in the course did you like the most?

4. Did you find that the slides and television films helped to give a better idea of some of the kinds of advertising which exist? Were they no help at all?

5. What suggestions would you make if you were asked to improve this course?

Additional Comments:

Class Project:

1. Students are to divide into groups.

2. Each group is to have a product to sell. The students will create an advertising campaign. This involves:
   a) designing a cartoon for the product
   b) designing a poster-type sign for the product
   c) design a jingle or commercial song for the product

Products:

Cereal	Candy
Soda	Toothpaste
Shaving Cream	Laundry Detergent

One girl designed an excellent name-tag, and she was taught how to cut her pattern out for a silkscreen design. On the last day, the posters were displayed, and a total assessment of the program in the form of a student evaluation was taken. Most of the students seemed to have enjoyed the class.

NOTE: There was an additional interview tape available which discussed window-advertising, but this was unable to be shown due to the excess noise from building construction. This will be used next year.

Questionnaire:

1. List some of the places (mediums) where you find advertising each day:

2. What are your favorite commercials? (Name three). Why do you like them?

3. Can you remember a special ad from a magazine? Why, Why Not?

Suggestions to Improve the Course "Careers in Advertising"

1. Because of the limitations of some of our students, I feel a five day program would be sufficient for an introduction into the field of advertising.

2. If a five day program can be implemented, I would hold the number limit of students in each class to 15. This is so that special attention can be given by one teacher while poster projects are in operation.

3. I would like to plan a trip to an advertising agency next year. If this is not possible, I would like to arrange for an artist or lay-out designer to visit the school and give the students a demonstration of his work.

4. Because advertising is a very demanding field, I think consideration should be given to the caliber student taking this course. If a student is not capable, we are only fooling him by leading him into such a field.

5. I would like to have more supply materials: eg. scissors, paper, paste, glue, tape and paint, in addition to the paper, stencils, and markers I received this year. (I will be responsible for submitting an order for these materials).

FLORIST HORTICULTURE CYCLE

1. Invite a local florist to give a lecture-demonstration on making floral arrangements. Ask him to include information about the other types of work in a flower shop such as a clerk, truck driver, bookkeeper, ~~etc.~~ Also ask him to indicate the amount and kind of training necessary, where it is available, what the job opportunities are, what aptitudes he would look for in an employee, the going pay rate, work schedule, benefits, disadvantages and advantages. If possible, extend the job to field work, greenhouse, maintenance and landscaping.

2. Ask the florist to return a second day with supplies (flowers, greens and containers) so that the students can make their own arrangements. Have the florist circulate among the students as they work giving suggestions and criticism.

3. Follow-up program with class discussion by the students on the nature of the work, the talents involved, and the satisfaction to be achieved.

4. Possible trips:

small local florist	large local florist
Longwood Gardens, Kennett Square, Rt. 1, Pa.	Doris Duke Estate
Rutgers Agriculture Site	Local, national and international flower shows
Local nursery	Brooklyn Botanical Gardens
Sterling Forest, Tuxedo, New York	

5. INSTRUCTIONAL AIDS

Filmstrips:

Vocational Education Productions
California State Polytechnic College
San Luis, Obispo, California 93401

1 set Flowers to Wear (3 filmstrips)
manual and tapes $39.50 (price may be out of date)

Films: (borrower pays transportation both ways)

Films of the Nation
62 West 45th Street
New York, New York

Modern Roses on Parade, 16mm, color, 30 minutes
Modern Chrysanthemums for Fall Beauty, 16mm, 2 reels, color, 20 minutes
Nations United for Spring Beauty, 16 mm, color, 20 minutes
How to Plant Dutch Bulbs, 16mm, color, 14 minutes

Colorado State Flower Growers Association
530 1st National Bank Building
Denver, Colorado

The Divine Flower, 16mm, color, 19 minutes

FLH

Films: (no transportation costs)

Roses, Inc.
60 East 42nd Street
New York, New York

What's Behind a Rose, 16mm, color, 18 minutes
The Gift of the Rose, 16 mm, color, 22 minutes

Carey-Swain Inc.
1938 Laurel Street
Sarasota, Florida

The Florida Glades, 16 mm, color, 14 minutes
The Glad Story, 16mm, color, 18 minutes

Southern California Association
756 Wall Street
Los Angeles, California

The Gladiolus Story, 16mm, color, 13 minutes

George J. Ball, Inc.
West Chicago, Illinois

Mum's the Word, 16mm, color, 27 minutes

Sun Dial Films
341 East 43rd Street
New York, New York

Landscape for Living, 16mm, color; 12½ minutes

Hartley Productions, Inc.
339 East 48th Street
New York, New York

How to Doll with Flowers, 16mm, color

Films: (Rental)

Dallas Jones Productions
1725 North Wells Street
Chicago, Illinois

Helen Chamberlin Table Fashions, 35mm, color, 25 minutes, fee of $12.50
(70 complete table settings)

Other Materials:

Society of American Florist
Sheraton Park Hotel
Washington, D.C.

Student Booklet - Flowers and You .10¢ each

Teacher's Guide - Flowers and You .05¢ each
Opportunities for You in the Florist Industry .10¢ each

INTRODUCTION TO VOCATIONS

Point Pleasant Boro High School

Subject: Flower Arrangement

From: Robert A. Briant, Coordinator - Introduction to Vocations
Margaret Bishop, Cycle Teacher

First Session

Visit to Rainbow Florist, Point Pleasant, New Jersey.

1. Introduction to flower arrangement
2. Discussion of materials and tools used
3. Illustration of "Corsage Making"

Second Session

Visit to Rainbow Florist

1. Discussion and practice in making bouquets
   a) Triangle Bouquet
   b) Traditional Bouquet
   c) Flower preparation
   d) Bow making and arrangement
2. Funeral Spray Making
3. Use of ferns and ornaments

Third Session

Speaker - Mr. Harold Everett, Everett's Florist, Brick, New Jersey

1. Discussion of cutting flowers
2. Making of artificial decorations

Fourth Session

Visit to Rainbow Florist

1. Working with seasonal decorations
   a) Christmas
   b) Thanksgiving
   c) Easter
   d) Mother's Day

Fifth Session (Saturday)

Practical work experience at either Rainbow Florist or Everett's Florist

GRAPHIC ARTS CYCLE

South Junior High School
177 Franklin Street
Bloomfield, New Jersey

Michael J. Venezia, Jr.

GRAPHIC ARTS IN A THREE-WEEK CYCLE

The "Plan Your Career Now" poster was designed and made by eight ninth grade boys in our Introduction to Vocations program.

At South Junior High, we do not have a Graphic Arts Shop, or facilities for teaching this unit. However, because the Graphic Arts is important in the industry in our state, we wanted to include a cycle in that area. We had no equipment. We could buy none with state funds. We, therefore, had to limit the exposure. We decided to run a unit on "Screen Process Reproduction." Anticipating state approval of our application for a first year program, we bought an Instructors Silk Screen Printing Kit for $49.00. This was our only initial expense for this unit.

This year we planned a 3-week cycle in Graphic Arts with eight students in each group. In the first two groups each student designed an initial monogram, hand cut the film and printed 24 copies of it.

By the time the third group was ready to begin their Graphic Arts Cycle the interest in this kind of reproduction process began to grow. The third group wanted to tackle a large project. Fine! But, the kit we purchased had only 1 - 10 x 14" sheets of film, most of which we had already used. I presented my problem to my principal, Dr. Alfred H. Skogsberg, who purchased with other school funds, a roll of silk screen film at the cost of $9.75, or about 40" x 140" of film. We scrounged additional fluid, solvent and paper from our school art supplies.

The group decided on the type of project they wanted, a poster showing the Introduction to Vocations Program message. These posters to be posted throughout the school.

They elected a foreman, who, with advice, broke down the work and assigned each one a part. Mass production conceptualization, if you will.

All art work and lettering were done by hand in rough draft. "Keep it simple but tell the story!" was the goal. Fortunately, the movie being shown that week was "The General With The Cockeyed Id." One sequence showed construction equipment in silhouette. The boys siezed this method of telling a story without captions.

A full scale "paste up" was given approval and then they cut the film. For three colors, no less! They wanted five but finally scaled it to three. The group decided to produce thirty posters.

The first two colors were completed with not too much reaction. But, when they saw the first one with the three colors complete -- a "mild" celebration took place. They were so intrigued that they took construction paper off bulletin boards for one color runs. Finally at 5:00 p.m. they had to

"almost literally" thrown out and sent home. The next day, one of the boys said, "that silk screen stuff is OK. Last night there was a job in the 'want-ads' for a silk screen job with a two weeks training. And they pay $80 while you learn!" You see, we reached our objective.

PREPARATIONS AND OPERATION OF SILK SCREEN UNIT USING PAPER STENCILS

PREPARATION

. Make drawing, using clear, crisp lines with pen or pencil on sheet of paper, same size as that to be printed.

. Lift frame and place drawing on board in approximate center. Attach guides to top right and upper right side of paper, using one or more at upper right as needed.

. Prepare stencil paper. PLACE STENCIL PAPER over drawing, make sure it covers entire screen area when screen is lowered.

. Cut away excess stencil paper.

. Tape stencil paper to board over drawing on two or three corners.

. Dab Varsol over drawing area with fingers. DO NOT POUR!

. Using sharp stencil knife, cut out outline of drawing as needed through stencil paper. Cut crisp sharp lines. THIS IS IMPORTANT! If necessary, re-draw drawing onto stencil first.

. Remove tape holding stencil paper to board. NOTE: If drawing area is small in comparison to size of screen, tape stencil paper to underside of frame. If drawing is large, follow next step.

. Close frame and apply stencil paint to upper area of silk with ink knife.

. Spread paint (or ink) with squeegee across whole screen to permit stencil paper to stick to silk. If drawing is small, as mentioned above, just spread ink across cut drawing area.

. IT IS IMPORTANT THAT YOU DO NOT REMOVE CUT-OUT STENCIL AREA FROM STENCIL BEFORE INK IS PLACED ON STENCIL AND SPREAD ACROSS SILK.

. Raise frame and remove original drawing, and cut out area.

OPERATION

. Place sheet of stock into guides. With squeegee, draw paint across drawing, to bottom of frame.

. Remove all excess paint from bottom and dab along top.

. Repeat printing step for each sheet.

PAPER STENCILS FOR SILK SCREEN

. Han only two sheets back-to-back on clips provided for drying.

. Remember to set kick stand down when leaving screen for any reason.

CLEANUP

. Replace all excess paint back into paint can--close cover securely.

. Remove stencil and throw away. It is not needed again. Remember to save original drawing if more than one color is to be printed.

. Place newspaper under frame, over board area. Pour small amount of Varsol onto screen.

. Scrape screen clean with squeegee, then wipe with rags. Rags should be clean and free from lint.

. Replace newspaper as necessary. A clean one will do a better job than a dirty one.

. Finally, wipe both sides of screen at same time until all traces of ink are removed. Check frame corners. Dry ink might ruin someone else's work if paints mix.

. Clean squeegee and ink knife.

. Replace all materials and equipment to storage position.

. When printing is completed and dry, sign name and date completed on back of sheet and turn into instructor.

SCREEN PROCESS

KNIFE CUT FILM

Screen Process is a simple, fast method used to reproduce in quantity, any type of designing or lettering, including half-tones from a small greeting card to a large poster. It is a convenient and inexpensive process used in many industrial pants for the marking of manufactured products, such as radio dials and other markings, designs on toys and striping bicycles.

No other method of reproduction is as flexible, permitting the application of many kinds of colored materials consistent with the purpose and variety of surface, which may be paper, or paper stock, oilcloth, some fabrics, some plastics, metal, wood, masonite, glass, wallboard, some types of rubber, and others.

At Army and Navy Bases, all over the country, this speedy and economical method of reproduction is being used to run off instruction sheets, maps, visual training aids, charts and diagrams that are a part of the military training program. They Screen Process traffic signs, building and runway markers, placards and emblems, equipment and materials, as well as posters of all types that make each Army and Navy Base a self-sufficient, well-run community.

In the civilian field, screen process is widely used to reproduce all types

of signs and displays. It is used to reproduce designs and markings on many types of products and equipment. Some of these uses are as follows:

Ordnance Equipment	Handkerchiefs
First Aid Kits	Neckties
Shipping Crates	Toys and Games
Aircraft	Greeting Cards
Decalcomanias	Directional Signs
Civic Displays	Building Signs
Political Posters	Wallpaper
Book Covers	Department & Chain Store Posters
Athletic Emblems	Advertising Specialties
Theatrical Posters	Fabrics
Curtains and Drapes	Point of Sale Displays
Radio Equipment	Children's Books

All kinds of printed or illustrated material can be reproduced, including designs that fall in large masses or fine hairline drawings and diagrams. Reproduction can be made in any size from a small card to giant banners. The quantity of the run is very flexible, Screen Process is practical for reproducing as few as 10 copies or as many as 10,000 or more. Perhaps, most important, the Screen Process permits the liberal use of color at low cost.

The instructions contained in the following pages are a "How to do it" arrangement so that the student or beginner can obtain good results with the first job.

The details on preparing the printing frame, which is often referred to as the "screen," are the same as are used for all screen work. Although there are many methods by which the stencil on the silk or nylon may be produced, we will describe the knife cut method, which is the most commonly used and which has specific advantages.

In these few pages only a very condensed description of the screen process and materials can be given. Equipment dimensions and construction can be modified to suit the individual or purpose.

The information given is basic and the principles involved are used universally in the process industry with modifications of equipment and material.

MATERIALS USED IN SCREEN PROCESS PRINTING

- Printing Base - A Masonite affords an ideal surface upon which to print. A drawing board also makes an excellent base for small sized frames.

- Printing Frame - The frame serves as a support on which the silk or nylon is stretched and as a reservoir for the screening color. The printing frame is hinged to the printing base with two hinges. Loose pin hinges are commonly used.

- Stencil Fabric - Silk or nylon is stretched taut on the printing frame. The silk or nylon holds the stencil or design in place.

- The Stencil - The most widely used knife cut stencil media are Nu-film and Blu-film.

- Adhering Liquid - Lacquer thinner is used to adhere Nu-film or Blu-film to the silk or nylon.

- Register Guides - These guides can be cut from cardboard stock or paper and are used to hold the paper or cardboard on which you are printing in place so that each printing will be in exactly the same position. Thumb tacks may be used for the same purpose.

- Tapes - Masking tape is used to hold down the film over the original drawing while cutting out the design. Also used to block out the edges of the printing frame and the kraft paper as well.

- Cutting Tools - A stencil knife is used to cut the film. For cutting circles, a pair of dividers makes a fine compass when one side is sharpended to the same kind of cutting edge as a knife. An assortment of good rulers will make the cutting of straight lines easy. Circle cutters may be purchased along with other special equipment to cut the film.

- Squeegee - Is a rubber blade inserted into a wooden handle and when drawn across the printing frame it forces the screening color through the open parts of the stencil onto the paper or cardboard on which you are printing.

- Screen Cleaner - Used to remove the film stencil from the silk or nylon after the run is completed, so that the same printing frame with the silk or nylon attached can be used for the next color or for the next design. By removing the film stencil the same silk or nylon can be used over and over.

MAKING THE PRINTING FRAME

The printing frame serves as a support on which the silk or nylon is stretched and as a reservoir to hold the color during the screening operation.

1. CONSTRUCTION OF THE PRINTING FRAME

- Small frames under 24" x 24" can be made out of soft pine 3/4" to 1½" square stock.

- The frame should always be 3" or 4" wider and at least 6" longer than the design that is to be printed. This will provide enough space at each end to hold the supply of color in the printing frame and also allow enough space to rest the squeegee in between printings.

- Corners of the frame should be fastened together so that they will be strong and rigid. Dovetail joints or mitered corners are preferable.

- Frames up to 36" to 60" should be made of 2" x 2" lumber.

. Frames must be square, rigidly joined and the bottom surface must be perfectly flat. Do not use warped or twisted lumber.

2. STRETCHING THE FABRIC ON THE FRAME

There are three common methods of stretching the silk or nylon on a frame:

. Use of a staple gun or automatic tacker.
. Use of ordinary carpet tacks and a hammer.
. Grooving the frame and use of fiber rope.

The technique for the first two methods is the same and is as follows:

. Cut a piece of silk or nylon ½" longer and wider than the frame. This will permit a firm grasp on the material and enable you to stretch the material tightly.

. Place the silk over the bottom side of the frame with the threads or weave running parallel with the sides of the frame.

. Start tacking with the staple gun from the center of one side to within 1½" of the end corner. Then finish stapling the same side also to within 1½" of the corner. Make sure that the staples are at an angle to the threads of the fabric to make sure that it will not tear. Hold the fabric as tight as possible without tearing the material.

. Start at the center of the opposite side and follow the same procedure. Hold the material as tight as possible without tearing it.

. Start from one of the ends and staple the material from the center out to 1½" of the corner. Then finish the other end of the same side.

. Staple the other end, starting from the center and stretching the fabric as tight as possible. Then complete the other end.

. In stretching the silk or nylon thus far you left each corner open 1½" each way. By stapling the four coners last, you eliminate any possibility of wrinkles in the silk or nylon in the corners. Pull each corner as tight as possible.

. Trim off the edges of the fabric that extends beyond the edge of the frame.

. If the Groove Frame Method is used, the silk or nylon is stretched on the frame by use of fibre rope instead of the staples or tacks. The frame is specially prepared before being assembled by having a groove cut out of the center of the bottom side of each section of the frame. When the frame is assembled this groove runs around the entire bottom side of the frame.

. The silk or nylon is laid in place over the frame and grooves. Cut a length of fibre rope to fit around the four sides. Start on one side and force the fibre rope into the groove with a mallet. When the rope is set in place in all grooves with the silk or nylon

stretched tight, take a wedge and mallet and tap the rope deeper into the grooves. This will stretch the silk tightly across the frame. Seal the rope with shellac or lacquer so that it holds tightly. Masking tape can also be used for this step.

3. TAPE THE PRINTING FRAME

. Protect the silk from tearing away from the staples by placing a strip of masking tape over the staples. If clear lacquer or shellac is available, apply a coat over the staples to strengthen and seal the silk or nylon to the frame. Be careful not to allow any of the shellac or lacquer to spatter on the open mesh of the screen.

. Turn the screen over and place a strip of masking tape along the inside where the frame and the fabric meet. First cut strips of masking tape a little longer than each of the inner sides of the frame. Crease or fold these in half and place one half on the frame and other other half on the fabric. By taping the inside of the frame in this manner, you prevent any chance of the color seeping in under the frame and soiling and marking your prints.

4. HINGE THE FRAME TO THE PRINTING BASE

. The printing frame is attached to the printing base with two loose pin hinges. Thus the frame can be removed from the printing base as desired by merely pulling out the two pins and lifting the frame out.

5. LIFT BAR AND REGISTER GUIDES

. On small frames a lift bar is placed on the left side of the frame to allow the operator to have both hands free to remove the printed copy and to insert the next piece to be printed. A small stick, 1" x ¼" x 6" will be satisfactory. Drill a hole at one end to provide a free swinging motion and screw to the left side of the frame. When the screen is raised the lift bar automatically drops down, holding the screen printing frame off the printing base.

. Register guides can be cut from cardboard stock. Usually 3 or 4 guides are sufficient to hold the material on which you are printing in place so that each printing will be exactly the same position. Proper registration is very important when there are two or more colors to be printed.

MAKING THE ORIGINAL COLOR DRAWING

1. COLOR THE ORINGINAL

. In making the original drawing, it is best to color the original exactly as you want it to be reproduced. This will enable you to see the design of each color when cutting the film stencil later.

. Until you gain experience in screening, it is advisable to limit your design to only two colors.

2. SELECTING COLOR FOR VISIBILITY

. To obtain maximum legibility from a distance on posters and advertising displays, there are centain facts about color combinations that should be considered. While the chart shown below does not include every possible color combination, it does indicate the relative legibility of these particular combinations.

. Black letters on Yellow background can be read from the greatest distance. Also note that dark copy or letters on a light color background have better legibility than colored copy or letterings on a dark background.

. Rating copy on background:

a) Black on Yellow
b) Black on White
c) Yellow on Black
d) White on Black
e) Blue on White
f) White on Blue
g) White on Green
h) Green on White
i) Red on White
j) White on Red
k) Red on Green
l) Green on Red

3. TRACE SKETCH OR DESIGN

. The student who has not had any training in lettering or drawing, can select an original from current magazines, etc., selecting a design that has relatively large color area so that his cutting of film stencil will not be too intricate.

KNIFE CUT FILMS

1. KNIFE CUT FILMS

. Knife cut stencil sheets are thin, prepared films on translucent backing paper, which acts as a temporary carrier of the film until the film is adhered to the silk or nylon.

2. PREPARATORY WORK

. Thumb tack or tape your original to a drawing board or work table.

. Cut a piece of film large enough to cover the first design. Decide which color you want to print first. It is good practice to run the light color first and follow later with the dark color.

. Place the piece of film over the original drawing with the backing side down and fasten down the corners with masking tape so that the film will not shift.

. The film is transparent and you can see the original drawing underneath. The idea is to cut and peel out those portion of the film that form the first color you want to print.

3. CUTTING FILM

. In a tracing manner, using a sharp stencil knife, cut through the film to the backing paper.
DO NOT CUT THROUGH THE BACKING PAPER.

. Use light pressure in cutting. Bearing down hard will cause cutting into the backing paper. A few minutes of practice cutting should be sufficient to get the feel of it.

. On straight line cuts, the cutting should be carried out beyond the corners of the letter.

. After cutting has been completed, strip out all the film from the portion of the design which is to appear open on the screen.

. In all large open spaces from which film has been stripped, cut a slit through the backing paper to allow escape of air during the adhering operation.

. Examine cut film to make sure that no small pieces of film or dust particles have been left on it. A small piece of masking tape may be used for this purpose.

4. ADHERING FILM TO SCREEN PRINTING FRAME

. If a new piece of silk has been stretched on the frame, it is a good practice to wash the screen with water and hand soap, rinse well with clean water and dry thoroughly. This will remove any sizing that may be in the silk or nylon and insures good adhesion of the film to the silk or nylon.

. Place the prepared printing frame in the hinges on the printing table. Place the original drawing with cut film for the first color in the register guides. Film is held in position on the original by masking tape in the corners. Adhering the film in this manner will insure good registration of all colors. Lower the frame on the film so that the fabric is in good contact with the film. Close contact of the film and fabric is necessary. Either have someone hold the screen down or place weights on the corners of the frame so that you maintain the close contact of the fabric and film during the adhering operation.

. Take two pieces of rag, one large and one small. Cotton rags of the type of undershirts or underwear are preferable. Wet the small rag well with Adhering Liquid. Hold the wet rag in one hand and the large dry rag in the other hand.

. Start in one corner and wet a small portion of the screen with a SINGLE stroke not more than 3 inches long and dry it immediately with a light rubbing motion with the dry rag. Continue rubbing lightly with the dry rag until you see that all the adhering liquid has evaporated. This takes about 10 seconds. When this is done you will note that the film is adhered to the fabric.

. Continue in the same manner until the entire film has been adhered to the fabric. Wet the small rag as often as is necessary. Always start from one side of the screen and continue in the same direction to avoid wrinkles.

. When the entire piece of film has been adhered, take a thin straight edge or ruler, slip it between the film backing paper and the original drawing and free the screen from the original drawing by loosening the masking tape.

. Remove the pins from the hinges and turn the frame over with the backing paper side up. Allow the film to dry about 10 minutes.

5. REMOVING THE BACKING PAPER

. Start in any one of the four corners and carefully loosen the backing paper from the film with your fingernail. Slowly peel off the backing paper. If the film was cut according to instructions the backing paper will come off easily, without any corners or edges of the film being loose.

. Should any portion of the film be loose or improperly adhered, do not remove the backing paper completely but turn the screen over again and by wetting and drying the loose spot proper adhesion will be obtained.

. When the backing paper has been completely removed, if there are still some loose places, turn the screen over film side up. Take the wet adhering rag and carefully dampen the loose part from underneath the screen and pat down the film side with your finger. This will complete adhesion.

. Do not, at any time, over-soak the film with ADHERING LIQUID as this will dissolve the film and spoil the sharp edges.

6. MASKING IN THE SCREEN

. Fill in the open mesh of the silk or nylon between the film and the frame with kraft paper and masking tape. Lacquer screen filler can also be used for pin holes.

. Hinge the screen to the printing base and you are now ready to print the first color.

SQUEEGEEING THE COLOR

1. PROPER USE OF SQUEEGEE

. Place a liberal portion of the mixed color along one side of the screen printing frame.

. The color is forced through the open parts of the film stencil onto the printing surface below by use of a squeegee.

. The squeegee is a thick rubber blade inserted into a wooden handle. The squeegee must be wider than the design you are printing and at least 1" smaller than the inside width of the printing frame.

. Stack the stock on which you are going to print on the table within easy reach and place the first sheet under the screen and in register with the guides. Release the lift bar and lower the screen.

. Draw the squeegee across the screen by tilting the squeegee and pressing firmly. One pass across the screen should be sufficient.

. To produce good prints the rubber blade must be straight and the edges must be sharp. These edges become dull from constant use and should be sharpened by sliding the squeegee across a piece of fine sandpaper that has been thumbtacked on a level table, in a manner similar to using a carpenter's plane.

. To insure maximum opacity in overlaps, it is advisable to run light colors first.

SUCCEEDING COLORS

1. CLEAN-UP

. After you have completed running off the first color, take a small piece of cardboard and scrape off the squeegee and out of the screen all the remaining paint. This color can be saved and used used for another job.

. Remove the screen from the base hinges and remove the kraft paper mask. Wash the remaining color from the screen and squeegee.

2. REMOVAL OF THE FILM STENCIL

. The same screen printing frame may be used over and over agin merely by removing the film stencil from the silk or nylon. Lay several pieces of newspaper or paper on a flat surface and place the screen on top of the paper so that the film is in contact with the paper.

. Take a good-sized rag and soak it well with Screen Cleaner. Rub the film portion of the screen, keeping the rag well saturated.

. After a few minutes take hold of the paper and pull it away from the sil, it will take all of the film with it.

3. SECOND AND SUCCEEDING COLORS

. Procedure for making the stencil for the second color is the same as on the first color.

. Cut a piece of film and place it over the original color drawing. Cut and peel out all of the film that represents the second color.

- When adhering the film to the screen, follow the same procedure as on the first color. By placing the original drawing with the cut film in the register guides the second color will be adhered to the screen in exact relation to the first color and the registration will be perfect.

- If more than 2 colors are used, repeat each operation until reproduction of the original is completed.

MODIFYING MATERIALS

1. BASES

- Add 25% Transparent Base to screen process colors for easier and sharper printing. Greater reduction, 100% to 300% is possible, depending on conditions of use accompanied by a 12% addition of Mixing Varnish to maintain flexibility.

- Crystal Toner Base is to increase flexibility where screened work on paper is to be folded, and to reduce thickness of applied color.

- Extender Base is used to provide proper consistency.

2. VARNISHES

- Mixing varnish is added to provide improved flexibility and exterior durability. The addition of 12% to 25% is recommended.

- Overprint varnish may be screened over flat colors to provide a gloss and make colors more permanent for cleaning purposes.

3. REDUCERS

- Reducers are for thinning purposes and are of many kinds. For the correct reducer consult the manufacturers label directions.

SILK SCREEN INFORMATION
(Prices may be out of date)

SUPPLIES

1 - #5359 Naz-Dar Instructor Kit C	$49.50
or	
1 - #5358 Naz-Dar Commercial Kit	$79.50
1 - 5 sheet roll, Nu-film Amber Standard (40" x 15") Film (Knife Cut)	$ 9.25
2 Gallon Adhering Liquid @ $3.25	$ 6.50
2 Gallon Lacquer Type Cleaning Solvent @ $2.75	$ 5.50

ERIC

2 Gallon Wash Reducer @ $2.50 — $ 5.00

Film knives & Blades. (X-Acto) — (Price is obtainable from Hammett Catalogue, among other sources.)

Masking Tape

Kraft paper - (brown paperbags)

Rags - Newsprint

SUPPLIERS

Globe Printers Supply, Inc.
407 Mulberry Street
Newark, New Jersey

Charles M. Jessup, Company
22 North 26th Street
Kennelworth, New Jersey

McGraw-Colorgraph Company
175 West Verdugo Avenue
Burbank, California

FIELD TRIP

Ariston Silk Screening Company
Louson Road (off Morris Avenue)
Union, New Jersey 07083
(Exit #142)
Garden State Parkway

Photoengraver	-	makes metal printing plates of illustrations and other copy that cannot be set up in type.
Blocker	-	mounts a photoengraving on a suitable base to make it the right height.
Electrotypers & Stereotypers	-	make duplicate press plates of metal, rubber, and plastic for letterpress printing.
Pressmen	-	make-ready (prepare) type form and press plates for final printing, and tend the presses while they are in operation.
Linotype Operator	-	selects the letters and other characters to be printed by operating a keyboard, which has 90 keys. As the keys are pressed the letters in the form of metal molds, called matrices, are assembled into lines of words. Completed lines are automatically cast into a solid metal strip called a "slug."
Hand Compositor	-	sets type by hand for the printing of short articles, headings and other printed matter that would be impracticle to set by machine.
Bankman	-	assembles type in shallow trays called "galleys" and makes trial proofs of this type.
Proofreader	-	checks the galley proofs with the original copy for errors.
Make-Up-Man	-	assembles type and photoengravings into page forms.
Silk Screen Operator	-	draws squeegee across screen forcing ink through the stencil making an impression on the surface to be printed.
Estimator	-	is responsible for calculating the costs that will be incurred in the production of a job.
Finisher	-	carefully inspects and touches up the plate with handtools.
Press Assistant	-	their duties range from feeding the sheets of paper into hand-fed presses, to help pressmen "makeready" and operate large and complicated rotary presses.
Cameraman	-	starts the process of making a lithographic plate by photographing the copy.
Lithographic Artist	-	negatives frequently need retouching to lighten or darken certain areas. This highly skilled worker makes corrections by sharpening or reshaping images on the negatives, working by hand using chemicals, dyes, and special tools.

Stripper	-	makes layouts on aper, glass or film. He arranges and pastes film or prints of type, pictures and other art work on the layout sheets, called "flats" or "strip-ups," from which photographic impressions are made.
Platemaker	-	exposes the sensitized plate through the negative or positive to strong arc lights.
Bindery Workers	-	many printed items such as books, magazines and business forms must be folded, stapled or bound after they leave the printing shops. This group of workers does these operations.
Plant Foreman	-	has to be able to perform every operation under his jurisdiction, as well as, if not better than, the man actually doing the job.
Stoneman	-	takes the individual pages or material and arranges them properly in a metal form called a "chase."
Automatic Cutter Operator	-	cuts paper to the proper size required for the particular press that is to be used. May also trim finished sheets to the size required by the customer.
Graphic Artist	-	he envisions ways in which many art techniques such as pictures, designs, color, type, paper and printing may be coordinated and composed to create total visual images.
Illustrator	-	this skilled person centers his activity on the preparation of specific pictorial assignments. He will be mostly self-employed and work on a free-lance basis.
Film-Cutter	-	this skilled person cuts stencil film by hand using various knives and hand tools provided by the customer or the plant art department.

Michael Venezia
Coordinator
Introduction to Vocations
South Junior High School
Bloomfield, New Jersey

GO-GO

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STONEMAN	LITHOGRAPHIC ARTIST	ESTIMATOR	PRESS ASSISTANT	FILM CUTTER
AUTOMATIC CUTTER OPERATOR	FINISHER	PLATEMAKER	BANKMAN	PRESSMAN
GRAPHIC ARTIST	STRIPPER	PAID (FREE) HOLIDAY	PROOFREADER	ELECTROTYPER AND STEREOTYPER
ILLUSTRATOR	BINDERY WORKER	HAND COMPOSITOR	PLANT FOREMAN	MAKE-UP MAN
BLOCKER	LINOTYPE OPERATOR	PHOTO-ENGRAVER	SILK SCREEN OPERATOR	CAMERAMAN

GRA 17

ERIC

GO-GO

PHOTO-ENGRAVER	BLOCKER	ELECTROTYPERS AND STEREOTYPERS	PRESSMAN	LINOTYPE OPERATOR
HAND COMPOSITOR	BANKMAN	PROOFREADER	MAKE-UP MAN	SILK SCREEN OPERATOR
ESTIMATOR	FINISHER	PAID (FREE) HOLIDAY	PRESS ASSISTANT	CAMERAMAN
LITHOGRAPHIC ARTIST	STRIPPER	PLATEMAKER	BINDERY WORKER	PLANT FOREMAN
STONEMAN	AUTOMATIC CUTTER OPERATOR	GRAPHIC ARTIST	ILLUSTRATOR	FILM CUTTER

GRA 18

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MEASUREMENT UNIT

Unit Objectives:

a) To teacher linear measurement fundamentals.
b) To show how measurement enters into everyday living.
c) To point out the need for accurate measurement.
d) To illustrate the role of measurement in industry.
e) To teach all of the above without being boring and repetitious.

Unit Activities:

a) Discuss "the ruler."
b) Point out fractions of inches (halves, quarters, eights, and sixteenth).
c) Have each student draw a "big" inch on a piece of paper and then divide it into fractions.
d) Discuss measurement and where it is used.
e) Have each student place his thumb on a ruler as the instructor calls out various numbers. The instructor may walk around the room and check on each individual.
f) Divide the class into pairs and have them measure each others height.
g) Distribute pre-measured and numbered blocks of wood (of various sizes) and have the students measure the length, width and thickness. These blocks may then be exchanged from student to student. Have the student record the block number and measurement.
h) Have students (in pairs) measure the size of various items in the room such as: doors, windows, desks, and floor. These measurements should also be listed and the measurements recorded. Have the students list as many measurement jobs as they can.

POLICE CAREERS

Twenty-eight boys and girls were involved in a police careers unit from February 5th to February 9th at East Orange High School. All students were 9th grade Introduction to Vocations students. The class was conducted during the regular Introduction to Vocations period. (42 minutes, 5th period)

This program was conducted in conjunction with the East Orange Police Department. Seven police personnel were involved in the various presentations. Several meetings were held in advance in order to plan effectively. Captain Daher and Sgt. Van Dief were in charge of planning the program.

An outline of their presentation was as follows:

FIRST DAY

1. Introduction and discussion
2. Film: "A Great and Honorable Duty"

SECOND DAY

1. Display and discussion of police equipment

THIRD & FOURTH DAY

1. Aspect of detective work
2. Participation of students in scene search
3. Dusting for fingerprints - student participation
4. Photographing scene and fingerprints
5. Crime scene sketch - student participation

FIFTH DAY - Field trip to Police Headquarters

1. Tour of Building
2. Explanation of function of various units

Summary: Students showed great interest and enthusiasm during the entire week. Attendance was excellent with maximum participation by students. East Orange Police Department was very cooperative and did an excellent job in planning and presenting this unit. The program will be repeated later in the year.

Opportunities In the Criminal Justice System. Career World, Vol. 1, No. 6, Mid-February 1973, 501 Lake Forest Avenue, Hollywood, Illinois 60040. This has good, concise information.

Student hand-out

How to Make Your Home Secure. Community Service Guide. Order from:
Eaton Corporation, Lock and Hardware Division
Yale Marketing Department
401 Theodore Fremd Avenue
Rye, New York 10580

PC

LADY BEWARE!

EDITOR'S NOTE: Several weeks ago PARADE recommended a brochure, "Lady Beware," published by the Los Angeles Police Department. Owing to budgetary restrictions the department finds itself unable to mail the brochure to the many thousands who wrote in for it. We are therefore reprinting it herewith.

The city is a magnet for all types of people. Nearly all are law-abiding citizens; however, there is the exception who might endanger a woman like you. If you are home alone or travel unescorted, you should be aware of measures you can use to safe-guard yourself from this type of person.

AT HOME

Women who live alone should only list their last names and initials in phone directories and on mailboxes.

After moving into a new house or apartment, it is a good idea to change the door locks. Previous tenants or former employees may still have keys. Pin-tumbler or square bolt types are best for replacement as these are quite difficult to force.

Install and use chain locks or a peep-hole. When alone, you should never open a door to strangers without having the chain in place.

Police officers will display credentials whenever asked. You should always request salesmen and repairmen to show identification prior to being admitted.

Be alert to protect your neighbors as well as yourself. Never mention to a stranger that a neighbor lives alone or is at home alone.

When a stranger asks to use your phone, do not permit him to enter. Offer to summon emergency assistance or make the call for him.

Should wrong number calls be received, never reveal your name or address or admit you are alone. Do not give your phone number to an unknown caller, but ask what number he is calling. Do not prolong the conversation. Hang up.

Keep windows secured or install window locks on those left open for ventilation. These can limit openings to space small enough to prevent entry.

Window shades should be drawn after dark. Leave lights on in two or more rooms to indicate presence of other persons.

Be cautious about entering an apartment house elevator with strange men. It is wiser to remain in the lobby for a few minutes.

When using a laundry room in an apartment house, never remain there alone. Women have been assaulted in such areas.

If you are thinking about the use of a gun for protection, you must be aware of the hazards involved. Consult how with the police officers at your local police station. Remember, if the criminal has the opportunity, he might take the gun away to use it against you.

Your best defense is prolonged loud screaming. A good protective device is an electric buzzer which you can have installed to alert your neighbor in the event of an emergency.

If a door or window has been forced or broken while you were absent... "DO NOT ENTER OR CALL OUT." Someone may still be inside. Use a neighbor's phone immediately to call the police and wait outside until they arrive.

Never assume that suspicious persons, occurrences or vehicles have been reported to the police. Do it yourself at once. Keep the police department number by your telephone.

Call whenever danger threatens. In the event of a false alarm it is better to be a bit embarrassed than to be killed or injured.

WALKING

A man determined to follow and attack a woman is more readily attracted to a women who is wearing revealing clothes or behaving in a suggestive manner.

After getting off a bus at night, look around to see whether you are being followed. If someone suspicious is behind you, cross the street. Should he continue to trail you, be prepared to defend yourself by...

- Screaming and running to a lighted residence or business.
- Flagging down a passing car.
- Using any available object for a weapon such as a nail file, high-heeled shoes or an umbrella.

Do not be tempted to accept rides from strangers. If a car approaches you and you are threatened, scream and run in a direction opposite that of the car. The driver will have to turn around to pursue you.

Maintain a secure grip on your purse, preferably under your arm. Money and wallets are safer in an inside pocket. Unless absolutely necessary, never carry expensive jewelry or large amounts of money.

Walk near the curb and avoid passing close to shrubbery, dark doorways and other places of concealment. Shun shortcuts.

Have your key ready so your house door can be opened immediately.

When arriving at home by taxi or private auto, request the driver to wait until you are inside.

IF ATTACKED...

No holds are barred when your safety is threatened.

Cries for help have discouraged many criminals and often results in their capture.

DRIVING

When practicable, travel on well-lighted busy streets. Keep windows rolled up and doors locked.

Do not leave your purse on the seat. Put it in the glove compartment or on the floor opposite yourself. Your purse can lure a criminal to your car.

Keep your car in gear while halted at traffic lights and stop signs. If your safety is threatened, hold down on the horn and drive away as soon as possible.

If you believe you are being followed by another car, do not drive into your driveway. Should another car attempt to force you to the side of the road, do not pull over. In both instances, obtain the license number and "WRITE IT DOWN" along with any description; then, continue to a police station or open business. Report the incident to the police.

Should your car become disabled in an isolated area, raise the hood and sit inside with the doors locked until assistance arrives. Leave the windows up while you talk to whomever approaches. It may be preferable to remain there rather than go with strangers to seek help. Frequently freeways are patrolled at all hours.

When traveling alone, you should not stop to aid disabled motorists.

Park only in a well-lighted spot near enough to your destination for safety. Look around for loiterers before leaving the car.

Lock your car whenever you leave it. This will help safeguard property inside and discourage thieves. Upon your return, examine behind the front seat before you enter the car. A criminal may have entered to wait for you.

Upon arriving at home, keep the headlights on until the garage is opened, the car is parked and the house door is unlocked. Be particularly alert when going into apartment house basement garages. If possible, have a friend or relative meet you.

A well-lighted garage and front door entrance is a friend to an unescorted woman.

UNITED STATES COAST GUARD UNIT

Major Objective

To introduce the students to the training, education, health, welfare and benefits of the United States Coast Guard.

1. Speaker

Speaker	Organization	Date	Time	Place
Recruiter - Salo	United States Coast Guard	11/15/67	2:00	Auditorium

The lecture was modified because of the age level of the Introduction to Vocations students. The recruiter was surprised at the various questions, both in number and intelligence.

2. Small Group Visitations

Place	No. of Students	Date	Leave	Return
U.S. Coast Guard Station Point Pleasant Beach	6	11/20/67	1:15	2:45
	10	3/7/68	1:15	2:45

All trips included a complete tour of the Coast Guard Station with emphasis on observation of various personnel at work, and a question and answer period. Highlight would have been 3/7/68, actual cruise on the 44 foot cutter.

3. Special Report (Prepared by Students)

. Coast Guard History

. The United States Coast Guard (Career Opportunities - Coast Guard Schools)

a) Electronics Technician School
b) Aviation Electronics Technician School
c) Aviation Machinist Mate School
d) Radarman School
e) Radioman School
f) Electrician's Mate School
g) Engineman School
h) Damage Controlman School
i) Gunner's Mate School
j) Yeoman School
k) Storekeeper School
l) Commissaryman School

. United States Coast Guard Academy

. Educational and Activities Questionnaire

JOB VOCABULARY EXAMPLES

Business Machine Repair

Short Vowels

adding
calculator
catalog
comptometer
connector
dictaphone
electricity
escapement
lever
leverage
machine
manual
mechanism
mimeograph
racket
tabulator
tension

Shun (tion - sion)

reproduction
tension

Long Vowels

escapement
gear
key
pliers
platin
type (bar)

Special Vowels

pawl

R Sounds

calculator
comptometer
connector
lever
leverage
margin
pliers
terminal
turnover

Prefixes

adding

REFRIGERATION AND AIR CONDITIONING JOB VOCABULARY

Short Vowels

British (thermal)
calipers
calorie
cascade system
centigrade
conduction
correction
density
flash
gas
pump
unit

Special Vowels

counter flow
dew point

Long Vowels

centigrade
coefficient
dehydrator
drier
freez-up
foaming
heat
heat exchangers
high side
hold over

Shun (sion-tion)

construction
correction
manumission

R Sounds

calipers
calorie
correction
counter flow
dehydrator
pressure
refrigeration

Prefixes

calorie
conduction
dehydrator
refrigeration

Service Station

Short Vowels

advance
battery
combination
combustion
crank (case)
cylinder
detergent
diameter
differential
hot - spot
ignition
intake
lubrication
piston
ratchet
thermostat
universal
viscosity

Long Vowels

case
cycle
detergent
retard
gauge
intake
primary
radins
sequence
timing
universal
vacuum

Special Vowels

exhaust
pounds
power

Shun - (sion - tion)

combinations
combustion
compression
ignition
lubrication

RETAIL SALES

Short Vowels

advertising
consumer
credit
list
middleman
operative
pack
plus
profit
ring
sham
ship
shrinkage
stock
wrapping

Long Vowels

lease
sale
price
promote

Special Vowels

account
out
point

R Sounds

consumer
corporate
hard
operative
service

Prefixes

advertise
promote
consumer

R Sounds

advertising
battery
calculator
calipers
calorie
comptometer
connector
consumer
correction
cylinder
dehydrator
detergent
diameter
differential
drier
heat exchangers
lever
leverage
operative
pliers
primary
tabulator
thermal
thermostat
under
universal

WORK RELATED QUOTATIONS

"God loves to help him who strives to help himself."
FRAGMENT 382. Aeschylus, 525-456 B.C.

"Heaven ne'er helps the men who will not act."
FRAGMENT 125. Sophocles 496 (?) - 406 B.C.

"Fortune helps the brave."
PHORMIO, Act I, Scene 4, Line 26. Terence, 185-159 B.C.

"But great achievements raise a monument which shall endure until the sun grows cold."
IN PRAISE OF GEORGIUS AGRICOLA, Georgius Fabricius, 1516-1571.

"Be not afraid of life. Believe that life is worth living, and your belief will help create the fact."
THE PRINCIPLES OF PSYCHOLOGY, Chapter 10. William James, 1842-19

"Lives of great men all remind us
We can make our lives sublime,
And, departing, leave behind us
Footprints on the sands of time."
A PSALM OF LIFE, Stanza 7. H.W. Longfellow, 1807-1882.

"Let us then, be up and doing,
With a heart for any fate,
Still achieving, still pursuing,
Learn to labour and to wait,"
A PSALM OF LIFE, Stanza 9. H.W. Longfellow, 1807-1882.

"If thou, he answered, follow but thy star,
Thou canst not miss at last a glorious haven."
INFERNO, Canto XV, l.55. Dante, 1265-1321.

"No star ever rose and set, without influence somewhere,"
LUCILE, Part ii, canto VI, section 40. Owen Meridth, pseudohym of E.R. Bulwer Lytton, 1803-1873.

"One great aim like a guiding star,"
COLUMBUS' BIRTHDAY, Part ii, l. 215. Robert Browning, 1812-1889.

"By perseverance the snail reached the ark."
SALT-CELLARS, C.H. Spurgeon, 1834-1892.

"Great actions speak great minds,"
THE PROPHETESS, Act ii, scene 3. John Fletcher, 1579-1625

"We live in deeds, not years; in thoughts, not breaths; in fellings, not in figures on a dial.
We should count time by heart-throbs. He most lives who thinks most, feels the noblest, acts the best."
FESTUS: A COUNTRY TOWN. J.P. Bailey, 1816-1902.

"Equipped with his five senses, man explores the universe around him and calls the adventure Science."
SCIENCE, Edwin Powell Hubble, 1889-1953.

"To be awake is to be alive."
Henry David Thoreau ("flower-child of his time) 1817-1862
in Walden II, WHERE I LIVED, AND WHAT I LIVED FOR.

"Goodness is the only investment that never fails."
Henry David Thoreau in Walden XI, HIGHER LAWS.

"The riders in a race do not stop short when they reach the goal."
V. Schwimmer 279 U.S. 644, 653 (1928).

"Climb high
Climb far
Your goal the sky
Your aim the star."

Inscription on Hopkins Memorial Steps,
Williams College, Williamstown, Massachusetts

"All I ask is a tall ship and a star to steer her by,"
SEA-FEVER (1902) Stanza 1, John Masefield, 1878-1967.

"If wind and sky were always fair the sailor would not watch the star."
Benjamin Schmolke, 1672-1737.

"No man is an island, entire of itself"
DEVOTIONS XII

"Columbus found a world, and had no chart,
Save one that faith deciphered in the skies,"
George Santayana, 1863-1952.

"Not failure, but low aim, is crime."
FOR AN AUTOGRAPH (1868) Stanza 5, James Russell Lowell, 1819-1891.

"Life is too short to waste
In critic peep or cynic bark,
Quarrel or reprimand:
'Twill soon be dark;
Up! Mind thine own aim, and
God speed the mark!"
To J.W., Ralph Waldo Emerson, 1803-1882.

"A slender acquaintance with the world must convince every man that actions, not words, are the true, criterion."
SOCIAL MAXIMS: FRIENDSHIP, George Washington, 1732-1799.

"All men of action are dreamers."
PATHOS OF DISTANCE, p. 111, James G. Huneker, 1860-1921.

"One hour of life, crowded to the full with glorious action, and filled with noble risks, is worth whole years of those mean observances of paltry decorum."
COUNT ROBERT OF PARIS, Chapter 25. Sir Walter Scott, 1771-1832.

"Hold thy lighted lamp on high,
Be a star in someone's sky."
PASS IT ON, Stanga 4. Henry Burton, 1840-1930.

"Anybody can start something."
SALT FROM MY ATTIC, John A. Sheed, 1859-1926.

"A man must have goals."
John F. Kennedy, quoted by Jim Bishop. 1917-1963.

"No action, whether foul or fair
Is ever done, but it leaves somewhere
A record,"
THE GOLDEN LEGEND, Part ii. H.W. Longfellow, 1807-1882.

"But I, being poor, have only my dreams.
I have spread my dreams under your feet:
Tread softly, because you tread on my dreams."
WIND AMONG THE REEDS, W.B. Yeats, 1865-1939.

"Where there is no vision, the people perish."
OLD TESTAMENT: Proverbs, XXIX, 18.

"The one thing in the world, of value, is the active soul."
NATURE, ADDRESSES, AND LECTURERS: THE AMERICAN SCHOLAR
Emerson, 1803-1882.

"The humblest citizen of all the land, when clad in the armor of a righteous cause, is stronger than all the hosts of Error."
SPEECH AT THE NATIONAL DEMOCRATIC CONVENTION, Chicago, 1896.
William Jennings Bryan, 1860-1925.

"An acre of performance is worth a whole land of promise."
James Howell 1816-1880

"We can't do everything at once, but we can do something at once."
George Santayana 1863-1952

"Adventure is not outside a man; it is within."
David Grayson
Pen name of Ray Stannard, 1870-1946.

"Geniuses are interesting, but the most important work of the world continues to be done by average people."
Senator Tom Connally of Texas, 1877-

"Behavior is a mirror in which everyone shows his image."
Johann Goethe, 1749-1832.

"What you are shouts so loud above what you say that I can't hear you."
Ralph Waldo Emerson, 1803-1882.

"Politeness costs nothing and gains everything."
Lady Mary Wortley Montague, 1689-1762.

"Courtesy first is Safety First."
Emily Post, 1873-1960.

"A man who never builds castles in the air, never builds them anywhere."
James Gibbon Huneker, 1860-1921.

"All men of action are dreamers."
James Gibbon Huneker, 1860-1921.

"This world belongs to the energetic."
Ralph Waldo Emerson, 1803-1882.

"Don't make excuses -- make good."
Elbert Hubbard, 1856-1915.

"...The happiest people are also the busiest."
Albert Cook, 1853-1927.

"A hobby may be the infancy of 'another job'."
Farmsworth Crowder

"Great hopes make great men."
Thomas Fuller, 1832-1901.

"Ideals are like the stars--we never reach them, but like the mariners on the sea, we chart our course by them."
Carl Schurs, 1829-1906.

"Imagination is more important than knowledge."
Albert Einstein, 1879-1955.

"Any man who has a job has a chance."
Elbert Hubbard, 1856-1915.

"All wealth is the product of labor."
John Locke, 1836-1906.

"Life's greatest adventure is on one's level best."
Arthur E. Morgan

"Opportunity knocks every day but you've got to be ready when you open the door."
Channing Pollock, 1880-1946.

"Responsibility educates."
Wndell Philips, 1811-1884.

RESOURCES FOR INTRODUCTION TO VOCATIONS

This section includes a sample Introduction to Vocations field trip, narrations, a bibliography of professional books with applicability to the Introduction to Vocations program.

SAMPLE INTRODUCTION TO VOCATIONS TRIP NARRATION (TRIP TO LONGWOOD GARDENS)

The trip will take us down the "New Jersey corridor" from Long Branch to Trenton. This area is called the "New Jersey corridor" because it is situated between the Pine Barrens and the New Jersey Piedmont Plain. Before the invention of airplanes and high-powered engines, the New Jersey corridor was the only feasible way to the west of the United States. A large portion of the Revolution was fought in this corridor between New Brunswick and Trenton. The General who controlled the corridor held the supply lines to Philadelphia and all other inland cities with the colonies of the middle area and New England. This is also why New Jersey became so important in manufacturing and business.

Freehold - Englishtown - Tennent

Site of the Battle of Monmouth. The Battle of Monmouth was the rallying point of the Revolutionary War for the Rebels.

Englishtown Inn - George Washington's Headquarters, Molly Pitcher's Well, Tennent Church.

Industry -- Truck farms, potato growing and processing, Nestle's instant coffee processing plant, floor covering manufacturing, 3M, packing plant, harness and horse racing. Many jobs are available during the racing season. Apple orchards, Laird's Distillery in Englishtown.

Hightstown

Stop-over point on the way to the Battle of Princeton.

Industry -- Blueberry farms, animal foods, and potato farming.

Trenton

State capitol. Washington crossed the Delaware River and attacked Trenton to lift the morale of the colonies. Once Trenton was the nation's capitol. State Museum, Planatarium, State Library and Old Barracks.

Industry -- Chinaware and ceramics; wire and cables; rubber goods; steam turbines; automobile accessories; cigars; structural steel; asbestos; clothing; canned goods; metal products; textiles; aviation supplies.

Philadelphia

Independence National Park. Philadelphia is considered the "Birthplace of the Nation." The Liberty Bell, numerous museums.

Industry -- National manufacturing center, electrical machinery, apparel, food products, fabricated metal products, printing, chemicals, transportation equipment, petroleum, coal and lumber. (Yellow "hard" pine grows in the eastern portion of Pennsylvania and is used extensively in the building trade. Yellow pine is a different pine than the pitch pine found in New Jersey.) Port activities.

Levittown

Founded in 1952, it is the largest pre-planned community in the country, and possibly the world. Population was 58,000 in 1960.

Valley Forge

Named for an iron foundry and is now a national park. Washington's army wintered in Valley Forge, and their suffering has been an inspiration to our nation ever since. (Washington spent two winters in Morristown, New Jersey and one winter in Bound Brook, New Jersey.) Valley Forge is also the site of an Army hospital.

Pennsylvania Dutch Country

Note the gaily decorated barns and field stone buildings. Field stone is actually iron ore. Pennsylvania Dutch are noted for rich and tasty food, and the precision and neat manner in which they live and work. Pennsylvania Dutch are mainly of German descent.

Industry -- mainly farming.

West Chester

Brandywine Battlefield National Park. Washington and Lafayette suffered defeat at the Battle of Brandywine and some colonial legislators advocated surrender.

Industry -- Farms are used as a stopping-off place for western cattle so that they can be fattened before going to New York and other eastern cities. Name tags, pharmaceutical supplies, fire fighting equipment, refrigerators and dairy equipment, wheels, springs, hosiery, commercial antennae, and food processing.

Longwood Gardens

The estate of the late Pierre S. duPont. In the summer, the tropical water lilies and other blossoms are the main attraction. The arboretum, greenhouses and conservatory, three and one-half acres under glass, constitute a many-sided horticultural marvel. There is an outdoor stage which uses colored fountains as the stage curtain. Roman gardens are found at the eastern border of the estate with fountains flowing from one level to another in a continuous flow. The grave of the last Leni-Lenape Indian may be found on the trail to the Roman Gardens. There is an auditorium. A movie overview of Longwood Gardens is provided on a regular schedule, Monday thru Friday. Arrange in advance to see this. Point out job opportunities as you progress.

SAMPLE INTRODUCTION TO VOCATIONS TRIP TO SMITHVILLE INN

Use the public address system on the bus to point out the:

Allaire State Park -- only bog iron* furnace still intact. Made the cyclinder heads for Fulton's steamboat. Antique steam railway still in use.

Laurelton-Medtedeconk -- site of Butcher's Forge. Made original water pipes for New York City water system. Most are still in use today.

Point Pleasant -- Refinishing industry (Yankee Stripper), fishing, fertilizer, clamming, canning and trucking. Resort industry -- motels, restaurants, amusements, water sports and marina occupations.

Pine Barrens -- Trees: oak, gum, cedar, maple. Many types of wild flowers including fragrant swamp magnolias. Ferns -- types of which are found only in the Barrens. Due to pitch pine and oak, colonial activity in charcoal making and other wood industries was quite extensive. Wood was supplied for most of New York City before the discovery of Pennsylvania coal deposits. Job Opportunities in the Pine Barrens -- resort occupations, fire wardens, forest rangers and boat building.

Glass Foundry Occupations -- Glass blowing is a dying art. There is a call for fancy glassware and industrial glass. An interesting new young industry is the Dorfee Glass Works, R.F.D., Box 278, Tuckerton, New Jersey, 08087, south of Tuckerton on Route 9.

Oster Creek -- Atomic Power Plant opened in 1968. Estimated workers, 700 or more. All occupations will be involved.

Walker's Forge -- Iron foundry. Pond and dam is till intact. Sycamore trees once surrounding the iron master's mansion are still growing in the clearing next to the Parkway.

Lebanon State Forest -- Site of colonial and pre-civil war glass works. Glass pieces can still be found throughout the area. Lebanon glass works made the window panes for Independence Hall in Philadelphia.

Batsto State Park -- Restored iron works village. Original store, mansion, mills, and workmen's homes are still standing. Supplied cannon and cannon-balls to George Washington's army. Also site of glass works. Revolutionary Buccaneers Headquarters. Underground slave railway in the cellar of the old mill. On display -- glassware, ironware, antique worker's equipment and tools. Only surviving "Durham" boat -- type used by George Washington's army when they crossed the Delaware. Wild Animal Zoo.

Harrisville -- Paper mill. Abandoned 75 years ago. Ruins are still to be found in the pines.

*Bog iron--limenite in the water mixes with the rotting vegetation. Chemical reaction results which forms bog iron ore. The ore replenishes itself in twenty years in the marsh. Very rust resistant.

Mullica River -- Site of first settlements in New Jersey. Chief port of entry on the East coast until large steamships came. Two English warships were sunk approximately two miles east of the Parkway bridge. Sometimes, after a storm pices of the old ships can be found along the banks.

After leaving the Parkway, we will pass the Patrick Ferguson Memorial. Here is the site of the Chestnut Kneck Massacre. Twenty-seven Minute Men and Lt. Patrick Ferguson defended the mouth of the Mullica River against Prussian troops. General Pulaski came to their aid, but toolate to save most of the Minute Men.

Salt Marches -- Large industry in salt grass. Used by florists to protect frail plants and shrubs. The road you are now on was originally an Indian trail. Most roads in South Jersey and many of the roads in North Jersey were Indian trails. Many of the Indian settlements of the Leni-Lenape Indians were in this area.

Be sure to keep your 3-5 students with you as you tour Smithville Village. See the Old Country General Store, the Candle Store, the Christmas Shop, the old wooden indian at the Tobacco Shop, the water wheel, and the wide variety of water birds.

Point out the many, many jobs available here including artificial flower arranging, cleaning and maintenance.

Smithville Inn was one of the old taverns for the travelers. The original small building has been expanded many times. It was probably the first Automat--having a sliding window in the front to which the coachmen drove and the food was passed out to him.

You will see many samples of the old South Jersey Glass. The original molds are still in use although it is getting increasingly difficult to find skilled glass blowers. Most of the men are very old and no new trainees or apprentices are being developed. Salem County Vocational-Technical School at Pedricktown, New Jersey, post secondary school with boarding facilities, is one of the few places which teaches glass blowing. (It is also taught at Glassboro State College. They will accept students from anywhere in the State.)

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National Vocational Guidance Quarterly. APGA, Washington, D.C.
Educational Leadership. ASCD, Washington, D.C.
American Vocational Journal. AVA, Washington, D.C.
Career Education: What Is It? Who Needs It? McGraw-Hill.
Career World: The continuing guide to careers. Curriculum Innovations, Inc.

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Room 238, 239 Greene Street
New York, New York 10003

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Learning by Teaching. Professor Herbert A. Thelen, Department of Education, University of Chicago, Chicago, Illinois.

Merit Systems and New Careers. Social Development Corp., 1717 Massachusetts Avenue, N.W., Washington, D.C.

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EXAMPLE OF AN INTRODUCTION TO VOCATIONS REPORT

Point Pleasant Beach
Statistical Report 1968

Analysis of Introduction to Vocations Course

Our program consisted of a compulsory course for all eighth graders. Sixty-three students participated. A control group was set up consisting of thirty-four eighth graders from nearby schools which are sending districts for our senior high school. The groups were statistically equivalent in I.Q. scores, D.A.T. Scholastic Aptitude Scores and in classroom grade ranges.

Statistical Analysis

At the beginning of the course both the experimental and control groups were asked their ultimate vocational aspiration and all were given a vocational information test containing one hundred and sixty one questions. This test contained the following sub-sections

1. Interpretation of Want Ads
2. Problem Solving on the Job
3. Knowing Yourself
4 & 5. Interests and Abilities
6. Occupational Information
7. Classifying Occupations

Results of this test are as follows:

	Experimental Group	Control Group
Beginning of Year Mean	46.70*	49.18*
End of Year Mean	32.43*	46.20*
Mean Difference	14.27	2.98

*Scores reflect number missed for a requiring 161 responses.

To the extent that this test measures knowledge in the seven areas tested, the experimental group did substantially better at the end of the course. Statistically, the mean-square difference between scores at the beginning and end for the experimental group are significant at the .95 level (t-test). The difference in the control group is not significant and can be attributed to chance and maturational factors.

When asked their ultimate occupational goal, the experimental subjects listed the following occupations at the beginning of the year.

Architect
Baseball Player (2)
Basketball Player (2)
Chef (2)
Policeman
President
Railroad Engineer
Scientist (2)

Chemist
Commercial Artist
Dentist (4)
Dishwasher
Doctor
Fashion Designer
Mechanic (2)
Lawyer (3)
Mortician
Musician
Nurse (4)
Pharmacist
American Pilot (4)
Secretary (3)
Stewardess (4)
U.S. Army
U.S. Navy
Teacher - unspecified
Math Teacher
Special Education Teacher
Men's P.E. Teacher
Music Teacher
History Teacher
Undecided (5)
Veterinarian

At the end of the school year the goals of the experimental subjects were as follows:

Architect
Artist
Bio-scientist
Carpenter (3)
Chef
Chemist
Dentist (4)
Doctor (2)
Lawyer (3)
Marine Carpenter (2)
Marine Policeman
Musician
Nurse (4)
Oceanographer
Pharmacist
Pilot
Refrigeration Serviceman
School Administrator
Secretary (3)
Stewardess (3)
Teacher Unspecified (8)
History Teacher (2)
Men's P.E. Teacher
Women's P.E. Teacher
Mathematics Teacher
Music Teacher
Special Education Teacher

The vocational goals for the thirty-four control subjects at the beginning of the year are as follows:

Artist (2)
Astronomer
Baseball Player
Carpenter
Doctor
Engineer (4)
Football Player
Interior Decorator
Lawyer
Mechanic
Nurse (2)
Pilot
Secretary (4)
Stewardess (3)
Teacher Unspecified (4)
Women's P.E. Teacher (2)
U.N. Interpreter
Undecided (2)
Veterinarian

At the end of the year four changes were made by subjects in the control group, they are as follows:

Engineer to Draftsman
Nurse to Beautician
Stewardess to Teacher, Unspecified
Undecided to Nursery Businessman

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TITLE: STATIONARY ENGINEERING ENVIRONMENTAL CONTROL REFRIGERATION. LABORATORY I - TEACHERS GUIDE.

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ABSTRACT: THIS TEACHING GUIDE FOR ENGINEERING INSTRUCTORS COVERS THE LABORATORY LESSONS IN A PROGRAM OF THREE AREAS: (1) STATIONARY ENGINEERING, (2) ENVIRONMENTAL CONTROL, AND (3) REFRIGERATION. IN 18 UNITS OF WORK, 83 LABORATORY LESSONS ARE COVERED AND IN ADDITION, PERIODS FOR 20 LESSONS OUTSIDE THE LABORATORY ARE SCHEDULED. EACH LESSON CONTAINS ITS OBJECTIVES, AIDS TO BE USED, PROCEDURE, TESTING AND ASSIGNMENT. (MU)

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VT 101 413

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State of New Jersey
Department of Education
Division of Vocational Education

STATIONARY ENGINEERING

ENVIRONMENTAL CONTROL

REFRIGERATION

TEACHERS GUIDE

Frederick M. Steingress, Instructor
Harold J. Frost, Instructor
Herbert Molke, Instructor
Bergen County Vocational-Technical High School
Hackensack, New Jersey

T 101 413

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REFRIGERATION

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Hackensack, New Jersey

Vocational-Technical
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Rutgers - The State University
Building 4103 – Kilmer Campus
New Brunswick, New Jersey

September 1974

DIVISION OF VOCATIONAL EDUCATION
STEPHEN POLIACIK, ASSISTANT COMMISSIONER

CURRICULUM LABORATORY
RUTGERS – THE STATE UNIVERSITY
BUILDING 4103 – KILMER CAMPUS
NEW BRUNSWICK, NEW JERSEY

INTRODUCTION

The engineering instructors will continually stress that all work done in the engineering department areas be completed in accordance with the best Engineering Standards of Safety, Neatness, Accuracy and Thoroughness.

Any assignment requiring the engineering student to work with live equipment must first be cleared with the engineering instructor in charge.

Safety glasses must be worn in all shop areas at all times.

The Laboratory Manual is closely correlated with the Related Science Manual. The object of this program is basic and simple:

To develop in the Stationary Engineering Student the following:

1. A sense of personal responsibility.
2. Pride in a job well done.
3. Self discipline.
4. Respect for himself and others.
5. Ability to give as well as take orders.
6. Gain sufficient knowledge and skills to enter industry and compete successfully.

In this program three areas of study will be presented:

Stationary Engineering
Environmental Control
Refrigeration

Note:

Each engineering student will be given a nine week course in the welding shop. The course will cover the fundamentals of gas and electric welding and will stress the safe handling of all welding equipment.

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Assignment 1-A-1
Introduction to Boiler Room

Objectives: Upon completion of this lesson, the student should know:

1. How many boilers there are in the school boiler room.
2. The type of fuel used.
3. Which boilers are high pressure and which boilers are low pressure.
4. The horsepower of each boiler.

Aids: Boiler room – main building.

Procedure:

1. Discuss the general layout of the boiler room.
2. Discuss the number of boilers, their horsepower, and the type of fuel burned.
3. Explain what is meant by a high pressure and a low pressure boiler.
4. Explain which of our boilers are high- and low-pressure.
5. Take students on a tour of our boiler room and stress the material covered in the related room.
6. Return to related room and summarize.

Summarize: Cover all important points of the tour.

Testing: Question students as to:

a. Number of boilers.
b. Types of fuel each boiler burns.
c. Which boiler is high pressure and which is low pressure.
d. The horsepower of each boiler.

Assignment: Have student do Assignment 1-A-1 in Lab Manual.

Assignment 1-B-1
Introduction to Heating Boilers

Objectives: Upon completion of this lesson, the student should know:

1. The type and make of boilers in our out-buildings.
2. The type of fuel used.
3. The type of heating systems.

Aids: Boilers used in out-buildings

Note: Instructor will first obtain clearance to tour buildings from proper authorities.

Procedure:

1. Discuss in related room various types of heating boilers found in out-buildings.
2. Explain to students the information they should take notes on during the tour.
3. Explain to students that at no time should any equipment be handled or fooled with.
4. Take students on tour of out-buildings; stress material covered in related room.
5. Return to related room and summarize.

Summarize: Cover all important points of tour.

Testing: Question students as to:

- Make of boilers
- Type of boilers
- Type of heat
- Type of fuel burned.

Assignment: Have students do Assignment 1-B-1 in Lab Manual.

Assignment 1-C-1
Introduction to Refrigeration

Objectives: Upon completion of this lesson, the student should know:

1. The type of refrigerant used in the Absorption System.
2. The type of refrigerant used in our out-buildings.
3. The type of refrigerant used in the administrative wing.

Aids:
Absorption room equipment
Administration wing equipment
M.D.T. building equipment

Note: Instructor will first obtain clearance to tour refrigeration rooms from proper authorities.

Procedure:

1. Discuss in related room the various types of equipment and the type of refrigerant found in:
   a. Absorption room
   b. Administration wing
   c. M.D.T. building
2. Explain to students the information they should take notes on during tour:
3. Explain what is meant by prime mover.
4. Explain to students that at no time should any equipment be handled or fooled with.
5. Take students on tour and stress material discussed in related room.
6. Return to related room and summarize.

Summarize: Cover all important points of tour.

Testing:

1. Question students as to type of refrigerants used in:
   a. Absorption room
   b. Administration wing
   c. M.D.T. building
2. Question students as to the prime mover used in:
   a. Absorption room
   b. Administration wing
   c. M.D.T. building

Assignment: Have students do Assignment 1-C-1 in Lab Manual.

Assignment 2-A-1
Engineering Student's Responsibilities, Shop Safety Rules, and Reporting Accidents

Objectives: Upon completion of this lesson, the student should know:

1. The engineering student's responsibilities.
2. All shop safety rules.
3. The procedure for reporting accidents.

Aids:

1. Engineering student's responsibilities
2. Shop safety rules
3. Samples of accident report forms (to be returned to instructor)
4. Safety glasses and respirators (to be issued at this time)
5. Equipment sign out sheet (to be signed and returned to instructor)

Procedure:

1. Issue sheet covering student responsibilities and discuss importance of these responsibilities.
2. Issue copy of shop safety rules; discuss them with class and stress danger involved when working around machinery. Discuss lost man hours in industry by unsafe or careless work habits. Have students bring copy of shop safety rules home. Parents and students must both sign it and return it for filing.
3. Issue copy of accident report forms – explain school insurance and why it is important to have accident coverage. (Have accident report forms returned)
4. Issue safety glasses and explain state rules in respect to use of safety glasses.
5. Issue respirators and explain to student how they are used and how to take care of them.
6. Have student sign equipment-received form and explain that they are responsible for the equipment they sign for.
7. Take students on tour of boiler room. Stress safety rules by pointing out some of dangers involved when rules are broken.

Summarize:

1. Make sure student understands shop safety rules.
2. Remind student to return shop safety rules with signatures. Explain that he will not be allowed to work in boiler room or use any tools until signed safety rules are on file.

Testing:

1. Ask students if they think that the shop safety rules are valid.
2. Question students to see if they could add any safety rules that may have been left out.

Assignment: Assign students Assignment 2-A-1 in Lab Manual

Assignment 2-A-2
Fire Prevention and Housekeeping

Objectives: Upon completion of this lesson, the student should:

1. Be able to demonstrate good housekeeping practices.
2. Know the location of all fire extinguishers in the boiler room.
3. Know the location of the fire blanket.
4. Know the location of all safety cans.

Aids:

Safety waste cans

Safety varsol cans

In boiler room

a. Fire blanket
b. Fire extinguishers
c. Buckets of sand

Procedure:

1. Check students' related science unit on first-aid and fire extinguishers.
2. Allow students shop time to make notes on location of:
   a. Fire blanket
   b. Safety waste cans
   c. Safety varsol cans
   d. Fire extinguisher locations and types
   e. Sand buckets
3. Demonstrate to all students use of fire blanket

Summarize: Need for keeping waste cans, safety cans, and fire extinguishers in their proper location at all times.

Testing: Why is it important to keep extinguishers charged and in their proper location.

Assignment: Have students complete Assignment 2-A-2 in Lab Manual.

Assignment 3-A-2
Pressure Gages

Objectives: Upon completion of this lesson, the student will know:

1. The parts of a pressure gage.
2. How a pressure gage works.

Aids: One compound pressure gage and one cut-away pressure gage.

Procedure:

1. Show and name all parts on the cut-away pressure gage.
2. Show what a compound gage is.
3. Explain how the gage works.

Summarize: Parts of pressure gage and how it works.

Test: Check student's gage after completion of assignment.

Assignment: Complete Assignment 3-A-2 in Lab Manual.

Assignment 3-A-3
Reading Pressure and Draft Gages

Objectives: Upon completion of this lesson, the student will know:

1. How to read a pressure gage.
2. How to read a draft gage.
3. What is meant by range of a pressure gage.

Aids: Boiler room – pressure gages and draft gages

Procedure:

1. Show the various ranges that a pressure gage can have.
2. Explain how each gage is graduated, showing the major and minor divisions. This can be done at the blackboard.
3. Conduct small groups through the boiler room showing the location of the major pressure gages.
4. Have students read and record pressures.
5. Explain the importance of reading pressure gages correctly.
6. Explain how draft gages are calibrated and how they are read.

Summarize:

1. Range and graduations of pressure gages.
2. Range and graduations of draft gages.
3. How to read a gage.

Test:

1. How are gages graduated?
2. What range do they have?
3. Why is it important to read a gage correctly?

Assignment: Complete Assignment 3-A-3 in Lab Manual.

ERIC

Assignment 3-E-2
Measurement of Heat

Objectives: Upon completion of this lesson, the student will know:

1. The location of all thermometers in our boiler room and the temperatures they indicate.
2. How to read and record boiler room temperatures.

Aids: Blackboard and thermometers

Procedure:

1. Show and explain how to use and how to read a thermometer.
2. Show the various ranges a thermometer can have.
3. Explain how each thermometer is graduated, and show the major and minor divisions. (This can be done at the blackboard)
4. Conduct small groups through the boiler room showing the location of the important thermometers.
5. Have the students read and record thermometer readings.
6. Explain the importance of reading thermometers correctly.

Summarize:

1. The range and use of thermometers.
2. How to read and understand graduations correctly.

Test:

1. What is the range of a thermometer?
2. What graduations do they have?

Assignment: Complete Assignment 3-E-2 in Lab Manual.

Assignment 3-E-3
Transmission of Heat

Objectives: Upon completion of this lesson, the student will know:

1. How heat is transmitted in the furnace area.
2. The three ways by which heat is transmitted.

Aids: Boilers in boiler room

Procedure:

1. Explain and demonstrate radiant heat from the furnace area.
2. Explain conduction and convection as it takes place in the passes of a boiler.

Summarize: Heat transfer: radiant, conduction, convection.

Test:

1. What are the three methods of heat transfer?
2. Where does each take place in a boiler?

Assignment: Complete Assignment 3-E-3 in Lab Manual.

Assignment 3-G-1
Saturated and Superheated Vapors

Objectives: Upon completion of this lesson, the student will know:

1. How to take temperature readings using a pyrometer.
2. How to compare pyrometer readings with temperatures indicated in the steam tables.

Aids: Pyrometer, boilers, steam lines, steam tables

Procedure:

1. Demonstrate with the use of the pyrometer the temperature–pressure relationship of saturated steam. (Use steam lines or boiler.)
2. Record pressure and temperature.
3. Repeat demonstration on line after reducing valve. This shows superheated steam.
4. Take several readings.

Summarize:

1. Saturated steam-temperature and pressure correspond.
2. Superheated steam-higher temperature for corresponding pressure.

Test:

1. Why did the pressure and temperature correspond on the high pressure line?
2. What did that indicate?
3. Why was the steam superheated after the reducing valve?

Assignment: Complete Assignment 3-G-1 in Lab Manual.

Assignment 4-A-1
Handtool Identification and Use

Objectives: Upon completion of this lesson, the student will know:

1. How to use basic handtools.
2. How to take charge of a toolcrib.

Aids: Tool identification chart
Toolcrib

Procedure:

1. Take student to toolcrib.
2. Show him where and how tools are to be stored.
3. Explain toolcrib procedure.
4. Stress that all tools must be signed out.
5. Explain that lost tools are the responsibility of the toolcrib man. He must replace any lost tools.

Summarize: Need for clean efficiently run toolcrib

Testing:

1. How are tools issued?
2. Who pays for lost tools?

Assignment: Complete Assignment 4-A-1 in Lab Manual and take over toolcrib for a week.

Assignment 4-A-2
Rules

Objectives: Upon completion of this lesson, the student will know:

1. The types of rules used in our boiler room.
2. How to select the best rule for most accurate measurement.
3. How to take measurements using various rules.

Aids:

6' folding rule

One each 6" rule with 1/8", 1/16", 1/32", and 1/64" scales

6' metal tape rule

Measuring blocks

Procedure:

1. Explain why man had to be able to measure things: goods to sell, land to buy, etc.
2. Explain how different measurements are necessary. (Wouldn't measure trip to California in 1/32".)
3. Show each rule and explain graduations.
4. Use each rule and take one measurement in 1/8", 1/16", 1/32" and 1/64".

Summarize: Explain why each rule will serve a purpose.

Testing:

1. How many 1/64ths in 1"?
2. Why do you think various kinds of rules are necessary?

Assignment: Complete Assignment 4-A-2 in Lab Manual.

Assignment 4-A-3
Pipe Dies

Objectives: Upon completion of this lesson, the student will know:

1. How to identify sizes of pipe dies.
2. How to change dies in the hand pipe threader.
3. How to change dies in the machine die head.

Aids:
Stock and die
Pipe machine die head
8" adjustable wrench

Procedure:
1. Explain the purpose of pipe dies and show the hand and machine die heads.
2. Show and explain how to dismantle and reassemble die heads.
3. Explain how to check for correct installation (by numbers) and how to test for alignment.

Summarize: Dismantling and reassembling dies

Testing: Check students' finished work.

Assignment: Complete Assignment 4-A-3 in Lab Manual.

Assignment 4-A-4
Pipe Cutting and Threading (Hand)

Objectives: Upon completion of this lesson, the student will know:

1. How to measure and cup pipe by hand.
2. How to ream pipe by hand.
3. How to thread pipe by hand.

Aids:

Piece of iron pipe
Stock and die
Pipe cutter
Reamer
Portable pipe vise
Rule and soap stone
Cutting oil

Procedure:

1. Set the pipe in the vise.
2. Show reamer to students and explain how it cuts rough edges of pipe.
3. Ream pipe.
4. Measure two feet from the end and mark pipe.
5. Show students the cutter and explain how it cuts pipe.
6. Set cutter and start cut at the mark.
7. Show how you feed cutter.
8. Show the students the reamed- and fresh-cut ends for comparison.
9. Ream-cut an end.
10. Set pipe in vise.
11. Show stock and die. Explain how it works.
12. Set dies in position on pipe and start to thread. Lubricate at short intervals.
13. Complete a full thread and then repeat on the other end. Let the students examine pipe and the new threads.

Summarize: Cutting of pipe, reaming of pipe, and threading of pipe

Testing:

1. How do you cut iron pipe?
2. How do you thread iron pipe?
3. Why is it important to lubricate when you are threading pipe?

Assignment: Complete Assignment 4-A-4 in Lab Manual.

Assignment 4-B-1S
Pipe Machine Check-Out List

Objective: Upon completion of this lesson, the student will know all safety precautions to take before using pipe machine.

Aids: Pipe machine check-out list, pipe machine

Procedure:

1. Go over the pipe machine check-out list attached.
2. Each student has to understand each item on the list.
3. Have the student and the parent sign the list and file.

Summarize: Pipe machine check-out list

Testing:

1. Which safety rules on this list do you think are important?
2. Does an employer wish to employ a person who is not safety conscious? Why?

Assignment: Have all students sign check-out sheet and take it home for parent's signature.

Safety Check-out List

Pipe machine check-out list

Student _____ Date _____

1. Check over machine and see that there are no tools or rags lying around.
2. Check machine and know proper rotation.
3. Keep rags and loose clothing away from machine when it is running.
4. Secure pipe before starting machine.
5. Make sure proper die is being used.
6. Do not force the machine to cut threads faster than normal.
7. Do not walk away and leave machine running unattended.
8. Make sure oil is flowing over work when threading.
9. Do not try to stop machine with your hands.
10. Do not check threads by running your finger over threads with machine running.
11. After using machine, clean it, and leave it ready for the next operator.
12. Always wipe up any oil spills on floor.
13. Wear goggles when using machine.

_____ _____

Student's Signature Parent's Signature

Assignment 4-B-1
Pipe Cutting and Threading (Machine)

Objective: Upon completion of this lesson, the student will know how to cut, ream, and thread a piece of pipe by machine.

Aids:
- Piece of iron pipe
- Pipe machine
- Rule
- Soap stone

Procedure:
1. Show and explain how to set up pipe machine for use.
2. Explain safety practices to be followed.
3. Set up and cut a piece of pipe, explaining as you are proceeding.
4. Ream the pipe, explaining the purpose and how it is reamed.
5. Thread pipe, explaining how to start, length of threads to be cut, and the lubrication needs while cutting.

Summarize: Reaming – cutting and threading

Testing:
1. What precautions do we have to take when operating the pipe machine?
2. Why do we ream pipe?
3. Is there a certain length that a thread has to be?

Assignment: Complete Assignment 4-B-1 in Lab Manual.

Assignment 4-B-2-S
Grinder Check-out List

Objective: Upon completion of this lesson, the student will know all safety precautions to take before using grinder.

Aids: Grinder check-out list, grinder.

Procedure:

1. Go over the attached check-out list.
2. Each student must understand each item on the list.
3. Have the student and parent sign the list and file.

Summarize: Grinder check-out list

Testing:

1. Why do you think there are so many accidents with grinders in industry?
2. Can you think of any additional precautions that you might take when using a grinder?

Assignment: Have all students sign check-out sheet and take it home for parents' signatures.

Safety Check-out List

Grinder check-out list

Student _____ Date _____

1. Goggles must be worn when using grinder.
2. See that guards are in place.
3. See that grinder lights are working.
4. Do not use a chipped or cracked wheel.
5. Use clamps whenever possible.
6. Keep rags and loose clothing away from grinding wheel.
7. Keep surface of grinding wheel true and sharp by dressing it at frequent intervals.
8. Do not grind on side of wheel.
9. Have water pots full.
10. Do not work with others around you.
11. Handle wheels with care to prevent cracking.
12. Store wheels in dry area.
13. Never crowd a wheel on the spindle or mount it without flanges.
14. Do not over-tighten wheel nuts.
15. Do not run a wheel if it vibrates.

_____ _____

Student's Signature Parent's Signature

Assignment 4-B-3-S
Hand Drill Check-out List

Objective: Upon completion of this lesson, the student should know all of the safety precautions needed for the operation of electric hand drills.

Aids:
Electric hand drill
Hand drill check-out sheet

Procedure:
1. Go over the attached hand drill check-out list.
2. Each student must understand each item on the list.
3. Have the student and parent sign the list and file.

Summarize: Check-out list

Testing:
1. Do you think the safety check-out steps are important?
2. Can you think of any other safety rules that we could add to this list?

Assignment: Have all students sign check-out sheet and take it home for parent's signature.

ERIC

Safety Check-out List

Hand Drill check-out list

Student _____ Date _____

1. Make sure drill is in good condition.
2. Do not overload drill by using a drill with a turned down shank.
3. Do not chuck drill bit too short.
4. Use chuck key, not a wrench, to tighten chuck.
5. Remove chuck key before starting drill.
6. Do not force the drill – allow it to do the cutting.
7. Make sure drill is grounded.
8. Make sure work to be drilled is properly secured.
9. Keep rags and electric cord away from drill bit.
10. Do not try to slow or stop drill with your hands.
11. Do not carry or drag electric drill by its cable or cord.
12. Wear goggles when drilling.

_____ _____

Student's Signature Parent's Signature

Assignment 4-B-3
Hand Drills (Electric)

Objective: Upon completion of this lesson, the student will be able to measure, mark, center punch, and drill a hole using an electric hand drill.

Aids:

Piece of flat stock – ¼" x 2" x 8"

Portable ¼" drill – drill bits 1/8", ¼"

Center punch, rule, scribe

Ball peen hammer and file

Procedure:

1. Show and explain how to mark a piece of flat stock for drilling.
2. Show and explain how to center punch the material.
3. Show how to drill a hole, using a pilot drill first.
4. Stress safety in grounding of drill and the danger of rags or waste.

Testing: Examine finished work.

Assignment: Complete Assigment 4-B-3 in Lab Manual.

Assignment 4-B-4-S
Drill Press Check-out List

Objective: Upon completion of this lesson, the student will know all safety precautions to take before using the drill press.

Aids: Drill press

Drill press check-out list

Procedure:

1. Go over the attached drill press check-out list.
2. Each student must understand each item on the list.
3. Have the student and parent sign the list and file.

Summarize: Items on the check-out list

Testing:

1. Can any more safety rules be added to this list?
2. Do you think this list will help reduce accidents on the drill press?

Assignment: Have all students sign check-out sheet and take it home for parent's signature.

Safety Check-out List

Drill press check-out list

Student _____ Date _____

1. Clamp all work securely in position. Do not try to hold work in your hand.
2. Be sure drill press table is clean. Dirt or chips under the work or holding fixture will cause inaccurate work.
3. Check all lubrication requirements.
4. Check spindle speed and recommended feed rate chart before drilling.
5. Change speed only when machine is running.
6. Use a chuck key, not a wrench, to tighten chuck.
7. Remove chuck key before starting drill press.
8. Keep rags and loose clothing away from rotating drill.
9. Never walk away and leave machine running.
10. Do not chuck drill bit too short.
11. Use a sharp drill bit. Do not force drill.
12. Wear goggles when drilling.
13. Do not try to stop machine with your hands.

_____ _____

Student's Signature Parent's Signature

Assignment 4-B-4
Drill Press

Objective: Upon completion of this lesson, the student will be able to measure, mark, center punch, clamp, and drill a hole in a piece of metal using a drill press.

Aids:
- Drill press
- Piece of pipe 8" long
- Rule and scriber
- 1/8" and 1/4" drill bit
- Drill press vise
- Center punch
- Ball peen hammer
- File

Procedure:
1. Explain all safety procedures that must be followed when using the drill press.
2. Explain the dangers of rags and waste.
3. Show and explain how the drill press is to be used.
4. Demonstrate how to drill a hole in a piece of metal. (Use a pilot drill first.)
5. Show how a piece of metal is clamped while drilling.
6. Explain purpose of various speeds on drill.

Summarize:
1. Safety procedures
2. How to use drill press
3. How to clamp material
4. Purpose of speed changer

Testing:
1. What are the safety precautions to take before drilling?
2. Why do you drill a pilot hole first?
3. Why do you clamp the material in the vise?
4. Should we always run the drill press at top speed to get finished quicker? Explain.

Assignment: Complete Assignment 4-B-4 in Lab Manual.

Assignment 4-C-1
Machine Taps

Objectives: Upon completion of this lesson, the student will be able:

1. To select the proper drill for a hole to be tapped.
2. To tap a hole using a machine tap.

Aids:

Set of number drill bits
Tap set
Piece of flat stock, ¼" x 2" x 4"
Rule
Scribe
¼" electric drill
Center punch
Ball peen hammer
File

Procedure:

1. Explain and demonstrate the use of the taper, plug, and bottoming taps.
2. Explain the use of numbered drill bits.
3. Demonstrate the procedure for drilling and tapping a hole.

Summarize:

1. Use of numbered drill bits
2. Use of taps
3. Drilling and tapping a hole

Testing:

1. What are the different types of machine taps?
2. What are they used for?
3. Why are drill bits numbered?

Assignment: Complete Assignment 4-C-1 in Lab Manual.

Assignment 4-C-2
Removal of Nipples and Studs

Objectives: Upon completion of this lesson, the student will be able:

1. To remove a broken nipple.
2. To remove a broken stud.
3. To use a nipple extractor.
4. To use a stud extractor.

Aids:

90° elbow with broken nipple
Diamond or cape chisel
Nipple extractor
Stud extractor
Pump casing with broken stud

Procedure:

1. Explain how to set elbow in vise without collapsing elbow.
2. Demonstrate how to use chisel to make U-cut.
3. Warn students not to go too deep unless they bur the fitting threads.
4. Demonstrate how to collapse nipple using chisel.
5. Use nipple extractor. Explain how to select the proper size extractor.
6. Explain and demonstrate how nipple extractor works.
7. Use pump casing. Explain why and demonstrate how to center punch a broken stud.
8. Explain how to select the proper size drill and stud extractor.
9. Demonstrate how to drill; then use stud extractor.
10. Explain that stud extractor should not be forced. They are difficult to remove if they break off.

Summarize:

1. Stress proper set up in vise.
2. Caution not to damage threads.
3. Stress proper selection of drill and extractor.
4. Danger of forcing extractor.

Testing:

1. Why is drill size so important?
2. What happens if elbow is squeezed too tight?

Assignment: Complete Assignment 4-C-2 in Lab Manual.

Assignment 4-C-3
Calipers and Micrometers

Objectives: Upon completion of this lesson, the student will be able:

1. To use an inside and an outside caliper.
2. To use a micrometer.

Aids:
Inside and outside calipers
Micrometer
Sample blocks
Round stock
Pipe nipple
Ruler
Chart or transparency of thimble and barrel scale on micrometer

Procedure:
1. Explain and demonstrate how to use the inside and outside calipers with the help of the chart or transparency.
2. Explain and demonstrate how to use a micrometer.
3. Describe the various uses of calipers and micrometers.

Summarize:
1. Taking measurements with the use of inside and outside calipers.
2. Taking measurements with the micrometer.

Testing:
1. What type of job would require the use of calipers?
2. What type of job would require the use of a micrometer?
3. How do you use a micrometer?
4. How do you use inside and outside calipers?

Assignment: Complete Assignment 4-C-3 in Lab Manual.

ERIC

Assignment 5-A-1
Basic Steam Heating System

Objective: Upon completion of this lesson, the student will know the name and purpose of all valves and lines traced in the boiler room.

Aids: Boiler room main building

Procedure:

1. Discuss water to steam to water cycle using one of our boilers.
2. Explain all parts found in the cycle and the function each serves.
3. Take students to boiler room and trace steam from the boiler to the main heater, to the main branch, etc. Identify all lines and valves for students.
4. Trace condensate from heaters to return line to boiler room to vacuum pump and back to boiler. Identify all lines and valves for students.
5. Explain where quick vent and heater vent valves would be located if this were a pressure system.

Summarize:

1. Discuss water to steam to water cycle.
2. Show students the type of sketch they must make.

Note: Do not make sketch for student. Use a fuel oil system as an example so they will not copy your work.

Testing:

1. Trace the flow of steam from boiler to heater.
2. Where does the steam change to condensate?
3. Why aren't vents found on a vacuum system?

Assignment: Complete Assignment 5-A-1 in Lab Manual.

Assignment 5-B-1
Basic Hot Water Heating System

Objectives: Upon completion of this lesson, the student will know:

1. The parts of the heating system in an agriculture building.
2. How to figure the volume of a compression tank.

Aids:

1. Boiler room agriculture building, or another building with a hot water heating system.
2. Six foot rule

Note: Instructor will first obtain clearance to tour agriculture boiler room from proper authorities.

Procedure:

1. Review Related Science Manual 5-B-1, 2, 3.
2. Explain the type of hot water heating system they will be seeing.
3. Explain the type of sketch they are to make during tour.
4. Explain that at no time should any equipment be handled or fooled with.
5. During tour, stress all parts of the system and what each part does in the system.

Summarize: Discuss highlights of tour.

Testing: If you owned a green house, what type of heating system would you choose? Explain why.

Assignment: Complete Assignment 5-B-1 in Lab. Manual.

ERIC

Assignment 5-C-1
Basic Warm Air Heating System

Objective: Upon completion of this lesson, the student will know the parts of a warm air heating system as found in the school.

Aids: Furnace room M.D.T. building

Six foot rule

Note: Instructor will first obtain clearance to tour M.D.T. furnace room and building from proper authorities.

Procedure:

1. Review Related Science Manual 5-C-1, 2, 3.
2. Explain the type of warm air system that they will be seeing.
3. Explain the type of sketch they are to make during tour.
4. Explain that at no time should any equipment be handled.
5. During tour, stress all parts of the system and what each part does.
6. Explain how this system can be used for summer air conditioning using the same heating ducts.
7. Take students into the back machine shop area and explain the separately fired unit found there.

Summarize: Discuss important points of tour.

Testing: Do you think this building could be heated using a natural circulation warm air system? Explain.

Assignment: Complete Assignment 5-C-1 in Lab Manual.

Assignment 6-A-1
Firetube Boilers

Objectives: Upon completion of this lesson, the student will know:

1. The types of boilers found in the boiler room.
2. Whether they are high-or low-pressure boilers.
3. Whether they are internally or externally fired.

Aids: Boilers in main building, boilers in auto body and auto mechanics buildings.

Procedure:

1. Conduct students on a tour of the boiler rooms in the main building and in the auto body and auto mechanics shops.
2. Explain the basic construction differences in firetube boilers.
3. Show and explain internally fired versus externally fired boilers.
4. Show the difference between a high pressure and a low pressure boiler.

Summarize:

1. Construction differences
2. Internally and externally fired
3. Difference between high and low pressure.

Test:

1. How is a firetube boiler constructed?
2. What is an externally fired boiler?
3. What is an internally fired boiler?
4. Explain the difference between a high- and low-pressure boiler.

Assignment: Complete Assignment 6-A-1 in Lab Manual.

Assignment 6-A-2
Water Tube Boilers

Objective: Upon completion of this lesson, the student will be able to identify water tube boilers.

Aids: Water tube boilers

Procedure:

1. This unit can be completed only after a field trip to a plant that has water tube boilers.
2. Explain and show the basic construction of a water tube boiler.
3. Show and explain how to determine internal or external firing.
4. Point out the pressure that is carried.

Summarize: Basic construction of water tube boilers

Test:

1. Water tube boilers are basically high-pressure boilers. Explain.
2. Are water tube boilers internally or externally fired?
3. What are the basic construction details of a water tube boiler?

Assignment: Complete Assignment 6-A-2 in Lab Manual.

ERIC

Assignment 6-A-3
Cast Iron Sectional Boilers

Objectives: Upon completion of this lesson, the student will know:

1. How to identify a cast iron boiler.
2. How to determine the number of sections of the boiler.

Aids: Cast iron sectional boiler

Procedure:

1. Conduct the students on a tour of the boiler room with a cast iron sectional boiler.
2. Show and explain the basic construction of the cast iron sectional boiler.
3. Stress the limits of pressure and temperature.
4. Point out that the boiler is externally fired and is made up of a certain number of sections.
5. Have the students make a rough sketch of the boiler.

Summarize: Basic construction of a cast iron sectional boiler

Test:

1. What is a cast iron sectional boiler?
2. Could they be used for high pressure?
3. How are they put together?

Assignment: Complete Assignment 6-A-3 in Lab Manual.

Assignment 6-B-1
Steam Boiler Trim

Objective: Upon completion of this lesson, the student will be able to identify and know the location of the following boiler trim.

a. Safety valve
b. Pressure gage
c. Water column
d. Gage glass
e. Pressure-trols
f. Blow-down valve
g. Fusible plug

Aids: Boilers in the boiler room

Procedure:
1. Conduct the students on a tour of the boiler room.
2. Identify and show the location of the safety valve, pressure gage, water column, gage glass, pressure-trol, blow-down valves, and fusible plug.

Summarize: Discuss all important points of the tour.

Test: What is the location of the following trim?

a. Safety valve
b. Pressure gage
c. Water column
d. Gage glass
e. Pressure-trol
f. Blow-down valves
g. Fusible plugs

Assignment: Complete Assignment 6-B-1 in Lab Manual.

Assignment 6-B-2
Hot Water Boiler Trim

Objective: Upon completion of this lesson, the student will be able to identify and know the location of the following trim:

a. Relief valve
b. Altitude and temperature gage
c. Aquastat
d. Blow-down or drain

Aids: Hot water boiler

Procedure:

1. Conduct the students on a tour of the boiler room.
2. Identify and explain the location of the relief valve, altitude and temperature gage, aquastat, and blow-down or drain.
3. Explain purpose of each and how it functions in the system.

Summarize: Discuss all important points of tour.

Test: Give name of and location of all of the above trim.

Assignment: Complete Assignment 6-B-2 in Lab Manual.

Assignment 6-C-1
Basic Steam Valves

Objectives: Upon completion of this lesson, the student will know:

1. How to identify a gate valve, a globe valve, and a check valve.
2. The internal parts of each valve.
3. How to open a valve.

Aids: Gate, globe, and a check valve

Procedure:

1. Dismantle a gate, globe, and a check valve.
2. Name and show all parts.
3. Explain the purpose of each part.
4. Show how to assemble each valve.

Summarize:

1. Basic parts of the valves
2. Basic differences of each part.

Test: Examine the finished work of students.

Assignment: Complete Assignment 6-C-1 in Lab Manual.

Assignment 6-C-2
Steam Lines

Objectives: Upon completion of this lesson, the student will know:

1. All the valves found on high, medium, and low pressure headers.
2. How the headers are tied together.

Aids: High, medium, and low pressure steam lines in boiler room

Procedure:

1. Draw a sketch on the black board of the high, medium, and low pressure steam lines.
2. Show the cross connections between lines and all fittings that are on the lines.
3. Explain the purpose and function of the steam lines and fittings.
4. In the boiler room, show and identify each steam line, all fittings on each line, and the cross over connections between lines.
5. Review purpose and function of above lines and fittings.

Summarize: Go over the steam lines again, tracing flow of steam and pointing out safety devices.

Test:

1. Why do we need cross over connections?
2. What safety valves are there on these steam lines?
3. What other fittings are there on the steam lines?

Assignment: Complete Assignment 6-C-2 in Lab Manual.

Assignment 6-C-3
Basic Steam Traps

Objectives: Upon completion of this lesson, the student will be able to identify:

1. The parts of the float type steam trap.
2. The parts of the thermostatic steam trap.
3. The parts of the inverted bucket trap.

Aids: Float, thermostatic impulse, and inverted bucket steam traps; set of open end wrenches

Procedure:

1. From our related science we know the purpose, types and location of the steam traps. Now we want to gain a first-hand knowledge of how they are assembled and the names of the various parts.
2. Disassemble trap, stating the name of each part.
3. Place parts in order for reassembly.
4. Reassemble traps, showing how each part ties in.

Summarize: The types of traps, the parts each contain, and how to assemble each.

Test: Check completed traps on trap tester.

Assignment: Complete Assignment 6-C-3 in Lab Manual.

Assignment 6-C-4
Heat Exchangers

Objectives: Upon completion of this lesson, the student will be able:

1. To identify and know the location of all heat exchangers in the boiler room.
2. To identify parts of the heat exchangers.
3. To know how a heat exchanger works.

Aids: Heat exchangers in boiler room and laboratory

Procedure:

1. Show by the use of a line drawing the location of a heat exchanger in a system.
2. Show and discuss the parts in the heat exchanger.
3. Show how it functions giving direction of flow of fluids.

Summarize: Cover line drawing stressing location of exchanger. Discuss direction of flow and basic parts.

Test:

1. Name all the heat exchangers that you can think of in a building.
2. What is the basic purpose of all heat exchangers?

Assignment: Complete Assignment 6-C-4 in Lab Manual

Assignment 6-D-1
Hot Water Accessories

Objective: Upon completion of this lesson, the student will be able to identify and to know the location of the following accessories:

a. Airtrol fitting
b. Flow control valve
c. Circulating pump
d. Pressure reducing valve
e. Compression and expansion tank

Aids:

1. Boiler in auto mechanic building
2. Boiler in agriculture building
3. Transparency of sketch 6-B-2-1
4. Overhead projector

Procedure:

1. Identify each part on the hot water boiler in the Mechanics and Agriculture buildings.
2. Show location of each part on the hot water boiler in the Auto Mechanics and Agriculture buildings.
3. Discuss purpose and function of each part and fitting on the hot water boilers in the Auto Mechanics and Agriculture buildings.

Summarize: Discuss and review all parts and fittings on the hot water boilers. Use the transparency and overhead projector.

Testing:

1. How is each part or fitting attached to the boiler?
2. What is the purpose of each control or fitting?
3. Where is each part or fitting attached to the boiler?

Assignment: Complete Assignment 6-D-1 in Lab Manual.

Assignment 6-E-1
Warm Air Accessories

Objective: Upon completion of this lesson, the student will be able to identify, know the location, and the purpose of the following accessories:

a. Supply duct
b. Return duct
c. Air filters
d. Blowers
e. Humidifiers

Aids: Warm air heating system in MDTA building

Procedure:

1. Identify and show following accessories on warm air heating system in MDTA building:
   a. Supply duct
   b. Return duct
   c. Air filters
   d. Blowers
   e. Humidifiers
2. Show direction of air flow.
3. Explain purpose of each accessory.

Summarize:

1. Review accessories in warm air heating system.
2. Review direction of air flow.
3. Review purpose of each accessory.

Testing:

1. Name the accessories in a warm air heating system.
2. Tell where they are located.
3. In what direction does the air flow?
4. What is the purpose of each accessory?

Assignment: Complete Assignment 6-E-1 in Lab Manual.

Assignment 6-F-1
Reciprocating Pumps

Objectives: Upon completion of this lesson, the student will be able to:

1. Identify the parts of a reciprocating pump.
2. Know the purpose of each part on reciprocating pumps.

Aids:

Cut-away of reciprocating pump

Transparency of pump

Overhead projector

Procedure:

1. With the use of the transparency, identify and locate the various parts of the reciprocating pump.
2. Trace the flow of steam into and out of the pump.
3. Trace the flow of liquid into and out of the pump.
4. Show and explain the purpose of the parts of the cut-away reciprocating pump.

Summarize: Use, sketch and name the various parts of the pump.

Testing:

1. Name as many parts of the steam end of the pump as you can.
2. Name as many parts of the liquid end of the pump as you can.

Assignment: Complete Assignment 6-F-1 in Lab Manual.

Assignment 6-F-2
Centrifugal, Rotary Pumps

Objectives: Upon completion of this lesson, the student will know:

1. The purpose and parts of a:
   a. Centrifugal pump
   b. Rotary pump
   c. Vacuum pump
2. The direction of pump rotation.
3. The direction of flow of liquid.

Aids:
Cut-away of rotary pump
Cut-away of centrifugal pump
Transparency of rotary pump
Transparency of centrifugal pump
Overhead projector

Procedure:
1. With the use of the transparency, identify and locate the various parts of the centrifugal pump.
2. Explain the purpose of each part.
3. Show the direction of rotation and trace the flow of liquid through the pump.
4. With the use of the transparency, identify and locate the various parts of the rotary pump.
5. Explain the purpose of each part.
6. Show the direction of rotation and trace the flow of liquid through the pump.

Summarize: Review various parts of centrifugal and rotary pumps, their purpose and location. Trace flow of liquid and pump rotation.

Testing:
1. Name the various parts of a centrifugal pump.
2. What is the purpose of these parts?
3. Name the various parts of a rotary pump.
4. What is the purpose of these parts?
5. What determines the direction of pump rotation and why is this important?

Assignment: Complete Assignment 6-F-2 in Lab Manual.

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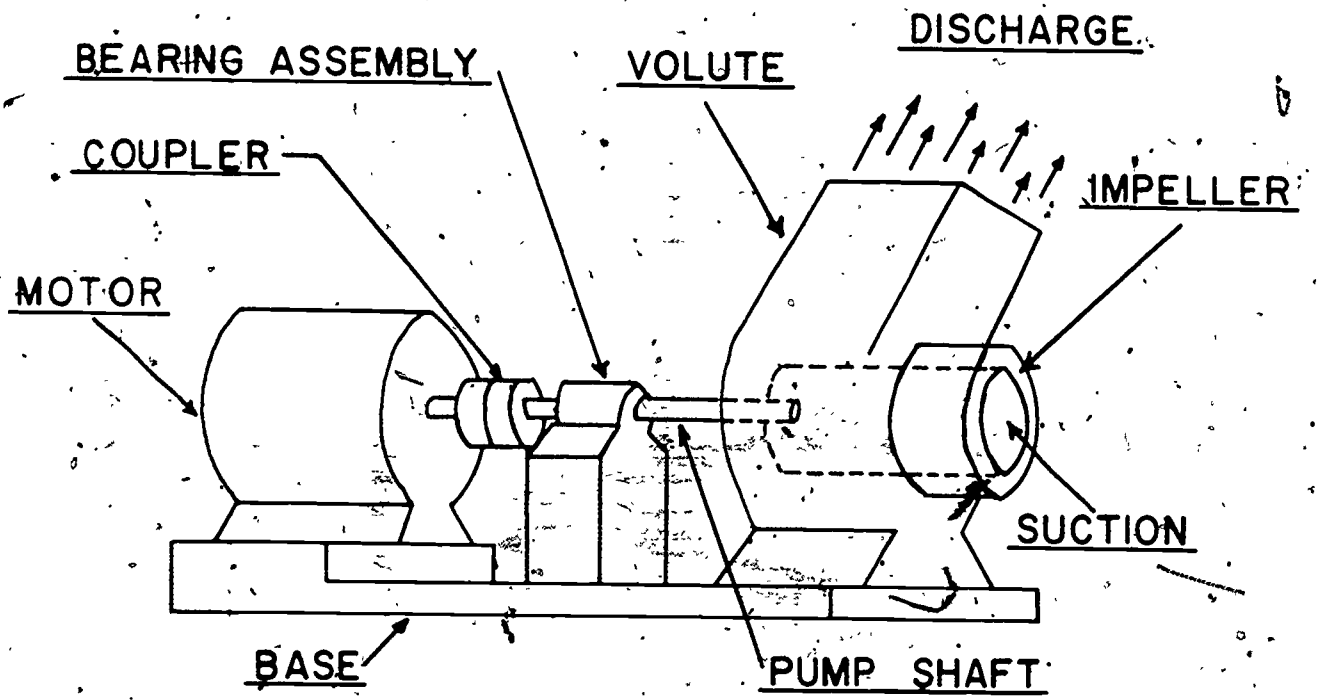

CENTRIFUGAL PUMP

6-F-2-1

Assignment 7-A-1
Feed Water System High Pressure

Objective: Upon completion of this lesson, the student will:

1. Be familiar with feed water lines to high-pressure boilers.
2. Know every possible way of getting water to high-pressure boilers.
3. Know every valve, fitting, and control and the purpose they serve in the system.
4. Know how to start and cut-in high-pressure feed water pumps and a feed water injector.

Aids: Boiler room, main building

Procedure:

1. Take students to boiler room and trace out feed water lines to all high pressure boilers. Explain purpose of all valves, fittings, and controls.
2. Show students how to get water to each high-pressure boiler.
3. Explain how to change over systems and how to start each high pressure feed water pump and put it into service.
4. Explain how to start feed water injector.

Summarize:

1. Old system and all valves, fittings, and controls.
2. New system and all valves, fittings, and controls.
3. How to start and cut-in all high-pressure pumps.

Testing:

1. Question on how to change over systems.
2. How is city water added to system?

Assignment: Complete Assignment 7-A-1 in Lab Manual.

Assignment 7-A-2
Feed Water System Low Pressure

Objectives: Upon completion of this lesson, the student will be able to:

1. Identify all low-pressure feed water lines.
2. Know every possible way of getting water to low-pressure boilers.
3. Know how to add city water to all low-pressure boilers by hand.

Aids: Feed water lines in boiler room

Procedure:

1. Take student to boiler room and trace out feedwater lines from vacuum pump to all low-pressure boilers. Explain purpose of all valves, fittings, and controls.
2. Trace feedwater lines from condensate return tank to all low-pressure boilers. Explain purpose of all valves, fittings, and controls.
3. Show student every possible way of getting water to all low-pressure boilers.
4. Show student how to change from one system to another.

Summarize:

1. Adding city water by hand
2. Starting and cutting-in all low-pressure pumps.

Testing:

1. Question students on how to change over system.
2. How do we add city water by hand?

Assignment: Complete Assignment 7-A-2 in Lab Manual.

Assignment 7-B-1
Basic Fuel Oil System

Objective: Upon completion of this lesson, the student will be able to:

1. Be familiar with the basic fuel oil system.
2. Identify and know the parts in the fuel oil system.
3. Know the direction in which the oil flows in the system.

Aids: Fuel oil systems in boiler room

Procedure:

1. Take students to boiler room and trace out fuel oil lines and systems.
2. Identify the parts of the fuel oil systems and explain purpose of each item.
3. Discuss direction of the flow of fuel oil in system.

Summarize:

1. Trace fuel oil systems in boiler room and explain purpose of parts found in system.
2. Discuss flow of fuel oil.

Testing:

1. Name some things you will find in the fuel oil system and discuss their use in the system.
2. What is the purpose of our fuel oil system?
3. Why is some oil recirculated in the fuel oil system?

Assignment: Complete Assignment 7-B-1 in Lab Manual.

Assignment 7-B-2
Sounding Fuel Oil Tank

Objectives: Upon completion of this lesson, the student will know:

1. How to sound fuel oil tanks.
2. How to record fuel oil readings or soundings.
3. How to figure fuel on hand and fuel consumed.

Aids: Sounding stick, Varsol can, rags, sounding key, and tank charts for both fuel oil tanks.

Procedure:

1. Show student where all equipment is kept and explain why it is necessary to return all equipment to proper location clean.
2. Explain how to remove sounding plug using key.
3. Take student out and show him location of both tank sounding plugs.
4. Explain why sounding rod should be lowered and not dropped.
5. Explain why oil must be wiped up immediately and why it is important to dispose of oily rags.
6. Explain why student must sign in and out on boiler room log.
7. Explain how to use tank charts.

Summarize:

1. Location of tank sounding plugs (both tanks)
2. Signing in and out on log
3. Disposal of oil rags

Testing:

1. Question students on why rod should not be dropped into tank.
2. Why must rags be disposed of as soon as possible?

Assignment: Complete Assignment 7-B-2 in Lab Manual.

Assignment 7-C-1
Draft

Objectives: Upon completion of this lesson, the student will know:

1. Basic draft system – how air is introduced into boilers – how gases of combustion leave boiler.
2. Location of all dampers.
3. Location of all forced and induced draft fans.

Aids: Boilers, breaching, forced and induced draft fans, and dampers

Procedure:

1. Explain how air is introduced into the boiler.
2. Show forced draft fan and damper.
3. Explain the path the air takes through the boiler and show the outlet damper.
4. Show and explain how the breaching is connected to the boiler outlet and the stack.
5. Show the induced draft fan and explain how it is connected to breaching.

Note: Repeat the above for all boilers in your plant.

Summarize: Trace a gas path using forced draft, induced draft, and dampers into a boiler and out to the stack.

Testing:

1. What is a draft system?
2. Why is a draft system needed in the operation of a boiler?
3. Why do some boilers operate on natural draft while others use force or induced draft?
4. Do all boilers have the same number of passes? Explain.

Assignment: Complete Assignment 7-C-1 in Lab Manual.

Assignment 9-A-1
Mechanical Oil Burner

Objectives: Upon completion of this lesson, the student will:

1. Know how to dismantle and assemble a mechanical type oil burner.
2. Be able to identify the parts of a mechanical type oil burner.

Aids: Mechanical oil burner, required tools

Procedure:

1. Explain in detail how to dismantle all parts of the burner.
2. Identify all parts.
3. Explain how to clean and inspect each burner part.
4. Explain how to assemble burner.
5. Show the correct setting of electrodes.

Summarize: Name all parts of burner. Stress importance of care in disassembling and assembling of burner.

Testing:

1. How do you control air to burner?
2. Why is it important to set electrodes properly?
3. How is fuel oil pump driven?
4. Why is it important to keep burner clean?
5. What determines capacity of burner?

Assignment: Complete Assignment 9-A-1 in Lab Manual.

Assignment 9-A-2
Air Atomizing Burner

Objectives:	Upon completion of this lesson, the student will be able to: 1. Identify the parts of an air atomizing burner. 2. Explain the purpose that these parts play in the system.
Aids:	1. Air atomizing burner in boiler room 2. Manufacturer's catalog
Procedure:	1. Using sketch, trace out system of oil and air flow with student. 2. Explain necessity of maintaining oil in lube-oil air tank. 3. Put boiler through a cycle of high – low fire and have student watch action of linkage and air register.
Summarize:	Need for oil in lube-oil air tank
Testing:	What would happen if you lost the oil in the lube-oil air tank?
Assignment:	Have student complete assignment 9-A-2 in Lab Manual.

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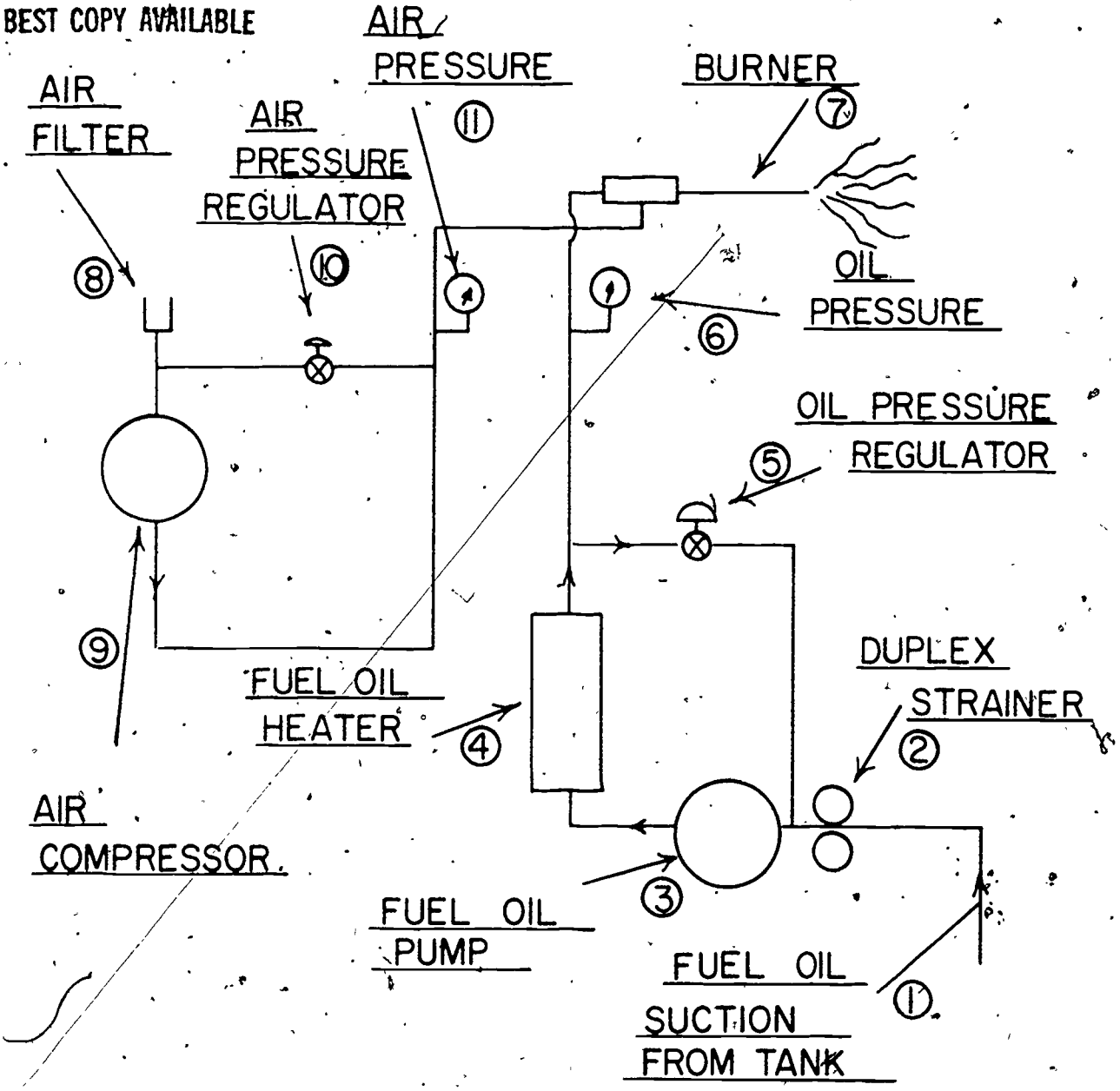

SCHEMATIC AIR ATOMIZING BURNER

9-A-2-1

Assignment 9-A-3
Rotary Cup Oil Burner

Objectives: Upon completion of this lesson, the student will be able to:

1. Identify the parts of a rotary cup burner.
2. Perform routine preventive maintence by opening up and cleaning a rotary cup burner.

Aids: Sketch of rotary cup burner, burners on numbers 1, 3 and 4 boilers.

Procedure:

1. Using #1, 3 and 4 burners, have student carefully examine one of these burners.
2. Using the sketch of the rotary cup burner, have student label the parts of the burner.
3. Have student perform routine maintenance on burner.
   a. Mark linkage for proper setting.
   b. Disconnect linkage and swing out burner.
   c. Clean air nozzle.
   d. Clean oil rotary cup.
   e. Wipe down burner.
   f. Check oil level in burner gear case and motor bearings.
   g. Swing burner back.
   h. Connect linkage.

Summarize:

1. Have student label parts on sketch of rotary cup burner.
2. Have student perform routine maintenance on burner.

Testing:

1. What is the importance of maintaining a clean burner? Explain.
2. What is the importance of checking lube oil level in gear casing?

Assignment: Complete Assignment 9-A-3 in Lab Manual.

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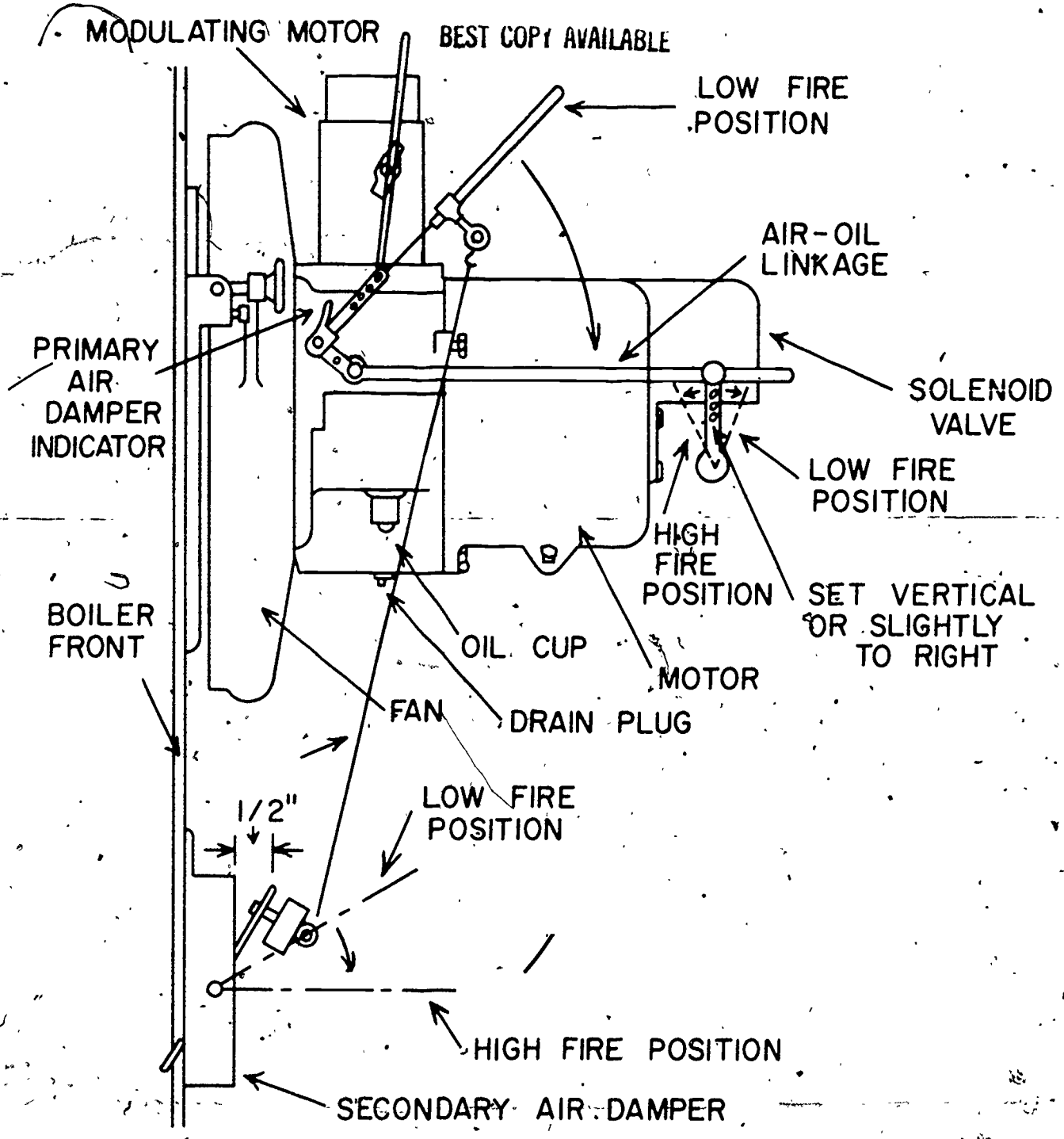

ROTARY CUP BURNER

Assignment 9-B-1
High and Low Pressure Gas Burners

Objectives: Upon completion of this lesson, the student will be able to:

1. Understand the high-pressure gas burner system.
2. Understand the low-pressure gas burner system.
3. Identify the controls in the high-pressure burner gas system.
4. Identify the controls in the low-pressure gas burner system.

Aids: Sketch of high-pressure gas burner system, sketch of low-pressure gas burner system, gas system to number 4 boiler, gas system to number 5 boiler, sketch 9-B-1-2 Bryant flomixer.

Procedure:

1. Have students bring sketches of high-and low-pressure gas burner systems to the boiler room.
2. Trace the gas burner system to the number 4 boiler and identify the parts.
3. Trace the gas burner system to the number 5 boiler and identify the parts.
4. Explain how Bryant flomixer works in the low-pressure system.

Summarize:

1. Trace high-and low-pressure gas burner systems to the #4 and 5 boilers.
2. Identify the parts of the gas burner systems.

Testing:

1. Describe and name the parts in the low-pressure gas burner system.
2. Describe and name the parts in the high-pressure gas burner system.

Assignment: Complete Assignment 9-B-1 in Lab Manual.

Assignment 9-C-1
Combination Burners

Objectives: Upon completion of this lesson, the student will:

1. Know how the combination oil and gas burner operates.
2. Know how to change over from oil to gas and from gas to oil.

Aids: Numbers 3 and 4 oil-gas burners

Procedure:

1. Show and explain the oil flow from the simplex strainer to the burner on #3 burner.
2. Identify all the parts on the line.
3. Show and explain the gas flow from the gas cock to the burner on #3 burner.
4. Identify all the parts on the line.
5. Repeat the above procedure for number 4 burner.
6. Explain how to change over from oil to gas and gas to oil on both burners.
7. Stress the importance of proper linkage adjustment.

Summarize:

1. Explain how burner operates on gas.
2. Explain how burner operates on oil.
3. Show how to change from one fuel to the other.

Testing:

1. Could we run this burner on gas and oil at the same time? Why?
2. If the linkage was not set properly when changing over, what could be the result?

Assignment: Complete Assignment 9-C-1 in Lab Manual.

Assignment 10-B-1
Compression System

Objectives: Upon completion of this lesson, the student will be able to:

1. Identify the various parts of a refrigeration compression system.
2. Know the purpose of each part of the compression system.

Aids: Compression refrigeration unit

Procedure:

1. Name the component parts of the unit and explain the purpose of each.
2. Explain how the refrigerant flows through the system.
3. Show the high side and the low side of the system.

Summarize:

1. Name the parts of the system.
2. State the purpose of each part.
3. Show the direction of flow of refrigerant.

Testing:

1. Can you name the parts of the system starting at the compressor?
2. Does each part have a definite purpose? What is that purpose?
3. Describe the flow of the refrigerant in the system.

Assignment: Complete Assignment 10-B-1 in Lab Manual.

Assignment 10-C-1
Absorption System

Objectives: Upon completion of this lesson, the student will be able to:

1. Identify the various parts of an absorption system.
2. Know the purpose of each part of the absorption system.

Aids: Absorption unit

Procedure:

1. Name each part of the absorption unit.
2. Explain the purpose of each part.
3. Trace the path of the refrigerant and the absorbent through the system.
4. Explain the similarities between the compression and absorption systems.

Summarize: Trace refrigerant and absorbent path through the system identifying the parts as you progress.

Testing:

1. What are the main parts of an absorption refrigeration system?
2. What function does each part perform?

Assignment: Complete Assignment 10-C-1 in Lab Manual.

Assignment 11-A-1
Compressor (Reciprocating)

Objectives: Upon completion of this lesson, the student will be able to:

1. Identify the various parts of a reciprocating compressor.
2. Dismantle and reassemble a reciprocating compressor.

Aids: Manufacturers' data sheets, reciprocating compressor

Procedure:

1. Show and explain the function of the various parts of the reciprocating compressor.
2. Show how to dismantle the compressor, stressing the need for care in marking each part carefully.
3. Show students how parts are to be layed out.
4. Explain how to reassemble compressor, stress checking for free movement of all parts.

Summarize: Name each part of the compressor.

Testing:

1. Why do you have to be careful when assembling a compressor?
2. How many parts of the compressor can you name?
3. Did marking and laying parts out help you in reassembling?

Assignment: Complete Assignment 11-A-1 in Lab Manual.

Assignment 11-B-1
Condensers

Objectives: Upon completion of this lesson, the student will know:

1. How a condenser functions.
2. How the temperature is affected by pressure changes in a condenser.

Aids: Refrigeration trainers.

Procedure:

1. Start trainer to show how gas entering condensing section is liquified.
2. Show by changing pressure in condenser how the temperature is affected.
3. Explain what is taking place in the condenser in reference to heat removal and the maintenance of pressure.

Summarize: Repeat demonstration with trainer.

Testing:

1. Explain in your own words what was happening in the condenser.
2. What was the relationship between pressure and temperature?

Assignment: Complete Assignment 11-B-1 in Lab Manual.

Assignment 11-C-1
Evaporators

Objectives: Upon completion of this lesson, the student will know:

1. How an evaporator functions.
2. How the temperature in the evaporator is affected by pressure changes.

Aids: Refrigeration trainer

Procedure:

1. Start trainer to show how liquid entering the evaporator is vaporized.
2. Show by changing pressure in the evaporator how the temperature is affected.
3. Explain how the liquid refrigerant is boiling and in the process absorbs heat.

Summarize: Repeat demonstration with trainer.

Testing:

1. Explain in your own words what was happening in the evaporator.
2. What was the relationship between the pressure and temperature?
3. What are the similarities between a condenser and an evaporator?

Assignment: Complete Assignment 11-C-1 in Lab Manual.

Assignment 11-D-1
Expansion Valves

Objectives: Upon completion of this lesson, the student will know:

1. The various parts of a hand expansion valve.
2. The various parts of a thermo-expansion valve.

Aids: Hand expansion valve, thermo-expansion valve, tools

Procedure:

1. Show and explain the parts of a hand expansion valve.
2. Show and explain the parts of a thermo-expansion valve.
3. Explain how each valve is dismantled.
4. Explain how each valve is assembled.

Summarize: Name each valve and the parts it contains.

Testing:

1. Name as many parts of the hand expansion valve as you can.
2. Name as many parts of the thermo-expansion valve as you can.

Assignment: Complete Assignment 11-D-1 in Lab Manual.

Assignment 11-D-2
Liquid Level Control Valve

Objectives: Upon completion of this lesson, the student will know:

1. The various parts of a liquid level control valve.
2. How to dismantle and assemble a liquid level control valve.

Aids: Float valve assembly, tools, manufacturers' data sheets

Procedure:

1. Show and explain the function of each part of a liquid level control valve.
2. Explain how to dismantle the valve.
3. Explain how to assemble the valve.

Summarize: Show and name each part of the float valve

Testing: How many parts of the liquid level control valve can you name?

Assignment: Complete Assignment 11-D-2 in Lab Manual.

Assignment 11-G-1
Solenoid Valves

Objectives: Upon completion of this lesson, the student will show:

1. The various parts of a solenoid valve.
2. How to dismantle a solenoid valve.
3. How to assemble a solenoid valve.

Aids: Solenoid valve, tools, manufacturers' data sheets.

Procedure:

1. Show and describe a solenoid valve.
2. Explain the purpose of each part.
3. Show how to dismantle the valve.
4. Show how it is assembled.
5. Name all parts of the valve.

Summarize: Describe the solenoid valve and show how it functions.

Testing:

1. Name as many parts of the solenoid valve as you can.
2. Describe how you would take apart a solenoid valve.
3. Describe how you would assemble a solenoid valve.

Assignment: Complete Assignment 11-G-1 in Lab Manual.

Assignment 11-G-2
Evaporator Pressure Regulating Valve

Objectives: Upon completion of this lesson, the student will know:

1. The various parts of an evaporator pressure regulating valve.
2. How to dismantle an evaporator pressure regulating valve.
3. How to assemble an evaporator pressure regulating valve.

Aids: An evaporator pressure regulator, tools, manufacturers' data sheets

Procedure:

1. Show and explain how the evaporator pressure regulator functions.
2. Show, identify, and explain the purpose of each part.
3. Show how to dismantle the evaporator pressure regulator.
4. Show how to assemble the evaporator pressure regulator.

Summarize: Describe the evaporator pressure regulator valve and show how it functions.

Testing:

1. Name as many parts of the evaporator pressure regulating valve as you can.
2. Describe how you would take apart an evaporator pressure regulator.

Assignment: Complete Assignment 11-G-2 in Lab Manual.

Assignment 12-B-1
Cooling Towers (Mechanical)

Objectives: Upon completion of this lesson, the student will know:

1. How a mechanical cooling tower functions.
2. The basic parts of a cooling tower.

Aids: Mechanical cooling tower

Procedure:

1. Show the students a mechanical cooling tower.
2. Name all the parts of the tower.
3. Explain how the tower functions. Show the direction of flow.

Summarize: Name the parts while going over the cycle and explaining the function of each.

Testing:

1. Name as many parts of the tower as you can.
2. What is the direction of flow that the water takes?
3. How does the tower cool the water?

Assignment: Complete Assignment 12-B-1 in Lab Manual.

Assignment 13-B-1
Fans and Blowers

Objectives: Upon completion of this assignment, the student will:

1. Be familiar with the parts of fans and blowers.
2. Know how to dismantle a fan or blower.
3. Know how to assemble a fan or blower.

Aids: Fan or blower, tools, manufacturers' data sheets

Procedure:

1. Show how to dismantle the fan or blower. Stress marking of components during disassembly.
2. Name each component as it is taken apart.
3. Show how to assemble the unit.
4. Show how to check for freedom of movement of parts.

Summarize: Name all parts and explain how to dismantle and assemble a fan or blower.

Testing:

1. Name as many parts as you can.
2. Explain how to take a fan or blower apart.
3. Explain how you would assemble it.

Assignment: Complete Assignment 13-B-1 in Lab Manual.

Assignment 13-D-1
Air Filters

Objectives: Upon completion of this lesson, the student will know:

1. How to change an air filter.
2. How to clean an air filter.
3. How to replace an air filter.

Aids: Ventilating and heating unit, manufacturers' data sheets

Procedure: Show student how to do the following:

a. Open up the unit.
b. Remove filter frames from unit.
c. Remove filter elements from the frames.
d. Clean the filter elements.
e. Rinse filter elements in fresh water.
f. Drain and assemble filter elements in the frames.
g. Replace frames into the unit.

Summarize: Explain steps necessary when cleaning and replacing air filters.

Testing:

1. Describe in your own words how to change the air filters.
2. Describe in your own words how to clean the air filters.

Assignment: Complete Assignment 13-D-1 in Lab Manual.

Assignment 15-B-1
Electrical Circuits

Objectives: Upon completion of this lesson, the student will know:

1. How to lay out a series circuit.
2. How to lay out a parallel circuit.
3. How to lay out a series-parallel circuit.

Aids: No. 16 insulated wire, two sockets and lights, two switches (single pole), testing meter, receptacle plug

Procedure:

1. Show how to lay out a series circuit.
2. Explain and demonstrate how to check out circuit with a test meter.
3. Show how to lay out a parallel circuit and explain how to check it out with a test meter.
4. Show how to lay out a series-parallel circuit and explain how to check out circuit with a test meter.

Summarize: Trace out the series, parallel, and series–parallel circuits. Explain the continuity test.

Testing:

1. What type of controls would be wired in series?
2. What type of controls would be wired in parallel?
3. What type of controls would be wired in series–parallel?

Assignment: Complete Assignment 15-B-1 in Lab Manual.

Assignment 15-D-1
Motors

Objectives: Upon completion of this lesson, the student will know:

1. The parts of a squirrel cage induction motor.
2. How to clean a motor.
3. How to dismantle and reassemble an electric motor.

Aids: Squirrel cage induction motor, tools, manufacturers' data sheets, catalogs, and text books.

Procedure:

1. Show and describe a squirrel cage motor.
2. Explain the purpose of each part.
3. Show how to dismantle the motor.
4. Show how it is assembled.
5. Name all the parts of the motor.

Summarize: Describe the motor and show how it operates.

Testing:

1. Name as many parts of the motor as you can.
2. Describe how you would dismantle a motor.
3. Describe how you would assemble a motor.

Assignment: Complete Assignment 15-D-1 in Lab Manual.

Assignment 16-A-1
Pressure Gages

Objectives: Upon completion of this lesson, the student will know:

1. How a pressure gage works.
2. How to read a pressure gage.
3. The parts of a pressure gage.

Aids: Pressure gage, tools, manufacturers' data sheets

Procedure:

1. Explain how the gage is graduated and show that it has a definite range.
2. Explain how to read the gage.
3. Dismantle the gage and identify each part.
4. Show how the pressure gage functions.

Summarize:

1. Name the various parts.
2. Explain how it functions.
3. Explain how to read it.

Testing:

1. Name as many parts of the pressure gage as you can.
2. Describe how you would read a pressure gage.
3. Describe how the pressure gage works.

Assignment: Complete Assignment 16-A-1 in Lab Manual.

Assignment 16-B-1
Manometers

Objective: Upon completion of this lesson, the student will know how to use a manometer to measure draft.

Aids: Draft test gage, draft manometer, U-tube manometer

Procedure:
1. Show and explain how the draft test gage functions.
2. Demonstrate how to take a reading of the furnace and breeching pressure with the test gage.
3. Show and explain how the draft manometer functions.
4. Demonstrate how to take a reading of the furnace and breeching pressure with the draft manometer.
5. Show and explain how the U-tube manometer functions.
6. Demonstrate how to take a reading of the gas line pressure.
7. Explain the use of readings taken.

Summarize:
1. Show and explain how each instrument operates.
2. Show how and where each instrument is to be used.

Testing:
1. What is the range of each instrument that we have just used?
2. Why is it important to set the manometers on a level surface and get a zero reading?
3. How can these instruments be damaged through improper use?

Assignment: Complete Assignment 16-B-1 in Lab Manual.

Assignment 16-C-1
Thermometers

Objectives: Upon completion of this lesson, the student will know:

1. How to read and record thermometer readings.
2. The location of all thermometers in your plant.

Aids: Thermometers in and around the shop area

Procedure:

1. Show the various ranges a thermometer can have.
2. Explain how each thermometer is graduated and show the major and minor divisions. (This can be done at the blackboard.)
3. Conduct small groups through the shop area showing the location of the important thermometers.
4. Have the students read and record the temperatures.
5. Explain the purpose of reading thermometers correctly.

Summarize:

1. The ranges and graduations of a thermometer
2. Importance of reading a thermometer correctly

Testing:

1. Where are the thermometers located in our shop?
2. What were the ranges of the thermometers that we looked at?
3. Are all thermometers graduated the same way?

Assignment: Complete Assignment 16-C-1 in Lab Manual.

Assignment 16-D-1
Thermocouples

Objectives: Upon completion of this lesson, the student will know:

1. The location of thermocouples in your plant.
2. What each thermocouple is recording.

Aids: Thermocouples in boiler room, recorder, and pyrometer.

Procedure:

1. Explain the purpose and make-up of a thermocouple.
2. Show the location of all thermocouples in the boiler room.
3. Explain why they are attached to each line.
4. Show how to take a reading with the pyrometer and check against the recorder.

Summarize: Discuss the location and purpose of the thermocouples.

Testing:

1. How many thermocouples are there in our boiler room?
2. Is it important that they function accurately?
3. What is the location of the thermocouples in our boiler room?
4. What lines are the thermocouples attached to?

Assignment: Complete Assignment 16-D-1 in Lab Manual.

Assignment 16-E-1
Flow Meters

Objectives: Upon completion of this lesson, the student will know:

1. The location of flow meters.
2. How a flow meter is connected to a sending unit.
3. How to blow down the lines connected to a sending unit.

Aids: Flow meters, sending and recording units

Procedure:

1. Identify each flow meter in the shop area. Explain its purpose.
2. Show how the lines are connected to the orifice plate from the unit.
3. Demonstrate how to remove the flow meter from service.
4. Demonstrate how to blow down the lines connected.
5. Demonstrate how to put meter back into service.

Summarize:

1. Explain taking meter out of service.
2. Explain blowing meter down.
3. Explain putting back into service.

Testing:

1. How many flow meters do we have in the shop area?
2. What types do we have?
3. Why do we have to blow down the lines to a flow meter?
4. How do we blow down the lines of a flow meter?
5. What danger is there when you remove or put a flow meter back into service?

Assignment: Complete Assignment 16-E-1 in Lab Manual.

Assignment 16-E-1
Recorders

Objectives: Upon completion of this lesson, the student will know:

1. How to change the daily chart on a recorder.
2. How to change a continuous roll chart on a recorder.
3. How to fill the ink pens on a recorder.

Aids: Brown recorder, Hay's recorder

Procedure: Demonstrate the following:

a. How to change the daily chart on the Hay's recorder

b. How to ink the pens on the Hay's Recorder

c. How to change the continuous roll chart on the Brown recorder.

d. How to ink the pad on the Brown recorder

e. How to check for correct time on the charts

Summarize: Explain each of the steps:

a. Changing daily charts
b. Changing roll charts
c. Inking the pens and pad

Testing:

1. Why is it important to have the correct time that a recording is made?
2. Why is it important not to overfill pens?
3. What value can you see in having a recorder?

Assignment: Complete Assignment 16-F-1 in Lab Manual.

Assignment 17-A-1

Fireman's Duties and Responsibilities

Objectives: Upon completion of this lesson, the student will know:

1. How to take over a watch.
2. How to perform all the routine duties of a fireman.

Aids: School heating plant

Procedure:

1. Describe in detail how to take over a watch.
2. With student go to boiler room and perform each step covered in taking over a watch.
3. Explain why it is important to develop a routine when taking over a watch.
4. Explain the fireman's responsibility and what he can be held accountable for once he officially relieves the watch.
5. Describe the routine duties that the fireman does during his watch.
6. Perform each duty with the student explaining why and how each is done.
7. Discuss State law such as the fireman's responsibility, etc.

Summarize: Fireman's obligations, responsibilities, and liabilities

Testing: If you have just relieved the watch and 3 minutes later a boiler burns out 5 rows of tubes, who is responsible for it, you or the man you just relieved?

Assignment: Complete Assignment 17-A-1 in Lab Manual.

Assignment 17-A-2
Engineers' Duties and Responsibilities

Objectives: Upon completion of this lesson, the student will know:

1. How to take over watch as an engineer.
2. How to carry out duties of an engineer on watch.

Aids: School heating plant, boiler room log

Procedure:

1. Describe in detail the duties and responsibilities of a watch engineer.
2. Explain the purpose and importance of maintaining a good boiler room log.
3. With the student, go to boiler room and make a round with him, showing all temperatures and pressures he must log.
4. Explain in detail the procedure he is to follow when starting up a boiler and cutting it in on line.
5. Explain in detail the procedure he is to follow when taking a boiler off the line.

Summarize: Engineer's duties, responsibilities, and obligations

Testing:

1. What is the value of maintaining a boiler room log?
2. What should a boiler room log contain?

Assignment: Complete Assignment 17-A-2 in Lab Manual.

Assignment 17-D-1
Air Conditioner Operation

Objective: Upon completion of this lesson, the student will know how to recognize normal operating conditions of an air conditioning unit.

Aids: Air conditioning trainer

Procedure:

1. Set up trainer and explain how to connect it for use.
2. Explain how to set controls for a normal load condition.
3. Let student know the pressures and temperatures that exist.
4. Start trainer.
5. Explain the necessity of waiting until the system is stabilized before taking pressure-temperature readings.
6. Explain what is happening inside the unit when you change the load conditions on the evaporator and also on the condenser. Keep students informed of pressure-temperature changes.
7. Show students how to set unit back to normal and secure unit.

Summarize: Explain the procedure to follow while using the trainer and the results that are expected.

Testing:

1. What is the objective we wish to achieve?
2. What data do you have to record?
3. Why do you have to wait after making a change in the system before taking pressure-temperature readings?

Assignment: Complete Assignment 17-D-1 in Lab Manual.

Assignment 17-E-1
Refrigeration Plant Operation

Objective: Upon completion of this lesson, the student will know how to recognize normal operating conditions in a refrigeration plant.

Aids: Refrigeration trainer

Procedure:

1. Explain that this unit is a continuation of Unit 17-D-1 and that the data from that assignment will be used.
2. Set up trainer.
3. Set controls for normal operation and start.
4. Explain what happens in the system when you switch the system into a restricted refrigerant condition.
5. Return system to normal.
6. Switch the system into a shortage of refrigerant condition and explain how this affects the system.
7. Set trainer to normal operation and secure.

After each change, explain the pressure-temperature changes.

Summarize: Explain each step necessary to conduct the experiment. Stress the importance of securing correct data.

Testing:

1. In what way did we differ from normal operation?
2. How did we change the system?
3. Why are pressure-temperature readings so important?

Assignment: Complete Assignment 17-E-1 in Lab Manual.

Assignment 18-A-1

Fuel Oil Strainers and Cleaning of Burner Tip

Objectives: Upon completion of this lesson, the student will know:

1. How to change over and clean fuel oil strainers.
2. How to clean the burner tip of the burner that is on the line.

Aids: Cut-away of duplex strainer, live equipment found in boiler plant

Procedure:

1. Use cut-away of duplex strainer and show how oil flows through it.
2. Explain location and purpose of both duplex and simplex strainer.
3. Show how to change over strainers and clean them.
4. Explain in detail how air can enter system.
5. Replace strainers and put them back into service.
6. Show how to secure rotary cup burner.
7. Show how to disconnect linkage and open burner front.
8. Demonstrate how to clean burner tip. (Stress possible damage that can result from abuse.)
9. Show how to close up and restart burner.

Summarize:

1. Problems of air in system
2. Precautions to use when cleaning strainers and tips

Testing: How would air in system make its presence known?

Assignment: Complete Assignment 18-A-1 in Lab Manual.

Assignment 18-A-2
Cleaning Fire Side

Objectives: Upon completion of this lesson, the student will know:

1. How to use boiler cleaning tools.
2. How to clean furnace and combustion chamber in a firetube boiler.

Aids: Boiler cleaning tools, mask and goggles, signs – danger man in boiler

Procedure:

1. Explain how to use mask and goggles when inside boiler.
2. Show students how to lock out controls and hang signs.
3. Show students how to assemble scaffold.
4. Show students how to open fireside doors and secure them properly.
5. Explain how to use boiler cleaning tools. Demonstrate how they work.
6. Explain why all traces of soot must be removed.

Summarize: Stress all safety procedures to follow.

Testing: Why is it essential to remove all traces of soot?

Assignment: Complete Assignment 18-A-2 in Lab Manual.

Assignment 18-B-1
Lubrication

Objectives: Upon completion of this lesson, the student will know:

1. The lubrication needs in a heating plant.
2. The different types of lubricants.
3. The different methods of lubricating.
4. How to oil a motor bearing.
5. How to grease a bearing.

Aids: Chart showing plant lubrication requirements, different types of oil cans, different types of grease guns.

Procedure:

1. Explain why different types of lubricants are needed.
2. Discuss danger of over lubrication such as hot bearings and oil, or grease-soaked motor windings.
3. Explain how to properly grease a bearing.
4. Discuss how important proper lubrication is to industry. Point out how often it is neglected and how much money is spent for parts, maintenance, and down time because of this neglect.
5. Demonstrate how to grease a bearing.
6. Assign students a pump and motor to lubricate.

Summarize:

1. Danger of under and over lubrication
2. Importance of proper selection of lubricant

Testing: What should you do before greasing a bearing?

Assignment: Complete Assignment 18-B-1 in Lab Manual.

Assignment 18-C-1
Filters and Fans

Objectives: Upon completion of this lesson, the student will know:

1. How to remove, clean, and replace filters in a ventilating system.
2. How to clean fan blading in a ventilating system.

Aids: Nesbit unit heater data sheet, Nesbit unit heater

Procedure:

1. Using Nesbit data sheet, explain parts of heater and how to secure heater.
2. Explain how front is removed.
3. Explain how to unplug motor and remove it with fans from the unit.
4. Explain how to remove both sets of filters.
5. Explain importance of cleaning both sides of fan blading, i.e. balance.

Summarize: Reason for proper filter fan service and maintenance

Testing: Why must both sides of blading be cleaned?

Assignment: Complete Assignment 18-C-1 in Lab Manual.

Assignment 18-D-1
Condenser and Evaporator

Objective: Upon completion of this lesson, the student will know how to perform routine service on a condenser and evaporator of a refrigeration unit.

Aids: Refrigeration unit

Procedure:
1. Stress the importance of making sure a unit is disconnected before attempting to work on it.
2. Remove covers from unit and explain how to remove dirt and dust from condenser and evaporator coils.
3. Show and explain how easily the coil fins will bend.
4. Explain what effect the cleaning of the coils will have on the operation of the unit.
5. Replace covers.

Summarize: Purpose of cleaning

Testing:
1. What safety precautions do you have to take before and during work on a unit?
2. How does cleaning the condenser and evaporator effect operation of the unit?

Assignment: Complete Assignment 18-D-1 in Lab Manual.

Assignment 18-D-2
Compressor and Lubrication

Objectives: Upon completion of this lesson, the student will know:

1. How to perform routine service on the compressor of a refrigeration unit.
2. To know how to perform routine lubrication service on a refrigeration unit.

Aids: Refrigeration unit

Procedure:

1. Stress the importance of making sure that the unit is disconnected electrically before starting work.
2. Show how to remove covers from the unit to expose compressor and motor.
3. Show how to clean compressor and motor of dust and dirt.
4. Show how to check the lubrication level in the compressor.
5. Show how to lubricate motor bearings. Stress the danger of excessive lubrication.
6. Explain how to check belts for alignment and tension. Show how to adjust belts.
7. Show how to lubricate fan or blower.
8. Show how to replace covers.

Summarize:

1. The necessity of keeping compressor and motor free of dirt and dust.
2. The importance of proper lubrication of the unit.

Testing: What would eventually happen if the compressor and motor were not cleaned and lubricated at regular intervals?

Assignment: Complete Assignment 18-D-2 in Lab Manual.

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ABSTRACT: THE PURPOSE OF THIS STUDENT MANUAL IS TO GUIDE SECOND YEAR STUDENTS IN THE DEVELOPMENT OF MACHINE SHOP SKILLS. THE INSTRUCTIONAL UNITS REFLECT THE DIVISIONS COMMON TO THE MACHINE SHOP AND EMPHASIZE: (1) THE PROPER USE OF MACHINES, INCLUDING PROPER SET-UP PROCEDURES, (2) THE PROPER USE OF THE CORRECT TOOL, AND (3) GENERAL MACHINE SHOP THEORY INCLUDING THE CORRECT SAFETY PROCEDURES. AS A STUDENT PROGRESSES THROUGH THE INSTRUCTIONAL UNITS HE WILL BE GUIDED THROUGH A SERIES OF COMMON MACHINE SHOP OPERATIONS THAT NOT ONLY DEVELOP MACHINE SKILLS, BUT ALSO RESULT IN THE PRODUCTION OF MACHINE SHOP EQUIPMENT. FOR EACH OF THE COMMON MACHINE SHOP OPERATIONS TO BE COMPLETED THE STUDENT IS PROVIDED WITH THE TRADE THEORY AS WELL AS THE SPECIFIC MACHINING PROCESSES INVOLVED IN COMPLETING THE TASK. THE PRINCIPAL PARTS OF EACH MACHINE ARE ILLUSTRATED AND EXPLAINED. A STUDENT PROGRESS CHART AND TECHNICAL DRAWINGS WITH DIMENSIONS AND TOLERANCES ARE APPENDED. (AUTHOR/KB)

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STATE OF NEW JERSEY
DEPARTMENT OF EDUCATION
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MACHINE SHOP

VT 101 414

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State of New Jersey
Department of Education
Division of Vocational Education

MACHINE SHOP OPERATIONS II
Student Manual

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Firm	Address
Amstrong Bros. Tool Co.	Chicago, Ill.
Brown & Sharpe Mfg. Co.	Providence, R. I.
Bridgeport Machines	Bridgeport, Conn.
Cincinnati Milling Machine Inc.	Cincinnati, Ohio.
Cincinnati Shaper Co.	Cincinnati, Ohio
Clausing Co.	Kalamazoo, Mich.
DoAll Co.	Philadelphia, Pa.
K. I. Lee Co.	Aberdeen; S.D.
Lucifer Furnace Corp.	Warrington, Pa.
Norton Company	Worcester, Mass.
Rockwell Mfg. Co.	Pittsburgh, Pa.
The Carborundum Co.	Niagara Falls, N.Y.
The Kearny & Trecker Co.	Milwaukee, Wis.
The L.S. Starett Co.	Athol, Mass.

INTRODUCTION

The purpose of this program is to guide second year students in the development of machine shop skills. It deals with the essentials that students must know before entering specialty areas such as tool and die, moldmaking, prototype work, etc.

The instructional units reflect the divisions common to the machine shop and emphasize;

1.) The proper use of the machines, including proper set-up procedures
2.) The proper use of the correct tool and
3.) General machine shop theory including the correct safety procedures.

As a student progresses through the instructional units he will be guided through a series of common machine shop operations that not only develop machine shop skills, but also result in the production of a valuable piece of machine shop equipment, i.e., a drill press vise.

The content of this program is offered to serve as an aid to the instructor and as such insure that students will be able to perform the defined tasks. It was not intended that an instructor limit his presentation exclusively to this text.

For each of the common machine shop operations to be completed the student will be provided with the trade theory as well as the specific machining processes involved in completing the task. As an aid to the student the principle parts of each machine will be illustrated and explained.

A student progress chart is included to allow both the student and his instructor to record the progress each student makes. Also included as an appendix are technical drawings that provide the dimensions and tolerances for each part in the vise.

ERIC

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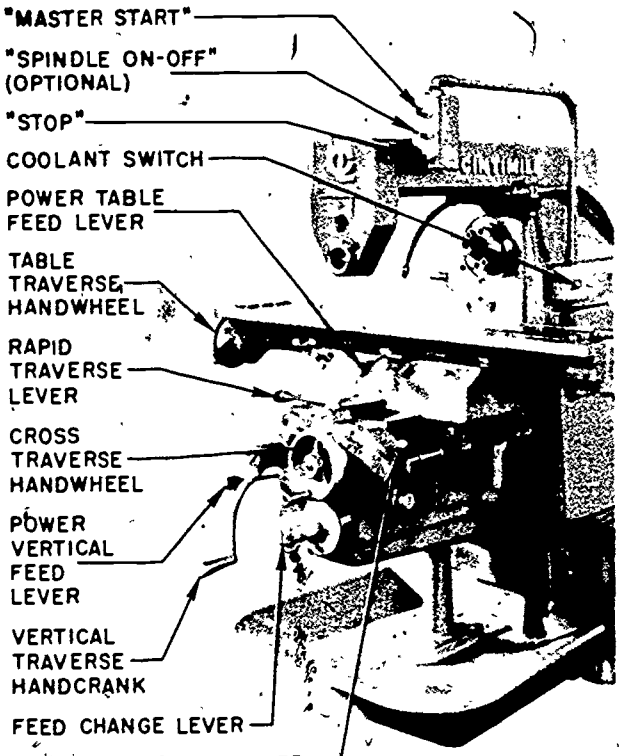
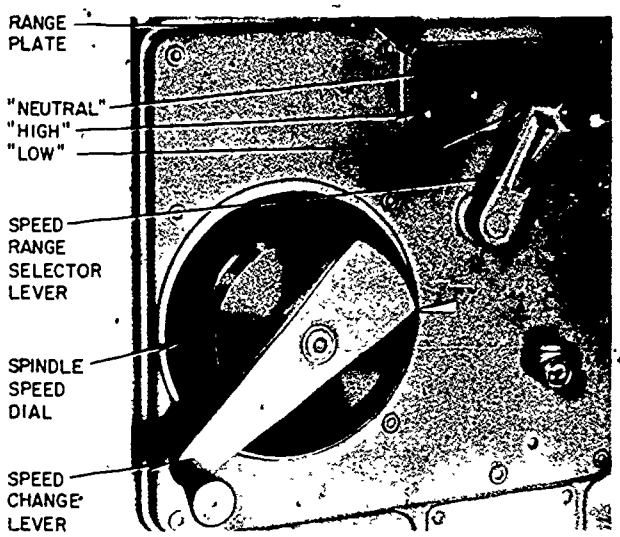
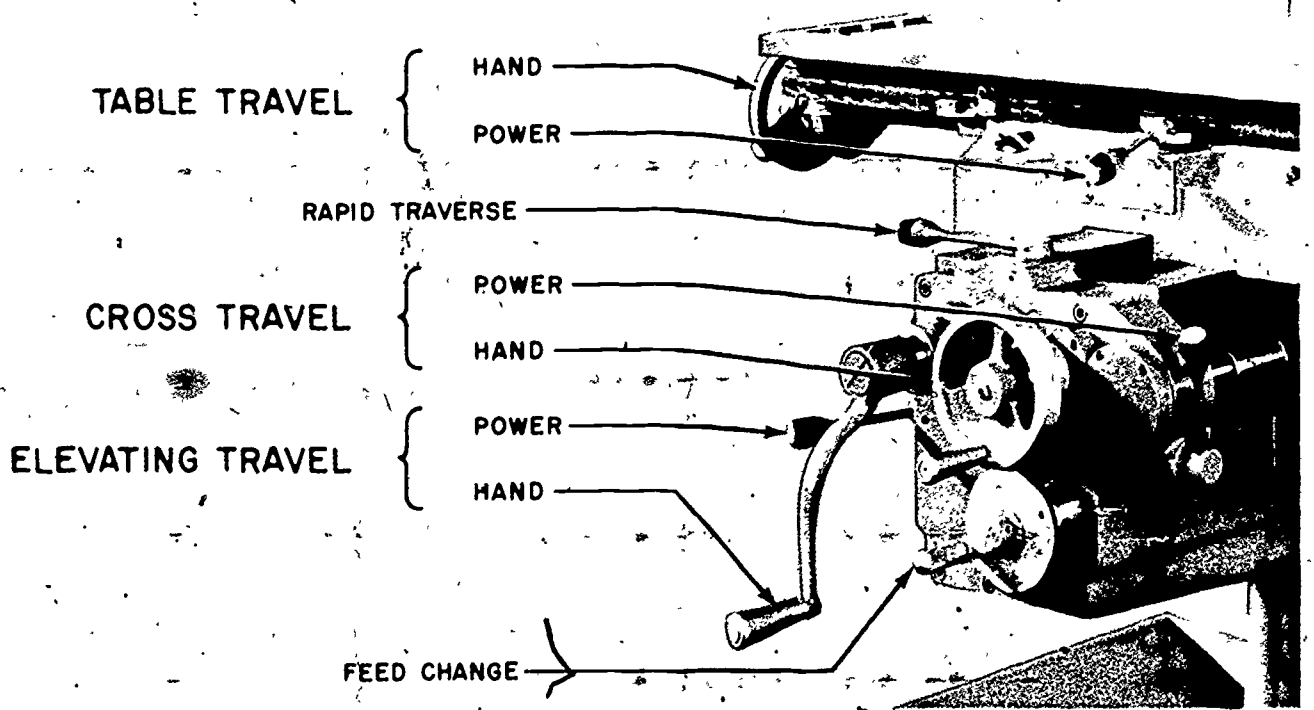


Operating Controls



Spindle Speed Controls



Traverse Controls

Objective: To operate the horizontal milling machine.

Procedure:

A. Starting the machine

1. Place table, cross, and vertical power-feed levers in neutral position.
2. Press master start button.
3. Turn switch on to start motor rotation if machine is equipped with an on–off button.
4. Check machine for proper rotation. Spindle must be rotating.
5. The machine should feed in same direction of the feed lever.
6. Do not engage rapid traverse.
7. Change spindle speed to desired rate, with spindle-speed change lever. (Spindle speeds are variable through two ranges, Hi and Lo.)
8. With motor running, crank lever in either direction and align the desired speed with the pointer. The lever is self locking.
9. Selection may be made anytime the motor is running, even during a cut.
10. When changing speed range, the motor must be stopped.
11. To change speed, stop the motor and pull out lever knob. Move the lever either to the Hi or Lo position.
12. Allow plunger to drop in locating hole.
13. To operate drive motor with the spindle idle, move selector to "N" position (neutral).

B. Reversing spindle rotation

1. In cases of using the right hand or left hand cutter, the direction of rotation must be changed.
2. The rotation direction is controlled by the spindle-reverse switch.
   Caution: Do not move the spindle-reverse switch while the spindle-drive motor is operating. To reverse the spindle rotation, you must:
   a. Stop motor.
   b. Change switch to desired position (reverse, off, or forward).
   c. Restart motor.

C. Changing feed rate

1. All hand controls are equipped with adjustable micrometer dials; they can be reset by moving the dials.

2. The table traverse handwheel is for moving the table by hand when power is not wanted.

3. When the handwheel is rotated one turn in a clockwise direction, the table moves 0.200". The dial is graduated into 200 equal parts, which is equivalent to 0.001" movement for each space.

4. The cross-traverse handwheel is for moving the saddle by hand across the knee. The graduated dial is the same as for the traverse handwheel.

5. The vertical handcrank raises the knee up and down.

6. One turn clockwise raises the table 0.100". The dial is graduated into 100 equal spaces; each mark is equivalent to 0.001".

7. Change the feed rate only when all power feed levers are in their neutral position. The feed-change lever controls the rate of feed for all power-feed directions.

8. The power table-feed lever is for engaging the power table feed. Be certain the table-clamping screws are loose before engaging the table feed.

9. Tighten the knee and saddle clamps when using the table feed alone.

10. The power cross-feed lever is for engaging the cross feed. The saddle clamp must be loosened before this step.

11. Tighten table- and knee-clamping screws when using the cross feed alone.

12. The power vertical-feed lever causes the table to be raised and lowered as needed. (Loosen knee-clamping screw before this step.)

13. Tighten table- and saddle-clamping screws when using the vertical feed alone.

14. Rapid travel is obtained on any power feed by using the rapid traverse lever.

15. Use trip dogs for stopping the feed at end of cut or at desired locations.

16. The clamping devices should never be used as a method of adjustment for wear. There are other adjustments provided to compensate for wear.

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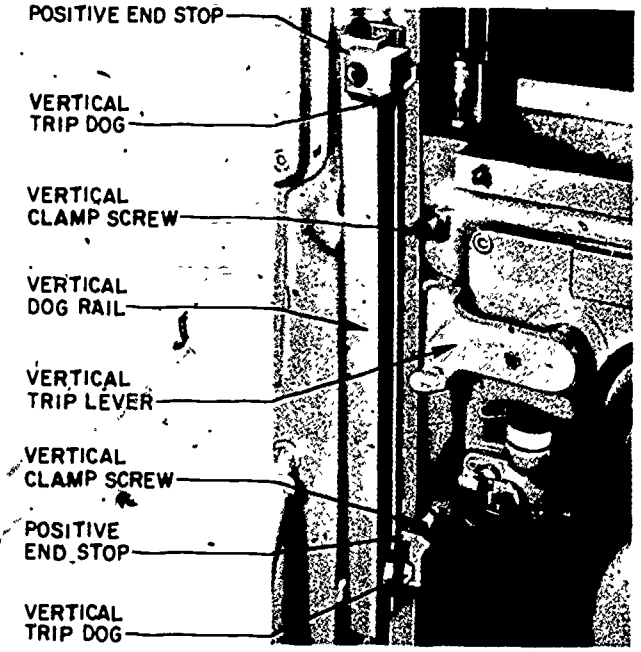

Vertical Trip Dogs

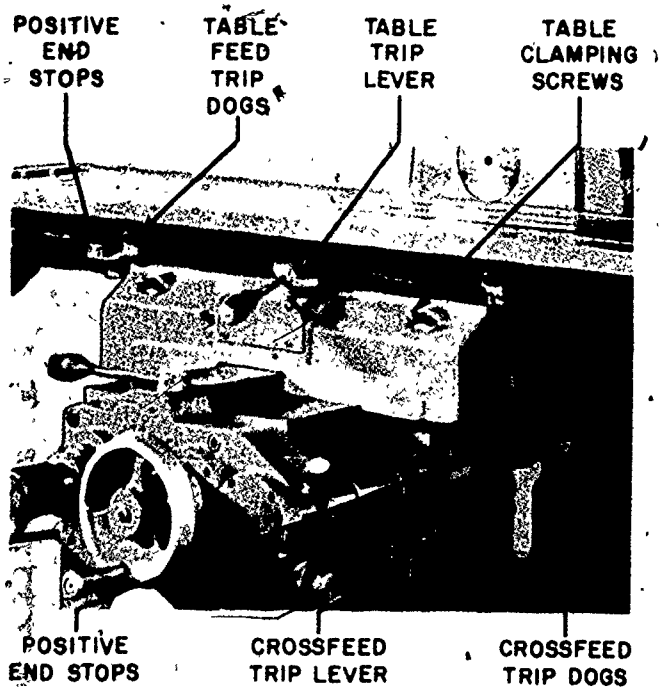

Table and Cross Trip Dogs

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Objective: To make a base for a drill press vise.

A. Tools and equipment:

1. Horizontal milling machine
2. Clamps
3. Vernier height gage
4. Face mill cutter
5. Square
6. 18" rule
7. Micrometers
   a. 0" – 1"
   b. 1" – 2"
8. Depth micrometer set
9. Feeler gages
10. Flat metal stock 15 x 6½ x 1¼ (should be surface ground on one side.)
11. Parallel bar
12. Dial indicator
13. Coolant

B. Procedure:

1. Lay the metal stock flat on the milling table; extend the metal over the table so that the face miller will not cut into table.

2. Clamp the metal to prevent sliding.

3. Face off one side of the metal until all roughness is removed.

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5. Set the parallel bar across the milling table and clamp lightly, then true up with the indicator. Now tighten the clamps on parallel bar securely. (Caution: make sure the parallel bar remains true.)

6. Take the side of metal that has been machined and place it against the parallel bar.

7. Extend the metal slightly so that the face mill cutter will not cut the table of the milling machine.

8. Clamp the metal securely to the mill table and face off the metal.

9. At this point one side and one end of the metal stock have been machined: check them for squareness.

10. Loosen the clamps and move the metal so that the end just machined is against the parallel bar.

11. Cut the unmachined side to the correct width of 6", then check for squareness.

12. Loosen the clamps and move the metal so that the side just machined is against the parallel bar.

13. Cut unmachined end to the correct length of 14½"; check for squareness.

14. Leave the metal on the table.

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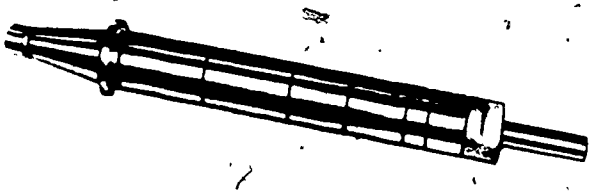
15. Change the mill cutter; use a Style A Arbor with a side mill.



16. Now on the end of metal which will be the head of vise, mill cut a section ½" deep and 1½" wide across the entire width of the plate metal stock.

17. Next go to the other end of the plate and mill a section ½" deep and 2¾" wide across the entire plate.

18. Change the cutter to a plain helical cutter for slab milling.

19. Change the metal on the machine so that it runs longitudinally then clamp the metal to the machine using the previously cut section for the clamping positions.

20. Mill the rough surface until it is even and smooth.

21. Remove the metal, put away the equipment, and clean up the machine.

22. Next the drill press will be used to drill a series of holes in the center of the plate metal stock.

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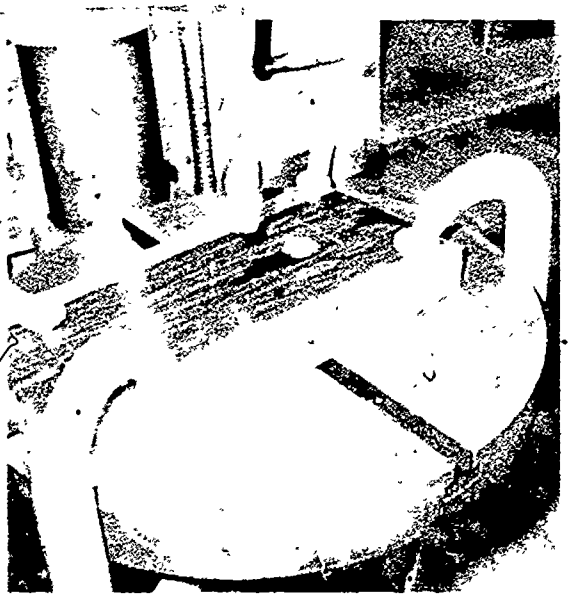
Objective: To drill holes in the base to permit freer machining of a slot needed for making a drill press vise.

A. Tools and equipment

1. Drill press
2. Series of drills
   a. ½"
   b. 1"
   c. 1 3/8
3. Layout fluid
4. Scriber
5. 12" rule
6. Center drill
7. Clamps
8. Parallel bars
9. Surface gage
10. Step blocks
11. Vernier height gage

B. Procedure:

1. Apply layout fluid to the top of the base.
2. Scribe a center line and the extremities of the section to be drilled, also spot each hole that is to be drilled.
3. Do all drilling on the longitudinal center line.



4. Place the parallel bars or the step blocks on the drill press table, then clamp the metal stock to the table. (Caution: This is done to prevent drill from entering table.)

5. The opening needed is 8" long and the width of the drill.

6. Start with the center drill and progress through a series of drills until the excess metal is removed in order to prepare the metal for the vertical milling machine.

7. Remove the equipment and clean the machine.

8. *Think* of safety first.

9. The next operation is on the vertical milling machine.

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Objective: To mill a slide opening in the center of the vise base.

A. Tools and equipment

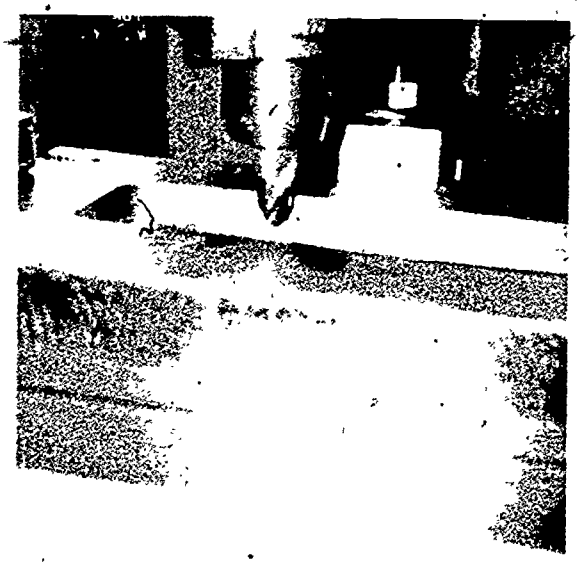
1. Vertical milling machine
2. ¾" end mill
3. Clamps
4. Parallel bars
5. Layout fluid
6. Scribe
7. Surface gage
8. Inside calipers
9. Depth micrometers
10. Dial indicator
11. 12" ruler
12. Surface plate

B. Procedure:

1. Apply the layout fluid and then scribe the part to be milled.

2. Use the dial indicator and align the base on the mill table longitudinally.

3. Use the parallels to prevent the mill cutter from damaging the mill table.



4. Place the cutter in the mill.

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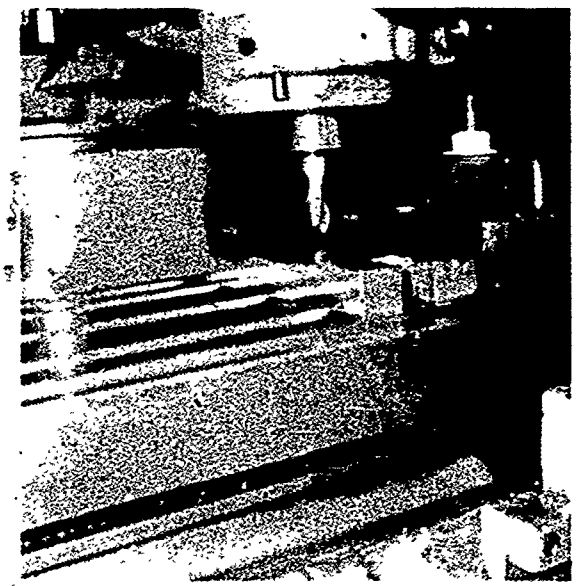
5. The finished size of the slot should be 8" long and 1 9/16" wide.
6. Mill the slot completely through the base.
7. Reverse the base so that the bottom is facing up.
8. Layout the bottom.
9. Indicate base true again.
10. For a depth of ½" mill cut the original slot to the width of 1¾".
11. Lower the table ¼" and mill the 1¾" size to 2 1/8" wide, thus creating a ledge in base of the metal.
12. Mill 4 slots ¾" each, at proper locations for use as bolt slots.



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Objective: To make jaws for the drill press vise.

A. Tools and equipment:

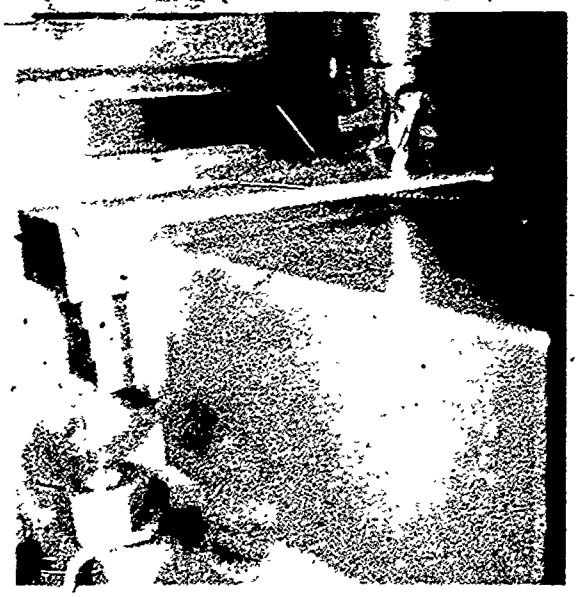
1. Milling machine
2. ¾" mill cutter
3. Milling machine vise
4. Dial indicator
5. Center drill
6. Square
7. 6" ruler
8. Layout fluid
9. Scribe
10. Surface gage
11. ½" radius cutter
12. Flat metal stock, 2 pieces – 6¼" x 2" x 1"
    2 pieces tool steel – 6" x 1¾" x ½"
13. Drill
14. Transfer punch 25/64"
15. Parallel bars
16. 3/8" – 16 taps starter and bottoming

B. Procedure:

1. Place machinist vise on the table and indicate true.

2. Square off the ends of the metal until length is 6". Check for squareness.

3. Lay the metal flat on the parallels in the vise and mill ½" deep, 1¾" wide the entire length of piece leaving a ledge of ¼". This is where tool steel inserts will be fitted.



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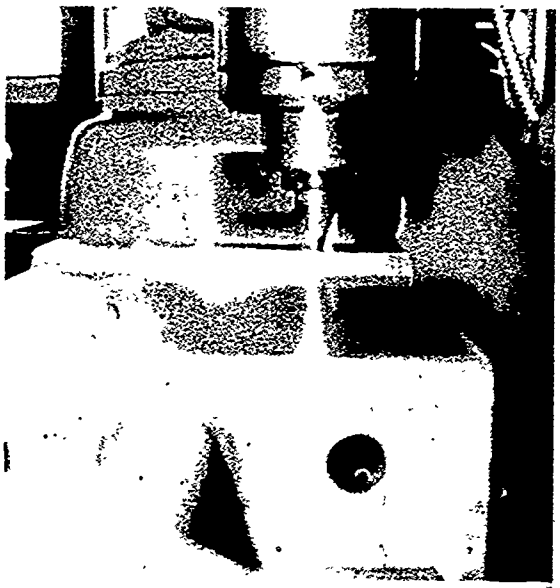
4. The inserts are to be drilled and counter sunk by using milling machine for better accuracy in locating the proper positioning of the holes.

5. Layout the inserts for 2 holes by using these dimensions 1" in from each side and 7/8" down from the top.

6. Drill the hole size for the clearance of a 3/8" flat head screw on both inserts.

7. Countersink for same.



8. V-cut two angles, one vertical and other horizontally on the face of one insert; the same side that has been countersunk. The vertical groove is in the center of the insert 3/16" deep the entire width of metal. The horizontal groove is 3/8" from top and runs the entire length of the metal. This piece is for the back jaw of vise.

9. The other insert will be used for the moving jaw of the vise.

10. Use inserts and locate on the jaws the correct position to drill and tap for 3/8-16 tap ½" deep with the use of a transfer punch.

11. Make sure that the jaw and inserts are on right mates.

12. The movable jaw has a guide which fits into the slot milled in the base of vise. The guide consists of two parts and when placed together make a figure like a T.

13. The vertical part of the T is 1 9/16" long and ¾" square. The horizontal part is 1¾"x 1¼" x ¼".

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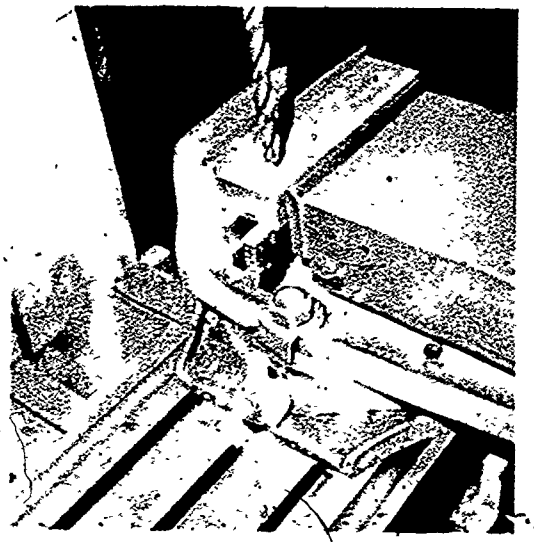
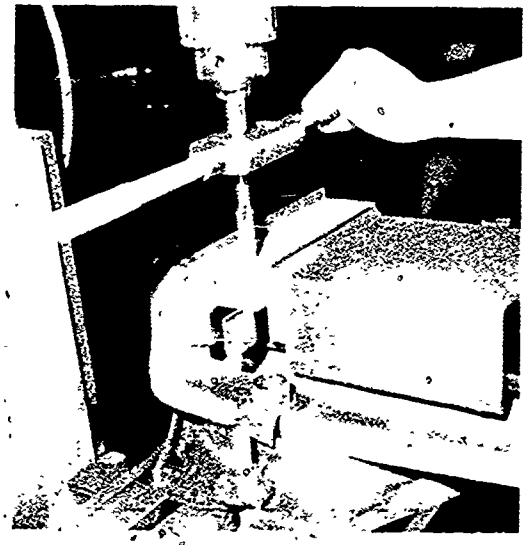
14. Two clearance holes for ¼-20 socket cap screws are drilled directly through these two guide parts.

15. Line up the guide parts and with a 17/64" transfer punch, put marks on the movable jaw where they are to be located.

16. Drill and tap these marks on movable jaw ¼"-20, ¾" deep.





17. Drill and tap the movable jaw on its top side, exactly in center for a ¼-20 set screw.

18. Drill a ¼" hole through movable jaw 1" down from the top and on center, so that the screw will mate properly.

19. Make block 2½" x 2½" x 2½".

20. Lay out the block for the hole, exactly 1" from the top in the center.

21. Drill with a center drill and use several drills up to 11/32" drill, then ream with 1 3/8" reamer.

Safety on the Lathe

1. Inspect lathe before starting. All gears and levers should be in the proper position.
2. Never measure while the machine is turning.
3. Do not wear jewelry.
4. Do not strike the machine or the work with anything except a soft mallet.
5. Make sure the work is secure.
6. Do not pick up chips with your fingers.
7. Notify the instructor of anything unsafe, or not operating correctly.
8. Above all THINK!
9. Wear goggles.

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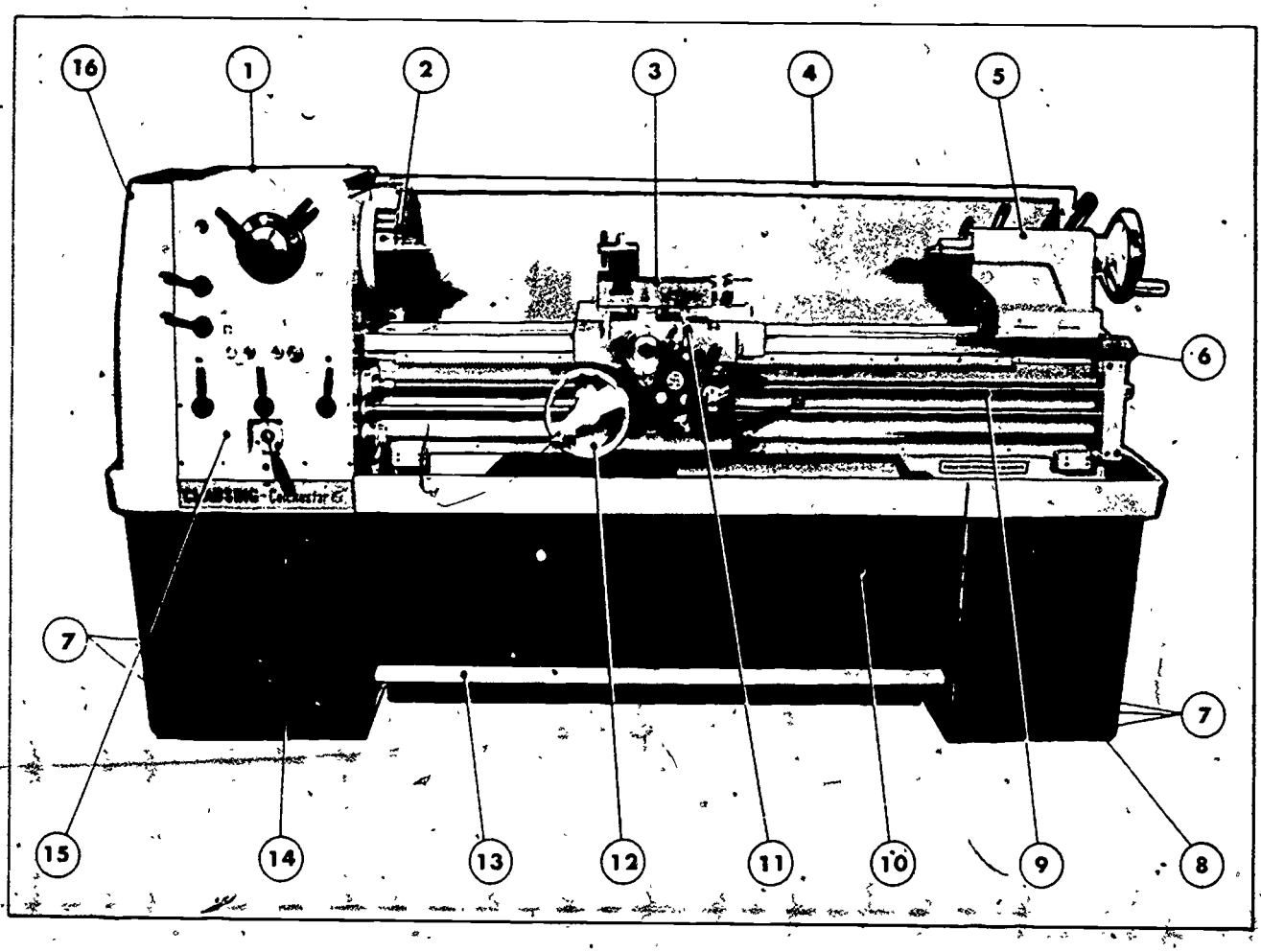


LEGEND

1 Headstock
2 Spindle
3 Topslide
4 Splash guard
5 Tailstock
6 Bed
7 Mounting feet
8 Tail-end plinth
9 Leadscrew
10 Coolant tray
11 Saddle and cross-slide
12 Apron
13 Footbrake
14 Head-end plinth
15 Gearbox
16 End cover (gear train)

Objective: To cut an Acme thread by using a lathe.

A. Tools and equipment:

1. Acme thread gage
2. Engine lathe
3. 6" rule
4. Test gage
5. Threading tool
6. Tool holder
7. Center drill
8. Jacobs chuck
9. Chuck or face plate
10. Micrometer

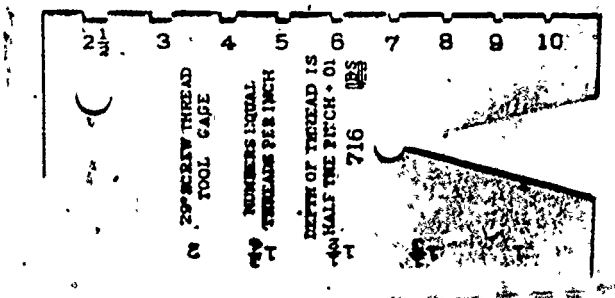
B. Information:

The standard thread gage for an Acme thread is called a 29° thread gage. It is used for grinding the tool bit and setting up the cutting tool.

This thread form has practically eliminated the square thread and has many advantages in strength and the ease in cutting the thread.

C. Procedure:

1. Select the proper number of thread in the gear box.
2. Set the proper speed.
3. The compound rest should be at 14½°.
4. Position the work on the lathe.
5. The threading tool is to be set on center height.
6. Set the tool bit square with the work by using the Acme thread gage.
7. Use the compound rest handle to cut the depth of threads. (It is useful to roughcut thread with a square tool the width being smaller than the root of the Acme thread. Then the Acme tool will not have as much strain on it. This method is particularly good on larger threads.)



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American Standard Acme Screw Thread Dimensions

h = Basic depth of thread
h = Depth of thread with clearance
K = Tap drill
Basic minor diameter of nut
Fc = Width of flat at crest of thread
Fr = Width of flat at bottom of space
n = Number of threads per inch
p = Pitch of thread
Kr = Minor diameter of screw
D = Major diameter of screw
T = Major diameter of tap

$p = \frac{1}{n}$

$K = 0 \text{ minus } p$

$Fc = \frac{.3707}{n}$

$Kr = D \text{ minus } 2h$

For 10 or less threads per inch

$h = \frac{p}{2} \text{ plus } .010$

$Fr = \frac{.3707}{n} \text{ minus } .0052$

$T = D \text{ plus } .020$

For more than 10 threads per inch

$h = \frac{p}{2} \text{ plus } .005$

$Fr = \frac{.3707}{n} \text{ minus } .0026$

$T = D \text{ plus } .010$

Threads per inch (n)	Depth of Thread with Clearance (h)	Flat at Top of Thread (Fc)	Flat at Bottom of Space (Fr)	Space at Top of Thread	Thickness at Root of Thread
1	.5100	.3707	.3655	.6293	.6345
1½	.3850	.2780	.2728	.4720	.4772
2	.2600	.1854	.1802	.3146	.3198
3	.1767	.1236	.1184	.2097	.2149
4	.1350	.0927	.0875	.1573	.1625
5	.1100	.0741	.0689	.1259	.1311
6	.0933	.0618	.0566	.1049	.1101
7	.0814	.0530	.0478	.0899	.0951
8	.0725	.0463	.0411	.0787	.0839
9	.0655	.0412	.0360	.0699	.0751
10	.0600	.0371	.0319	.0629	.0681
12	.0496	.0309	.0257	.0524	.0576
14	.0407	.0265	.0215	.0449	.0475
16	.0363	.0232	.0206	.0393	.0419

Objective: To make a drill press external vise screw. 7/8-5 T.P.I.

A. Tools and equipment:

1. Engine lathe
2. Tool post holder
3. Acme threading tool
4. 6" rule
5. Center drill
6. 3 jaw chuck
7. Jacobs chuck
8. Center drill
9. Acme thread gage
10. 0" - 1" micrometer
11. Outside caliper
12. Inside caliper
13. Tool bit
14. Grooving tool
15. 1" x 14" drill rod
16. Follower rest
17. Drills #7, ½"
18. 25/64 mill file
19. Drill press

B. Procedure:

1. Place the metal stock in the lathe.
2. Face off the metal and center drill.
3. Cut the metal from center drilled end, for a length of one inch, ¾" in diameter.
4. Exactly one half the distance on this one inch length cut a groove ¼" wide and 1/8" deep.
5. Place the metal so a cut can be made 12" long.
6. Cut this length to a diameter of 0.870. Use the follower rest if needed.
7. Set up to the thread, and use lathe task procedure for Acme threads.
8. Cut the thread for length of 10½".

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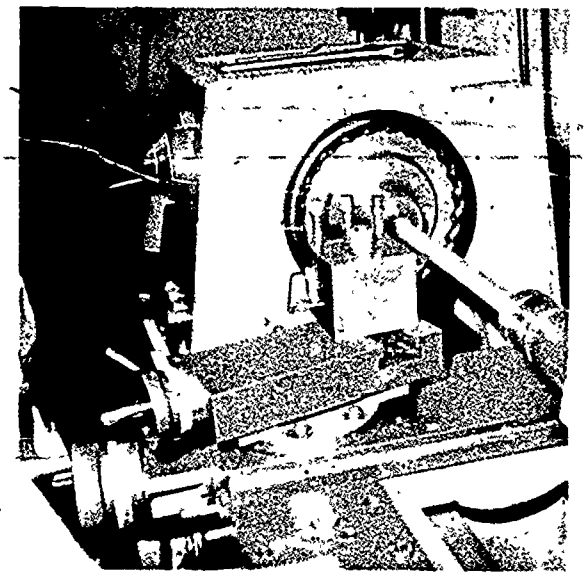

9. File burrs on the thread.

10. Check the threads for size.

11. Turn metal in lathe chuck and radius one inch end ¼" radius. Remove the metal from the lathe and go to the drill press. Drill one half inch down from end with a 25/64" drill. Use the center drill to start. The hole is for a 3/8" diameter handle. The vise screw handle is 3/8" of an inch in diameter, with ¾" ball ends to be attached.
The length is 6½".

Objective: To cut an internal thread.

A. Tools and equipment:

1. Thread gage
2. Screw pitch gage
3. Engine lathe
4. Threading tool
5. Boring tool holder
6. 6" rule
7. Center drill
8. Drill
9. Chuck
10. Collet
11. Micrometer

B. Procedure:

1. Find the minor diameter of the thread.
2. Put the stock in the chuck.
3. Drill a hole about 1/16" smaller than the minor diameter.
4. Use the boring bar to cut to the correct diameter.
5. Counter bore the end for a distance of 1/16", the correct major diameter. It will help to guide the depth of cut.
6. Set the compound rest to 30° to the left.
7. Set the gear box to desired thread.
8. Set the threading tool on the center of the lathe.
9. Use the center gage to square the tool.
10. Mark the boring bar for the depth of the hole to be threaded.
11. Touch the tool bit to the diameter of the bored hole.
12. Set the cross feed and compound rest graduated collars to zero. Clear the tool bit from hole.
13. Take the trail cut and check with the screw pitch gage.

14. After each cut (when marked on boring bar is even with the edge of the work piece) release the split nut lever and turn the cross-feed handle clockwise to clear the tool to prevent damaging the previously cut thread.

15. Move the carriage to the right.

16. Bring the crossfeed handle back to zero.

17. Set the depth of the cut by turning the compound rest. (Remember the depth taken is to be lighter the deeper the cut.) The last few cuts should only be about .001 to eliminate excessive spring in tool.

18. Check the thread for fit with a bolt of the same size.

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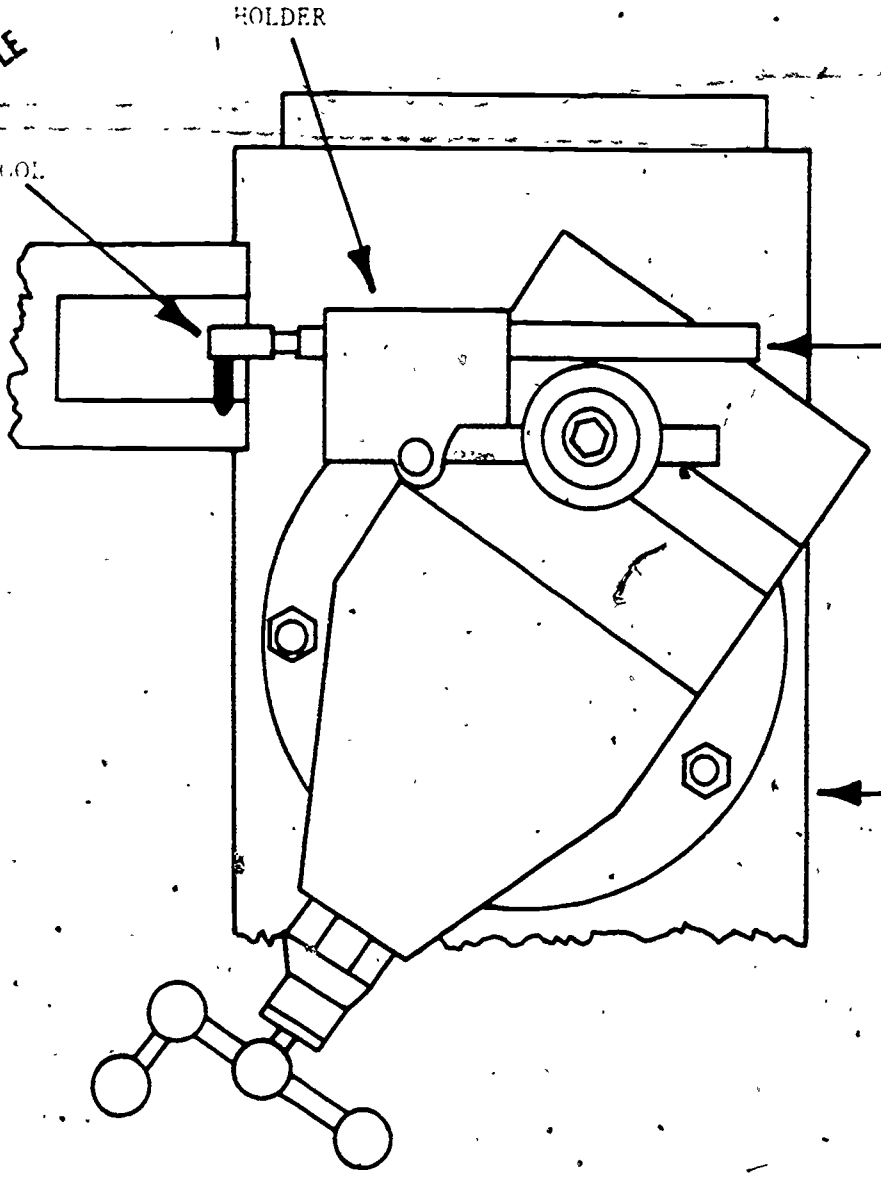

INTERNAL THREAD CUTTING

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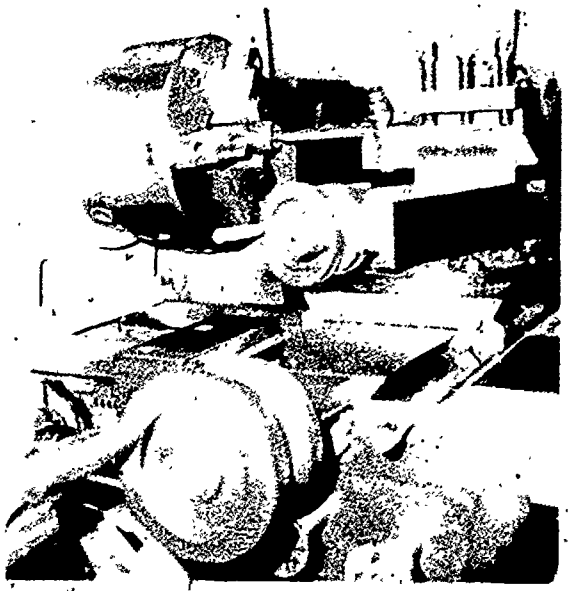
Objective: To machine internal Acme threads for drill press vise.

A. Tools and equipment:

1. Engine lathe
2. Acme thread gage
3. Threading tool
4. Boring bar
5. 6" rule
6. 3 jaw chuck
7. Bronze 1½" diameter 2" L
8. Center drill
9. Tool holder
10. Jacobs chuck
11. 0-1" micrometer
12. 1" – 2" micrometer
13. Drill for thread size.

B. Procedure

1. Use procedure given for set up in lathe section of this text.
2. The thread size is 7/8-5 T.P.I. Acme.
3. Place the bronze in lathe chuck.
4. Center drill.
5. Drill to size.
6. Setup the lathe for internal Acme thread.
7. Machine the thread and check for size.



8. Take the piece from the chuck and mount it on the mandrel. Turn outside diameter to press fit size 1.377.

9. Ptess the bronze part in squared 2½" block.

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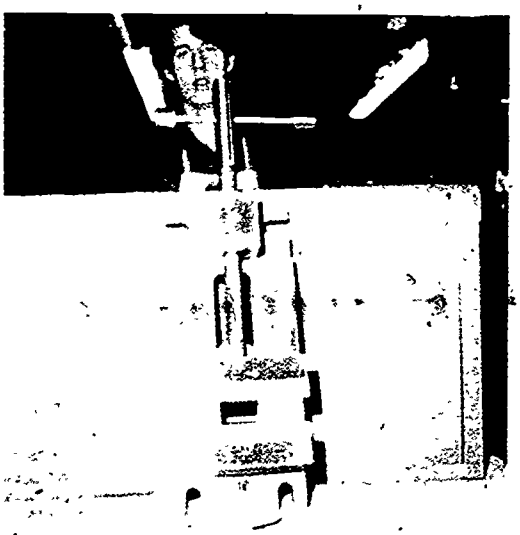
Objective: To weld the back jaw and 2½" squared block to the base of vise.

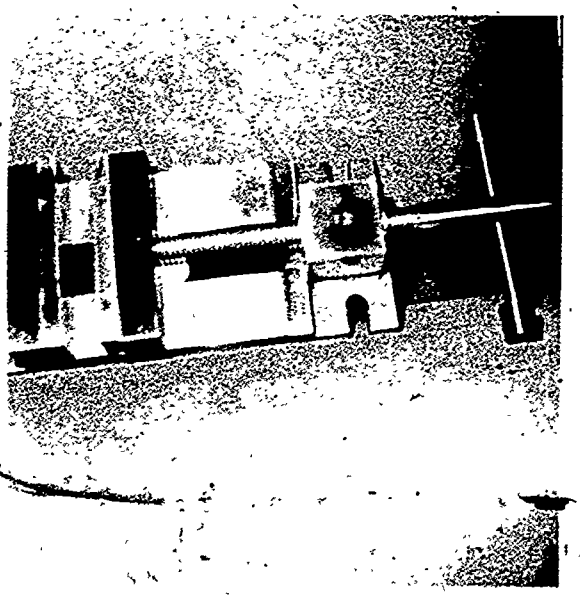
A. Tools and equipment:

1. Milling machine
2. ½" mill cutter
3. Vise

B. Procedure:

1. Mill ¼" 45° bevel on the bottom edges of each piece.
2. Put the pieces in vise and use clamps to hold it while it is being welded. Make sure the pieces are located and aligned correctly.
3. The welding shop will do the actual welding of parts.





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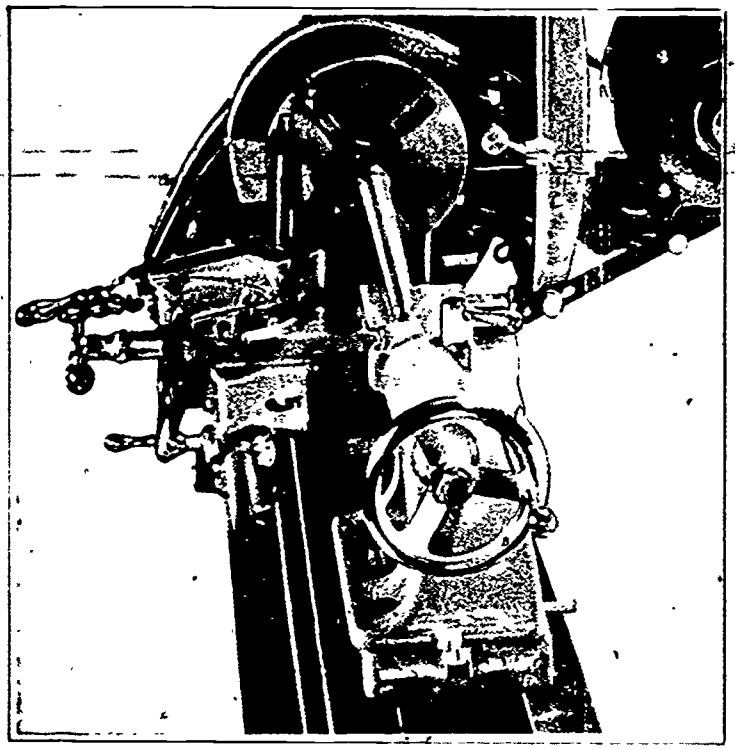

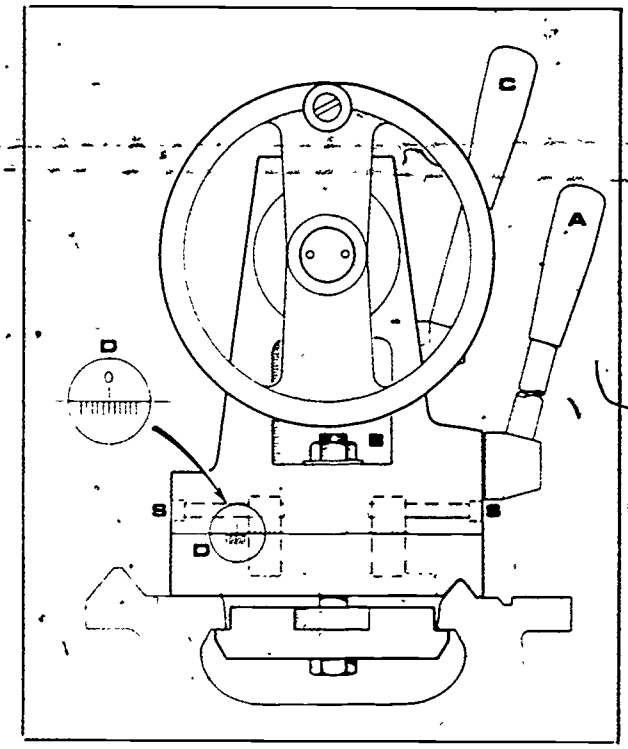

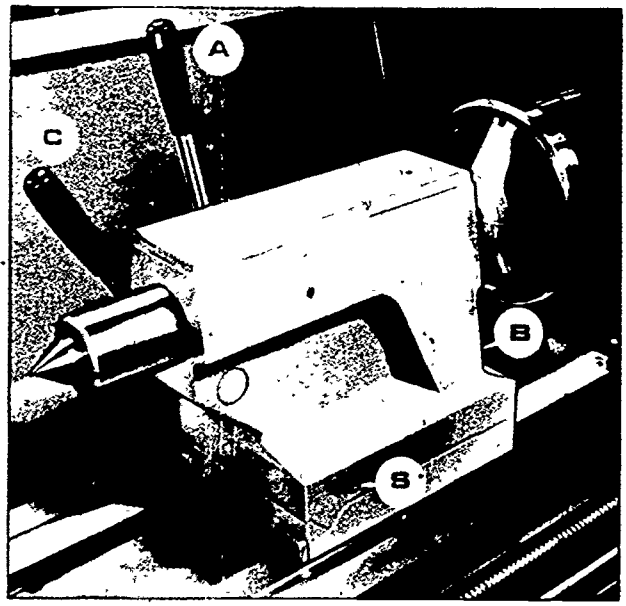

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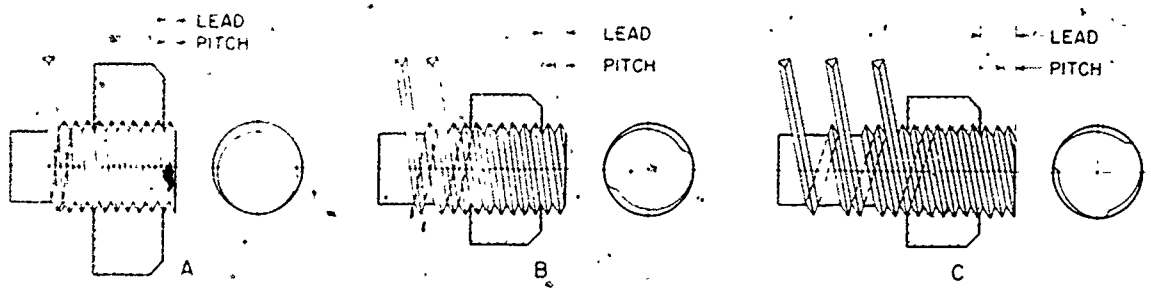
Objective: To cut a multiple-start thread on a lathe.

A. Tools and equipment:

1. Engine lathe
2. Lathe dog
3. Center gage
4. 6" rule
5. Screw thread gage
6. Test nut
7. Threading tool
8. Tool holder
9. Cutting oil

Multiple thread can be cut in several ways:

1. by use of an accurately slotted driver plate, and disengaging the intermediate gear on the end gear train. and
2. rotation of the spindle a certain amount and positioning the compound slide 1 pitch forward for each start with the compound slide rest parallel to center line of lathe. The method we will use is the driver plate and turning the workpiece forward for each start.



THE RELATIONSHIP OF PITCH TO LEAD IN SINGLE- AND MULTIPLE-START THREADS. (A) SINGLE THREAD, (B) DOUBLE THREAD, (C) TRIPLE THREAD. (Courtesy Cincinnati Milacron Co.)

Procedure:

1. Set up the lathe for a standard 60° thread.
2. Now cut the first thread normally as in single threading cutting. Check for the correct size.
3. Without turning the lead screw and moving the cutting tool setting, remove the work from between the centers (do not remove the dog from the work piece) and put the lathe dog tail in the slot opposite from the slot in which it was first placed.
4. Reset the tail stock properly.
5. Cut the next thread as you would a regular thread.
6. Check for size.
7. Remove the work from the lathe.

Calculating the Offsetting of the Tailstock

The use of this method of cutting taper is needed for longer tapers and where there is not a taper attachment on the lathe. The length of taper does not control the amount of offset, but a longer job usually has less taper per foot for tailstock offset than a short job.

To calculate the amount of offset divide taper per inch by 2 and multiply by the length of the work in inches.

Rule 1. Offset = $(t \div 2)$ L.

The taper per inch, t, is equal to the T.P.F. ÷ 2

$$t = \text{T.P.F.} \div 12$$

Rule 2.

Given: Taper per foot and overall length of work.

$$\text{Offset} = \frac{1}{12} \times \frac{\text{TPF}}{2}$$

Rule 3.

Given: End diameters, length of taper, length of piece.

$$\text{Offset} = \frac{L}{Lt} \times \frac{(D-d)}{2}$$

Rule 4.

Given: Included angle of taper and length of work.

Offset = Tangent of ½ included angle X Length

Rules for Figuring Tapers

Given	To Find	Rule
The taper per foot.	The taper per inch.	Divide the taper per foot by 12.
The taper per inch.	The taper per foot.	Multiply the taper per inch by 12.
End diameters and length of taper in inches	The taper per foot.	Subtract small diameter from large; divide by length of taper, and multiply quotient by 12.
Large diameter and length of taper in inches, and taper per foot.	Diameter at small end in inches.	Divide taper per foot by 12; multiply by length of taper, and subtract result from large diameter.
Small diameter and length of taper in inches, and taper per foot.	Diameter at large end in inches.	Divide taper per foot by 12; multiply by length of taper, and add result to small diameter.
The taper per foot and two diameters in inches.	Distance between two given diameters in inches.	Subtract small diameter from large; divide remainder by taper per foot, and multiply quotient by 12.
The taper per foot.	Amount of taper in a certain length given in inches.	Divide taper per foot by 12; multiply by given length of tapered part.

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TAPERS PER FOOT AND CORRESPONDING ANGLES

Taper per Foot	Included Angle			Angle With Center Line		
	Deg.	Min	Sec	Deg.	Min.	Sec.
	0	4	28	0	2	14
	0	8	58	0	4	29
	0	17	54	0	8	57
	0	26	52	0	13	26
	0	35	46	0	17	54
	0	44	44	0	22	22
	0	53	44	0	26	52
	1	2	44	0	31	17
	1	11	46	0	35	48
	1	20	40	0	40	15
	1	29	40	0	44	45
	1	38	42	0	49	11
	1	47	44	0	53	42
	1	56	34	0	58	12
	2	5	38	1	2	39
	2	14	36	1	7	8
	2	23	10	1	11	35
	2	32	4	1	16	2
	2	41	4	1	20	32
	2	50	2	1	25	1
	2	59	2	1	29	31
	3	7	56	1	33	58
	3	16	54	1	38	27
	3	25	50	1	42	55
	3	34	44	1	47	22
	3	43	44	1	51	52
	3	52	38	1	56	19
	4	1	36	2	0	48
	4	10	32	2	5	16
	4	19	34	2	9	47
	4	28	34	2	14	12
	4	37	30	2	18	40
1	4	46	18	2	23	9
1	5	4	12	2	32	6
1	5	21	44	2	10	52
1	5	39	54	2	49	57
1¼	5	57	48	2	58	54
1	6	15	38	3	7	49
1⅝	6	33	26	3	16	43
1	6	51	20	3	25	40
1	7	9	10	3	34	35
1	7	26	58	3	43	29
1	7	44	48	3	52	24
1	8	2	38	4	1	19
1	8	20	26	4	10	13
1	8	38	16	4	19	8

Taper per Foot	Included Angle			Angle With Center Line		
	Deg	Min.	Sec.	Deg.	Min.	Sec
1	8	56	2	4	28	1
1	9	13	50	4	36	55
2	9	31	36	4	45	48
2	10	7	10	5	3	35
2	10	43	42	5	21	51
2	11	18	10	5	39	5
2	11	53	36	5	56	48
2	12	29	2	6	14	31
2	13	4	24	6	32	12
2	13	39	42	6	49	51
3	14	15	0	7	7	30
3	14	50	14	7	25	7
3	15	25	24	7	42	12
3	16	0	34	8	0	17
3	16	35	40	8	17	50
3	17	10	40	8	35	20
3	17	45	40	8	52	50
3	18	20	34	9	10	17
4	18	55	28	9	27	44
4	19	30	18	9	45	9
4	20	5	2	10	2	31
4	20	39	44	10	19	52
4	21	14	2	10	37	1
4	21	48	54	10	54	27
4	22	23	22	11	11	41
4	22	57	48	11	28	54
5	23	32	12	11	46	6
5	24	6	28	12	3	14
5	24	40	42	12	20	21
5	25	14	48	12	37	24
5	25	48	48	12	54	24
5	26	22	52	13	11	26
5	26	56	46	13	28	23
5	27	30	34	13	45	17
5	28	4	2	14	2	1
6	28	37	58	14	18	59
6	29	11	34	14	35	47
6	29	45	18	14	52	39
6	30	18	26	15	9	13
6	30	51	48	15	25	54
6	31	25	2	15	42	31
6	31	58	10	15	59	5
7	32	31	12	16	15	36
7	33	4	8	16	32	4
7	33	36	40	16	48	20
7	34	9	50	17	4	55

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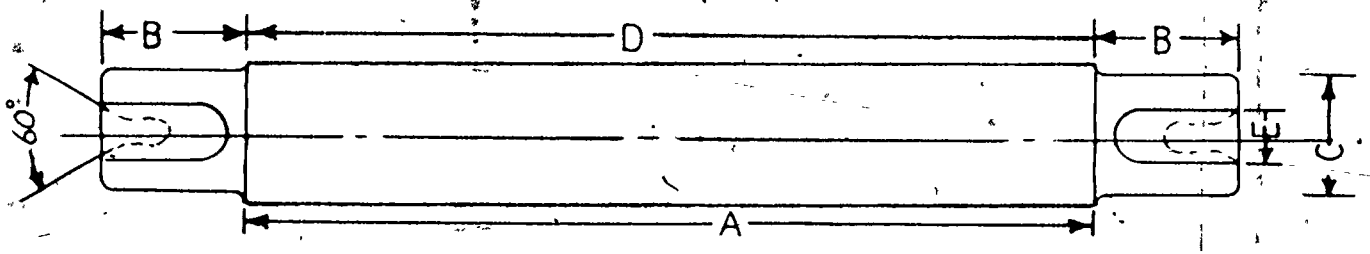

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TURN .025 OVERSIZE HARDEN AND GRIND TO SIZE

MANDRELS .0005 BELOW STANDARD AT SMALL END

NORMAL DIA.	TOTAL LENGTH	LENGTH OF ENDS	DIA. OF ENDS	LENGTH OF TAPERS	DIA. OF COUNTER-SINKS	DEPT. OF DRILL HOLE	WIDTH OF FLAT
	A	B	C	D	E	F	G
1 3/16	37/32	5/16	9/32	2 5/8	5/64	5/32	1/8
1/4	3 3/4	7/16	7/32	2 1/8	1/8	7/32	5/32
5/16	4	7/16	9/32	3 1/8	1/8	7/32	3/16
3/8	4 1/4	1/2	11/32	3 1/4	5/32	1/4	7/32
7/16	4 1/2	1/2	13/32	3 1/2	5/32	1/4	1/4
1/2	5	9/16	15/32	3 7/8	3/16	9/32	1/4
9/16	5 1/4	9/16	17/32	4 1/8	3/16	9/32	9/32
5/8	5 1/2	5/8	19/32	4 1/8	7/32	5/16	9/32
11/16	5 3/4	5/8	21/32	4 1/2	7/32	5/16	5/16
3/4	6	3/4	23/32	4 1/2	1/4	3/8	5/16

Objective: To turn taper by the offset tail stock method.

A. Tools and equipment:

1. Hermaphrodite caliper
2. Inside caliper
3. Outside caliper
4. Correct size micrometer
5. Engine lathe
6. Lathe dog
7. Turning tool
8. Tool holder
9. Dividers
10. 6" steel rule
11. Mill file

B. Procedure:

1. Prepare the stock for mounting between the centers.
2. Turn the stock to O.D. desired.
3. Move the tailstock to calculation.
4. Free the tailstock by releasing the clamp lever (A) and the large nut (B). Now release the set over screw (S) the distance required. On opposite of tailstock turn the set over screw (S) until the tailstock is set off center the space needed by the witness mark (D) on the back of the tailstock. Be sure the set over screws are snug, not tight, to prevent slippage.
5. Lock the tailstock into position.
6. Set the cutting tool to correct location.
7. Start the lathe and feed the tool to the left.
8. Advance the cutting tool with the handwheel until the cut runs out.
9. Measure a unit of length on the taper, it should be 2" or 3". Now, measure the large end of the taper; then the small end.
10. Figure the amount of taper. If not the desired amount, make the necessary adjustment.
11. Cut to size, finishing with a fine light cut.
12. Caution: Make sure the center holes are not worn.

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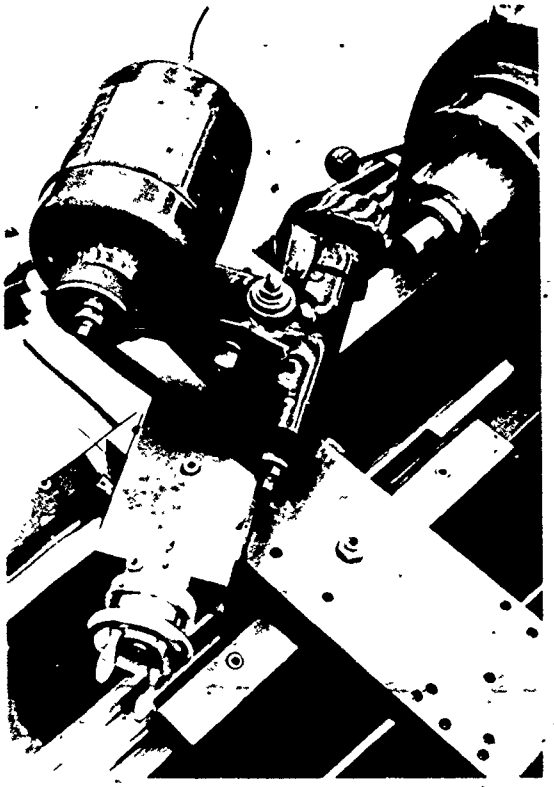
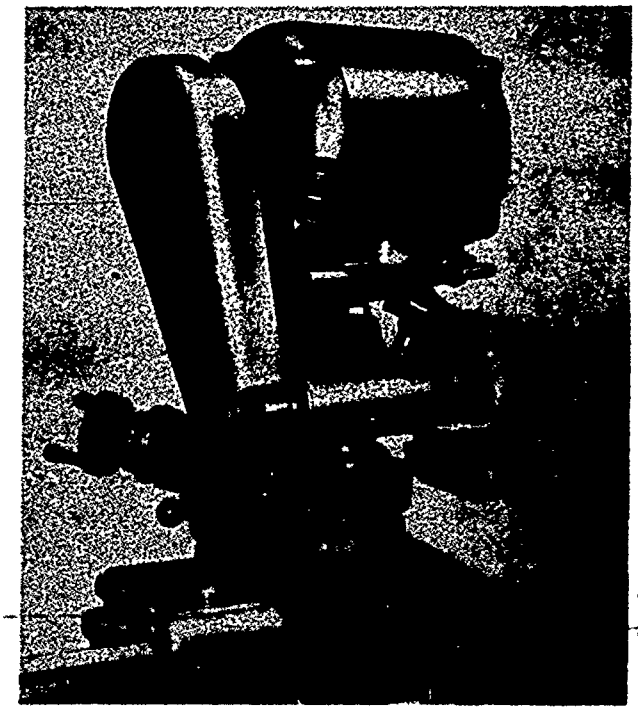
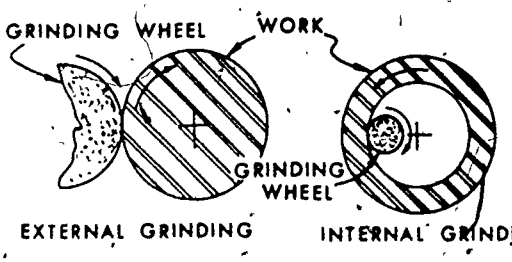
The tool post grinder is used for both external and internal finishing whenever precision and a polished surface are required. Grinder mounts in tool post slide of lathe compound rest.





When grinding, work must rotate in a direction opposite that of the grinding wheel.



Objective: To grind a lathe center by using a tool post grinder on the lathe.

A. Tools and equipment:

1. Tool post grinder
2. Engine lathe
3. Proper grinding wheel
4. Center gage

B. Procedure:

1. Place the spindle bushing and center in the headstock spindle.
2. Spindle speed is set to about 50 R.P.M.
3. Set the compound rest at 30° with the center line of lathe.
4. Set the grinder parallel to the angle of the center and at the center of the spindle.
5. Mount the grinding wheel and dress.
6. Start the lathe with the spindle reversing.
7. Start the grinder and set the grinding wheel until it just touches the revolving center.
8. Lock the carriage!
9. The grinding wheel is fed in at .001, use the crossfeed handle.
10. With the compound rest feed handle move the grinder along the surface of the angle.
11. Stop the lathe and check the work with center gage.
12. Change the compound angle if the taper is not correct.
13. Finish grinding until the wear marks are removed.

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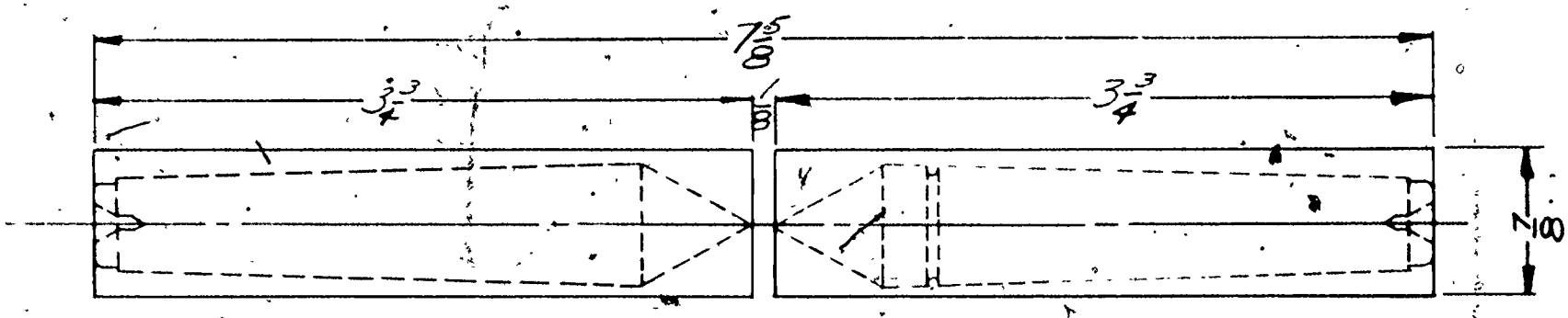

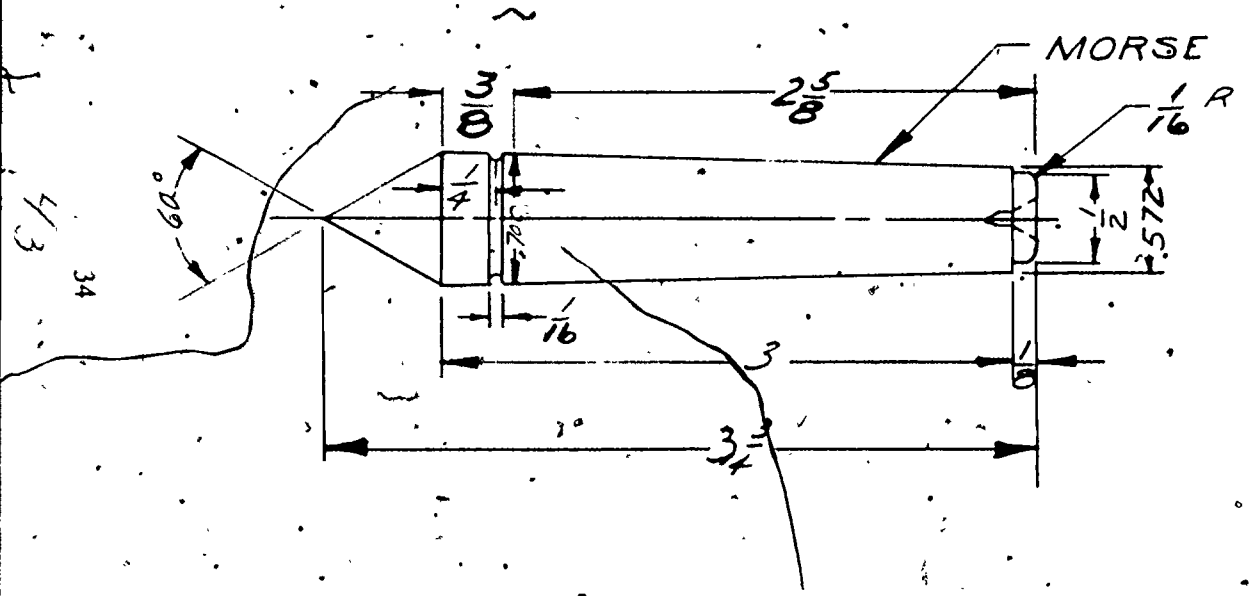

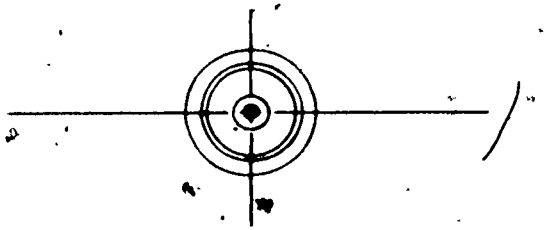

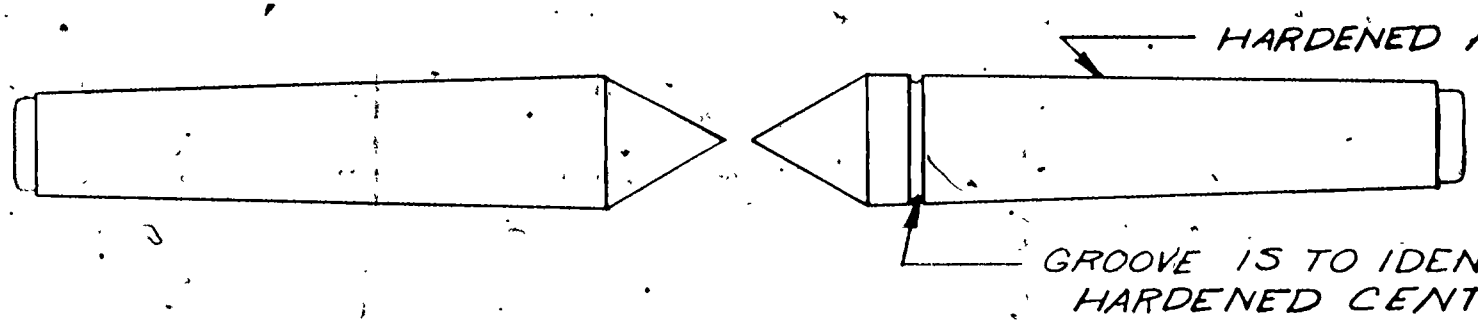

LATHE CENTERS

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Objective: To mount grinding wheel.

A. Tools and equipment

1. Universal tool grinder
2. Grinding wheel

B. General information

Grinding wheels are necessary cutting tools. When handled carefully they are safe, but they are not unbreakable.

C. Procedure

1. Select the correct wheel for this operation.
2. "Ring" the wheel and inspect it for cracks.
3. Never exceed the maximum safe speed established for the wheel.
4. Be sure the machine speed is not excessive.
5. Never alter the hole in the wheel or force the wheel on spindle.
6. Use clean matching flanges.
7. Use one clean, smooth blotter on each side of the wheel under each flange.
8. Tighten nut only enough to hold the wheel firmly.
9. Adjust the wheel guard and put on safety glasses before starting the wheel.
10. Start the wheel and allow it to run idle a full minute before starting to grind.
11. True the wheel with a diamond dresser.
12. Make grinding contact without "bumping" or impact.
13. Grind only on the face of a straight wheel. Light side grinding is permitted on a cup or saucer wheel.
14. Never force the grinding wheel so that the motor slows noticeably or the work gets hot.
15. Protect the wheel when not in use. Store safely.

Objective: To grind a plain mill cutter on a Universal grinding machine.

A. Tools and equipment:

1. Universal grinder
2. Grinding wheel
3. Mandrel
4. Wheel dresser
5. Tooth rest bracket

B. Procedure:

1. Set the machine for straight cylindrical grinding.
2. Put the cutter on the proper mandrel.
3. Place the mandrel between dead centers.
4. True the face of the wheel.
5. Attach the tooth rest bracket on swivel and adjust the tool rest. The tooth rest is a spring type which allows the cutter to be rotated without removing the cutter from its location between centers.
6. Hold the first tooth to be sharpened down on the tooth rest. Bring the wheel into contact with the cutter for a light cut of about 0.002. With the table hand feed, move the cutter back and forth across the face of the wheel.
7. Clear the cutter from the face of the wheel, rotate it to the next tooth by moving the cutter upward to next tooth.
8. Continue grinding until all teeth are finished.
9. If the teeth need more grinding advance wheel for a 2nd cut and repeat the process as many times as needed.
10. Remove the cutter and wheel and clean up the machine.
11. This process can be used for spiral milling, staggered tooth milling and side milling cutters.
12. To grind tapers it is only necessary to swivel table angle desired.

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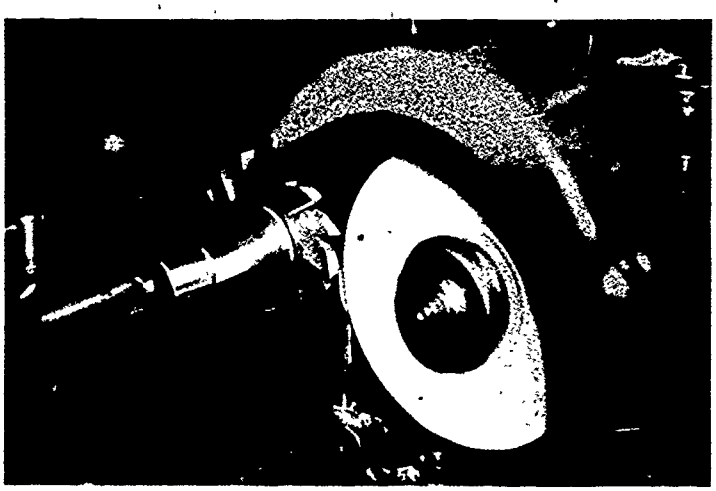
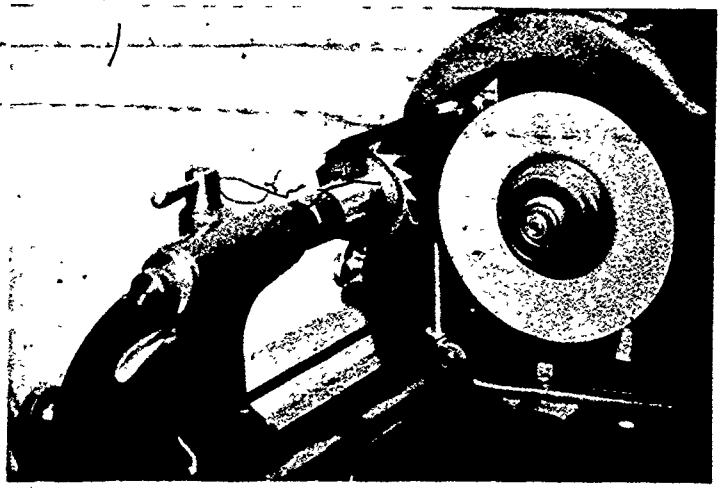


Sharpening a staggered tooth milling cutter



Sharpening a spiral milling cutter

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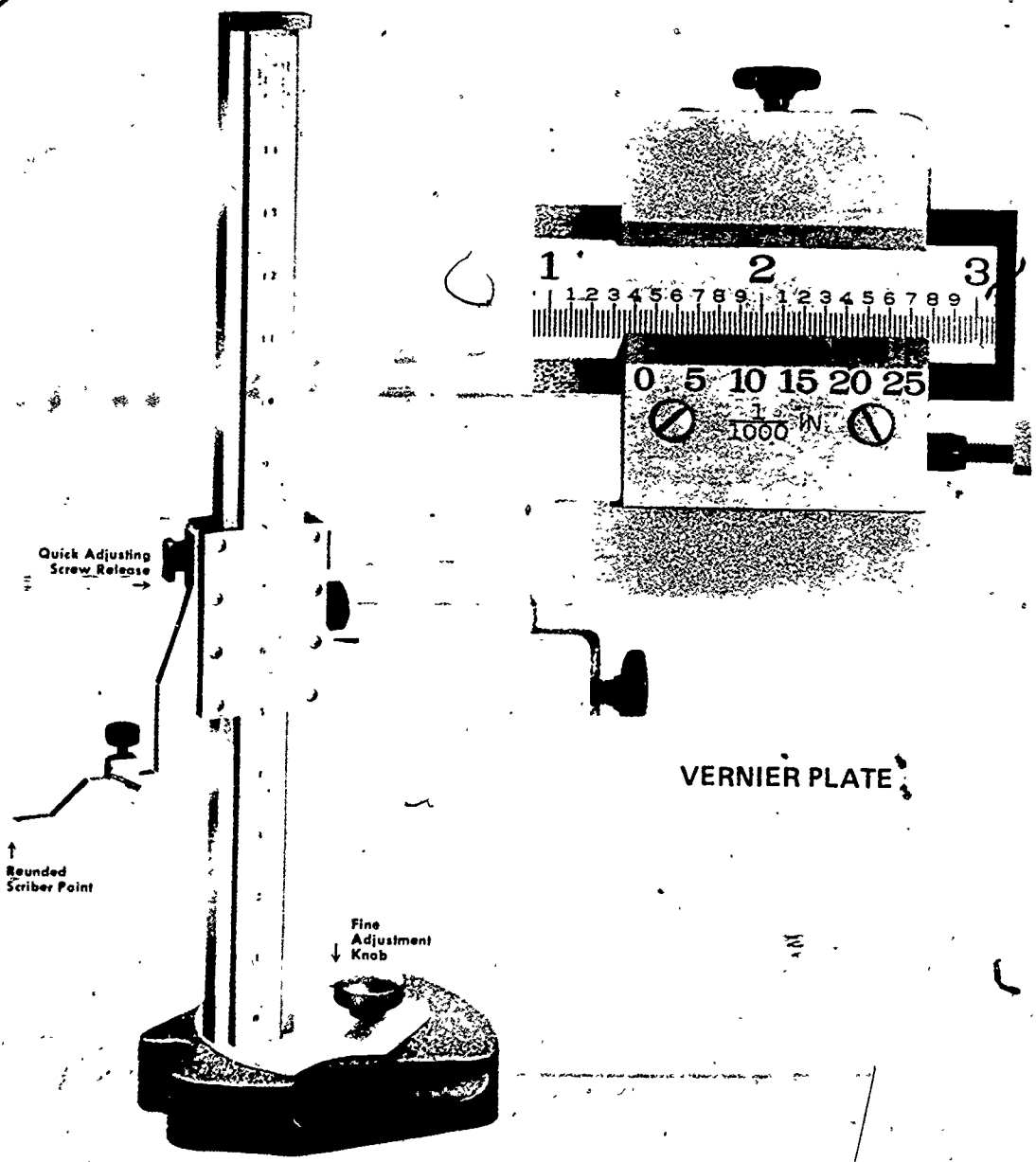

VERNIER PLATE

VERNIER HEIGHT GAUGE

Objective: To read a vernier for the layout of a drill press vise.

A. General Information:

The bar of the vernier is graduated in 40ths, or .025, of an inch, every 4th division, representing a 10th of an inch, being numbered. The vernier plate is divided into 25 divisions numbered 0, 5, 10, 15, 20, 25. The 25 divisions on the Vernier Plate occupies the same space as the 24 divisions on the bar. One division on the bar equals .025 of an inch, 24 divisons equals .600 inch (24 x .025)

B. Procedure to read Vernier:

1. The Vernier height gage in the illustration is set at 1.459 inches. To arrive at this reading, follow these three steps.

   a. Read the full inches on the measuring bar which is before the zero on the Vernier plate.
   b. On the measuring bar, read the 10th's and 40th's before the zero on the Vernier plate. In this case 4 tenths, (.400), and 2 fortieths, (.050 = .025 + .025).
   c. Find the division on the Vernier plate that most exactly aligns with a division on the measuring bar. In this illustration, it is 9 or .009.

2. The total of the four readings is the correct reading. As illustrated:

1.000
.400
.050
+.009
1.459

QUESTIONS ON VERNIER GAGE

1. The vernier plate is divided into how many parts?
2. The bar of the vernier is graduated into what fraction, or part of an inch?
3. For measuring vertical distance, from a plane surface, what type vernier gage would you use?
4. The vernier scale makes measurement down to what size?
5. For what tasks in the machine shop is the vernier height gage of value?
6. How much shorter than the bar scale division is the vernier division?
7. What distance in thousands does each division on the vernier represent?
8. What length in thousands does each division on the bar represent?
9. Should you use a magnifying glass when using a vernier gage?
10. Identify 5 parts of a vernier height gage.

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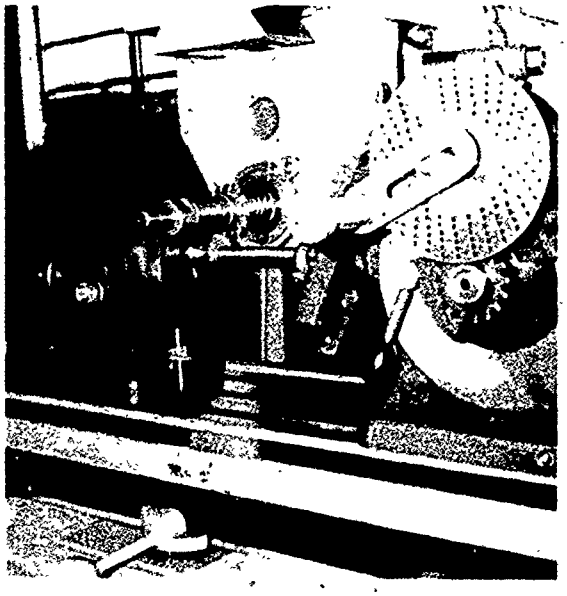
Objective: To machine divisions using a dividing head.

A. Tools and equipment:

1. Horizontal milling machine
2. Dividing head
3. Mandrel
4. Proper mill cutter
5. Dog
6. Dividing head center
7. Dead center

B. General Information:

The dividing head is a machine for accurately dividing the work surface into equally spaced divisions. Its main parts consist of the index plate, sector arm, worm, worm wheel, crank and spindle.



When the crank is turned, the shaft turns the worm and moves the shaft; the worm and worm wheel are a part of the spindle shaft assembly. The indexing plates are round and flat with holes accurately spaced in circles so when the crank is turned it will divide the work into fractional divisions. There are usually 3 plates furnished with the dividing head. They usually have these hole circles:

Plate 1–15–16–17–18–19–20
Plate 2–21–23–27–29–31–33
Plate 3–37–39–41–43–47–49

There are other plates available that are numbered differently.

The sector arms can be set and locked to cover a given number of holes. It is used to locate crank without counting holes. There are several types of index heads, the most common has a ratio of 40–1. This means 40 turns of the crank gives 1 revolution of the spindle.

Simple Indexing

Simple or plain indexing is the number of divisions needed being obtained by turning the crank to a circle of holes in the plate, located on the dividing head.

C. Procedure:

1. Divide the number of turns the crank must be revolved to produce one turn of the spindle (40) by number of the divisions needed.

2. If a mixed number results, reduce the fraction to its lowest terms. This fraction is the part of the turn that must be obtained by use of holes.

3. Multiply the fraction obtained in Step 2 (both numerator and denominator) by a constant which will raise the denominator to a figure which is equal to one of the circle of holes in the index available. The denominator of the fraction obtained represents the circle of holes to be used; while the numerator represents the number of holes to be indexed in the circle.

Example – Need 7 slot on a shaft.

a. 40 ÷ 7 = 5 5/7 turns of crank needed for each division.
b. To get 5/7 of a turn, use 21 hole circle on plate 2.
c. Multiply 5/7 by 3/3 = 15/21

Thus the number of turns needed would be 5 complete turns, plus 15 holes in 21 hole-circle.

Compound Indexing

General Information:

Compound indexing is used when the number of divisions needed is not available on plates.

In compound indexing, the crank is used as it is in simple indexing except that the indexing plate is turned either in the opposite or the same direction as the crank in order to get the correct fractional part of the turn. When indexing movement is marked 3 45/47 minus 5/49, it means the crank makes 3 turns plus 45 holes on 47 hole plate circle; and the indexing plate is turned back 5 holes in the 49-hole circle. Minus means the plate is turned in the opposite direction of the crank while plus means plate is turned in same direction as crank. It is acceptable to use the Machinery's Handbook which has a table for compound indexing for divisions from 51 through 250.

Angular Indexing

General Information:

Angular indexing is used when it is needed to divide a job into angular divisions. For example, should the ratio of indexing machine be 40–1, one complete turn of the crank would equal 1/40 of 360°. Thus one complete turn of crank is equal to 9°. If indexing is required in minutes (60 minutes = 1 degree), you need only to multiply 9 by 60, which equals 540 minutes or the number of minutes obtained by one turn of the crank.

Example – Use 25½° as required angle.

$$\frac{25\frac{1}{2} \times 60}{540} \qquad \frac{1530}{540} = 2\ 45/54 = 2 \text{ turns plus } 15/18 \text{ hole/circle}$$

Rotary Table

General Information:

The rotary table can be used in indexing because it is graduated in degrees. The crank is also graduated to allow a partial turn. One complete turn of crank equals 3°, or a ratio of 120–1.

Example –
To index for 20 divisions.

$$\frac{120}{10} = 12 \text{ turns of crank.}$$

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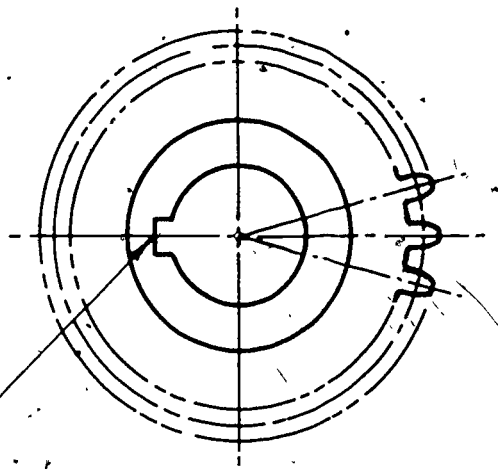

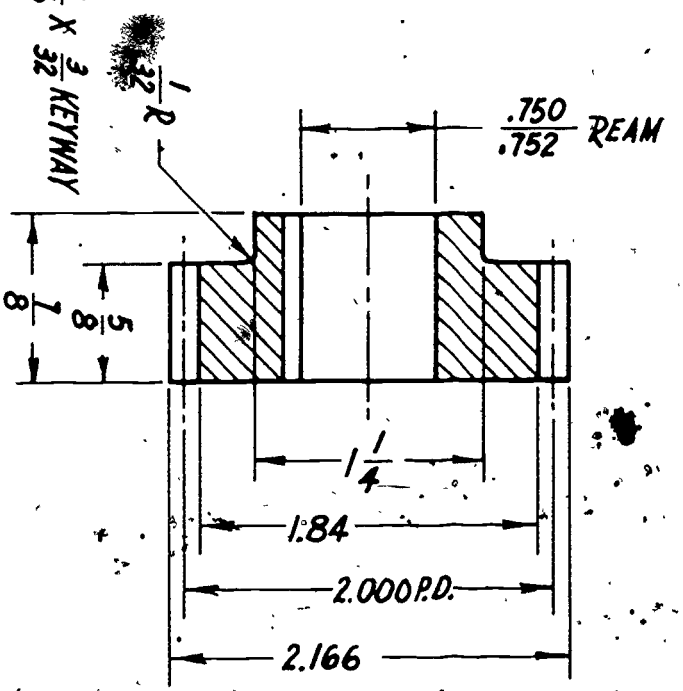

DATA FOR GEAR

DIAMETRAL PITCH	12
PITCH DIA	2.000
NO. OF TEETH	24
PRESSURE ANGLE	14 1/2°
DEDENDUM	.0971
ADDENDUM	.166

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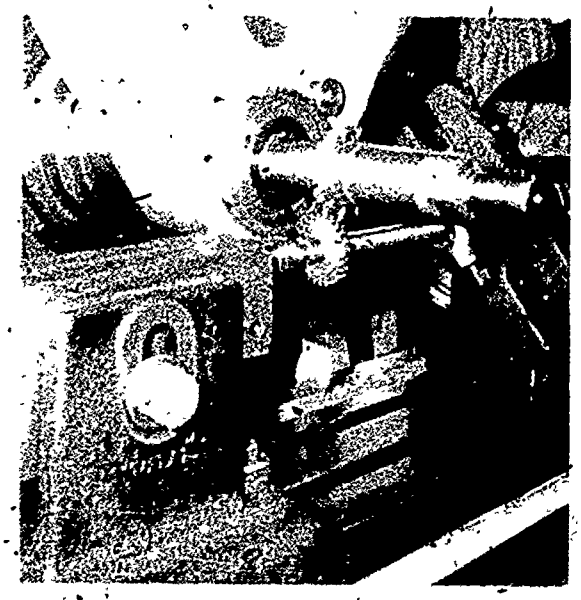
Objective: To mill cut a spur gear needing 24 teeth.

A. Tools and equipment:

1. Horizontal milling machine.
2. 14½° gear cutter #5 – 16 pitch
3. Index head and tail center
4. Arbor

B. Procedure:

1. Mount the dividing head and tail stocks center, on the milling machine table. Be sure there is a perfect alignment between the center lines.
2. With the cross feed handle, move the table as close as possible to the miller column, set the cross feed dial on zero.
3. Put the cutter on the arbor, use the conventional milling method, set the cutter rotation to cut to the head stock of the dividing head.
4. Center the cutter over the gear blank by adjusting the cross feed hand wheel.
5. Use an 18 hole plate.



6. Turn the motor on and raise the table to touch the gear blank.

7. The depth of the cut is 0.135, but on the first cut go 0.090 deep and make the rest of the cut on second cut.

8. Now turn the index crank one turn and 12 holes on 18 hole plate.

9. Repeat steps 6 and 7 until the operation is complete.

10. Check each division for depth and width of cut.

11. Remove the job and clean up the machine.

General Information:

The purpose of this lesson is to familiarize the student with that portion of the handbook dealing with keys, keyways, and their uses.

Keys and Keyways:

A key is a parallel sided piece, flat or tapered on top and usually made of cold rolled steel. It is used to prevent slippage where power is being transmitted to or from a wheel or shaft. The keyway is the pocket or slot that is machined into the shaft to retain the key. It is also the slot machined into the hub of the gear, pulley, or whatever the object that fits on the shaft. Keys are also used to locate the various parts of machine tools. The types of keys to be discussed in this lesson are:

1. Gib-head taper stock keys
2. Square stock keys
3. Flat plain parallel stock keys
4. Woodruff keys
5. Kennedy double and single keys
6. Feathered keys

The gib-head taper stock key is used where the resistance is great and the r.p.m. low. This key has a gib-head on one end, is parallel on the sides, and has a taper of one-eighth inch per foot on top. When the key is in place, the space between the hub and the gib-head should be large enough to allow for the removal of the key.

The square stock key is the one most commonly used for wheels and pulleys. It is cut from a bar of cold rolled stock and requires no machining.

The flat plain parallel stock key replaces the square key when it is necessary to use a key with a greater width than height. This key is made of cold rolled steel and requires no machining.

When the square or flat plain parallel key is used for locating purposes, it may be made of cold rolled steel, tool steel hardened and ground, or machine steel carburized hardened and ground, depending upon the tolerance and whether or not the assembly is to be permanent.

The Woodruff key is similar in shape to a half disc. It is made of steel, has parallel sides and it is slightly less than a half circle.

The thickness, height and width are determined by the size of the shaft.

The Kennedy single and double keys are used where it is necessary to transmit heavy loads. The single key is used for diameters up to and including six inches provided the torque is quite constant and the power is transmitted in one direction. Where the direction of rotation is periodically reversed, double keys should be used for diameters down to and including four inches.

A feathered key is a key which may be considered as permanent. It is fastened in place by screws or is fitted into a pocket in the shaft, thus eliminating any movement.

Machining Keyways:

When machining a shaft for the gib-head taper stock key, a side-cutter, saw, or end mill may be used. The sides and bottom of the keyway should be straight and parallel. The keyway in the hub may be broached or machined on a slotter or a shaper. The sides should be straight and parallel with the bottom tapered one-eighth inch per foot.

When machining the shaft for the square, or the flat plain parallel stock key, the method described above is used. The keyway in the hub is also machined as explained above with the exception that the bottom of the keyway is machined parallel to the axis of the shaft.

When machining the shaft for a feathered key, which is fastened by means of screws, a side cutter, saw, or end mill may be used. When the key fits into a pocket an end mill must be used to machine the pocket.

Key-seats or key-slots for the Woodruff keys are machined with a Woodruff keyway cutter. These cutters are of the proper width and diameter for the various sizes of Woodruff keys. The size of the shank of the Woodruff keyway cutter is such as to allow the proper depth of the keyseat when it contacts the top of the shaft.

The American Standard Association has adopted a system whereby the key number indicates the nominal size of the Woodruff-key-seat cutter. According to this system, a number of three or four digits is used. The last two digits indicate the diameter of the cutter in eighths of an inch, the preceeding digit or digits indicate the thickness in thirty-seconds of an inch. For example: If the American Standard Number is 1210, it would indicate a key that is 12/32" or 3/8" wide x 10/8" or 1¼" in diameter.

Questions on Keys and Keyways

1. What machine in the shop uses a Woodruff key?
2. What machine is used in manufacturing a square stock key?
3. How is the thickness and height of a Woodruff key determined?
4. Explain what a keyway is used for.
5. Are keys used for any other purpose than transmission of power? Explain.
6. What type of key should be used if the rotation of the shaft is being constantly reversed?
7. What kind of cutter is used to machine Woodruff key slots?
8. Why is the gib-head on a gib-head key used?
9. What machines can be used to make a keyway?
10. What kind of key is held in position by a screw?

APPENDIX A

APPENDIX A

Student Progress Chart — Machine Shop

Student's Name _____

		Date Completed	Instructor's Signature
I.	Material Handler _____		
II.	Bench Work _____		
	A. Safety		
	B. Laying Out (Basic)		
	C. Filing		
	D. Hacksawing		
	E. Hand Drilling		
	F. Tapping		
	G. Reaming		
	H. Die Threading		
	I. Fitting		
	J. Assembling		
	K. Machine Repairing		
	L. Tool Repairing		
	M. Care of Belt		
III.	Drill Press Operator _____		
	A. Safety		
	B. Care and Operation of Press		
	C. Laying Out		
	D. Clamping		
	E. Straight Drilling		
	F. Angular		
	G. Drilling to Depth		
	H. Countersinking		
	I. Counterboring		
	J. Spotfacing		
	K. Reaming		
	L. Speeds and Feeds		
	M. Drill Grinding		

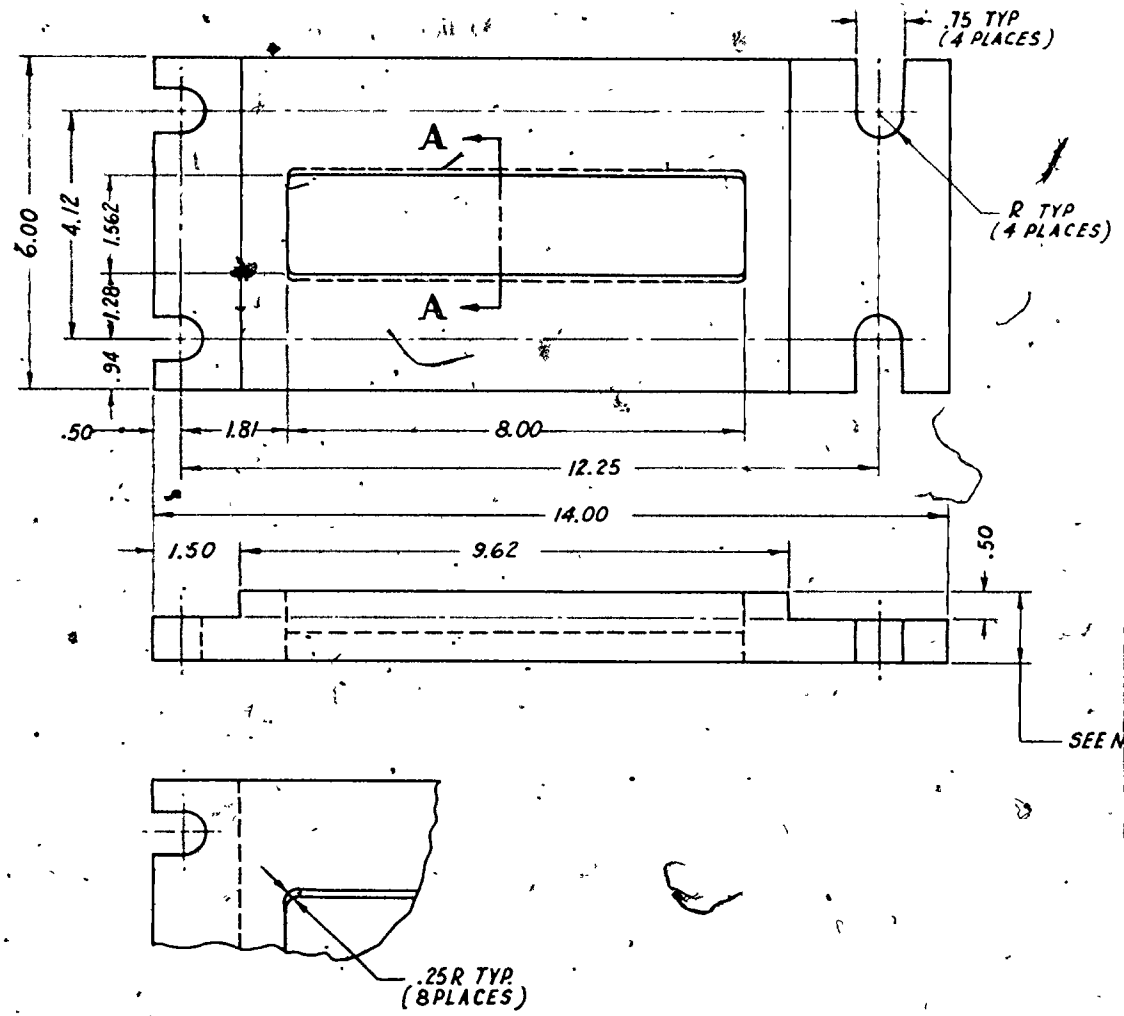
	Date Completed	Instructor's Signature
IV. Shaper Operator		
A. Safety		
B. Care and Operation of Shaper		
C. Setting Up		
D. Clamping		
E. Horizontal Shaping		
F. Vertical Shaping		
G. Angular		
H. Shaping to Template		
I. Splining and Grooving		
J. Tool Grinding		
K. Speeds and Feeds		
L. Finishing		
V. Surface Grinder Operator		
A. Safety		
B. Care and Operation of Grinder		
C. Setting Up		
D. Care of Wheels		
E. Truing		
F. Use of Magnetic Chuck		
G. Flat Grinding		
H. Step		
I. Angular		
J. Vise Work		
VI. Lathe Operator (Chuck Work)		
A. Safety		
B. Care and Operation of Machine		
C. Setting Up		
D. Facing		
E. Centering		
F. Turning		
G. Drilling		
H. Reaming		
I. Tapping		
J. Boring		
K. Counterboring		
L. Taper Bore		
M. Thread Bore		
N. Cutting Off		
O. Face Plate Work		
P. Speed and Feeds		

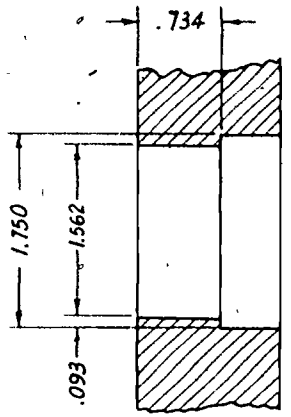
	Date Completed	Instructor's Signature
VII. Lathe Center Work		
A. Safety		
B. Care and Operation of Machine		
C. Laying Out		
D. Centering		
E. Facing		
F. Straight Turning		
G. Shoulder		
H. Taper		
I. Radius		
J. Knurling		
K. Mandrel Turning		
L. Thread Turning		
M. Speed and Feeds		
N. File and Finish		
O. Steady Rest Work		
P. Follow Rest Work		
Q. Tool Grinding		
VIII. Milling Machine Operator (Horizontal)		
A. Safety		
B. Care and Operation of Machine		
C. Setting Up		
D. Clamping		
E. Speeds and Feeds		
F. Plain Milling		
G. Side		
H. End		
I. Angular		
J. Splining and Grooving		
K. Drilling		
L. Reaming		
M. Boring		
N. Indexing		
O. Gear Milling		

		Date Completed	Instructor's Signature
IX.	Milling Machine Operator (Vertical)		
	A. Safety		
	B. Care and Operation of Machine		
	C. Setting Up		
	D. Clamping		
	E. Speeds and Feeds		
	F. Plain Milling		
	G. Side		
	H. End		
	I. Angular		
	J. Splining and Grooving		
	K. Drilling		
	L. Reaming		
	M. Boring		
	N. Indexing		
	O. Gear Milling		
X.	Machine Repair, Universal Grinder		
	A. Safety		
	B. Care and Operation of Grinder		
	C. Care of Wheels		
	D. Truing		
	E. St. Cylindrical Grinding		
	F. Shoulder Grinding		
	G. Taper		
	H. Face		
	I. Cutter		
	J. Internal		
XI.	Band Saw Operator		
	A. Safety		
	B. Care and Operation of Band Saw		
	C. Blade Selection		
	D. Blade Joinery (Welding)		
	E. Contour Sawing		
	a. Internal		
	b. External		
	F. Feeds and Speeds		
XII.	Heat Treating		
XIII.	Numerical Control		

APPENDIX B

ERIC





SECTION A-A
(FULL SCALE)

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NOTES:

1. MAT'L THICKNESS MAY VARY BETWEEN 1.25 & 2.00.
2. ALL MACHINED SURFACES TO BE 125 OR BETTER

TITLE:	BASE, VICE
DR. R.W	MAT'L: 1/2 HARD H.R. STEEL or EQUIV.
SCALE: 1/2 SIZE	FINISH: DEGREASE PRIOR TO WELDING
3 PLACE DEC. ±.005 2 PLACE DEC ±.02	10000-1

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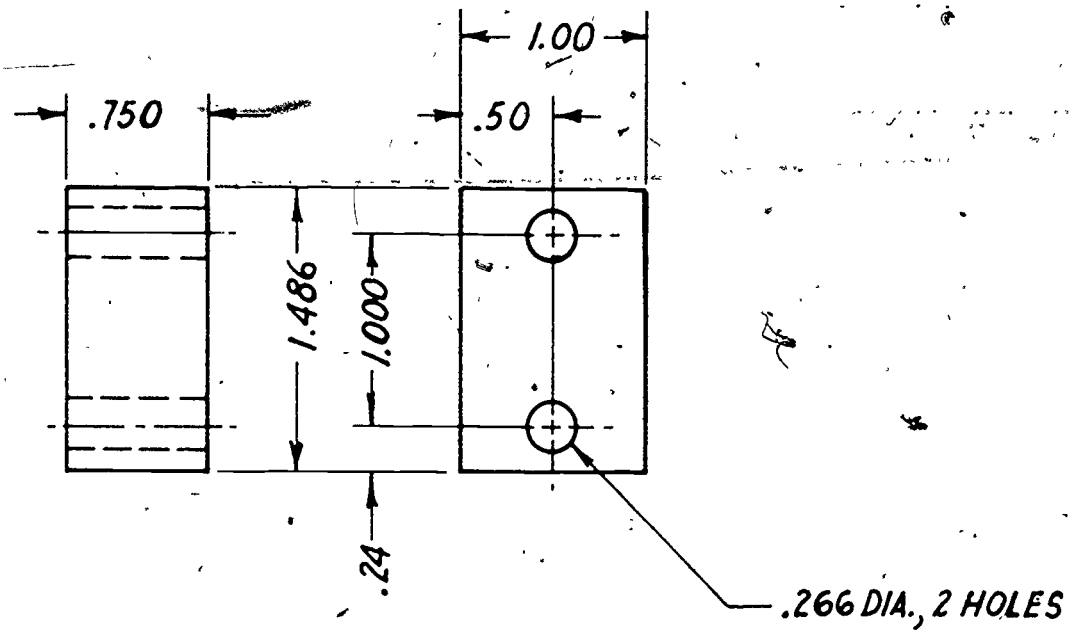

NOTES:

1. BREAK ALL SHARP EDGES EXCEPT EDGES OF HOLES.
2. COAT WITH LIGHT MACHINE OIL AFTER FABRICATION.

TITLE: BLOCK, SLIDE	
DR: D.P.	MAT'L: 1/2 HARD H.R. STEEL OR EQUIV.
SCALE: FULL SIZE	FINISH: SEE NOTE Nº 2.
3 PLACE DEC. ±.005 2 PLACE DEC. ± .02	10002-1

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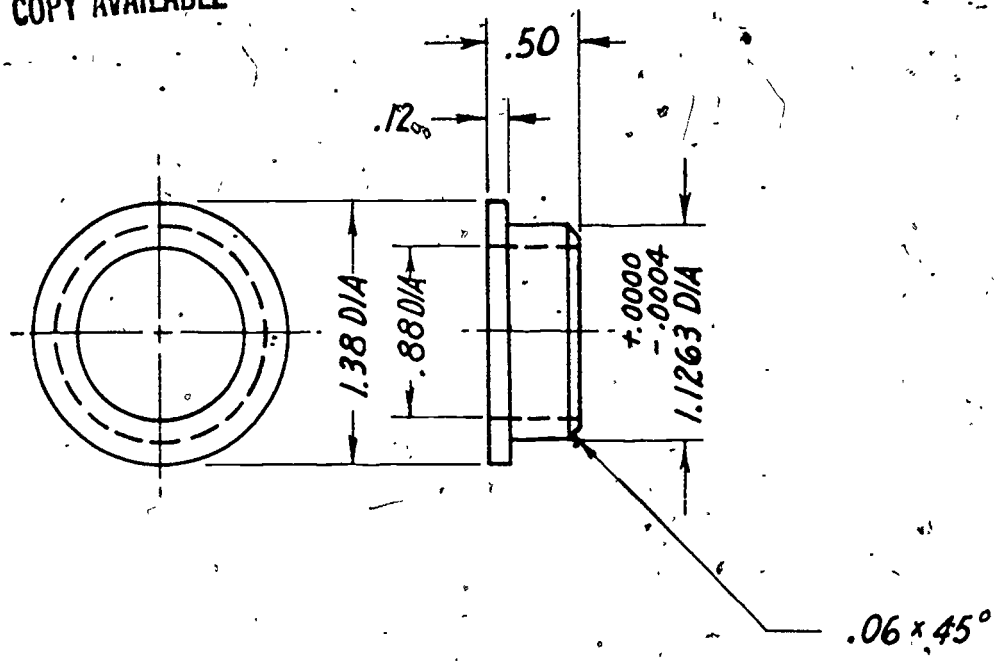

TITLE:	INSERT, SCREW SUPPORT
DR. D.P.	MAT'L: FREE MACH. BRASS ROD
SCALE: FULL SIZE	FINISH: ~
3 PLACE DEC. ±.005 2 PLACE DEC. ±.02	10003-1

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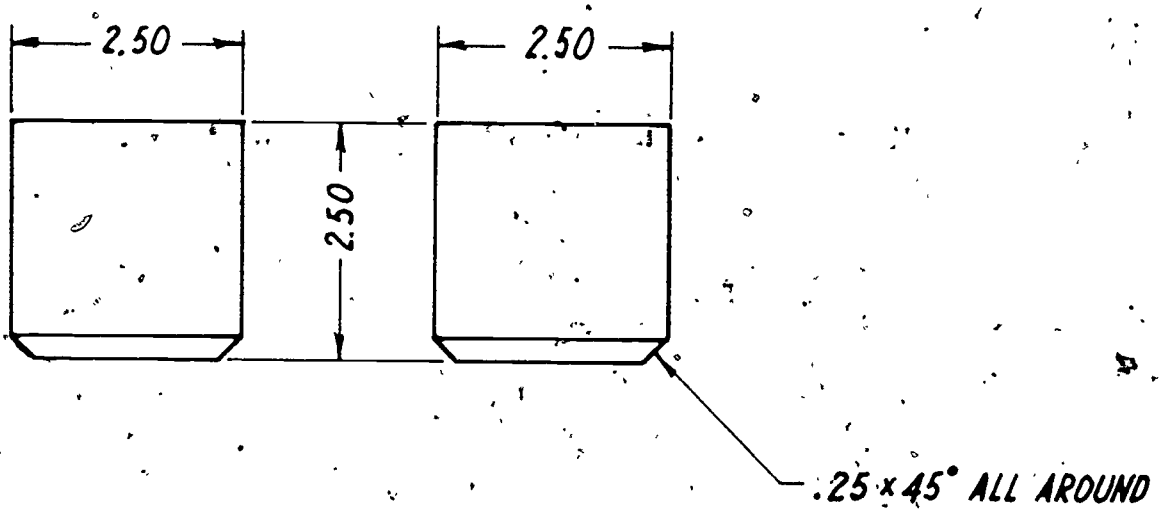

TITLE:	SUPPORT, SCREW
DR. DP	MAT'L: 1/2 HARD H.R. STEEL OR EQUIV.
SCALE: 1/2 SIZE	FINISH: DEGREASE PRIOR TO WELDING
3 PLACE DEC ±.005 2 PLACE DEC. ±.02	10004-1

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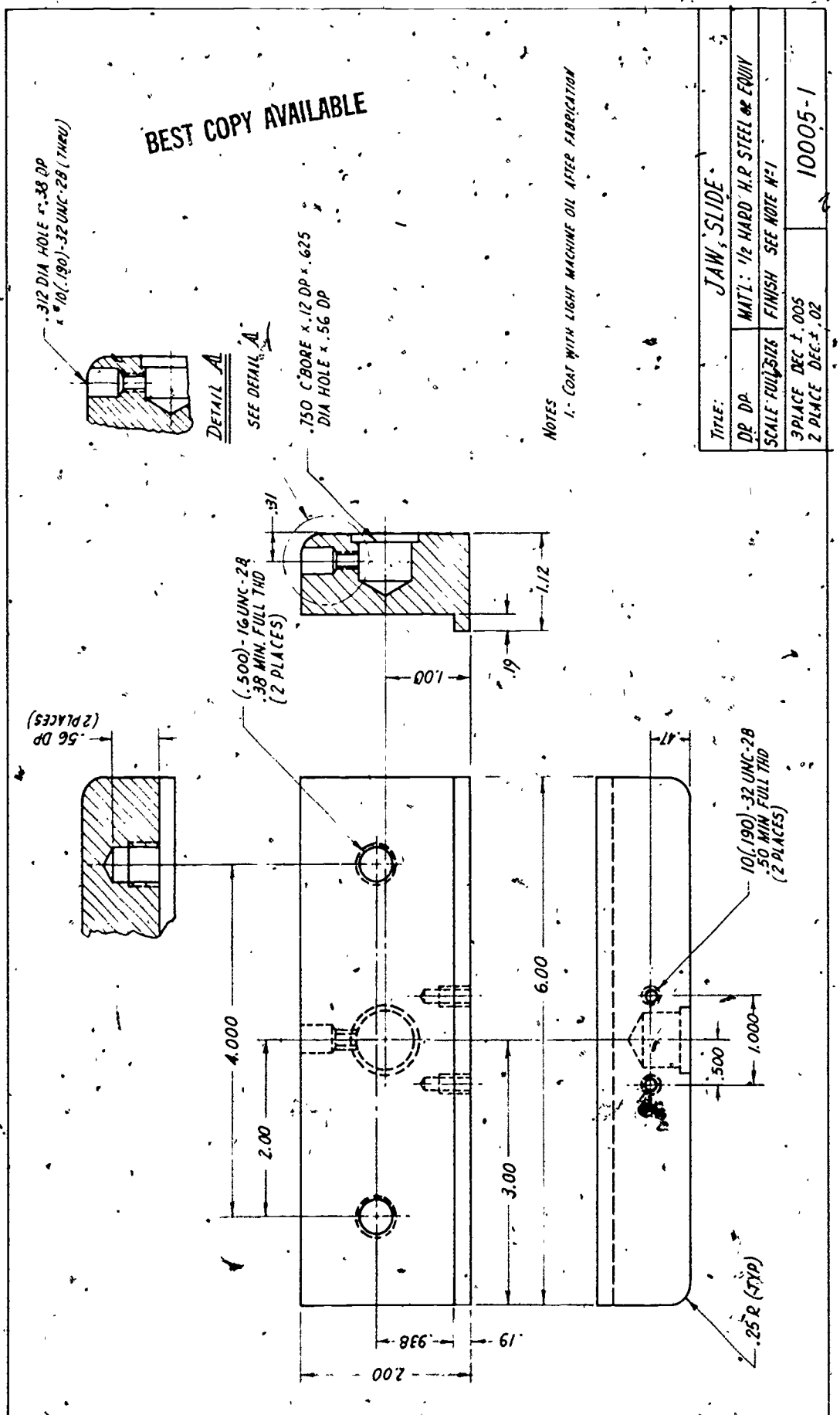

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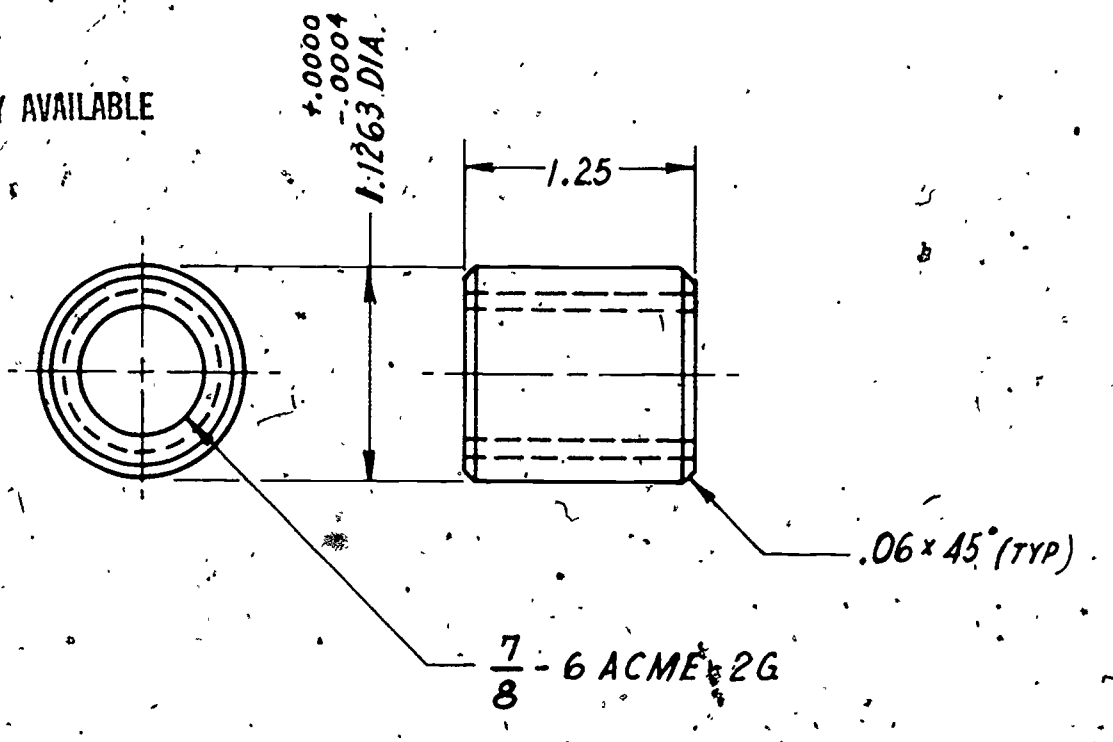

TITLE:	INSERT, THREADED
DR. DP.	MAT'L: FREE MACHINING BRASS ROD
SCALE: FULL SIZE	FINISH:
3 PLACE DEC. ±.005 2 PLACE DEC. ±.02	10006-1

ERIC

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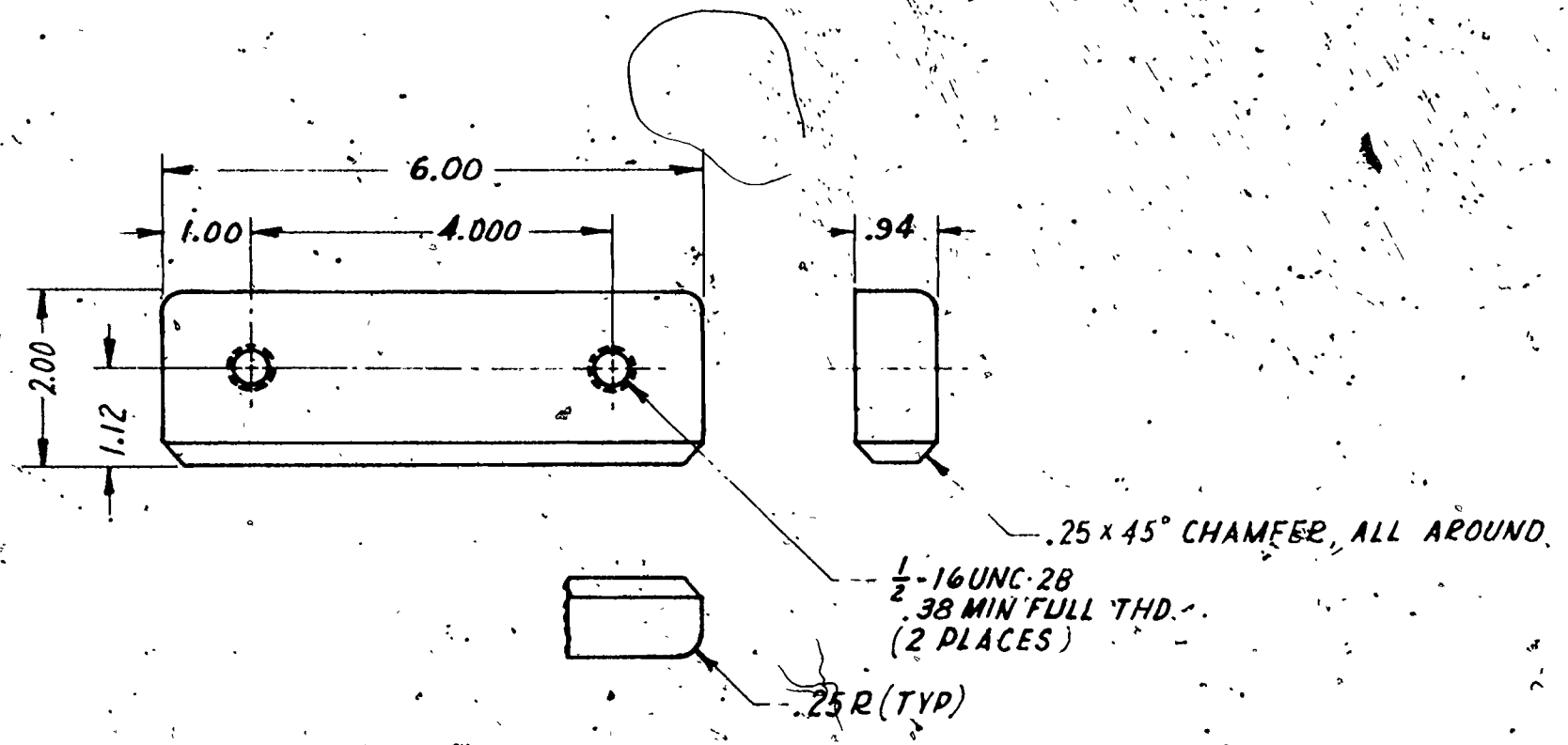
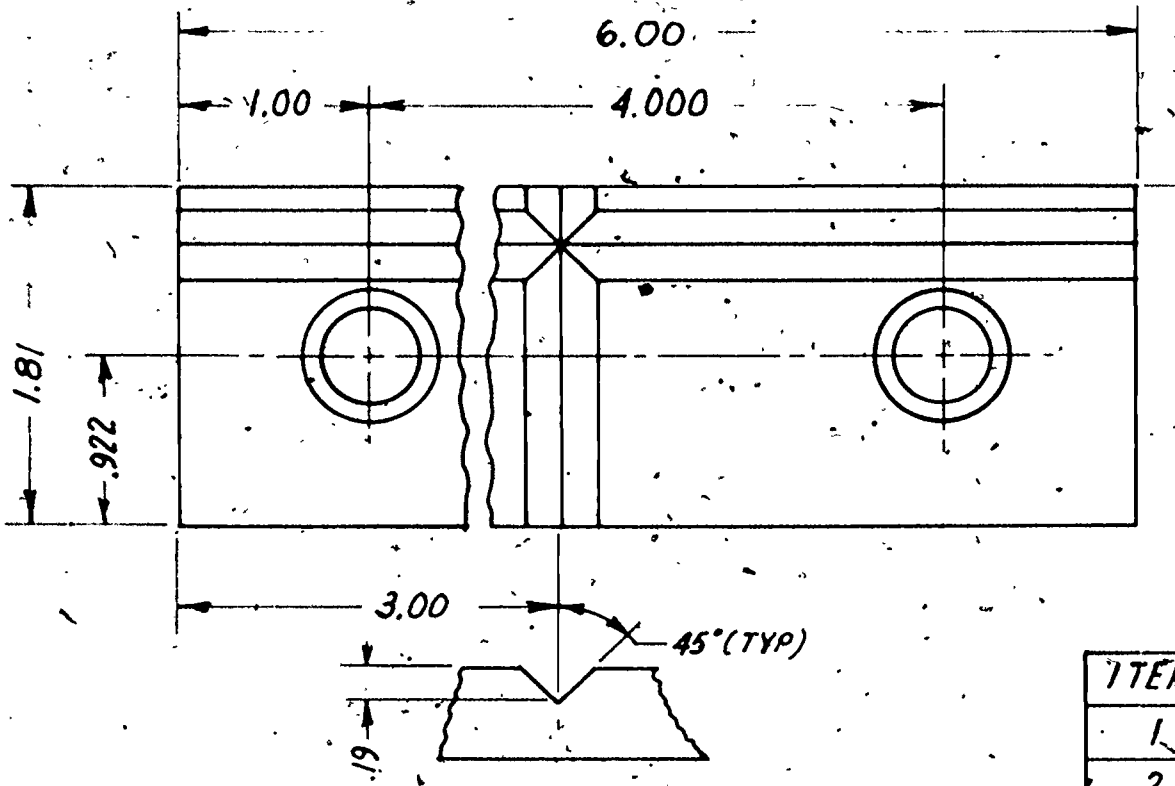


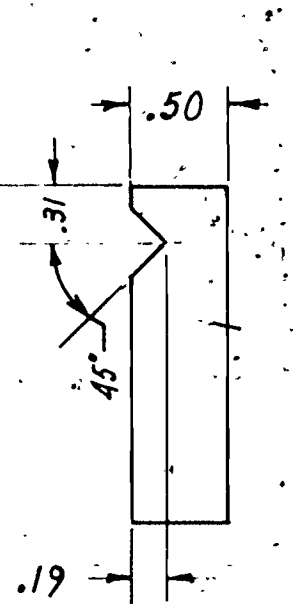
NOTES:

1.- COAT WITH LIGHT MACHINE OIL AFTER FABRICATION.

TITLE: JAW, STATIONARY	
DR. DP	MAT'L: 1/2 HARD H.R. STEEL OR EQUIV.
SCALE: 1/2 SIZE	FINISH: SEE NOTE Nº1
3 PLACE DEC: ±.005 2 PLACE DEC: ±.02	10007-1

ERIC





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ITEM	DESCRIPTION
1	AS SHOWN
2	OMIT .19 DEEP GROVE

TITLE:	PLATE, JAW
DR. DP	MAT'L: 1/2 HARD. H.R. STEEL or EQUIV.
SCALE: FULL SIZE	FINISH: COAT WITH LIGHT MACH. OIL
3 PLACE DEC. ±.005 2 PLACE DEC ±.02	10008-ITEM

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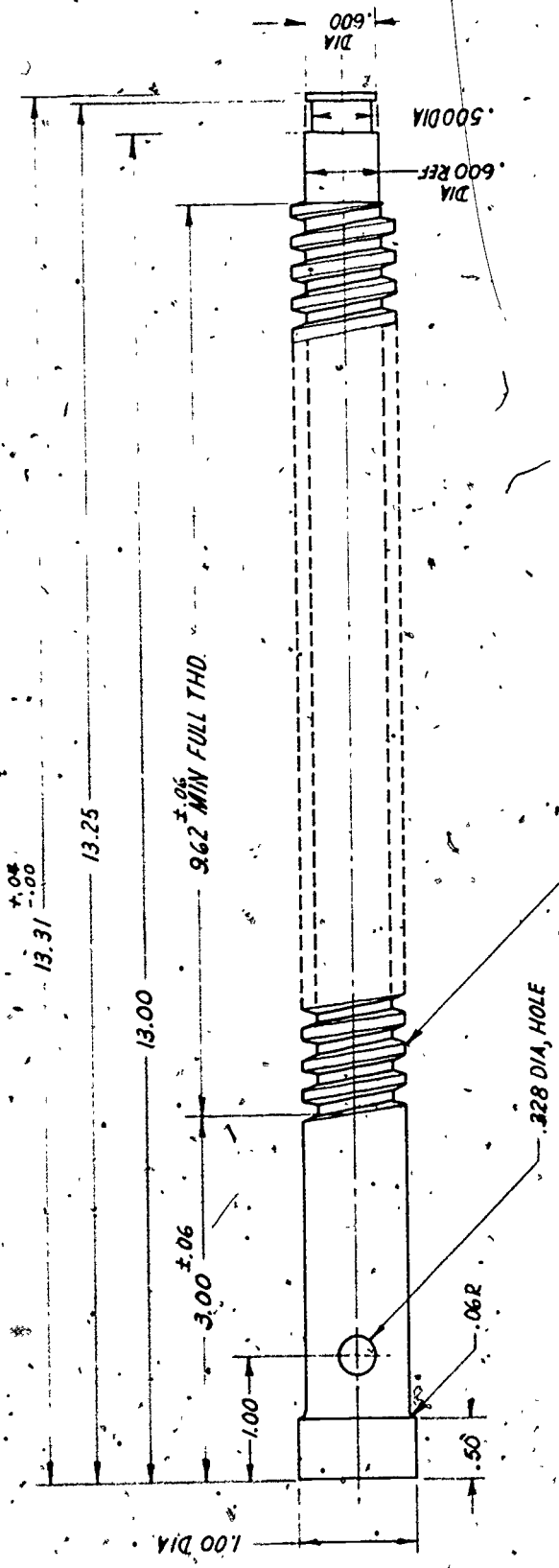

TITLE:	JACK SCREW
DR. DP	MAT'L: 1/2 HARD HP STEEL or EQUIV.
SCALE: FULL SIZE	FINISH: ~
3 PLACE DEC. ± .005 2 PLACE DEC. ± .02	- 10009-1

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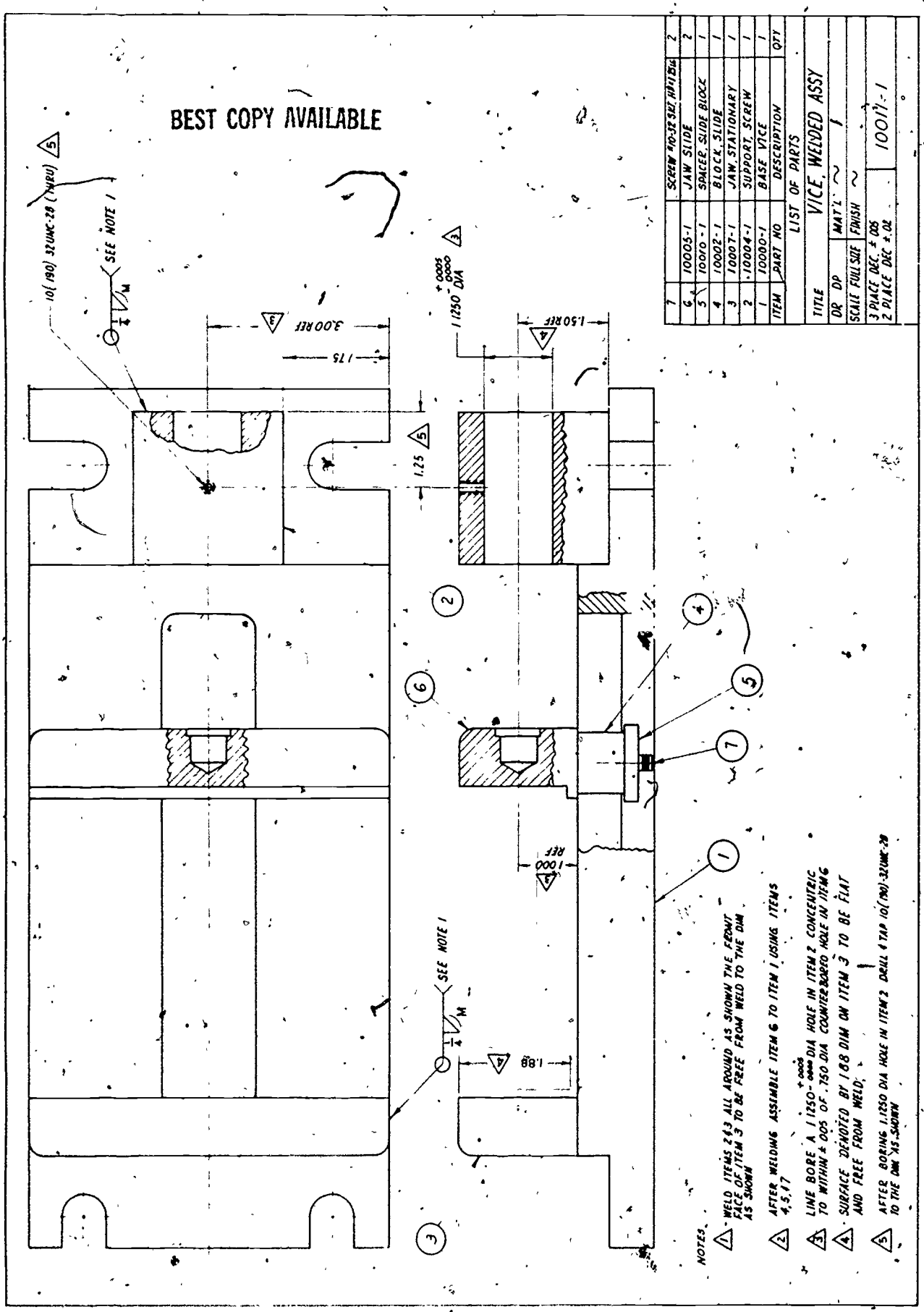

ITEM	PART NO	DESCRIPTION	QTY
7		SCREW #10-32 SOC HD CAP	2
6	10005-1	JAW SLIDE	2
5	10010-1	SPACER, SLIDE BLOCK	1
4	10002-1	BLOCK, SLIDE	1
3	10007-1	JAW, STATIONARY	1
2	10004-1	SUPPORT, SCREW	1
1	10000-1	BASE VICE	1

LIST OF PARTS

TITLE: VICE, WELDED ASSY

DR DP | MAT'L ~ | 1

SCALE FULL SIZE | FINISH ~ | 10017-1

3 PLACE DEC. ± .005
2 PLACE DEC. ± .02

NOTES:

1. WELD ITEMS 2 & 3 ALL AROUND AS SHOWN THE FRONT FACE OF ITEM 3 TO BE FREE FROM WELD TO THE DIM AS SHOWN
2. AFTER WELDING ASSEMBLE ITEM 6 TO ITEM 1 USING ITEMS 4,5,17
3. LINE BORE A 1.1250 +.0005 -.0000 DIA HOLE IN ITEM 2 CONCENTRIC TO WITHIN ± .005 OF .750 DIA COUNTERBORED HOLE IN ITEM 6
4. SURFACE DENOTED BY 1.88 DIM ON ITEM 3 TO BE FLAT AND FREE FROM WELD.
5. AFTER BORING 1.1250 DIA HOLE IN ITEM 2 DRILL & TAP 10(190)-32UNC-2B TO THE DIM AS SHOWN

ERIC

ERIC

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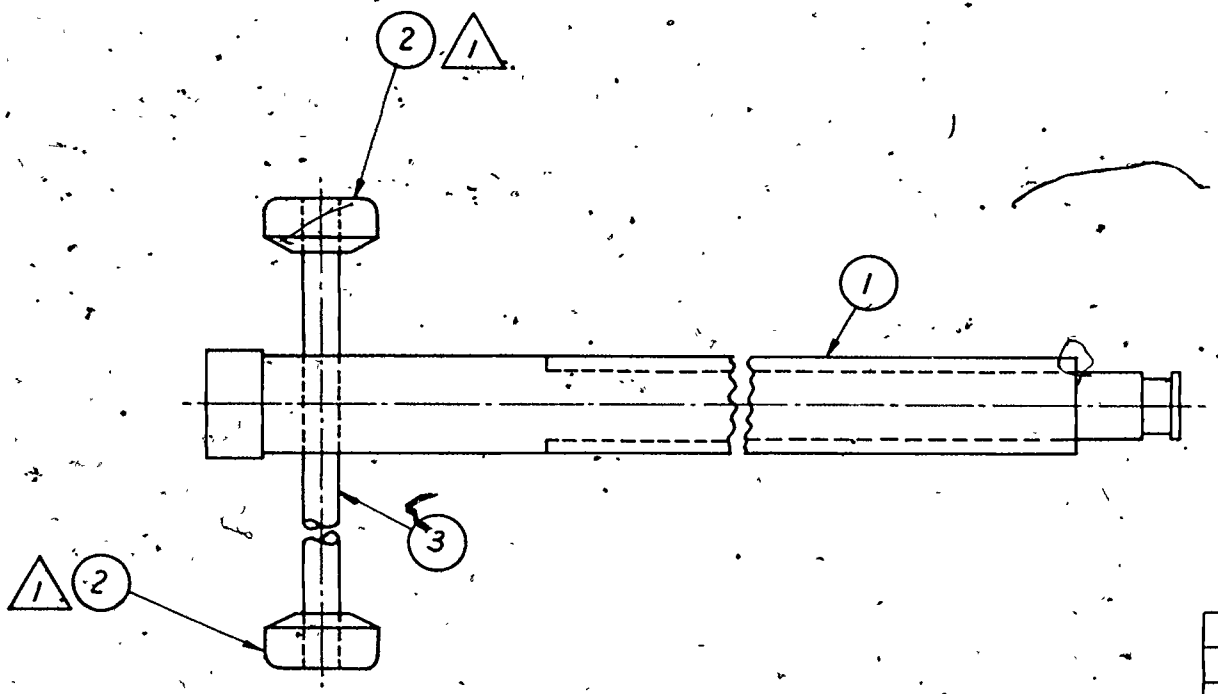


NOTES:

1 - PRESS ITEM 2 ON TO ITEM 3. THE TOP SURFACE OF ITEM 3 TO BE FLUSH WITH TOP SURFACE OF ITEM 2, OR BELOW.

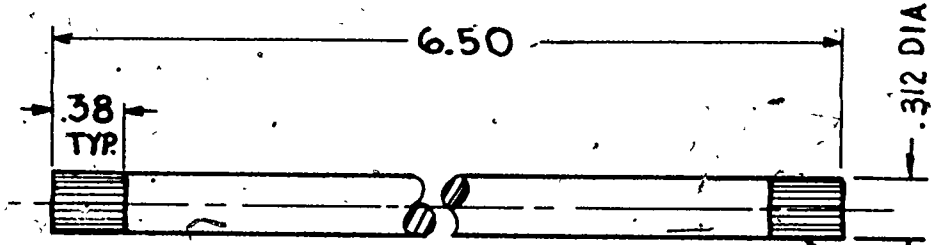
ITEM	PART NO.	DESCRIPTION	QTY
3	10013-1	ROD, HANDLE	1
2	10014-1	KNOB, HANDLE	2
1	10009-1	JACK SCREW	1

LIST OF PARTS

TITLE: JACK SCREW ASSY

DR. DP	MAT'L: ~
SCALE: FULL SIZE	FINISH: ~
3 PLACE DEC. ±.005 2 PLACE DEC ±.02	10012-1

ERIC



KUURL TO FIT $\pm .005$ .312 DIA. HOLE
(2 PLACES)

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TITLE:	ROD, HANDLE
DR. D.P.	MAT'L: 1/2 HARD H.R. STEEL OR EQUIV
SCALE: FULL SIZE	FINISH: ~
3 PLACE DEC $\pm .005$ 2 PLACE DEC $\pm .02$	10013-1

65
76

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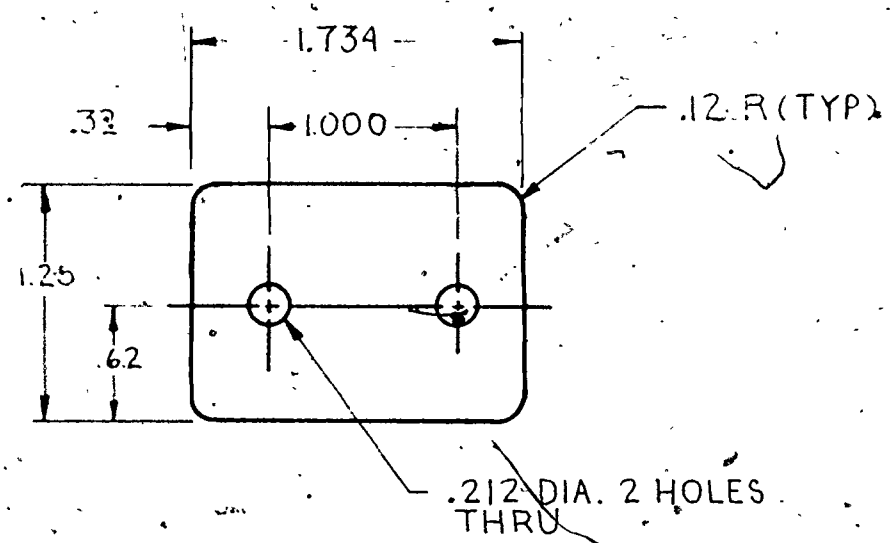

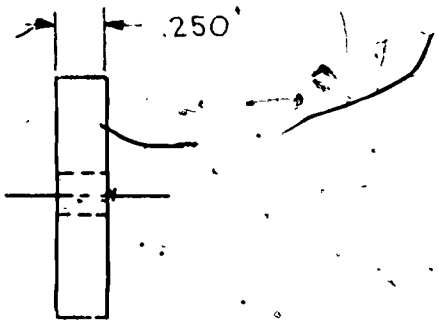

NOTE;

1. BREAK ALL SHARP EDGES EXCEPT EDGES OF HOLES

TITLE:	SPACER, SLIDE BLOCK
DR. S.H	MAT'L: 1/2 HARD H.R. STEEL OR EQUIV.
SCALE: FULL SIZE	FINISH: ~
3 PLACE DEC ±.005 2 PLACE DEC ±.02	10014-1

ERIC

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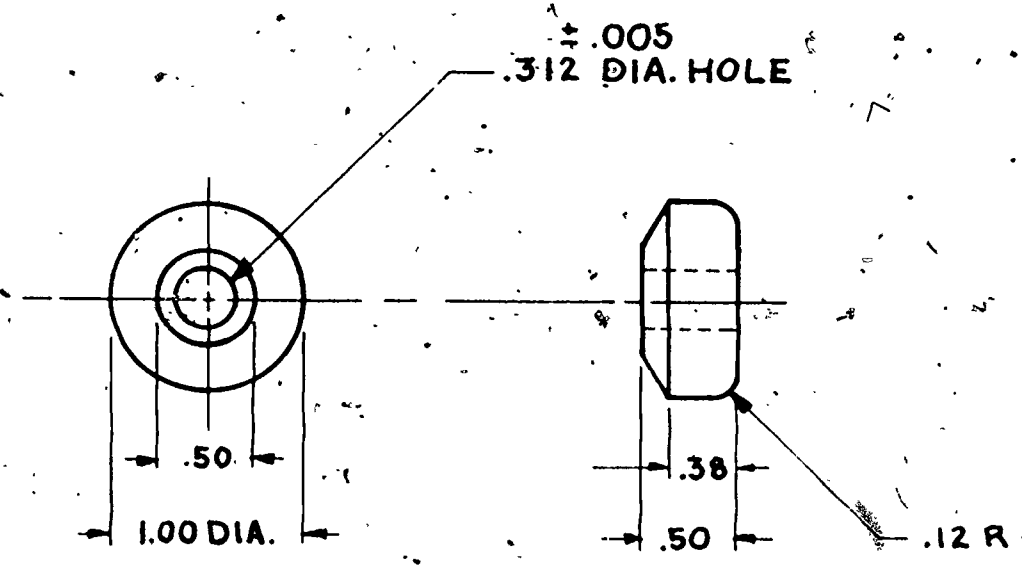
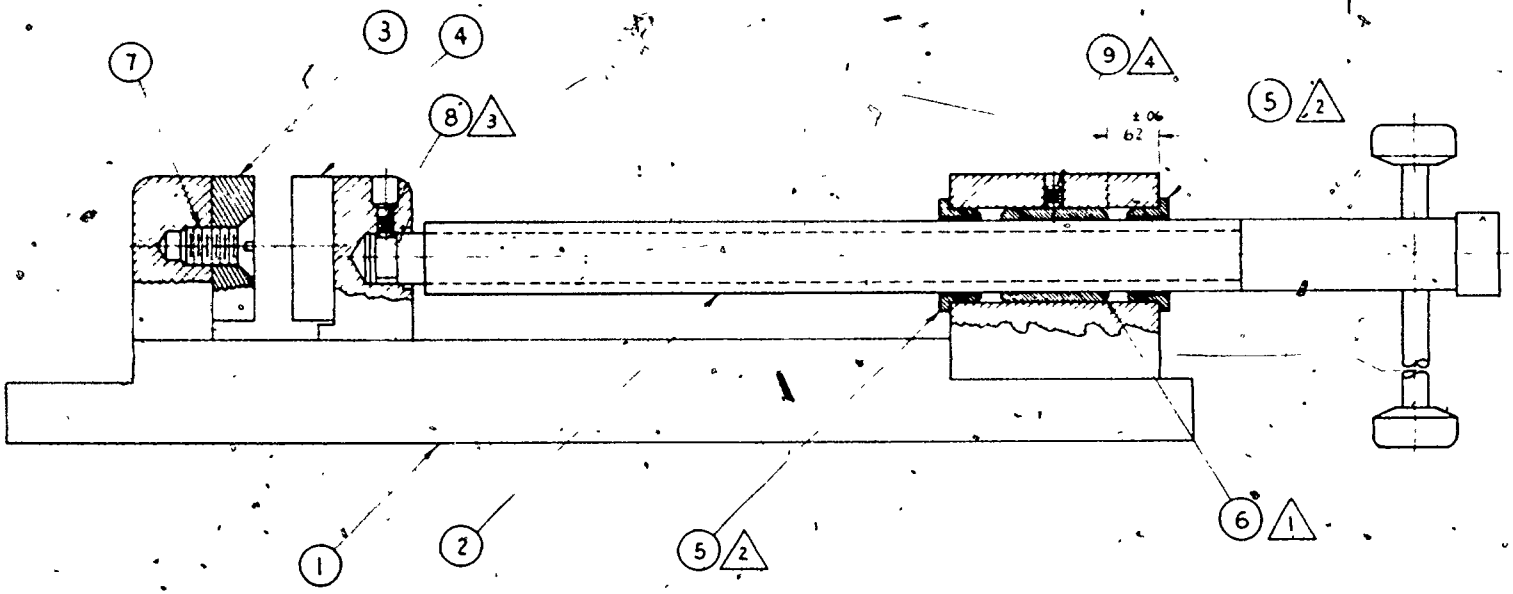


TITLE: KNOB, HANDLE	
DR. OP.	MAT'L: 1/2 HARD H.R. STEEL OR EQUIV
SCALE: FULL SIZE	FINISH: ~
3 PLACE DEC ±.005 2 PLACE DEC ±.02	10015-9

ERIC



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NOTES

1. PRESS ITEM 6 INTO BLOCK OF ITEM 1 TO THE .62 ± .06 DIM AS SHOWN
2. AFTER POSITIONING ITEM 6, PRESS ITEM ITEM 5 INTO BLOCK OF ITEM 1, 2 PLACES AS SHOWN
3. SCREW ITEM 2 INTO PRESSED BUSHING POSITION LIP ON END OF SCREW PAST THREADED HOLE IN SLIDE JAW. INSERT ITEM 8 SO THAT SLIDE JAW WILL BE HELD CAPTIVE(SLIDE JAW MOVES BACK & FORTH) AND SCREW ROTATES WITH EASE
4. SECURELY FASTEN ITEM 9 TO SURFACE OF ITEM 6 TO PREVENT MOVEMENT OR ROTATION OF ITEM 6

ITEM	PART NO	DESCRIPTION	QTY
9	10(190) 32	SOCKET HD OVAL PT x 1/4 LG	1
8	10(.190)-32	SOCKET HD, CUP PT x 1/4 LG	1
7	1/2(500)-16	FLAT HD, 82° x 7/8 LG	4
6	10006-1	INSERT, THREADED	1
5	10003-1	INSERT, SCREW SUPPORT	2
4	10008-2	PLATE, JAW	1
3	10008-1	PLATE JAW	1
2	10012-1	JACK SCREW ASSY	1
1	10016-1	VICE, WELDED ASSY	1

LIST OF PARTS

VICE, ASSY

DR DP	MAT'L ~
SCALE FULL SIZE	FINISH ~
3 PLACE DEC ± .005 2 PLACE DEC ± 02	10016-1

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PUBLICATION DATE: NOV74

TITLE: HANDBOOK OF CAREER INFORMATION RESOURCES.

PERSONAL AUTHOR: FROEHSE, DENISE C.

DESCRIPTOR: *INFORMATION SOURCES; *RESOURCE MATERIALS; *RESOURCE GUIDES; *CAREER EDUCATION; *OCCUPATIONAL CLUSTERS; MANUALS; INSTRUCTIONAL MATERIALS

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DESCRIPTIVE NOTE: 166P.

ABSTRACT: THIS PUBLICATION LISTS INSTRUCTIONAL RESOURCES FOR CAREER EDUCATION. MATERIALS HAVE BEEN ORGANIZED IN TERMS OF THE 15 OCCUPATIONAL CLUSTERS DEVELOPED BY THE U.S. OFFICE OF EDUCATION. A LISTING OF JOB FAMILIES AND TYPICAL OCCUPATIONS WITHIN EACH CLUSTER PROVIDES EASY ACCESS TO THE RESOURCE LISTING WHICH FOLLOWS. MATERIALS LISTED INCLUDE TEACHING AIDS, FILMS, PAMPHLETS, AND ORGANIZATIONS. (AUTHOR/MU)

INSTITUTION NAME: RUTGERS, THE STATE UNIV., NEW BRUNSWICK, N.J. CURRICULUM LAB.

SPONSORING AGENCY NAME: NEW JERSEY STATE DEPT. OF EDUCATION, TRENTON. DIV. OF VOCATIONAL EDUCATION.

VT 101 415

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HANDBOOK

OF

CAREER INFORMATION

RESOURCES

STATE OF NEW JERSEY
DEPARTMENT OF EDUCATION
DIVISION OF VOCATIONAL EDUCATION
BUREAU OF OCCUPATIONAL RESEARCH DEVELOPMENT

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$1.50

State of New Jersey
Department of Education
Division of Vocational Education

HANDBOOK OF CAREER INFORMATION RESOURCES

Prepared by
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Vocational-Technical Curriculum Laboratory
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New Brunswick, New Jersey

November 1974
Publication #0001

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THE WORKING TREE

A HANDBOOK OF CAREER INFORMATION RESOURCES

State of New Jersey
Department of Education
Division of Vocational Education
Bureau of Occupational
Research Development

Developed by the New Jersey Curriculum Management Center Publication #0001

THE WORKING TREE

This publication lists instructional resources for career education. Hopefully, it will be of use both to those teachers involved in formal career education programs and to those attempting to enrich their courses with career education on their own.

Materials have been organized in terms of the fifteen occupational clusters developed by the U.S. Office of Education. A summary description of the structure of each cluster, listing job families and typical occupations, has been included. It is anticipated that this form of organization will allow the teacher easy access to the resource listing.

The materials listed in the publication include:

Aids
Films
Films and Pamphlets
Pamphlets
Organizations

Each occupational cluster section is internally organized by type of resource. It is expected that Aids and Films will be primarily of interest to the teacher, while Pamphlets and Organizations may be of direct use to the individual student.

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Agri-Business and Natural Resources

JOB FAMILIES

Research
Forestry
Land and Water Management
Fisheries and Wildlife
Mining and Quarrying
Petroleum and Related Products
Productive Agriculture
Processing and Marketing
Services

Regulatory - U. S. Department of Agriculture

Food and Drug Inspector
Agriculture Commodity Grader(Horticultural Inspector)
Agricultural Commodity Grader (Animal)
Plant and Animal Quarantine Inspector
Check Viewer
Mineral Inspector, Slate

Conservation

Soil Conservationist
Range Conservationist
Soil Scientist
Engineer, Agriculture
Plant Materials Technician
Agronomist
Biologist
Woodland Conservationist
Geologist
Agriculture Economist
Conservation Aide
Engineering Aide

Education

County Agricultural Agent
District Agricultural Agent
Specialist, Extension Service
Vocational Agriculture Teacher
Instructor, College of Agriculture

Research

Agriculture Economist
Agriculture Statistician
Agronomist
Biochemist
Biologist
Biophysicist
Economic Botanist
Plant Ecologist
Plant Taxonomist
Dairy Technologist
Engineer, Agriculture
Entomologist
Extension Specialist
Geologist
Geophysicist

Geneticist (Animal or Plant Breeder)
Horticulturist
Horticultural Products Specialist
Olericulturist
Ornamental Horticulture
Floriculturist
Arboriculturist
Pomologist
Market Analyst
Nutritionist
Pathologist
Research Director
Soil Scientist
Zoologist
Agricultural Aide
Agricultural Engineering Technician
Biological Aide
Feed Research Aide

Forestry

Forester
Forest Ecologist
Wood Technologist
Forester Aide
Fire Look Out
Forest Fire Fighter
Suppression - Crew Leader
Logger

Land and Water Management

Range Conservationist
Geologist
Engineer, Mining
Engineer, Agricultural
Surveyors
Engineer, Electrical
Engineer, Mechanical
Park Recreationist
Park Ranger
Park Naturalist
Park Superintendent
Irrigation Engineer
Reservoir Manager
Power Plant Operator

Fisheries and Wildlife

Fish and Wildlife Specialist
Fish Culturist
Game Farmer
Fish Farmer
Gamekeeper

Hatchery Man, Fish
Fish and Game Warden
Hunting and Fishing Guide
Predatory Animal Hunter
Trapper
Bird Trapper

Mining and Quarrying

Mining Engineer
Mining Draftsman
Gravity - Meter - Observer
Mines Safety Engineer
Mine Superintendent
Coal Inspector
Mine Foreman
Fire Boss
Machinery Operators, Mining Equipment
Miner
Quarryman
Stone Grader
Crusher Setter
Cobbler
Dispatcher
Coal Washer

Petroleum and Related Products

Geologist
Petroleum Engineer
Geophysicists
Seismograph Man
Superintendent, Drilling and Production
Tool Pusher
Driller
Rotary-Driller Helper
Mud-Plant Operator
Performer Operator
Pumper

Productive Agriculture

Poultryman
Poultry Breeder
Poultry Farmer
Dairyman
Orchardist
Farmer (Animal, Cash Grain, Crop Specialty)
Cattle Rancher
Cattle Farmer
Beekeeper
Sheep Farmer

Sheep Herder
Horse Breeder
Power Farm Machinery Operator
Farmhand
Farm Couple
Nurseryman
Nursery Worker
Tree Surgeon
Horseshoes
Animal Caretaker
Irrigator

Processing and Marketing

Broker
Sorter
Fruit Buying Grader
Cotton Classer
Ginner
Compress Operator
Superintendent, Grain Elevator
Drier Operator
Commission Man, Livestock
Auctioneer
Grader, Meat
Dairy Tester
Egg Candler

Service

Hatcherman
Foreman, Egg Room
Poultry, Technical Advisor
Poultry Technician
Chicken Sexer
Poultry Vaccinator
Blood Tester
Feed Miser
Field Contact Man
Artificial Breeding Technician
Artificial Inseminator
Dairy Tester
Representative, Breed Associations
Veterinarian
Laboratory Technician, Veterinary
Salesman
Farm Machine Set-Up Man
Farm Equipment Mechanic
Tractor Mechanic
Seed Grower
Seed Analyst

Harvest Contractor
Scout (Pest Control)
Blight Control Foreman
Fumigator
Airplane Pilot, Agriculture
Weed Inspector
Feed Store Operator
Farm Implement Dealer
Cooperative Wholesale Supplier
Landscape Architect
Landscape Gardener
Soils Tester
Editor, Farm Magazine
Reporter, Farm Magazine
Radio Farm Director

RESOURCES

AIDS

Royal Petroleum Corporation
Cliff Road, Sewaren, N.J. 07077

Samples of fuel oils available

FILMS

American Gas Association
Public Relations Department
605 Third Avenue
New York, New York 10016

"The Constant Search" - 20 min.

"Involvement" - 12¼ min.

"Liquefied Natural Gas" - 13½ min.
(Above films 16mm color sound)

Association Films, Inc.
600 Madison Avenue
New York, New York 10022

S-375 "The Power of Cold" - 9 min.

S-843 "Copper!" - 37 min.

S-919 "Niagara Frontier" - 20 min.

S-942 "Turf Care" - 17 min.
(Above films 16mm color sound)

Film Library
Ford Motor Company
16 East 52nd Street
New York, New York 10022

"The American Farmer" -mechanized
16mm color sound - 28 minutes

Jim Handy Productions
Division of T.T.P. Corp.
2821 East Grand Blvd.
Detroit, Michigan 48211

"American Harvest"
16 mm color - 30 min.

Maine Dept. of Agriculture
Mr. Kenneth E. Gray, Chief
Motion Picture Services
State House
Augusta, Maine 04330

"Part-Time Farmer"
Color, 17 min.

Nat'l Association of Manufacturers
277 Park Avenue
New York, New York 10017

391 "Quest for Oil" (Petroleum industry) - 13½ min.

392 "Farm to Factory" (Produce that becomes products) - 13½ min.

405 "Power in the Yard" (Power units, tractors, etc.) - 13½ min.

460 "Food for the Future" (Meeting needs of growing population) - 13½ min.

460 "Selecting the Champion" (Research behind transformation of wild rose into wide range of colorful cultivated varieties) - 13½ min.

464 "Big Little Businessmen" (fuel oil dealer) - 13½ min.

486 "The Atom Shufflers" (Strides made in production of synthetic rubbers) - 13½ min.

New Holland--Div. of
Sperry Rand Corporation
7230 Morgan Road, Box 10
Liverpool, New York 13088

"Seed Time and Harvest"

"Combine Demonstration Film"

"Food, Famine & Farmer Brown"
16mm color sound - 13½ min.

"Farming's Fabulous Future"
16mm color sound - 12½ min.

"Story of Baler Twine"
16mm color sound - 17 min.

"The Better Half of Farming"
16mm color sound - 12½ min.

Ohio State University,
College of Agriculture and
Home Economics
2120 Fyffe Road
Columbus, Ohio 43210

"Farming's Fabulous Future" - 17 min.

Texaco, Inc.
Manager, Retail Sales
864 West Peachtree Street, N.W.
Atlanta, Georgia 30308

"County Agent" - color, 27 min.

Texaco, Inc.
Manager, Retail Sales
864 West Peachtree Street NW
Atlanta, Georgia

"Your Career in Agriculture"

C. L. Venard
Film Distribution Service
Peoria, Illinois 61602

"Livestock Production"
16mm color - 27 min.

"The All American Horse"
16mm color - 27½ min.

FILMS AND PAMPHLETS

U.S. Dept. of Agriculture
Soil Conservation Service
1380 Hamilton Street
Somerset, N.J. 08873

Films & pamphlets covering every facet of agriculture and conservation; some available in quantity

ORGANIZATIONS

American Association of Nurserymen
835 Southern Building
Washington, D.C. 20005

American Horticultural Society
1600 Blandenburg,
Washington, D.C.

American Meat Institute
59 East Van Buren Street
Chicago, Illinois

American Petroleum Institute
1271 Avenue of the Americas
New York, New York 10020

American Society of Agricultural Engineers
420 Main Street
St. Joseph, Michigan

American Society of Agronomy
677 South Segoe Road
Madison, Wisconsin

American Society of Foresters
704 Seventeenth Street, N.W.
Washington, D.C. 20036

American Society of Zoologists
Williams College
Williamstown, Massachusetts

American Institute of Biological Sciences
200 P Street, N.W.
Washington, D.C. 20036

Botanical Society of America
Department of Botany
University of Texas
Austin, Texas 78712

Botanical Society of America
Dr. Richard C. Starr, Secretary
Department of Botany
Indiana University
Bloomington, Indiana 47405

Farm Equipment Institute
608 South Dearborn Street
Chicago, Illinois

National Coal Association
1130 17th Street, N.W.
Washington, D.C. 20036

National Lumber Manufacturers Association
1619 Massachusetts Avenue, N.W.
Washington, D.C. 20036

Ohio Department of Mines
State Office Building
65 South Front Street
Columbus, Ohio

Society of American Crop Science
677 South Sego Road
Madison, Wisconsin 53711

Society of American Foresters
704 17th Street, N.W.
Washington, D.C. 20036

PAMPHLETS

American Camping Association Bradford Woods Martinsville, Indiana 46151	Careers in Camping
American Forest Institute 1835 K Street Northwest Washington, D.C. 20006	This is a Tree Country
American Forest Products Industries, Inc. 1816 N Street, N.W. Washington, D.C. 20036	It's a Tree Country
American Forestry Association 919 17th Street, N.W. Washington, D.C. 20006	So You Want to be a Forester You Can Be a Conservationist
American Geophysical Union 2100 Pennsylvania Ave. N.W. Washington, D.C. 20037	Information Concerning Geophysics
American Nat'l Cattlemen's Association Curriculum Materials Department 1540 Emerson Street Denver, Colorado 80218	The Young Cattlemen
American Petroleum Institute Washington, D.C.	Going Places In Oil
American Society for Horticultural Science P.O. Box 109 St. Joseph, Michigan 49085	Horticulture - a Rewarding Career
American Society of Agricultural Engineers St. Joseph, Michigan 49085	Agricultural Engineering
American Society of Agronomy 677 South Segol Road Madison, Wisconsin 53711	Careers in Agronomy - Crop Science and Soil Science
American Society of Landscape Architects 2013 Eye Street, N.W. Washington, D.C. 20006	Landscape Architect and Land Planning

American Society of Range Management 2120 South Birch Street Denver, Colorado 80222	Career Opportunities in Rangeland and Resource Management
Botanical Society of America Office of the Secretary Botany Department Rutgers University New Brunswick, N. J. 08903	Botany as a Profession
Entomological Society of America 4603 Calvert Road College Park, Maryland 20740	Entomology - An Exciting Scientific Career
Future Farmer's Supply Service Alexandria, Virginia 22306	Agriculture - More Than Farming Careers Unlimited
Gemological Institute of America Registrar's Office 11940 San Vincente Boulevard Los Angeles, Calif. 90049	Gemology as a Career
Hess Oil and Chemical Corp. 1 Hess Plaza Woodbridge, N.J. 07095	Materials available from company
Illinois Department of Conservation 400 S. Spring Street Springfield, Illinois 62706	Careers in Wildlife Conservation
International Sales & Marketing Executives 630 3rd Avenue New York, New York 10017	Your Farm Background and Agri-Business Selling
Mississippi Employment Security Commission P.O. Box 1699 Jackson, Mississippi	Should You Go into Agriculture? Should You Go into the Mineral Industry?
National Coal Association Education Division 1130 17th Street, N.W. Washington, D.C. 20036	Engineering Careers in the Coal Industry
National Forest Products Association 1619 Massachusetts Avenue, N.W. Washington, D.C. 20036	Challenge of the Forest Opportunities Unlimited for Careers of Prestige and Profit in the Forest Products Industries Information on wood industry careers and forest products industries

The National Future Farmer P.O. Box 15130 Alexandria, Virginia 22309	Agri Opportunities
National Landscape Association 832 Southern Building Washington, D.C. 20005	Develop a Career as a Professional Landscape Expert
New Jersey Petroleum Council 1305 Parkside Avenue Trenton, New Jersey 08638	Petroleum Industry in New Jersey
Ohio State University College of Agriculture and Home Economics 2120 Fyffe Road Columbus, Ohio 43210	A Career in Bacteriology Occupations for Persons Trained in Agriculture Careers in Agriculture
Pennsylvania Bureau of Employment Security Labor and Industry Building 7th and Forester Street Harrisburg, Pennsylvania	Job Opportunity Guide - Selected Occupations in Nursery and Turfgrass Industries
Society of Mining Engineers of AIME 345 East 47th Street New York, New York 10017	Penetrating New Frontiers with Minerals Career information on minerals engineers, geologists, mining engineers and metallurgists
Society of Petroleum Engineers of AIME 6200 North Central Expressway Dallas, Texas 75206	Careers in Petroleum Engineering
Soil Conservation Society of America 7515 N.E. Ankeny Road Ankeny, Iowa 50021	Careers in Conservation
Forestry - a Growth Career State University College of Forestry Syracuse University Syracuse, New York 13210	
U.S. Dept. of Agriculture Forest Service Washington, D.C.	A Job with the Forest Service--#843 In Your Service

U.S. Department of Agriculture Branch of Recruitment Division of Personnel Management Forest Service Washington, D.C. 20250	Challenge in Wood Research A Job with the Forest Service
U.S. Dept. of the Interior Geological Survey Information Office Washington, D.C. 20242	Astrogeology Engineering Geology Marine Geology Prospecting for Gold in the United States
U. S. Forest Service Superintendent of Documents U.S. Printing Office Washington, D.C.	Careers in Forestry Women in the Forest Service Challenge in Wood Research
West Coast Lumbermen's Assoc. Education Department 1410 S.W. Morrison Street Portland, Oregon 97205	It's a Tree Country

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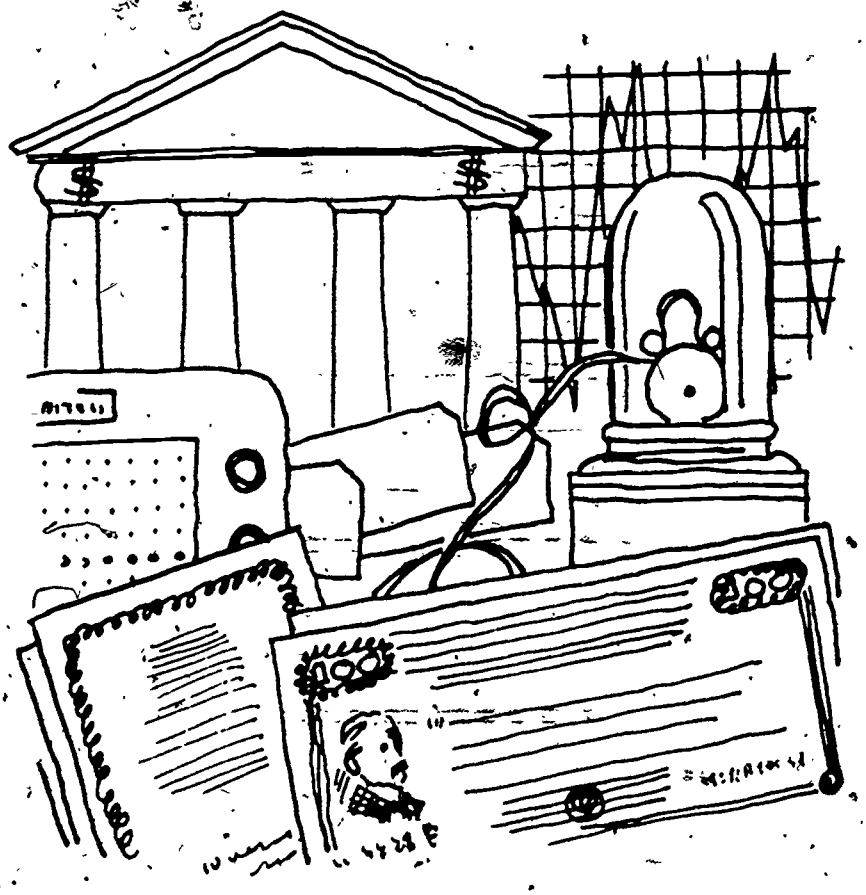
BUSINESS AND OFFICE



JOB FAMILIES

Accounting
Computer
Secretarial Sciences
Personnel
Finance - Insurance - Real Estate
Clerical

Accounting

- Accounting Manager
- Cost Accountant
- Budget Accountant
- Property Accountant
- Certified Public Accountant
- Junior Accountant
- Accounting Clerk
- Systems Accountant
- Bookkeeper
- Tax Accountant
- Machine Processing Accountant
- Statistician
- Mathematician
- Trust Clerk
- Accounting Representative
- Accounts Supervisor

Computer

- Systems Analyst
- Data Typist
- Key Punch Operator
- Console Operator
- High Speed Printer Operator
- Programmer
- Data Reduction Technician
- Tape Librarian
- Auxilliary Equipment Operator
- Card-to-Tape Converter Operator
- Sorting Machine Operator
- Tabulating Machine Operator
- Teacher - Computer

Secretarial Science

- Stenographer Secretary
- Legal Secretary
- Medical Secretary
- Court Reporter
- Court Clerk

Management

- Executive
- Junior Executive
- Public Relations Worker
- Supervisor
- Instructor, Teacher
- Director, Educational
- Manager, Owner
- Assistant Manager
- Organizational Methods Examiner

Personnel

- Supervisor
- Interviewer
- Recruiter
- Manager Agent
- Investigator
- Personnel Clerk
- Personnel - Records Clerk
- Personnel Relations Administrator
- Personnel Monitor
- Job Analyst
- Position Classifier
- Personnel Counselor
- Teacher - Personnel
- Utilization Technician
- Administrative Officer

Finance - Insurance - Real Estate

Finance

- Financial Analyst
- Financial Economist
- Financial Aids Officer
- Bank Cashier
- Banking Reconciliation Clerk
- Bank President
- Bank Vice-President
- Bank Auditor
- Bank Teller
- Bank Loan Officer
- Accountant Analyst
- Investment Counselor
- Credit Manager
- Teacher (Instructor)

Insurance

- Attorney
- Insurance Clerk
- Insurance Examiner
- Credit Reporter
- Insurance Safety Man
- Insurance Actuary
- Insurance Claim Adjustor
- Insurance Salesman
- Bordereau Clerk
- Insurance Checker
- Teacher, Instructor

Real Estate

- Real Estate Broker
- Real Estate Salesman
- Real Estate Appraiser
- Real Estate Escrow Clerk
- Real Estate Counselor
- Real Estate Clerk
- Real Estate Location Writer
- Real Estate Posting Clerk
- Teacher, Instructor

Office

- General Office Clerk
- General Clerk
- Clerk Typist
- File Clerk
- Tax Clerk
- Mail Clerk
- Router
- Shipping Clerk
- Order Clerk
- Business Machines Operator
- Transcriber - Machine Operator
- Receptionist
- Messenger
- Timekeeper
- Typist
- Cashier

RESOURCES

FILMS

Association Films, Inc. 600 Madison Avenue New York, New York 10022	"Men of Account" S-775 "No Man Expendable" 16mm color sound - 12 min. S-837 "Follow it all the Way" 16mm color sound - 22 min.
Association-Sterling Films 5797 New Peachtree Road Atlanta, Georgia	Take Another Look - color - 28 min. Good Hand--Good Eye - color - 17 min. Did You Hear What I Said? - black and white - 33 min.
Continental Illinois National Bank 231 South LaSalle Street Chicago, Illinois 60690	Banking: No Limit to Dimensions 1965 - 16mm sound - 20 min.
International Business Machines Local Office in Area	IBM: Close Up 1968 - 16mm sound - 21 min.
Kelly Services Parsonage Road Menlo Park, N.J. 08837	"Welcome to Kelly Services" filmstrip
National Association of Manufacturers 277 Park Avenue New York, New York 10017	481 - The Man Who Owns America (Savings and investment) 16mm - 13½ min.
National Career Center Dept. FF 3839 White Plains Road Bronx, New York 10467	Careers in Business - color, 12 min.
Swift and Company Museum of Science & Industry 57th Street & South Shore Drive Chicago, Illinois 60637	"Winning Combination" - 57 frames

Victor Business Schools 121 North Broad Street Philadelphia, Pa. 19107	"Career That Counts" 1960 - filmstrip

FILMS AND PAMPHLETS

Fireside Realty, Inc. 1401 Oak Tree Road Iselin, N. J. 08830	Films & brochures available from Nat'l Association of Real Estate Bds., 155 E. Superior St., Chicago, Ill.

PAMPHLETS

Accounting Careers Council National Distribution Center P.O.Box 650, Radio City Station New York, New York 10019	Career as a Certified Public Accountant What's It Like to be an Accountant?
American Bankers Association Banking Education Committee 90 Park Avenue New York, New York 10016	Banking — An Opportunity For You
American Federation of Information Processing Societies 210 Summit Avenue Montvale, N.J. 07645	Computer Careers
American Statistical Association & Institute of Mathematical Statistics	Careers in Statistics 1962 - 23 p.
Babson Institute of Business Administration Babson Park, Mass. 02157	Collegiate Education for Business
Business Equipment Manufacturer's Association 1828 L Street, N.W. Washington, D.C. 20036	Computer Careers Brochure
Casualty Actuarial Society 200 East 42nd Street New York, New York 10017	The Essential Executive

Eaton Paper Company 75 South Church Street Pittsfield, Massachusetts 01201	The Perfect Secretary
Public Relations Staff General Motors Detroit, Michigan 48202	Can I Be An Office Worker?
Institute of Life Insurance 277 Park Avenue New York, New York 10017	Careers in Property Liability Insurance It's Up To You - A Guide to a Career in Life and Health Insurance A Life Career What Will You Be Doing Seven Years From Now?
Mississippi Employment Security Commission P.O. Box 1699 Jackson, Mississippi	Should You Be a Purchasing Agent? Should You Be a Secretary? Should You Go into Business for Yourself? Should You Go into Computer Programming? Should You Go Into Personnel Work? Should You Seek a Career in Life Insurance? Occupational Guides: Bookeeper Cashier Clerk, General Office Key Punch Operator Receptionist Stenographer
National Association of Business Economists Box 28038 Washington, D.C. 20005	Business Economics Careers

National Consumer Finance Association Larry R. Fink Director of Educational Relations 1000 16th Street, N.W. Washington, D.C. 20036	Your Future--Careers in Consumer Finance
Nat's Shorthand Reporters Assoc. 25 West Main Street Madison, Wisconsin 53703	Shorthand Reporting as a Career
New Jersey Society of CPA's 550 Broad Street Newark, New Jersey 07102	Occupational brochures and ~~films~~ concerning field of Accounting
Pennsylvania Bureau of Employment Security Labor and Industry Building 7th and Forester Street Harrisburg, Pa.	Job Opportunity Guides: Clerk Typist Stenographer and Secretary
Rochester Institute of Technology Public Relations Dept. One Lomb Memorial Drive Rochester, New York 14623	Careers in Business
Royal Typewriter Company, Inc. School Department 150 New Park Avenue Hartford, Connecticut 06106	You as a Secretary
United Business School Association 1730 M Street, NW Washington, D.C. 20036	Accounting for Your Future Don't Overlook the Business College Overseas Secretary What it Takes to be a Secretary Your Career as a Legal Secretary
Bureau of Labor Statistics U.S. Dept. of Labor Supt. of Documents	Employment Outlook for Accountants
U.S. Dept. of Labor Women's Bureau Washington, D.C.	Why Not be a Personnel Specialist?

U.S. Department of Labor
Bureau of Labor Statistics
1371 Peachtree Street, N.W.
Atlanta, Georgia 30309

Clerical and Related Occupations

Managerial Occupations

Professional Occupations

Thinking of an Office Job

U.S. Department of State
Division of Employment
Washington, D.C. 20520

Opportunities with the State Dept.:
Foreign Service Secretaries
Secretaries
Stenographers
Typists

Office of Personnel
Veteran's Administration
Washington, D.C. 20420

V.A. Pamphlet 05-49 - Technical, Clerical and Trades Careers

ORGANIZATIONS

American Bankers Association
12 East 36th Street
New York, New York 10036

American Institute of Certified
Public Accountants
666 Fifth Avenue
New York, New York 10022

Insurance Institute of America
270 Bryn Mawn Drive
Bryn Mawr, Pennsylvania

National Association of Accountants
505 Park Avenue
New York, New York

National Association of Cost Accountants
A. B. Gunnarson, Secretary
505 Park Avenue
New York, New York 10022

National Association of Insurance Agents
96 Fulton Street
New York, New York 10038

National Association of Real Estate Boards
36 South Wabash Avenue
Chicago, Illinois 60603

National Institute of Real Estate Brokers
Dorothy Hepworth, Executive Secretary
22 West Monroe Street
Chicago, Illinois 60603

National Secretaries Association
1103 Grand Avenue,
Kansas City, Missouri 64106

Society of Actuaries
208 South LaSalle Street
Chicago 4, Illinois

United Association of Business Schools
1518 K Street, N.W.
Washington, D.C. 20005

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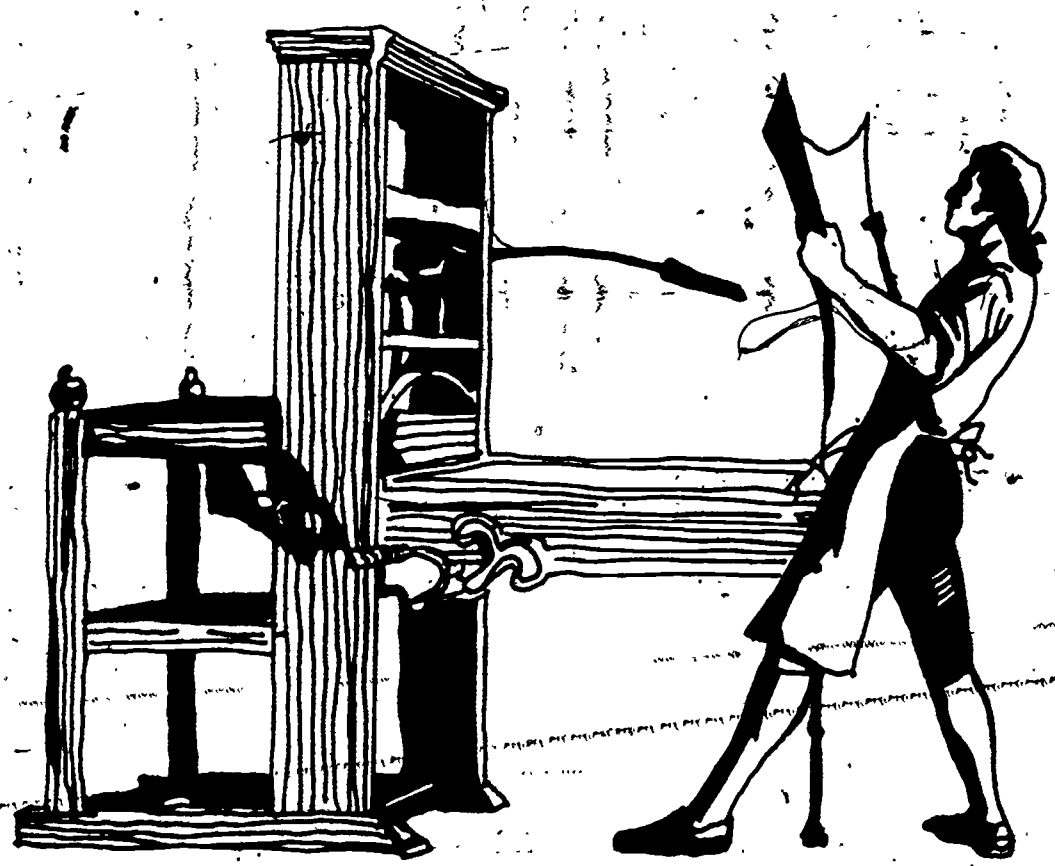
COMMUNICATION AND MEDIA



JOB FAMILIES

Journalism
Motion Pictures
Telephone and Telegraph
Recording Industry
Radio and Television Broadcasting
Satellite and Laser Transmission

Journalism

Reporters:
- General Assignments
- Foreign Correspondents
- Feature Reporters
- Rewrite Man
- Syndicate News Specialist

Copy and Proof Readers:
- Copy Reader
- Braille Proofreader
- Proofreader

Columnists and Critics:
- Columnist
- Editorial Writer
- Critic

Manuscript Analysts:
- Book Critic
- First Reader

Specialized Personnel:
- Crossword Puzzle Maker
- Librarian
- Braille Translator

Editors:
- Newspaper Managing Editor
- Department Editor
- Trade or Technical Publication Editor
- Book Editor
- Magazine Editor
- Greeting Card Editor

Circulation and Distribution Personnel

Advertising and Advertising Sales Personnel

Motion Pictures

Producers and Directors:
- Producer
- Director
- Research Director
- Art Director
- Music Director
- Casting Director
- Cast Director
- Location Director

Writing Personnel:
- Scenario Editor
- Scenario Writer
- Continuity Writer
- Gag Writer
- Title Writer
- Reader
- Continuity Clerk
- Script Clerk

Special Artists:
- Background and Title Artist
- Cartoonist
- Color Advisor
- Inker and Opaquer
- Animated Cartoon Painter

Cameras, Lighting, and Sound Personnel
- Camera Clerk
- Animation Cameraman
- First and Second Cameraman
- Special Effects Cameraman
- Title Cameraman
- Dabbling Machine Operator
- Chief Electrician
- Studio Electrician
- Motion Picture Equipment Machinist
- Microphone Boom Operator
- Motion Picture Narrator
- Motorman
- Lights Operator
- Play Back Man
- Recordist
- Re-recording Mixer
- Chief Set Electrician
- Sound and Laboratory Engineer
- Sound Cutter
- Sound Mixer
- Stage Man
- Stand-By Grip
- Stand-In
- Transmission Man

Film Processors, Editors, Librarians, Projectionists
- Bench Examiner
- Chemical Mixer
- Densitometer Reader
- Developing Machine Operator
- Film Editor
- Film Drying Machine Operator
- Film Inspector

Film Laboratory Equipment Mechanic
Film Loader
Film Numberer
Film Printer
Film Splicer
Film Viewer
Foreign Title Breaker
Librarian
Motion Picture Projectionist
Negative Cutter
Photographic Sensitometrist
Screen Examiner
Sorter
Timer
Number Transferrer
Vault Custodian
Waxer

Costume and Make-Up Personnel:
Costumer
Decoration Maker
Make-up Man
Shopper
Stand By
Costume Supervisor
Make-Up Supervisor
Wardrobe Specialty Worker

Scenery, Property, and Special Effects Personnel:
Ager
Prop Maker
Draper
Greensman
Grip Box
Outside Property Man
Stage Settings Painter
Property Custodian
Prop Man
Property Master
Set Decorator
Special Effects Man
Stage Property Foreman
Supervisor, Scenic Arts
Miniature Set Constructor
Miniature Set Designer
Stage Set Designer
Scenic Artist
Sketcher

Telephone and Telegraph

Engineers:
- Cable Lay-Out Man
- Outside Plant Engineer
- Special Service Representative
- Telegraph Engineer
- Telephone Engineer
- Transmission and Protection Engineer

Translators, Radio Communications

Administrators, Specialized:
- Customer Service Manager
- Public Program Supervisor
- Regulatory Administrator

Managers and Supervisors
- Building Supplies and Motor Vehicle Supervisor
- Manager, Telegraph Office
- Traffic Manager
- Operations Manager
- Revenue Settlements Administrator
- Communications Superintendent
- Station Superintendent
- Testing and Regulating Chief
- Radio Communications Traffic Chief

Miscellaneous Technicians and Managers:
- Photoradio Operator
- Radiotelegraph Operator
- Radiotelephone Operator
- Right of Way Supervisor

Clerical and Sales Personnel
- Multiplex-Machine Operator
- Central Office Operator
- Information Operator
- Morse Operator
- Private Bench Exchange Service Advisor
- Service Observer
- Automatic Equipment Supervisor
- Switching Clerk
- Telefax Clerk
- Telegraph Messenger

Bench Worker, Electrical Equipment
- Equipment Assembler
- Bench Hand
- Instrument Shopman

Electrical Assembling, Installing, Repairing Personnel:
- Equipment Inspector
- Line Inspector
- Lineman
- Submarine Mechanic
- Foreman Repairman
- Telephone Inspector
- Test Deskman
- Testing and Regulating Technician
- Transmission Man

Production and Distribution Personnel:
- Assignment Clerk
- Dispatcher
- Facilityman
- Pole Framer
- Powerman
- Tree Trimmer

Recording Industry

Sales

Administration

Production:
- Instrumental Musician
- Singer
- Composer
- Lyricist
- Arranger
- Artist and Repertoire Man
- Music Director
- Producer

Engineer:
- Maintenance Engineer
- Chief Engineer
- Mining Engineer
- Dubbing and Editing Engineer

Radio and Television Broadcasting

Broadcast Preparation Personnel:
- Copyright Expert
- Costumer
- Director
- Program Director
- Music Director
- Public Service Director
- Continuity and Script Editor

News Editor
Copyright Manager
Sound Effects Manager
Musical Program Director
Music Librarian
Producer
Production Man
Property Handler
Screen Reporter
Script Assistant
Script Reader
Script Writer
Sound Effects Man
Special Events Man
Supervising Film Editor
Television Film Field Coordinator
Writer - Announcer, Bilingual
International News Broadcast Writer

Broadcast Presentation Personnel:
Announcer
Audio Operator
Broadcast Checker
Cameraman
Continuity Writer
Control Room Man
Control Room Technician
Control Supervisor
Sports Director
Technical Director
Gag Writer
Light Technician
Master Control Engineer
Microphone Operator
Broadcast News Analyst
Recording Machine Operator
Sound Mixer
Telecine Operator
Teleprompter Operator
Video Operator
Video Recording Engineer

Transmission Personnel:
Commercial Engineer
Field Engineer
Field Supervisor
Power Plant Attendant
Program Transmission Supervisor
Radio Engineer
Rigger
Rigger Foreman
Television Cable Lineman
Transmission Engineer
Transmitter Operator

Administration and Sales Personnel:
- Operations Director
- Operations Broadcast Director
- Station Manager
- Traffic Manager
- Radio and Television Time Salesman
- Station Relations, Contact Representatives
- Television Schedule Coordination

Service Personnel:
- Radio Repairman
- Television Installation Man
- Television Service and Repairman

Supportive Personnel
- Actors
- Musicians
- Comics
- Dancers
- Specialized Commentators

Satellite and Laser Transmission

- Physicists
- Electrical Engineers

RESOURCES

AIDS

Ionetics Electronics 55 Randolph Avenue Avenel, New Jersey 07001	Rejects and surplus electronic material available
Lockheed Electronics Company Division of Lockheed Aircraft Corp. U.S. Highway 22 Plainfield, New Jersey 07060	Films (career oriented, periodicals and obsolete equipment)
RCA Corporation 1550 St. George Avenue Avenel, N.J. 07001	RCA Films (3 weeks notice required) and obsolete equipment

FILMS

Association Films, Inc. 600 Madison Avenue New York, New York 10022	S-252 "Who Wrote That" 16mm color sound - 13 minutes (Also available for sale: $50.00)
	S-546 "Dear Mary" 16mm color sound - 20 minutes
Bell Telephone Company Local Office	"Mr. Bell" 16mm black and white - 32 min.
	"Your Voice Is You" Filmstrip
	"Fashions, Fads and Phones" Filmstrip
	"The Unchained Goddess" 16mm color sound - 59 minutes
	"Communications Prologue to Tomorrow" Filmstrip
	"Your Voice and the Telephone" 16mm color sound - 7 min.
	"Appointment with Tomorrow" 16mm color sound - 28 min.
	"Her City" 16mm black and white - 19 minutes

DuPont de Nemours and Co., Inc.
Motion Picture Section
Advertising Department
1007 Market Street
Wilmington, Delaware 19898

Light in Shadows: The Story of X-Ray
Color, 21 min.

We Used to Call It Printing
Color, 27 min.

Eastman Kodak Company
Department 841
343 State Street
Rochester, New York 14650

"Cameras and Careers"
16mm color sound - 28 minutes

National Ass'n of Manufacturers
277 Park Avenue
New York, New York 10017

No. 388 - The Printed Word
16mm - 13½ minutes

No. 394 - Picture Story
16mm - 13½ minutes

No. 458 - Making Contact
16mm - 13½ minutes

New Holland--Div. of Sperry Rand
7230 Morgan Road, Box 10
Liverpool, New York 13088

"A Story for the Editor"

W.C.T.C.
385 George Street
New Brunswick, New Jersey 08901

News tapes of important happenings during past 15 years may be borrowed.

ORGANIZATIONS

American Broadcasting Company
New York, New York

American Council on Educational Journalism
University of Missouri
Columbia, Missouri

American Newspaper Guild
Research Department
1126 16th Street, S.W.
Washington, D.C.

Graphic Arts Technical Foundation
131 East 39th Street
New York 16, New York

Society of Motion Picture and Television Engineers
55 West 42nd Street
New York, New York 10036

The National Association of Broadcasters
1771 North Street, N.W.
Washington, D.C. 20036

National Broadcasting Company
New York, New York

National Press Club
National Press Building
Washington, D.C.

Photographic Society of America
2005 Walnut Street
Philadelphia, Pennsylvania

Printing Industry of America
20 Chevy Chase Circle, N.W.
Washington, D.C.

PAMPHLETS

Addressograph Multigraph Corp. Direct Mail Center P.O. Box 3176 Cleveland, Ohio 44117	Graphic Communications - Not Just a Job but a Career
American Newspaper Publisher's Association Foundation 750 3rd Avenue New York, New York 10017	Your Future in Daily Newspapers
American Women in Radio and Television, Inc. 1321 Connecticut Avenue, N.W. Washington, D.C. 20036	Careers for Women in Broadcasting
The Dramatic Publishing Company 179 N. Michigan Avenue Chicago, Illinois 60601	Behind the Scenes
Eastman Kodak Company Department 841 Rochester, New York	Photography in your Future Bibliography of Photo Career A Survey of Photographic Instruction

Germain School of Photography 225 Broadway New York, New York 10007	Careers in Photography
RTNDA c/o WKAR Michigan State University East Lansing, Michigan 48823	Broadcast News Careers
Mississippi Employment Security Commission P.O. Box 1699 Jackson, Mississippi	Should You Go into the Printing Industry?
Modern Talking Picture Service 1212 Avenue of the Americas New York, New York 10036	How a Commercial Artist Works
National Association of Broadcasters "N" Street N.W. Washington, D.C. 20036	Careers in Radio
National Association of Broadcasters 177 "N" Street, N.W. Washington, D.C. 20036	Careers in Television
Nat'l Association of Manufacturers 277 Park Avenue New York, New York 10017	No. 410 - In the Television Picture
National Cartoonist Society Joseph W. Musial 152 Colonial Parkway Manhasset, L.I., New York 11030	Comic Art
Newspaper Fund, Inc. Dept. D-1 P.O. Box 300 Princeton, New Jersey 08540	Information on the Road to a Career in Journalism
Sigma Delta Chi Professional Journalistic Society 35 East Wacker Drive Chicago, Illinois 60601	The Big Story Mike and the Camera
Photographic Arts & Science Foundation 1090 Executive Way Oak Leaf Commons Des Plains, Illinois	Photography as a Career

Professional Photographers of America 1090 Executive Way, Oak Leaf Commons Des Plaines, Illinois 60018	Focus On Your Future
Rochester Institute of Technology P.O. Box 340 Rochester, New York	Careers in Photographic Science and Engineering
Rochester Institute of Technology Public Relations Department One Lomb Memorial Drive Rochester, New York 14623	Careers in Printing
Society of Technical Writers and Publishers, Inc. 1010 Vermont Avenue N.W. Suite 421 Washington, D.C. 20005	Technical Writing as a Career
Writer's Digest Department EPS 22 East 12th Street Cincinnati, Ohio 45210	Jobs and Opportunities for Writers

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CONSTRUCTION

JOB FAMILIES

Wood Construction
Metal Construction
Masonry
Electrical
Finishing
Equipment Operators
Engineering and Support Occupations

Wood

Carpenter Foreman
Construction Foreman
Form-Building Foreman
Timbering Foreman
Carpenter-Labor Foreman
Construction Carpenter
Maintenance Carpenter
Hotel Carpenter
Mill Carpenter
House Carpenter
Mine Carpenter
Office Building Carpenter
Plant Carpenter
Refrigerator Carpenter
Finish Carpenter
Bridge Carpenter
Acoustical Carpenter
Building-Insulating Carpenter
Form Builder Carpenter
Form Setter Carpenter
Rough Carpenter
Packing Carpenter
Shorer Carpenter
Shingle Roofer
Pile Trimmer and Capping
Band Saw Operator
Band-Scroll-Saw Operator
Batterboard Setter
Cribber
Carpentry Laborer
Carpenter Helper
Pile Driving Laborer

Metal

Pipe Fitter
Boilermaker
Plumber
Structural Steel Worker
Rigger
Hydraulic Riveter
Pneumatic Riveter
Reinforcing-Iron Worker
Reinforcing-Steel Worker
Sheet-Metal Worker
Assembler Unit
Duct Installer
Ornamental Iron Worker
Arc Welder

Atomic Welder
Gas Shielded Welder
Gas Welder
Combination Welder
Fitter Welder
Brazer
Automatic Door Serviceman
Milwright.

Masonry

Bricklayer
Refractory Bricklayer
Sewer Bricklayer
Brick Chimney Builder
Silo Erector
Marble Setter
Monument Setter
Permastone Man
Soft-Tile Setter
Stonemason
Terrazzo Worker
Tile-Conduit Layer
Tile Setter
Tuck Pointer
Hod Carrier
Plasterer
Cement Mason
Stucco Mason

Electrical

Electrician
Cable Splicing Electrician
Cable Puller
Calibrator
Central Office Installer
Conduit Man
Construction Checker
Diesel Plant Operator
Power House Electrician
Substation Electrician
Equipment Installer
Lineman
Groundman
Electric Distribution Checker
Domestic Air-conditioning Installer
Commercial Air Conditioning Mechanic

Finishing

Awning Hanger
Billboard Erector and Repairman
Cupboard Builder.
Cabinetmaker
Carpet Layer
Door Hanger
Floorlayer
Glazier
Insulation Worker
Insulation Installer
Installation Hoseman
Metal Sprayer
Painter
Rough Painter
Structural Steel Painter
Paperhanger
Pipe Cleaning and Priming Machine Operator

Equipment Operators

Core-Driller Foreman
Core-Driller Operator
Labor Gang Foreman
Miller
Horizontal-Earth-Boring Machine Operator
Shield Runner
Bulldozer Operator
Dredge Leverman
Dredge Operator
Lock Tender
Mucking Machine Operator
Power Shovel Operator
Rock-Drill Operator
Scraper Operator
Tower Excavator Operator
Trench Digging Machine Operator
Bell Man
Dredge-Dipper Tender
Sewer-Bottom Man
Crushed Stone Grader
Dredge Pipeman
Pile Driving Laborer
Road Laborer
Sheet Pile Hammer Operator
Concrete Paver Operator
Concrete Paving Machine Operator
Mud Jack Operator
Asphalt-Paving Foreman
Asphalt-Planer Operator
Asphalt-Paving-Machine Operator

Stationary Engineer
Auxiliary Equipment Operator
Dragline Operator
Blaster
Bull-Gang Man
Construction-Equipment Mechanic
Crane Operator
Hoisting Engineer

Engineering and Support

Architect
Civil Engineer
Construction Engineer
Construction Inspector
Building-Wrecking Foreman
Construction Estimator
Clearing Foreman
Civil Draftsman
Electrical Engineer
Illuminating Engineer
Landscape Architect
Lubricating Engineer
Safety Engineer
Surveyor
Welding Engineer

RESOURCES

AIDS

Molnar Electrical Contractors Inc.
St. George Avenue and Kimball St.
Woodbridge, N. J. 07095

Scrap material and trade journals available from Union.

FILMS

Association Films Inc.
600 Madison Avenue
New York, New York 10022

S-883 "Decision: Electric"
16mm color sound - 18 minutes

National Association of Manufacturers
277 Park Avenue
New York, New York 10017

No. 379 - Electrical Power
16mm - 13½ minutes

No. 395 - Sinews of Steel
16mm - 13½ minutes

No. 40[redacted] - Design for Working
16mm - 13½ minutes

No. 466 - The Mighty Electron
16mm - 13½ min.

ORGANIZATIONS

American Institute of Steel Construction
101 Park Avenue
New York, New York

American Society of Civil Engineers
345 East 47th Street
New York, New York 10017

American Society of Heating, Refrigerating and Air-Conditioning Engineers
345 East 47th Street
New York, New York 10017

Associated General Contractors of America
2077 Embassy Park Road
Dayton, Ohio

Engineers Council for Professional Development
345 East 47th Street
New York, New York 10017

Illuminating Engineering Society
345 East 47th Street
New York, New York 10021

Institute of American Electrical and Electronic Engineers
Box A, Lenox Hill Station
New York, New York

National Association of Home Builders of the U.S.
1625 L Street, N.W.
Washington, D.C.

National Association of Plumbing-Heating-Cooling Contractors
1016 20th Street N.W.
Washington, D.C.

PAMPHLETS

American Society of Heating, Refrigerating and Air-Conditioning Engineers 345 East 47th Street New York, New York 10017	Your Future in Air-Conditioning, Heating, and Refrigerator Engineering
Associated General Contractors of America 1957 E Street, N.W. Washington, D.C. 20006	Construction: A Man's Work Construction Industry Opportunities
Edison Electric Institute 750 3rd Avenue New York, New York 10017	Are You a Man of Energy?
International Brotherhood of Electrical Workers 1200 15th Street, N.W. Washington, D.C. 20005	The Electrical Worker's Story
Kent State University 250 Franklin Salem, Ohio 44460	Electrical Engineering Mechanical Engineering Civil Engineering Electro Engineering Engineering Technology
Mississippi Employment Security Commission P.O. Box 1699 Jackson, Mississippi	Should You Go into the Construction Business? Occupational Guide - Welders, Flame Cutters and Related Occupations Occupational Guide - Electrician

National Association of Plumbing, Heating & Cooling Contractors 1016 20th Street, N.W. Washington, D.C. 20036	Your Future in Plumbing, Heating, and Cooling
National Lumber Manufacturers Association	Carpentry as a Career
New Jersey Society of Architects 120 Halsted Street East Orange, N.J. 07018	Pamphlets, flyers and films concerning the future of the profession, job description and opportunities.
Pennsylvania Bureau of Employment Security Labor and Industry Building 7th and Forester Street Harrisburg, Pennsylvania	Job Opportunity Guides - Painter in the Building and Decorating Trades
Structural Clay Products Institute Mason Relations Department Mr. William Roark 1750 Old Meadow Road McLean, Virginia 22101	Bricklaying as a Vocation
United Brotherhood of Carpenters and Joiners of America 101 Constitution Avenue N.W. Washington, D.C. 20001	Top Hand in the Building Trades
U.S. Department of Labor Women's Bureau Washington, D.C. 20210	Why Not Be an Apprentice? Why Not Be an Engineer?

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CONSUMER AND HOMEMAKING

JOB FAMILIES

Food Specialist
Housing and Household Equipment Specialist
Textiles and Clothing Specialists
Family Economics and Home Management
Family Relations and Child Development
Extension Service

Food Specialist

- Food Service Supervisor
- Food and Beverage Analyst
- Food Chemist
- Food Processing Technician
- Food Products Tester
- Research Nutritionist
- Dietician
- Dietary Consultant
- Plant Hostess
- Food Company Home Service Director
- Consumer Service Specialist
- Food Journalist

Housing and Household Equipment Specialist

- Tester
- Household Products Technician
- Consultant on Housing Design
- Color Expert
- Home Service Representative
- Home Service Director
- Home Lighting Advisor
- Home Lighting Demonstrator Supervisor
- Housing and Household Equipment Journalist

Textiles and Clothing Specialists

- Cloth Tester
- Textile Chemist
- Buyer
- Fashion Displayer
- Personal and Comparison Shoppers
- Fashion Designer
- Fashion Coordinator
- Bridal Consultant
- Sewing Instructor
- Drapery and Upholstery Estimator, Measurer and Hanger
- Consumer Service Specialist
- Educational Director
- Fashion Journalist

Family Economics and Home Management

- Researcher in Home Management and Family Economics
- Director of Consumer Education
- Budget Consultant
- Home Management and Family Economics Journalist

Family Relations and Child Development

Researcher in Child Development and Family Relations
Nursery School Teacher
Family Relations and Child Development Journalist

Extension Service

Specialist-in-charge
Extension Service Specialist
District Extension Service Agent
County Home-Demonstration Agent
4-H Club Agent

RESOURCES

FILMS

Association Films, Inc.
600 Madison Avenue
New York, New York 10022

"A Time and a Place"
16mm color sound - 13 minutes

S-129 "The Switchables"
16mm color sound - 13 minutes

S-133 "Did You Hear What I Said?"
16mm color sound - 35 minutes

S-420 "The Age of Curiosity"
16mm color sound - 13½ minutes

S-482 "Home Sweet Healthier Home"
16mm color sound - 12½ minutes
(Teachers guides & student booklets available in quantity)

S-636 "Color for Joy"
16mm color sound - 15 minutes

S-824 "The Pursuit of Cleanliness"
16mm color sound - 14½ minutes

S-834 "Portrait of a Man"
16mm color sound - 28 minutes

S-917 "The Wacky Tale of Wilfred Wickenbush" - 16mm color sound - 10 min.

S-947 "Kids and Cookies"
16mm color sound - 14 minutes

Bassist Fashion Institute
923 Southwest Taylor Street
Portland, Oregon 97205

Your Career in Fashion

Bell Telephone Company
Local Office

"Color Comes Calling" - a filmstrip

General Mills
Audio Visual Department
9200 Wayzata Boulevard
Minneapolis, Minnesota 55440

"One Loaf of Bread"
16mm color sound - 15 minutes

"This is Betty Crocker"
16mm color sound - 23 minutes

"Flair with Frostings and Desserts"
35mm color - silent - 80 frames

Nat'l Association of Manufacturers 277 Park Avenue New York, New York 10017	No. 488 - Man-Made Fibers 16mm - 13½ minutes
Audio Visual Section National Cotton Council P.O. Box 12285 Memphis, Tennessee 38112	"And So to Sleep" 16mm color sound - 10 minutes "Cotton - Nature's Wonder Fiber" 16mm color sound - 28 minutes "A Piece of Cloth" 16mm color sound - 11¼ minutes "New Shapes in Shade" 16mm color sound - 5 3/4 minutes
Swift and Company Museum of Science and Industry 57th Street and South Shore Drive Chicago, Illinois 60637	"How to Buy, Cook and Serve Beef" 58 frames
Association Films, Inc. 600 Madison Avenue New York, New York 10022	S-141 "Heritage of Flavor" 16mm color sound - 25 minutes

ORGANIZATIONS

American Home Economics Ass'n
1600 20th Street, N.W.
Washington, D.C. 20009

PAMPHLETS

American Dietetic Association	Chart Your Course Toward Dietetics
American Baker's Association 1700 Pennsylvania Avenue N.W. Washington, D.C. 20006	Careers Unlimited in the Modern Baking Industry
American Home Economics Ass'n 2010 Massachusetts Ave., N.W. Washington, D.C. 20036	Information on professional careers in home economics and requirements for the field.
Warner Slim Wear Linger's Bridgeport, Connecticut	Changing Fashion Cycle of the Past 20 Years

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ENVIRONMENT

CONTROL

JOB FAMILIES

Pollution Prevention and Control
Disease Prevention
Environmental Planning
Resource Control

Pollution Prevention and Control

Air Analyst
Audiologist
Chemist, Water Purification
Garbage Collection Foreman
Industrial Waste Inspector
Environmental Laboratory Supervisor
Radiotion Monitor
Safety and Sanitary Inspector
Septic Tank Serviceman
Sewage-Disposal Worker
Sewage Plant Attendant
Sewage Plant Operator
Water and Sewer Systems Supervisor
Yield Loss Inspector
Yield Loss and Sanitation Engineer
Water Tender

Disease Prevention

Entomologist
Exterminator
Field Health Officer
Food and Drug Inspector
Food Service Supervisor
Fumigator
Scout
Industrial Health Engineer
Industrial Hygienist
Microbiologist
Milk Sampler
Pest Control Technician
Plant Pathologist
Plant-Quarantine Inspector
Public Health Bacteriologist
Sanitarian
Sanitary Inspector

Environmental Planning

Camp Ground Caretaker
Construction Engineer
Geographer
Landscape Architect
Land-Use Technician
Sanitary Engineer
Statistician, Biological and Agricultural Science
Traffic Engineer
Urban Planner
Weed-Control Supervisor

Resource Control

Animal Ecologist
Aquatic Biologist
Conservation of Resources Commissioner
Ecologist
Soils Engineer
Federal Aid Coordinator
Fire Lookout
Fire Patrolman
Fire Warden
Forester
High Climber
Forester Aid
Forest Ecologist
Forest Engineer
Forest-Fire Fighter
Gamekeeper
Hydraulic Engineer
Surveyor
Mining Engineer
Park Foreman
Park Naturalist
Park Ranger
Park Superintendent
Plant Ecologist
Range Manager
Silviculturist
Soil Conservationist
Soil Scientist
Forestry Sprayer
Fishery Biologist
Game Management Agent
Wildlife Biologist
Wildlife Refuge Manager

RESOURCES

FILMS

Association Films, Inc.
600 Madison Avenue
New York, New York 10022

S-183 "To Reach the Dawn"
16mm color sound - 28½ minutes

S-512 "The Wonder of Water"
16mm color sound - 27 minutes

S-851 "A Split Second from Disaster"
16mm color sound - 14 minutes

American Gas Association
Public Relations Department
605 Third Avenue
New York, New York 10016

"The Other Side of the Street"
16mm color sound - 21 minutes

Bell Telephone Company
Local Office

"Our Mr. Sun"
16mm color sound - 60 minutes

"Before It's Too Late"
16mm color sound - 13½ minutes

General Mills
Audio Visual Department
9200 Wayzata Boulevard
Minneapolis, Minnesota 55440

"Jackson's Tree"
16mm color sound - 15½ minutes

Motion Picture Library
USDA - Soil Conservation Service
7600 West Chester Pike
Upper Darby, Pa. 19082

"Rural Holidays"
16mm color sound - 25 minutes

"Mud" - 16mm color sound, 20 minutes

"New Patterns on the Land"
16mm color sound - 10 minutes

"This is Our Land"
16mm black and white sound - 28 min.

"Adventures of Junior Raindrop"
16mm color sound - 8 minutes

National Ass'n of Manufacturers
277 Park Avenue
New York, New York 10017

"The Tree Farm"
16mm sound - 13½ minutes, color

No. 398 "Improving on Nature"
16mm - 13½ minutes

No. 406 -"Water, Water Everywhere"
16mm - 13½ minutes

No. 417 - "Waste Not, Want Not"
16mm - 13½ minutes

No. 485 -"Environment for Learning"
16mm - 13½ minutes

New Holland--Div. of Sperry Rand
7230 Morgan Road, Box 10
Liverpool, New York 13088

"The Earth is Lord"

"How Grass Grows"

Swank Motion Pictures, Inc.
Attn: Sponsored Film Department
201 South Jefferson Avenue
St. Louis, Missouri 63166

"A Way of Life"
Color, 30 min.

ORGANIZATIONS

American Federation of Mineralogical Societies
6600 Cornelia Drive
Minneapolis, Minnesota

American Geophysical Union
Walso E. Smith, Executive Secretary
1515 Massachusetts Avenue, N.W.
Washington, D.C. 20005

American Geographical Society
Broadway at 156th Street
New York, New York

American Society of Agronomy
677 South Segoe Road
Madison, Wisconsin

American Society of Zoologists
c/o Dr. Jon W. Saunders
Department of Biology
Marquette University
Milwaukee, Wisconsin

Anthropological Association
1530 P Street, N.W.
Washington, D.C.

Archeological Institute of America
5 Washington Square North
New York, New York 10003

American Society of Biological Chemists
9650 Wisconsin Avenue
Washington, D.C. 20014

Federation of American Societies for Experimental Biology
9650 Wisconsin Avenue
Washington, D.C. 20014

Botanical Society of America, Inc.
Botany Department
University of Texas
Austin, Texas 78712

American Society of Civil Engineers
345 East 47th Street
New York, New York 10017

American Society of Economic Entomologists
Ernest N. Cory, Secretary
Department of Entomology
University of Maryland
College Park, Maryland

Society of Economic Paleontologists and Mineralogists
Tulsa, Oklahoma 74101

Entomological Society of America
4603 Calvert Road
College Park, Maryland

Future Scientists of America Foundation
1201 16th Street, N.W.
Washington, D.C. 20036

Geological Society of America
419 West 117th Street
New York, New York

Ichthyologists and Herpetologists, American Society of
Florida State Museum
Gainesville, Florida

Soil Conservation Society of America
7515 N.E. Ankeny Road
Ankeny, Iowa

PAMPHLETS

American Congress on Surveying and Mapping 430 Woodward Building 735 15th Street, N.W. Washington, D.C. 20005	Careers in Surveying and Mapping
American Forestry Association 919 17th Street, N.W. Washington, D.C.	So You Want to be a Forester
American Society of Civil Engineers 345 East 47th Street New York, New York 10017	Your Future in Civil Engineering
General Motors Public Relations Staff Detroit, Michigan 48202	"Short Stories of Science and Invention" by Charles F. Kettering
Georgia-Pacific Public Relations 900 S.W. 5th Avenue Portland, Oregon 97204	How You Can Become a Tree Farmer
U.S. Department of Labor Women's Bureau Washington, D.C.	Why Not Be an Urban Planner?
Superintendent of Documents U.S. Government Printing Office Washington, D.C. 20402	Careers in Soil Conservation Service
	An Engineering Career For You in the Soil Conservation Service
	Students...Start Your Career in SCS Before You Graduate

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Fine Arts and Humanities

JOB FAMILIES

Visual Arts
Occupations in Writing
Performing Arts
Architecture
Religion and Theology
Language and Linguistics
History and Museums

Visual Arts

Advertising Artist:
- Art Director
- Layout Artist
- Renderer
- Letterer
- Paste-Up Artist
- Illustrator
- Cartoonist
- Color Specialist

Advertising Production Manager:
- Illustrator
- Medical Illustrator
- Cover Design Artist
- Colorist
- Art Director, Retail Trade

Clothes Designer

Fur Designer

Garment Copyist

Fashion Artist

Artist in Motion Picture Occupations:
- Art Director
- Cartoonist
- Cartoon-Background Artist
- Inker and Opaquer

Designer:
- Manager of Display
- Commercial and Display Designer
- Interior Design and Decorator

Product and Package Designer:
- Bank-Note Designer
- Cloth Designer
- Embroidery Designer
- Furniture Designer
- Handbag Designer
- Hat Designer
- Industrial Designer
- Jewelry and Flatware Designer
- Novelties Designer
- Ornamental Metalwork Designer
- Package Designer
- Pottery Decoration Designer
- Shoe Designer

Sign Designer
Stained Glass Window Designer
Tile Designer
Toy Designer
Wallpaper Artist

Painting and Sculpting:
Painter
Graphic Artist
Cartoonist
Painting Restorer
Sculptor
Potter

Photographer:
Commercial Photographer
Portrait Photographer
Photograph Gallery or Studio Manager
Motion Picture Photographer
News Photographer
Television Cameraman
Scientific Photographer
Aerial Photographer and Interpreter
Finish Photographer
Identification Bureau Photographer
Camera Girl
Photomachine Operator
Street Photographer

Draftsman

Occupations in Writing

Literary Writer or Author
Playwright
Poet
Lyricist
Technical Writer
Copy Writer
Collaborator
Crossword Puzzle Writer
Greeting Card Editor
Humorist
Lexicographer
Critic
Technical and Scientific Publications Manager

Performing Arts

The Dance:
Choreographer
Dancer

The Theatre:
- Stage Director
- Stage Manager
- Theatre Manager
- Public Relations Director
- Dramatic Arts Historian
- Playwright
- Stage-Scenery Designer
- Costume Designer
- Costume Mistress
- Drama Critic
- Dramatic Coach
- Actor
- Dramatic Reader
- Story Teller
- Property Foreman
- Flyman
- Stage Electrician

Music:
- Composer
- Conductor
- Music Administrator
- Choral Director
- Instrumentalist
- Vocalist
- Music Therapist
- Music Copyist
- Prompter

Music-Related:
- Music Librarian
- Piano Technician
- Piano Tuner
- Piano-Action Regulator
- Piano Stringer
- Music-Instrument Repairman
- Music Critic

Architecture

- Architect
- Architectural Draftsman
- Marine Architect
- Landscape Architect
- Urban Planner
- School Plant Consultant

Religion and Theology

Clergyman:
- Protestant Clergyman
- Roman Catholic Priest
- Rabbi
- Missionary

Director of Religious Activities
Director of Religious Education
Minister of Sacred Music
Christian Science Practitioner
Parish Worker

Language and Linguistics

Linguist
Interpreter
Translator
Scientific Linguist
Etymologist
Philologist
Phonologist

History and Museums

Historian
Biographer
Geneologist
Dramatic Arts Historian
Research Director
Consultant
State Historical Society Director
Archivist
Anthropologist
Museum Curator
Museum Technician
Historical Sites Supervisor
Armorer Technician
Research Assistant and Encylopedia Research Worker
Art Appraiser

RESOURCES

FILMS

Bell Telephone Company
Local Office

"Science Behind Speech"
16mm color sound - 8 minutes

"Speechless by Mistake"
16mm color sound - 27 minutes

General Mills, Inc.
Film Center
9200 Wayzata Boulevard
Minneapolis, Minnesota 55440

"The Pacesetter in Aisle No. 3"
Color, 15 minutes

Modern Talking Picture Service
714 Spring Street, N.W.
Atlanta, Georgia 30308

"The Career Game"

"Horizons Unlimited"

"Matter of Opportunity"

"The Search for Meaning"

National Canners Association
Miss Gloria Hansen
Communications Services
1133 20th Street, N.W.
Washington, D.C. 20036

"Story of John Porter"
Color, 25 min.

National Cash Register Company
Marketing Services Department
Dayton, Ohio 45409

"The World of Numbers"
16mm color sound - 18 minutes

University of Southern California
School of Performing Arts
Division of Cinema
University Park
Los Angeles, California 90007

"A University is a Teacher"
Black and white, 30 min.

ORGANIZATIONS

American Astronomical Society
516 Fifth Avenue
New York, New York 10036

American Federation of Musicians
425 Park Avenue
New York, New York

American Historical Society
400 "A" Street, S.E.
Washington, D.C.

American Institute of Architects
1735 New York Avenue, N.W.
Washington, D.C. 20036

American Institute of Biological Sciences
2000 P Street, N.W.
Washington, D.C. 20036

American Institute of Graphic Arts
1059 3rd Street
New York, New York 10022

American Meteorological Society
45 Beacon Street
Boston, Massachusetts

American Society of Composers, Authors and Publishers
575 Madison Avenue
New York, New York 10022

Associated Actors and Artists of America
226 West 47th Street
New York, New York 10036

Dance Masters of America
601 North Division Street
Salisbury, Maryland

Linguistic Society of America
Box 8120, University Station
Austin 12, Texas

National Association of Professional Engineers
2029 K Street, N.W.
Washington, D.C. 20005

Society of Illustrators
128 East 63rd Street
New York, New York 10021

PAMPHLETS

American Anthropological Association 1703 New Hampshire Avenue, N.W. Washington, D.C. 20009	What is Anthropology?
American Astronomical Society 311 Fitz Randolph Road Princeton, New Jersey 08540	A Career in Astronomy
American Federation of Musicians 641 Lexington Avenue New York, New York 10022	Music is your Business
American Institute of Architects 1735 New York Avenue, N.W. Washington, D.C. 20006	Designing a Better Tomorrow Careers in Architecture
American Institute of Biological Sciences 3900 Wisconsin Avenue, N.W. Washington, D.C. 20016	Careers in Biology
American Institute of Physics 335 East 45th Street New York, New York 10017	Physics as a Career
American Society of Chemists 9650 Wisconsin Avenue Washington, D.C.	Careers in Biochemistry
American Society for Microbiology 1913 Eye Street N.W. Washington, D.C. 20006	Microbiology in Your Future
American Statistical Association 810 18th Street, N.W. Washington, D.C. 20006	Careers in Statistics
Archaeological Institute of America 260 West Broadway New York, New York 10003	Archaeology as a Career
The Chemical Institute of Canada Suite 906 151 Slater Street Ottawa 4, Ontario, Canada	Your Career as a Chemist Your Career in Chemical Engineering
Edmund Scientific Company 555 Edscrop Building Barrington, New Jersey 08007	Astronomy and You

Engineers' Council for Professional Development 345 East 47th Street New York, New York 10017	Engineering: A Challenge Engineering: A Career of Opportunities
Entomological Society of America 4603 Calvert Road College Park, Maryland 20740	Entomology
Educational Relations General Electric Company Ossining, New York 10562	What's It Like to be an Engineer?
General Electric Company Educational Publications Schenectady, New York 12305	The Technician and Tomorrow
General Motors Corporation Public Relations Staff Detroit, Michigan 48202	Can I Be A Craftsman? Can I Be a Draftsman? Can I Be an Engineer? Can I Be a Mathematician? Can I Be an Office Worker? Can I Be a Scientist? Can I Be a Technician?
Industrial Design Society of America 60 West 55th Street New York, New York 11021	Careers in Art
Mathematical Sciences Employment Register P.O. Box 6248 Providence, Rhode Island 02904	Finding Employment in the Mathematical Sciences
National Ass'n for Music Therapy P.O. Box 610 Lawrence, Kansas 66044	Music Therapy as a Career
National Society of Art Directors	Art as a Career
Philadelphia College of Art Office of Public Information Broad and Pine Streets Philadelphia, Pennsylvania 19102	Your Career in Art

U.S. Geological Survey The Paleontological Society W. O. Addicott, Secretary 345 Middlefield Road Menlo Park, California 94025	The Paleontologist
U.S. Department of Labor Bureau of Labor Statistics 1371 Peachtree Street, N.W. Atlanta, Georgia 30309	Biology and Your Career Science and Your Career Mathematics and Your Career English and Your Career
U.S. Department of Labor Women's Bureau Washington, D.C.	Why Not be a Technical Writer Why Not Be a Mathematician
Woodbridge Office of School-Industry Cooperation Woodbridge, New Jersey	Foreign Languages and Your Career

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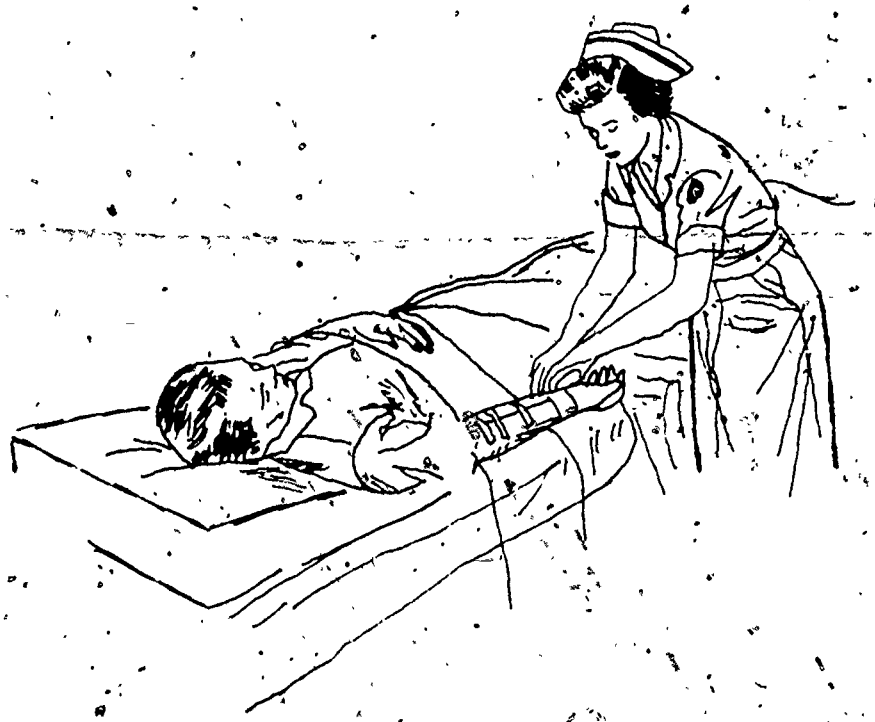
HEALTH



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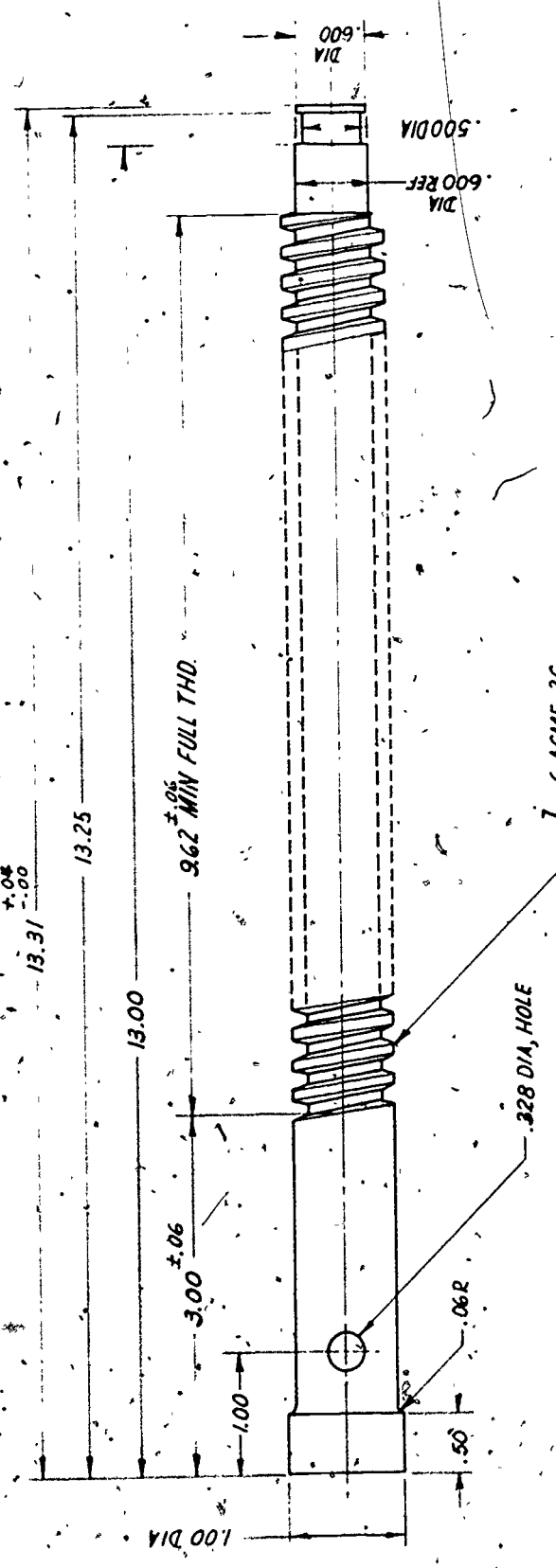

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JOB FAMILIES

Mental Health and Mental Health Services
Medical and Biological Science Services
Dentistry and Dental Science Services
General Hospital and Medical Office
Medical Emergency Services
Administration of Health Services
Personal and Community Health Services
Pharmaceutical Science and Services
Professional Medical Supportive Personnel
Medical Professions

Mental Health and Mental Health Services

- Psychiatrist
- Psychiatric Aide
- Psychiatric Nurse
- Psychiatric Social Worker
- Psychometrist
- Psychologist
- Social Psychologist

Medical and Biological Science Services

- Cytotechnologist
- Histologic Technician
- Blood Bank Technologist
- Medical Technologist
- Biochemistry Technologist
- Microbiology Technologist
- Electrocardiograph Technician
- Electroencephalograph Technician
- Radiologic Technologist
- X-Ray Technologist
- Medical Laboratory Assistant
- Plasma Drawing-Off Laboratory Assistant
- Physician's Assistant
- Medical Assistant
- Surgical Technician
- Obstetrical Technician
- Nuclear Medical Technologist
- Radiological Health Specialist and Technicians
- Veterinary Laboratory Technician

Dental and Dental Science Services

- Dentist
- Dental Hygienist
- Dental Laboratory Technician
- Dental Ceramist
- Dental Ceramist Assistant

General Hospital and Medical Office

- Central Supply Supervisor
- X-Ray Clerk
- Diet Clerk
- Nursing Aide
- Central Supply Aide
- Receptionist

Medical Emergency Services

- Ambulance Driver
- Ambulance Attendant
- First-Aid Attendant

Administration of Health Services

- Hospital Administrator
- Administrative Assistant
- Medical Officer
- Accountant
- Controller
- Credit Manager
- Personnel Director
- Public Relations Director
- Purchasing Agent
- Admitting Officer
- Director of Volunteer Services
- Executive Housekeeper

Personal and Community Health Services

- Community Services and Health Education Officer
- Public Health Educator
- Public Health Nurse
- School Nurse
- Sanitarian
- Sanitarian's Aid
- Home Health Aid

Pharmaceutical Science and Services

- Pharmacist
- Pharmacy Helper

Professional Medical Supportive Personnel

- Research Nutritionist
- Dietician
- Prosthetist - Ortholist
- Health Physicist
- Audiologist
- Audiometrist
- Chiropractor
- Chiropractor's Assistant
- Naturopathic Doctor
- Hearing Clinician
- Optometrist
- Podiatrist
- Speech and Hearing Clinician

Speech Clinician
Speech Pathologist
Manual Arts Therapist
Music Therapist
Occupational Therapist
Recreational Therapist
Industrial Hygienist
Orientation Therapist for the Blind
Podiatrist's Assistant
Corrective Therapist
Orthodontist
Inhaler Therapist
Physical Therapist
Contact-Lens Technician
Artificial-Plastic-Eye Maker
Optical Mounter and Repairman

Medical Professions

Medical Doctor
Public Health Veterinarian
General Duty Nurse
Nurse Anesthetist
Office Nurse
Industrial Nurse
Licensed Practical Nurse

RESOURCES

AIDS

Johnson & Johnson U.S. Highway #1 East Brunswick, New Jersey 08816 Larry Foster, Head of Public Relations	Pamphlets, company publications and programmed instruction courses in First Aid
Merck and Company, Inc. Scott Avenue Rahway, New Jersey 07065	Pamphlets, charts, books, educational publications, teaching kits and films

FILMS

American Dental Association 211 East Chicago Avenue Chicago, Illinois 60611	Bright Future Color, 28 minutes
	Challenge of Dentistry Color, 28 minutes
	Laboratory of the Body Color, 28 minutes
	Pattern of a Profession Black and white, 28 minutes
American Osteopathic Ass'n Order Department 212 East Ohio Street Chicago, Illinois 60611	American Doctor Color, 28 minutes
	You Be The Doctor Color, 16 minutes
American Podiatry Association Audiovisual Section 20 Chevy Chase Circle Washington, D.C. 20015	Podiatry: Opportunity and Challenge Color, 13 minutes
	The Winged Foot Black and white, 13 minutes
Association Films, Inc. 600 Madison Avenue New York, New York 10022	S-237 "Take Time for Your Teeth" 16mm color sound - 12 minutes
Becton, Dickinson Company Attention: Mr. Frank N. Selmer Manager, Advertising and Sales Promotion Rutherford, New Jersey 07070	Career in Bacteriology Color, 20 minutes

Eli Lilly and Company
Miss A. I. Proctor
Audio Visual Film Library
P.O. Box 618
Indianapolis, Indiana 46206

Day of Judgment - Pharmacy Recruitment
Color, 24 minutes

Without Warning
Color, 16 minutes

National Committee for Careers in Medical Technology
9650 Rockville Pike
Bethesda, Maryland 20014

Human Cell and the Cytotechnologist
Color, 22 minutes

In a Medical Laboratory
Color, 28 minutes

Texaco, Inc.
Manager, Retail Sales
1866 West Peachtree Street, N.W.
Atlanta, Georgia 30308

The Veterinarian
Color, 26 minutes

FILMS AND PAMPHLETS

S. J. Groves & Sons Company
P.O. Box 85
U.S. Highway 9
Woodbridge, N. J. 07095

Safety films and pamphlets

National Osteopathic Association
Office of Education
212 East Ohio Street
Chicago, Illinois 60611

Information and films on osteopathic physicians and related occupations.

ORGANIZATIONS

American Genetic Association
1507 M Street, N.W.
Washington, D.C. 20005

American Association of Health, Physical Education and Recreation
1201 Sixteenth Street, N.W.
Washington, D.C. 20036

American Association of Medical Assistants
510 North Dearborn Street
Chicago 10, Illinois

American Association of School of Medicine Anatomists
University of Pennsylvania
Philadelphia, Pennsylvania

American Dental Assistants Association
10 First National Bank Building
LaPorte, Indiana

American Dental Association
222 East Superior Street
Chicago, Illinois 60611

American Dental Hygienists' Association
100 East Ohio Street
Chicago, Illinois 60611

American Institute of Biological Science
200 P Street, N.W.
Washington, D.C.

American Nurses Association
10 Columbus Circle
New York 19, New York

American Occupational Therapy Association
250 West 57th Street
New York, New York 10019

American Osteopathic Association
212 East Ohio Street
Chicago, Illinois 60611

American Pharmaceutical Association
2215 Constitution Avenue, N.W.
Washington, D.C. 20037

American Psychiatric Association
1700 18th Street, N.W.
Washington, D.C. 20009

American Psychological Association
17th Street & Rhode Island Avenue, N.W.
Washington, D.C. 20036

American Physiological Society
9650 Wisconsin Avenue
Washington, D.C. 20014

American Society of Animal Science
J.E. Oldfield, Secretary-Treasurer
Department of Animals Science
Oregon State University
Corvallis, Oregon

American Society of Medical Technologists
25 Herman Professional Building
Houston, Texas 77025

American Society of Biological Chemists
9650 Wisconsin Avenue
Washington, D.C. 20014

American Veterinary Medical Association
600 South Michigan Avenue
Chicago, Illinois 60605

American Veterinarian Medical Association
1510 "M" Street, N.W.
Washington, D.C.

International Chiropractors Association
741 Brady Street
Davenport, Iowa

National Association for Practical Nurse Education
475 Riverside Drive
New York, New York 10027

National Health Council
1790 Broadway
New York, New York 10019

Bureau of Health, Professional Education and Manpower Training
National Institute of Health
Bethesda, Maryland

National League for Committee on Careers in Nursing
10 Columbus Circle
New York, New York 10019

Optical Society of America
Room 8 -203
Massachusetts Institute of Technology
Cambridge, Massachusetts 02139

Society of American Bacteriologists
Mt. Royal and Guilford Avenue
Baltimore, Maryland 21202

American Pharmaceutical Association
2215 Constitution Avenue, N.W.
Washington, D.C. 20037

American Podiatry Association
3301 Sixteenth Street, N.W.
Washington, D.C. 20010

National Association for Practical Nurse Education
475 Riverside Drive
New York, New York 10027

American Society of X-Ray Technicians
16 Fourteen Street
Fond du Lac, Wisconsin

PAMPHLETS

ANA-NLA Nursing Career Program 10 Columbus Circle New York, New York 10019	Do You Want to Be a Nurse? Husband, Father, Humanitarian, Specialist, Nurse
American Ass'n of Nurse Anesthetists Suite 3910 Prudential Plaza Chicago, Illinois	Nurse Anesthetist Career
American Association for Health, Physical Education & Recreation 1201 Sixteenth Street, N.W. Washington, D.C. 20036	Career information on health education, dance, safety education, school nursing and others.
American Board of Opticianry Executive Secretary 821 Eggert Road Buffalo, New York 14226	Opticianry
American Chiropractic Association Department of Education 2200 Grand Avenue Des Moines, Iowa 50312	Planning a Career in Chiropractic
American Dental Assistants Association Room 1230, 211 E. Chicago Avenue Chicago, Illinois 60611	Dental Assisting
American Dental Association 22 East Superior Chicago, Illinois	The Dimensions of Dentistry
American Dental Association Council on Dental Education 211 East Chicago Avenue Chicago, Illinois 60611	Careers in Dentistry Dentistry - A Career for Women
American Dental Hygienists' Association Division of Educational Services 211 East Chicago Avenue Chicago, Illinois 60611	Careers in Dental Hygiene
American Dietetic Association 620 North Michigan Avenue Chicago, Illinois 60611	A Dietetic Internship Dietetics as a Profession Dietetics - How Sweet It Is

American Hearing Society 919 18th Street, N.W. Washington, D.C. 20006	
American Hospital Association Division of Careers and Recruitment 840 North Lake Shore Drive Chicago, Illinois	Health Careers Leaflet
American Institute of Nutrition Rockville Pike Bethesda, Maryland 20014	Careers in Nutrition
American Medical Association Local Office	I Am a Doctor
American Medical Association 535 North Dearborn Street Chicago, Illinois 60610	Horizons Unlimited The Opportunities and Rewards of Medicine Can Be Yours The Rewards of Medicine Can Be Yours
American Medical Record Ass'n 211 East Chicago Street Chicago, Illinois 60611	Medical Record Librarian--Key Member of the Medical Team
American Nurses Association, Inc. ANA-NLN Committee on Nursing Careers 10 Columbus Circle New York, New York 10019	Nursing Can Turn You On
American Occupational Therapy Ass'n Division of Public Information and Recruitment 251 Park Avenue South New York, New York 10010	ABC's of Occupational Therapy Occupational Therapy Handbook Join the Recovery Team: Be an Occupational Therapist
American Optometric Association Division of Public Information 7000 Chippewa Street St. Louis, Missouri 63119	What Is an Optometrist
American Osteopathic Association Department of Public Relations 212 East Ohio Street Chicago, Illinois 60611	Health Careers - Osteopathic Medicine

American Pharmaceutical Association 2215 Constitution Avenue, N.W. Washington, D.C. 20037	See Your Future in Pharmacy
American Physical Therapy Ass'n 1156 15th Street, N.W. Washington, D.C. 20005	Careers in Physical Therapy
American Psychological Association 1200 17th Street, N.W. Washington, D.C.	A Career in Industrial Psychology A Career in Psychology
American Physiological Society 9650 Rockville Pike Bethesda, Maryland 20014	Consider Physiology
American Podiatry Association 20 Chevy Chase Circle, N.W. Washington, D.C. 20015	Information on a career in podiatry
American Psychiatric Association & the National Association for Mental Health 1700 Eighteenth Street, N.W. Washington, D.C.	Information on careers in psychiatry and mental health
American Psychological Ass'n 1200 Seventeenth Street, NW Washington, D.C. 20036	Information on careers in psychology
American Society for Pharmacology and Experimental Therapeutics Office of the Executive Officer 9650 Rockville Pike Bethesda, Maryland 20014	A Career in Pharmacology
American Society of Animal Science 113 North Nell Street Champagne, Illinois 61820	Career in Animal Sciences
American Society of Medical Technology Suite 1600 Hermann Prof. Bldg. Houston, Texas 77025	Careers in the Medical Laboratory What Kind of Career Could I Have in a Medical Laboratory?
American Society of Radiologic Technologists 645 North Michigan Avenue Room 620 Chicago, Illinois 60611	Careers in X-Ray Technology

American Speech and Hearing Ass'n Kenneth O. Johnson, PhD. Executive Dir. 9030 Old Georgetown Road Washington, D.C. 20014	Speech Pathologist and Audiology - Career Information
American Veterinary Medicine Ass'n 600 South Michigan Avenue Chicago, Illinois 60605	Today's Veterinarian
Medical Library Association, Inc. 919 North Michigan Avenue Chicago, Illinois 60611	Medical Library Careers
Mississippi Employment Security Commission P.O. Box 1699 Jackson, Mississippi 39205	Occupational Guides - Registered Nurse, Nurses Aid, General Duty Nurse, Licensed Practical Nurse Should You Be a Pathologist Should You Be a Pharmacist Should You Be a Veterinarian
Nat'l Association of Retail Druggists One East Wacker Drive Chicago, Illinois 60601	There is a Future For You in Pharmacy
Nat'l Federation of Licensed Practical Nurses, Inc. 250 West 57th Street Suite 1511 New York, New York 10019	Practically Speaking for a Nursing Career
National Health Council 1740 Broadway New York, New York 10019	Information on health careers
National League for Nursing 10 Columbus Circle New York, New York 10019	Do You Want to be a Nurse?
New Jersey Division of Employment Security	Medical Technologist
Optical Society of America 2100 Pennsylvania Avenue, NW Washington D.C. 20037	Career information and activities in optical physics, optical engineering, and astronomy

Pennsylvania Bureau of Employment Security Labor and Industry Building 7th and Forester Street Harrisburg, Pennsylvania	Job Opportunity Guide - Health Careers, Licensed Practical Nurse
Pfizer Inc. Educational Services Dept. 235 East 42nd Street New York, New York 10017	Your Career Opportunities in Hospitals Your Career Opportunities in Medicine Your Career Opportunities in Pharmacy
Trade and Industrial Service Division of Vocational Education State Office Building Columbus, Ohio 43215	Health Occupations
U.S. Department of Health, Education and Welfare U.S. Government Printing Office Washington, D.C. 20402	New Careers for the Subprofessional
U.S. Dept. of Labor Bureau of Labor Statistics 1371 Peachtree Street, N.W. Atlanta, Georgia 30309	Health Service Occupations
U.S. Department of Labor Women's Bureau Washington, D.C.	Why Not Be a Medical Technologist Why Not Be an Optometrist Why Not Be a Pharmacist
United Business School Association 1730 M Street, N.W. Washington, D.C. 20036	Your Career as a Medical Secretary
The Upjohn Company Department #9250 Kalamazoo, Michigan 49001	What is a Pharmacist?
Veterans Administration Personnel (054) Washington, D.C. 20420	Rehabilitation Therapists in the Veterans Administration

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HOSPITALITY AND RECREATION

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JOB FAMILIES

Commercial and Non-Commercial Travel Bureaus
Travel Agencies
Transportation
Public, Industrial and Private Recreation
Natural Resource Recreation

Commercial and Non-Commercial Travel Bureaus

Artist
Information Clerk
Librarian
Lodging Facilities Attendant
Photographer
Public Relations Man
Transportation Clerk
Travel-Accomodation Appraiser
Travel Counselor
Writer

Travel Agencies

Advertising and Publicity Personnel
Hotel Representative
Information Clerk
Librarian
Publicity, Advertising and Clerical Staff
Sales Agent or Agency Representative
Ticket Clerk
Travel Advisor
Travel Agency Clerk
Travel Agency Supervisor and Executive
Travel Agent

Transportation

Passenger Agents and Clerks
Purser
Airline Stewardess
Deck Steward
Tour Conductor
Tourist Recreation Director

Public, Industrial and Private Recreation

Athletic Manager
Athletic Director
Athletic Equipment Custodian
Athletic Team Manager
Athletic Trainer
Professional Athlete
Umpire
Automobile Racer
Acrobat
Acrobatic Rigger
Aerialist
Artist and Repertoire Man
Circus Business Agent
Circus Foreman

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Circus Laborer
Circus Trainmaster
Clown
Comedian
Mermaid
Ring Master
Showman
Stunt Man
Astrologer
Fortune Teller
Graphologist
Hypnotist
Magician
Mind Reader
Physiognomist
Ventriloquist
Puppeteer
Show Girl
Song and Dance Man
Waiter-Entertainer
Usher
Bowling Instructor
Ice Skating Instructor
Judo Instructor
Physical Education Instructor
Riding Instructor
Swimming Instructor
Ski Instructor
Ski Patrolman
Ski-Tow Operator
Animal Keeper
Marine-Mammal Trainer
Dog Trainer
Horse Trainer
Horseman
Racetrack Steward
Jockey
Horse Exerciser
Recreation Superintendent
Camp Counselor
Kennel Master
Master of Ceremonies
Guide
Huntsman
Diver

Natural Resource Recreation

Information Center Personnel
Concession Attendant
Lifeguard
Visitor or Tourist Guide
Zoo Keeper and Attendant

RESOURCES

FILMS

Nat'l Association of Engine and Boat Manufacturers
Film Library
Department of Creativision, Inc.
295 West 4th Street
New York, New York 10014

Boats Need People
Color, 13 minutes

Nat'l Association of Manufacturers
277 Park Avenue
New York, New York 10017

No. 390 - The Sports Boom
16mm - 13½ minutes

No. 393 - Nation on the Go
16mm - 13½ minutes

Audio Visual Section
National Cotton Council
P.O. Box 12285
Memphis, Tennessee 38112

"A La Carte"
16mm color sound - 13½ minutes

"Cruise Craze"
16mm color sound - 13 minutes

National Restaurant Association
1530 North Lake Shore Drive
Chicago, Illinois 60610

"Goodservice" - film

ORGANIZATIONS

American Educational Institute Hotel Association
Employer-Employee Relations Department
221 West 57th Street
New York, New York 10019

American Hotel and Motel Association
221 West 57th Street
New York, New York

Chefs de Cuisine Association of America
132 West 48th Street
New York, New York 10036

Educational Director
National Restaurant Association
Chicago, Illinois

National Association of Professional League Baseball
720 East Broad Street
Columbus, Ohio 43215

National Industrial Restaurant Association
1700 Pennsylvania Avenue, N.W.
Washington, D.C. 20006

PAMPHLETS

American Hotel & Motel Association 888 7th Street New York, New York 10019	Choose a Hotel/Motel Career
Illinois Reading Service Box 277 Bloomington, Illinois	"What a Baseball Manager Does" by Roy Hoopes
Mississippi Employment Security Commission P.O. Box 1699 Jackson, Mississippi 39205	Occupational Guides Outboard Motor Mechanic
National Association of Professional Baseball Leagues 720 East Broad Street Columbus, Ohio 43215	Baseball, the Game, the Career, the Opportunity.

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MANUFACTURING

JOB FAMILIES

Management
Scientist
Engineer
Technician
Craftsman
Skilled Workers
Semi-Skilled Workers
Unskilled Laborers

Management

President
Vice President
Industrial Organization Manager
Sales Manager
Purchasing Agent
Accountant
Personnel Manager
Personnel Clerk

Scientist

Analytical Chemist
Organic Chemist
Physicist

Engineers

Electrical Engineer
Industrial Engineer
Engineering Liaison Man
Mechanical Engineer
Engineering Scheduler
Aerospace Engineer
Ceramic Engineer
Chemical Engineer
Metallurgical Engineer
Mining Engineer
Civil Engineer
Illuminating Engineer
Architectural Engineer
Draftsman

Techicians

Electronics Technician
Mathematical Technician
Assistant Metallurgist
Quality Technician

Craftsmen

Electrician Foreman
Master Maintenance Mechanic
Master Tailor
Tool Designer
Die Maker
Tool Maker
Tool and Die Foreman
Master Mechanic
Carpenter Foreman
Plumber Foreman
Masonry Foreman
Sheet Metal Foreman
Electrical Foreman

Skilled Workers

- Lithographer
- Machinist
- Plastic Pattern Maker
- Milling Machine Set-Up Man
- General Assembler
- Layout Man
- Gear Cutting Machine Setup Operator
- Buffing Line Setup Man
- Shear Setup Man
- Press Operator
- Resistor Calibrator
- Calibrator Checker
- Electric Motor Analyst
- Camera Repairman
- Instrument Maker
- Radio Repairman
- Hearing Aid Repairman
- Fruit Coordinator
- Pulp and Paper Tester
- Tinter
- Quality Control Tester
- Carpenter
- Painter
- Welder
- Mechanic
- Electrician
- Plumber
- Butcher
- Sheet Metal Worker

Semi-Skilled Workers

Mineral Production:

- Hammer Mill Operator
- Alodize Machine Operator
- Kiln Operator
- Iron and Steel Mixer
- Clarifier Operator
- Pyrometer Man
- Oxygen Furnace Operator
- Charging Machine Operator
- Cupola Charger
- Die-Casting Machine Setup Man
- Casting Operator
- Grinding Mill Operator
- Batch Maker
- Briquetting Machine Operator
- Arbor Press Operator
- Mirror-Finishing Operator
- Fox-Lathe Operator

Boring Machine Operator
Cut-Off Saw Operator
Drop-Hammer Operator
Die-Setter
Coil Operator
Table Operator
Draw-Bench Operator
Rifter
Core-Maker
Stone Grader
Plater
Etcher

Animal and Vegetable Production:

Cheese Blender
Blending Plant Operator
Dividing Machine Operator
Rice Miller
Potato Chip Sorter
Cocoa Press Operator
Battery Operator
Candy Maker
Butter Maker
Cigarette Filter Making Machine Operator
Blender
Carbon Paper Coating Machine Setup Man
Cork Grinder
Beater Engineer
Corrugator Operator
Molding Sander
Cotton Dispatcher
Sewing Machine Operator

Chemical and Synthetic Production:
Batch-Still Operator
Plastic Heat Welder
Nitro-Cotton Operator
Caustic Operator
Acid Extractor
Catalyst Operator
Absorption Operator
Gager

Unskilled Laborers

Mineral Production:
Electroplate Laborer
General Laborer
Caster
Foundry Laborer

Abrasive Grader
Diamond Powder Mixer
Batch and Furnace Man
Beads Baker
Clay Roaster
Bench Grinder
Air Conditioning Coil Assembler
Model Builder
Hopper Man

Animal and Vegetable Production:
Almond-Paste Molder
Batter-Mixer
Sausage Meat Trimmer
Barley Sleeper
Chip Man
Batter Scaler
Doughnut Maker
Baker Helper
Cook
Candy Cutter
Auto Roller
Cannery Worker
Cheesemaking Laborer
Basket Filler
Core Treater
Bleacher
Bindery Worker
Heel Builder
Cotton Roll Packer

Chemical and Synthetic:
Dry-House Man
Core Extruder
Ampoule Sealer

RESOURCES

AIDS

American Cyanamid Company Cutter Dock Road Woodbridge, N. J. 07095	Films, periodicals, laboratory glassware and equipment available on written request. Professional books from Bound Brook Library can be used by teachers.
Chevron Oil Company 1200 State Street Perth Amboy, N. J. 08861	Kit of model refinery (6th grade level) available
M & T Chemicals, Inc. Rahway Avenue Rahway, N. J. 07065	Reference material for teacher use
Rayco Auto Service Stores 385 U.S. Highway #1 Avenel, N. J. 07001	Periodicals and old seat cover materials
Reichhold Chemicals, Inc. Middlesex Avenue Carteret, N. J. 07008	Pamphlets and model of plant may be borrowed.
Republic Wire Corporation 500 Blair Road Carteret, N. J. 07008	Samples of various kinds of wires and gauges of wires produced at plant.
Standard Tube Sales Corporation 449 Blair Road Woodbridge, N. J. 07095	Steel tubing for shop classes, and pamphlets about steel tubing and its uses.
U.S. Metals Refining Company 400 Middlesex Avenue Carteret, N. J. 07008	Process flow schematic diagram of the entire smelting process; brochures and films on the electrolytic process; reference materials available.

FILMS

Association Films, Inc. 600 Madison Avenue New York, New York 10022	S-089 "The Open World of Glass" 16mm color sound - 31 minutes S-363 "Aluminum Welding" 16mm color sound - 33 minutes S-502 "Color & Texture in Aluminum Finishes" - 16mm color sound, 18 min.

Bell Telephone Company Local Office	"Bell Solar Battery" 16mm color sound - 12 minutes
Brown Shoe Company Public Relations 8300 Maryland Avenue Clayton, Missouri 63105	Leather in the Making Black and white, 30 minutes.
General Dynamics Electro Dynamic Division 150 Avenel Street Avenel, N. J. 07001	"General Dynamics Review"
General Mills Audio-Visual Department 9200 Wayzata Blvd. Minneapolis, Minnesota 55440	"The How and Why of Packaging" 35mm - silent - 65 frames
General Motors Assembly Division Route #1 Linden, New Jersey 07036	For booklets and films, contact Public Relations Dept., Broad Street, Newark, N.J.
General Motors Training School Route 22 Union, New Jersey 07083	Films and equipment
General Steel and Supply Co., Inc. 229 Fayette Street Perth Amboy, N. J. 08861	"Eternal Harvest"--For film, contact Venlo Wolfson, Director of Public Relations, Institute Scrap Iron & Steel, 1729 H Street NW, Washington, D.C. 20006
Jim Handy Productions Division of T.T.P. Corporation 2821 East Grand Boulevard Detroit, Michigan 48211	"American Maker" 16mm color - 25 minutes
Huntington Laboratories, Inc. Huntington, Indiana 46750	"It's Your Challenge" Color, 23 minutes
Merck Sharp and Dohme Film Library West Point, Pennsylvania 19486	"A Wider World" Black and white, 28 minutes "Within These Walls" Black and white, 28 minutes
Modern Talking Picture Service 714 Spring Street, N.W. Atlanta, Georgia 30308	"Credit" - color, 14 minutes "Dialogue with a Young Man" Color, 14 minutes "What's So Special About Paper?"

National Association of Manufacturers
277 Park Avenue
New York, New York 10017

No. 380 "American Industry"
16mm - 13½ minutes

No. 385 "The Billion Dollar Breakfast"
16mm - 13½ minutes

No. 397 - "Looking at Glass" (Plate, hand blown, mass produced, etc.)
16mm - 13½ minutes

No. 413 - "Contents: Merchandise" (Packaging of goods)
16mm - 13½ minutes

No. 421 - "Impact" (Report on use of force and resultant products of industry that have an impact of their own on our standard of living)
16mm - 13½ minutes

No. 422 - "An Ounce of Prevention" (Industrial health and safety)
16mm - 13½ minutes

No. 424 - "Baby Boom" (What babies do for the economy and what industry does for them)
16mm - 13½ minutes

No. 455 - "Techniques, Processes and Products of Industry" (Floating automobile, space suits, etc.)
16mm - 13½ minutes

No. 457 - "While a Nation Sleeps" (Night workers) 16mm - 13½ minutes

No. 459 - "Keep it Clean" (Industry's accomplishments in keeping people clean)
16mm - 13½ minutes

No. 462 - "Automation--What Is It?"
16mm - 13½ minutes

No. 471 - "Nearest Thing to Nothing" (uses of vacuum in industry)
16mm - 13½ minutes

No. 472 - "Refreshing Neighbors" (Soft drink industry) 16mm - 13½ minutes

No. 474 - "Tools of Production" (Machine tools) 16mm - 13½ minutes

No. 476 - "The Large and Small of It" (Importance of both large and small industry) 16mm - 13½ minutes

No. 480 - "Growing with the Nation" (Various ways in which industries grow) 16mm - 13½ minutes

No. 482 - "Fairest in the Land" (Top factories in the country) 16mm - 13½ minutes

No. 483 - "The Happiest Business" (How industry contributes to making holidays happy and safe for children) 16mm - 13½ minutes

No. 489 - "Living on Air" (Foam rubber) 16mm - 13½ minutes

492-C1 - "Putting Sparkle in Our Lives" (Beverage Industry) Color

New Holland
Division of Sperry Rand Corp.
7230 Morgan Road, Box 10
Liverpool, New York 13088

"Miracle of Mechanization"

FILMS AND PAMPHLETS

Carborundum Company
Crows Mill Road,
Keasby, N. J. 08832

Films, filmstrips, records, pamphlets, professional journals and samples of refraction materials produced by Carborundum. Plant library at Niagara Falls home office may be used on loan basis.

Continental Can Company
400 Blair Road
Carteret, N. J. 07008

Films, filmstrips, pamphlets and models.

Ford Motor Company
U.S. Highway #1
Metuchen, New Jersey 08840

Booklets and films from Dick Horton, Public Relations Office, Ford Motor Co., 477 Madison Avenue, New York, N. Y.

A.P. Green Refractories
Pennval Road
Woodbridge, N. J. 07095

Films, pamphlets and periodicals on 2-4 weeks advance notice.

FMC Corporation
Inorganic Chemicals Division
500 Roosevelt Avenue
Carteret, N. J. 07008

Films, reports, periodicals and reference books.

Metro Glass
Div. of National Dairy Products Corp.
Minue Street
Carteret, N. J. 07008

Films, filmstrips, pamphlets, unit plans and periodicals

D.H. Overmyer Warehouse Company
Randolph Avenue
Woodbridge, N. J. 07095

Films, filmstrips and pamphlets

Woodbridge Sanitary Pottery Corp.
500 Green Street
Woodbridge, N. J. 07095

Films, pamphlets and publications

ORGANIZATIONS

National Association of Furniture Manufacturers
666 North Lake Shore Drive
Chicago, Illinois

The American Ceramic Society
4055 North High Street
Columbus, Ohio 43214

American Chemical Society
1155 16th Street, N.W.
Washington, D.C. 20036

American Institute of Chemical Engineers
345 East 47th Street
New York, New York 10017

American Institute of Mechanical Engineers
345 East 47th Street
New York, New York 10017

American Society of Tool and Manufacturing Engineers
10700 Puritan Avenue
Detroit, Michigan 48238

American Welding Society
345 East 47th Street
New York, New York 10017

Chemical Specialties Manufacturers Association
50 East 41st Street
New York, New York 10017

Electronic Industries Association
2001 Eye Street N.W.
Washington, D.C. 20006

Industrial Designers' Institute
441 Madison Avenue
New York, New York

National Association of Manufacturers
2 East 48th Street
New York, New York

National Tool, Die, and Precision Machinery Association
907 Public Square Building
Cleveland, Ohio 44113

Paper Industry Management Association
10 North Clark Street
Chicago, Illinois

Rubber Manufacturers Association
444 Madison Avenue
New York, New York

Society of Automotive Engineers, Inc.
485 Lexington Avenue
New York, New York 10017

Society of Plastics Industry
250 Park Avenue
New York, New York

PAMPHLETS

Aluminum Company of America Chemical Division 1391 Alcoa Building Pittsburgh, Pennsylvania	Ceramics--Unlimited Horizons Ceramics--Today's Technology, Tomorrow's Future
American Can Company 3900 Park Avenue Metuchen, N. J. 08840	Pamphlets, magazines, company magazines, newspapers, & films.
American Ceramics Society, Inc. 4055 North High Street Columbus, Ohio 43214	For Career Opportunities Explore the Wonder World of Ceramics
American Chemical Society 1155 16th Street, N.W. Washington, D.C. 20036	Chemistry and Your Career Is Chemical Technology the Career for You?
American Institute of Chemists 79 Madison Avenue New York, New York 10016	Information on Occupations in Chemistry and Chemical Career Fields

American Institute of Industrial Engineers 345 East 47th Street New York, New York 10017	Industrial Engineering
American Institute of Physics Public Relations Department 335 East Forty-fifth Street New York, New York 10017	Information on Careers in Physics
American Society for Metals Career Guidance Department Metals Park, Ohio 44073	Information on Careers in Metallurgy Does Engineering Appeal to You?
American Society of Industrial Designers 15 East 48th Street New York, New York 10017	
American Society of Mechanical Engineers United Engineering Center 345 East 47th Street New York, New York 10017	Mechanical Engineering
American Society for Metals Metals Park, Ohio 44073	A Career Opportunity Will Extend Your Reach The Materials Engineer Today and Tomorrow
American Textile Manufacturing Institute, Inc. 1501 Johnston Building Charlotte, North Carolina 28202	Textiles For You...And How They are Made The Wonderful New World of Textiles Your Career in Textiles
American Welding Society 345 East 47th Street New York, New York 10017	Opportunities in the Welding Industry
Centric Clutch Company U.S. Highway #9 Woodbridge, N. J. 07095	Professional literature and periodicals
The Chemical Institute of Canada Burnside Building 151 State Street Ottawa, Ontario, Canada	Your Career in Chemical Engineering
Education Council of Graphic Arts Industry 1411 K Street, N.W. Washington, D.C. 20005	

Engineers' Council for Professional Development 345 East 47th Street New York, New York 10017	Information on careers in engineering
Fords Foundry Company, Inc. Gross Avenue Fords, NewJersey 08863	Pamphlets on metallurgy and related areas.
Public Relations Staff General Motors Detroit, Michigan 48202	Can I Be an Engineer? Can I Be a Scientist? Can I Be a Draftsman? The Automobile Story Can I Be a Technician? Diesel: The Modern Power Optics and Wheels Power Goes to Work in the Automobile Precision - A Measure of Programs The Story of Power Electricity and Wheels General Motors Institute
Industrial Designer's Society of America 60 West 55th Street New York, New York 10019	Careers in Industrial Design
International Brotherhood of Bookbinders 1612 K Street N.W. Washington, D.C. 20006	Apprenticeship Technical Information
Manufacturing Chemists Association 1825 Connecticut Avenue N.W. Washington, D.C. 20009	Education Sources of Career Information in Scientific Fields A Bright Future for You as a Chemical Technician A Dozen Reasons Why Young People Choose Chemical Industry Careers
Metallurgical Society of AIME 345 East 47th Street New York, New York	Information on careers in metallurgy and metallurgical engineering
Nat'l Assoc. of Photo-Lithographers 230 West 41st Street New York, New York	Choose Your Career in a Growth Industry

Newark College of Engineering Public Relations Office 323 High Street Newark, New Jersey 07102	Career information on engineering
Pennsylvania Bureau of Employment Security Labor and Industry Building 7th and Forester Street Harrisburg, Pennsylvania	Job Opportunity Guide - Sewing Machine Operator
Reynolds Metals Company 433 Blair Road Avenel, New Jersey 07001	Pamphlets available on request
Society of Manufacturing Engineers Education Dept. 20501 Ford Road Dearborn, Michigan 48128	Should You Be a Manufacturing Engineer?
Society of Plastic Engineers 656 West Putnam Avenue Greenwich, Connecticut	Plastics as your Engineering Career
Tandy Leather Company P.O. Box 791 Fort Worth, Texas 76100	Adventures in Leather
Union Carbide Corporation Crows Mill Road Keasby, New Jersey 08832	Materials may be obtained from E. A. Steffens, Linde Corporation Sales, Union, N. J. 688-3416
U.S. Dept. of Labor Bureau of Labor Statistics 1371 Peachtree Street, N.W. Atlanta, Georgia 30309	Skilled and Other Manual Occupations
Wolverine World Wide, Inc. Advertising Department 9341 Courtland Drive Rockford, Michigan 49341	Let's Look at Leather

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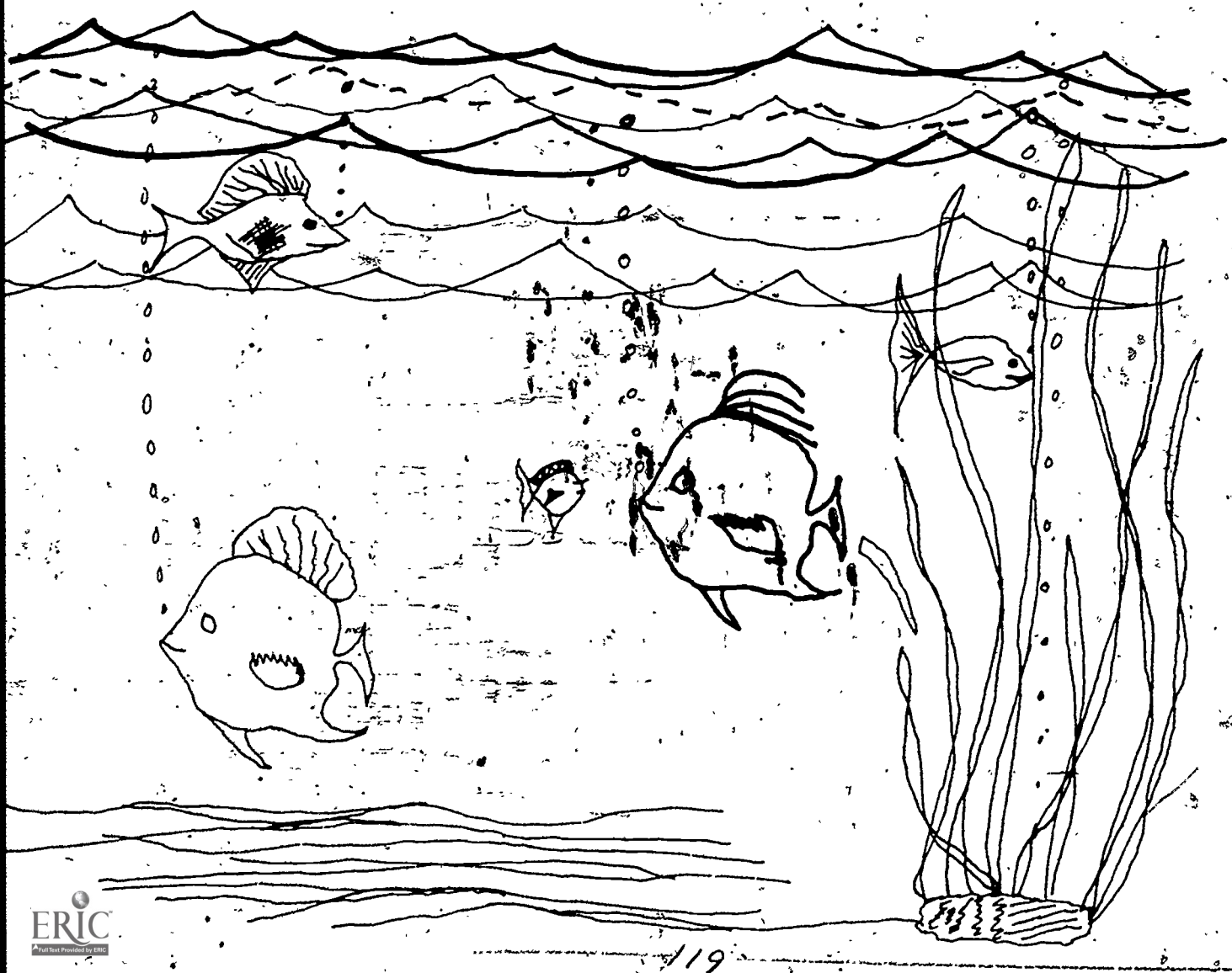
MARINE SCIENCE



JOB FAMILIES

- Research
- Chemical and Mineral Extraction
- Off-Shore Drilling
- Fishing
- Aquaculture
- Marine Engineering and Technology
- Surface and On-Shore Support

Research

- Aquatic Biologist
- Marine Geophysicist
- Marine Geologist
- Marine Meteorologist
- Hydrographer
- Hydrologist

Chemical and Mineral Extraction

- Ocean Mining
- Chemical Extraction

Off Shore Drilling

- Seismograph Man
- Superintendent, Drilling and Production
- Tool Pusher
- Driller
- Rotary Driller Helper
- Mud-Plant Operator
- Performer Operator
- Pumper

Fishing

- Clam Dredge Operator
- Clam Dredgeman
- Pot-Trap Fisherman
- Line Fisherman
- Spear Fisherman
- Diving Fisherman
- Sponge Gatherer
- Kelp Gutterman
- Seal Hunter
- Walrus Hunter
- Fish Icer
- Sponge Clipper
- Fish Cleaner
- Fish-Machine Feeder
- Shellfish-Processing-Machine Tender

Aquaculture

- Fishery Bacteriologist
- Fish Culturist
- Fish-Culturist Assistant
- Hatchery Man
- Alligator Farmer
- Frog Farmer
- Fish Farmer
- Shellfish Grower
- Shellfish-Bed Man

Marine Engineering and Technology

- Marine Architect
- Marine Engineer
- Marine Draftsman
- Skin Diver
- Diver
- Diver Pumper

Surface and On-Shore Support

- Marine Engine Machinist
- Outside Machinist
- Motorboat Mechanic
- Motorboat Operator
- Dockmaster
- Marine Service Manager
- Seamen
- Vessel Operators
- Laboratory Chief
- Computer Data Specialists
- Laboratory Tester

RESOURCES

FILMS

Bell Telephone Company
Local Office

"The Restless Sea"
16mm color sound - 53 minutes

Nat'l Association of Manufacturers
277 Park Avenue
New York, New York 10017

No. 383 "Wealth from the Sea"
16mm - 13½ minutes

ORGANIZATIONS

National Fisheries Institute
1614 Twentieth Street, N.W.
Washington, D.C. 20009

American Fisheries Society
1404 New York Avenue, N.W.
Washington, D.C.

National Association of Power Engineers
176 West Adams Street
Chicago, Illinois

PAMPHLETS

International Oceanographic Foundation
Room 113
10 Rickenbacker Causeway
Virginia Key
Miami, Florida 33149

Training and Careers in Marine Science

Miami Seaquarium
Public Information Office
30 Rickenbacker Causeway
Miami, Florida 33149

So You Want to Be a Marine Scientist.

Nat'l Oceanic and Atmospheric Administration
U.S. Department of Commerce
Washington, D.C.

NOAA Career Opportunities.

National Oceanography Assoc.
1900 L Street, N.W.
Washington, D.C. 20036

Becoming an Oceanographer
Career Information Sheet
Oceanography Curricula

Society of Exploration Geophysicists
P.O. Box 3098
Tulsa, Oklahoma 74101

Careers in Exploration Geophysics

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MARKETING AND DISTRIBUTION

JOB FAMILIES

Management
Research
Purchasing
Sales Promotion and Training
Selling
Physical Distribution
Related Business Services

Marketing Management

- Retail Store Owner
- Store Manager
- Supervisor
- Floor Manager
- Merchandising Manager
- Wholesaler
- Market Master
- Sales Manager
- Advertising Manager
- Packaging Director
- Training Supervisor
- Research Director
- Bureau of Standards Supervisor
- Warehouse Manager
- Stock Control Supervisor
- Traffic Manager
- Director of Services
- Export Sales Manager
- World Trade Manager

Marketing Research and Analysis

- Market Research Analyst
- Marketing Research Worker
- Interviewer
- Survey Worker
- Investigator
- Statistician
- Tabulator
- Statistical Report Writer
- Specialists
  - Economists
  - Geographer
  - Home Economist
  - Foreign Trade Consultant
  - Scientist
  - Psychologists and Sociologists

Purchasing

- Buyer
- Purchasing Agent
- Broker
- Jobber
- Importer
- Custom-House Broker
- Foreign Clerk
- Foreign-Language Stenographer

Sales Promotion and Training

Product Designer
Package Designer
Fashion Coordinator
Advertising Assistant
Account Executive
Product Manager
Advertising Statistical Clerk
Display Man
Billposter
Sign Writer
Catalogue and Brochure Coordinator
Commercial Artist
Sample Worker
Sample Distributor
Demonstrator
Model
Promotion Character
Customer Service Specialist
Shopper
Bridal Consultant
Public Relations Personnel
Home Service Representative
Training Representative
Recruiter

Selling

Commodities Salesman
Services Salesman
Sales Engineer
Field Contact Man
Manufacturer's Representative
Wholesale Field Representative
Franchised Dealer
Secondhand Dealer
Auctioneer
Solicitor
Coin-Vending Machine Attendant
Stamp and Coupon Redemption Clerk
Pawnbroker
Peddler
Routeman
Sales Clerk
Exporter

Physical Distribution

Warehouseman
Shipping and Receiving Clerk
Stock Boy
Material Handler
Packager

Marker
Inspector
Batcher
Carpet Cutter
Drapery Hanger
Warehouse Traffic Man
Traffic Clerk
Delivery Man
Mail Order Filler
Cashier-Checker
Import-Export Agent

Related Business Services

Financing
Insurance
Clerical

RESOURCES

FILMS

Jim Handy Productions Division of T.T.P. Corp. 2821 East Grand Boulevard	"How to Buy a Used Car" 16mm color - 15 minutes
Modern Talking Picture Service 1212 Avenue of the Americas New York, New York 10036	"Salesmanship: Art and Science" 16mm sound - 25 minutes
Nat'l Association of Manufacturers 277 Park Avenue New York, New York 10017	No. 386 -"Two Way Street" (Imports and exports) 16mm - 13½ minutes No. 409 -"Women Mean Business" (Women as producer, consumer and investor) 16mm - 13½ minutes No. 414 -"Getting Started" (Financing a small business) 16mm - 13½ minutes No. 449 -"Miracle Market" (Supermarket) 16mm - 13½ minutes No. 450 -"What's On Your Mind?" (Consumer research) 16mm - 13½ minutes No. 479 -"Luxuries or Necessities?" 16mm - 13½ minutes No. 484 -"Supermarket for Industry" (Constant flow of supplies into American factories) 16mm - 13½ minutes
National Cash Register Company Marketing Services Dept. Dayton, Ohio 45409	"Tomorrow's Retail Systems" 16mm color sound - 30 minutes "A Customer is a Customer is a Customer" 16mm color sound - 30 minutes
New Holland Division of Sperry Rand Corp. 7230 Morgan Road, Box 10 Liverpool, New York 13088	"Recipe for Profit"

FILMS AND PAMPHLETS

E. J. Korvette, Inc.
State Highway 35
Woodbridge, New Jersey 07095

For films, filmstrips and pamphlets, contact Eve Nelson, Director of Public Relations, 1180 Ave. of the Americas, New York, New York 10036

ORGANIZATIONS

American Association of Advertising Agencies
200 Park Avenue
New York, New York 10017

Advertising Federation of America
655 Madison Avenue
New York, New York 10021

American Advertising Council
Madison Avenue
New York, New York

American Council on Advertisement
Madison Avenue
New York, New York

American Marketing Association
230 North Michigan Avenue
Chicago, Illinois 60601

American Personnel and Guidance Association
1605 New Hampshire Avenue, N.W.
Washington, D.C. 20009

National Retail Merchants Association
100 West 31st Street
New York, New York

American Society for Personnel Administration
Kellogg Center, Room 16
East Lansing, Michigan

Mathematical Association of America
University of Buffalo
Buffalo, New York 14214

National Association of Advertisers
155 East 44th Street
New York, New York

International Sales and Marketing Executives
630 Third Avenue
New York, New York 10017

Society of Illustrators
128 East 63rd Street
New York, New York 10021

PAMPHLETS

Bureau of Education and Research American Advertising Federation 655 Madison Avenue New York, New York 10021	Questions and Answers about Advertising
American Advertising Federation Bureau of Education and Research 1225 Connecticut Avenue, N.W. Washington, D.C. 20036	The Commercial Artists The Copywriter (Arts & Entertainment) Booklets on careers in advertising
American Ass'n of Advertising Agencies 200 Park Avenue New York, New York	Advertising: A Career of Action and Variety for Exceptional Men and Women The Advertising Business and its Career Opportunities
American Petroleum Institute Division of Marketing 1271 Ave. of the Americas New York, New York 10020	Petroleum Marketing Building a Future in a Business of Your Own Going Places in Oil
American Statistical Ass'n Room 640 806 Fifteenth Street, N.W. Washington, D.C. 20005	Information on careers in statistics
American Vocational Journal Readers Service Department P.O. Box 2553 Clinton, Iowa 52732	Careers in Retailing and Marketing
Armstrong Cork Company Public Relations & Public Affairs Lancaster, Pennsylvania 17604	Career information on selling, laboratory technician and professional flooring craftsmen.
Boston University Boston, Massachusetts	Advertising as a Career

Cosmair, L'Oreal Division 222 Terminal Avenue Clark, New Jersey 07066	Business Merchandising & retailing: L'Oreal of Paris, c/o Stan Rolnick, 149 Madison Avenue, New York, N.Y.
Council on Opportunities in Selling, Inc. 630 Third Avenue New York, New York 10017	Opportunities in Selling
Public Relations Staff General Motors Detroit, Michigan 48202	In Planning Your Future, Look First at the Retail Automobiles Business
Mississippi Employment Security Commission P.O. Box 1699 Jackson, Mississippi 39205	Occupational Guides - Sales Clerk, General Salesman, General Salesperson Should You Be a Salesman? Should You Go into Advertising? Should You Go into Food Retailing? Should You Go into Public Relations? Should You Go into Retailing?
National Automobile Dealer's Ass'n 200 K Street, N.W. Washington, D.C. 20006	Your Career in the Retail Automobile Industry
Pennsylvania Bureau of Employment Security Labor and Industry Building 7th and Forester Streets Harrisburg, Pennsylvania	Job Opportunity Guide - Sales Work
Public Relations Society of America 845 3rd Avenue New York, New York 10022	Occupational Guide to Public Relations
International Sales and Marketing Executives 630 Third Avenue New York, New York 10017	The Salesman
U.S. Department of Labor Bureau of Labor Statistics 1371 Peachtree Street, N.W. Atlanta, Georgia	Sales Occupations
U.S. Department of Labor Women's Bureau Washington, D.C.	Why Not be a Public Relations Worker?

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PERSONAL SERVICES

JOB FAMILIES

Domestic Services
Lodging and Related Services
Drycleaning, Laundry, and Apparel Services
Stewards, Attendants and Miscellaneous Services
Domestic Animal Care
Food and Beverage Preparation Service

Domestic Service

Day Workers
Laundress
Housekeeper
Yardman
Cook
Maids
Nursemaids
Butler
Valet
Domestic Couple
Baby Sitter
Chauffeur

Lodging and Related Services

Boarding House Manager
Lodging Facilities Manager
Hotel and Institutions Housekeeper
Home Housekeeper
Maid
Houseman
House Mother
Bellboy
Baggage Porter
Doorman
Room Service Clerk
Service Superintendent
Elevator Operator
Exterminator
Maintenance Foreman
Janitor
Porter
Resort Couple
Lodging Facility Couple
Camp Attendant
Receiving-Room Clerk
Lodging Facilities Attendant

Barbering, Cosmotology and Related Services

Barber
Manicurist
Hair Stylist
Cosmetologist
Wig Dresser
Make-Up Man
Reducing Salon Attendant
Embalmer
Cremator
Funeral Attendant

Scalp-Treatment Operator
Tattoo Artist
Reducing Machine Operator
Electrologist

Drycleaning, Laundry and Apparel Service

Laundry Foreman
Ticket Girl
Flatwork Tier
Wet Wash Assembler
Classifier
Rug Cleaner
Hand Laundryman
Carding Machine Operator
Laundryman
Laundry Operator
Spotter
Dry Cleaner
Hand Dry Cleaner
Silk Finisher
All-Around Presser
Machine Presser
Blocker
Hand Presser
Flatwork Finisher
Shoe Dyer
Shoe Repairman
Hatter
Reweaver
Bootblack
Tailor
Dressmaker
Furniture Cleaner
Rug Cleaner
Chaperone
Escort
Chauffeur
Blind-Aid
Child-Care Attendant
Kindergartner
Porter
Baggageman
Checkroom Attendant
Locker-Room Attendant
Page Boy
Guide
Airplane Stewardess
Stewards
Piano Tuner

Domestic Animal Care

Animal Keeper
Aquarist
Dog Groomer
Dog-Pound Attendant
Kennelman
Stableman
Pet Shop Attendant
Dog Trainer
Horse Trainer

Food and Beverage Preparation Service

Wine Steward
Kitchen Supervisor
Counter Supervisor
Bus Boy
Hostess
Bar Boy
Bar Attendant
Chef
Baker
Cook
Butcher
Coffee Man
Pantryman
Sandwichman
Kitchen Helper
Kitchen Steward
Scullion
Waiter-Waitress
Bartender
Automat-Car Attendant
Caterer
Fountain Man
Food Assembler
Counter-Supply Man
Floor Girl
Car Hop
Counterman

RESOURCES

FILMS

Armstrong Cork Company Mr. Clyde O. Hess, Mgr. Press Relations Public Relations Dept. Liberty & Charlotte Streets Lancaster, Pennsylvania 17604	The Flooring Craftsman Color, 15 minutes
Bassist Fashion Institute 923 Southwest Taylor Street Portland, Oregon 97205	Fashion: The Career of Challenge Color, 12 minutes
Electronic Industries Association Consumer Products Division 2001 Eye Street N.W. Washington, D.C. 20006	The Electronic Service Technician-- Futures Unlimited (Color, 14 minutes)
Ford Motor Company Film Library The American Road Dearborn, Michigan 48121	Auto Mechanic and Technician Color, 23 minutes
Howard Johnson's U.S. Highway #1 Woodbridge, N. J. 07095	For journals and films, contact Walter Brazell, Vice Pres. and Exec. Secretary, N.J. Motel/Hotel Ass'n, Robert Treat Hotel, R. 422, 50 Park Place, Newark, N.J.
Linen Supply Ass'n of America P.O. Box 2427 975 Arthur Godfrey Road Miami Beach, Florida 33140	The Linen Rental Industry Story 16mm sound - 13½ minutes At Your Service--16mm sound, 13½minutes
Modern Talking Picture Service 714 Spring Street, N.W. Atlanta, Georgia 30308	Auto Mechanic: It's For You Color, 14 minutes Creative World of Interior Design Color, 15 minutes
Nat'l Association of Manufacturers 277 Park Avenue New York, New York 10017	No. 401 - Beauty on the Production Line (Jewelry, hats, cosmetics) 16mm - 13½ min. No. 475 - The American Look 16mm - 13½ minutes No. 487 - Weather or Not 16mm - 13½ minutes No. 491 - Fabric Care Magic 16mm - 13½ minutes

National Cash Register Company
Marketing Services Department
Dayton, Ohio 45409

People Are Just People
16mm color sound - 18 minutes

Audio Visual Section
National Cotton Council
P.O. Box 12285
Memphis, Tennessee

The Designer
16mm color sound - 11½ minutes

FILMS AND PAMPHLETS - AIDS

New Jersey Bell Telephone Co.
329 Amboy Avenue
Woodbridge, N. J. 07095

Films and booklets on High School Science, The Telephone, Safety, New Jersey, National Defense, and History; the main file contains a catalog; Teaching Kits may also be obtained.

New Jersey Restaurant Association
State Highway 27 & Parsonage Rd.
Menlo Park, New Jersey 08837

Films, filmstrips, pamphlets, periodicals and company publications.

ORGANIZATIONS

American Bakers Association
20 North Wacker Drive
Chicago, Illinois 60606

American Dietetic Association
620 North Michigan Avenue
Chicago, Illinois 60611

Culinary Institute of America
393 Prospect Street
New Haven, Connecticut

American Hotel Association
Educational Institute
221 West 57th Street
New York, New York 10019

American Institute of Interior Designers
673 Fifth Avenue
New York, New York 10022

Associated Master Barbers and Beauticians of America
537 Dearborn Street
Chicago, Illinois

American Vocational Association
1025 15th Street, N.W.
Washington, D.C. 20005

Beauty and Barber Supply Institute
46 West 46th Street
New York, New York

Hairdressers and Cosmetologists Association
175 Fifth Avenue
New York, New York 10010

Institute of Food Technologists
176 West Adams Street
Chicago, Illinois 60603

National Association of Food Chains
1725 Eye Street, N.W.
Washington, D.C. 20006

National Association of Funeral Directors
135 West Wells Street
Milwaukee, Wisconsin

National Institute of Dry Cleaning
909 Burlington Avenue
Silver Spring, Maryland

National Restaurant Association
1550 North Lake Shore Drive
Chicago, Illinois 60610

Manufacturing Institutes of Interior Design
673 Fifth Avenue
New York, New York

Manufacturing Jewelers and Silversmiths of America
Providence, Rhode Island

Retail Jewelers of America, Inc.
711 14th Street, N.W.
Washington, D,C. 20005

Society of American Florists
Sheraton Park Hotel
Washington, D.C. 20008

PAMPHLETS

American Personnel & Guidance Ass'n
Publication Sales
1607 New Hampshire Ave., N.W.
Washington, D.C. 20009

Counseling: A Helping Relationship

American Watchmaker's Institute
P.O. Box 11011
Cincinnati, Ohio 45211

Careers in Watch Repairing

Association of Home Appliance Manufacturers 20 North Walker Drive Chicago, Illinois 60606	Your Career as an Appliance Service Technician
Automotive Service Industry Ass'n 230 North Michigan Avenue Chicago, Illinois 60606	Plan Your Career in the Automotive Service Industry
Electronic Industries Association Consumer Product Division 2001 Eye Street, N.W. Washington, D.C. 20006	The Electronic Service Technician - Futures Unlimited
Mississippi Employment Security Commission P.O. Box 1699 Jackson, Mississippi 39205	Occupational Guides - Automobile Mechanic, Cook
National Association of Food Chains 1725 Eye Street, N.W. Washington, D.C. 20006	Food Distribution Curriculum Programs and Scholarships Looking for a Career? Getting Started in the Food Business
National Restaurant Association Director of Education 1530 Lake Shore Drive Chicago, Illinois 60610	Counselor Kit - Food Service Industry
Pennsylvania Bureau of Employment Security Labor and Industry Building 7th and Forester Street Harrisburg, Pennsylvania	Job Opportunity Guide - Beauty Operator; Automobile Service Work
Retail Jewelers of America, Inc. 1025 Vermont Avenue, N.W. Washington, D.C. 20005	The Golden Touch
Society of American Florists Sheraton Park Hotel Washington, D.C.	Opportunities for You in the Florist Industry

PUBLIC SERVICE

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JOB FAMILIES

Administration and Regulatory Services
Urban Development
Arts and Humanities
Education
Protective Services
Public Utilities
Labor Affairs
Social Services, Rehabilitation, Correction

Administration and Regulatory Services

- City Managers
- Accountants
- Advertising Workers
- Marketing Research Workers
- Personnel
- Public Relations Workers
- Purchasing Agent
- Aerospace Engineers
- Agricultural Engineers
- Biomedical Engineers
- Ceramic Engineers
- Civil Engineers
- Electrical Engineers
- Industrial Engineers
- Mechanical Engineers
- Metallurgical Engineers
- Mining Engineers
- Bank Officers
- Tellers
- Bank Clerks
- Public Records Clerks

Urban Development

- Urban Planners
- Environmental Scientists
  - Geologists
  - Geophysicists
  - Meteorologists
  - Oceanographers
- Life Scientists
- Physical Scientists
  - Chemists
  - Physicists
  - Astronomers
- Food Scientists
- Social Sciences
  - Anthropologists
  - Economists
  - Geographers
  - Historians
  - Political Scientists
  - Sociologists
  - Psychologists
- Engineering and Service Technicians
- Draftsmen
- Food Processing Technicians
- Technical Writers
- Photographers

Arts and Humanities

- Architects
- Landscaping Architects
- Systems Analysts
- Programmers
- Surveyors
- Electronic Computer Operating Personnel
- File Clerks
- Office Machine Operators

Education

Teaching:
- Nursery School Teachers
- Kindergarten and Elementary School Teachers
- Secondary School Teachers
- College and University Teachers

Counseling:
- Employment Counselors
- Rehabilitation Counselors
- School Counselors
- College Career Planning and Placement Counselors

Supervision
- Librarians
- Library Technicians
- Educational Assistants
- Museum Personnel
- Archivists
- Zoo Personnel
- Media Center Personnel

Transportation
- Bus Drivers
- Maintenance
- Dispatcher

Protective Service

Law Enforcement
- FBI Special Agents
- Security Officers, Guards
- Police Officers
- State Police Officers
- Sheriffs and Bailiffs
- Inspectors and Investigators

Special Services
- Firefighters
- Foresters
- Forestry Aides
- Range Managers
- Radio Dispatchers
- Fire and Police Equipment Maintenance
- Ambulance Attendant

Military
- Armed Forces
- Civil Defense
- Post Office:
  - Management
  - Postmaster
  - Superintendent of Mails
  - Foreman of Mails
  - Mailhandler
  - Clerical
  - Carrier
  - Motor Vehicle
  - Special Delivery

Public Utilities

Water
- Pumping Station Foreman
- Water Treatment Plant Operator

Sanitary Service
- Wastewater Treatment Plant Operator

Electric Service
- Boiler Operators
- Turbine Operators
- Watch Engineers
- Load Dispatchers
- Lineman
- Groundmen

Gas Service
- Petroleum Geologist
- Geophysicist
- Petroleum Engineers
- Dehydration Plant Operator
- Compressor Station Operator Engineer
- Gas Plant Operator

Customer Service Occupations
- Home Service Advisor
- Appliance Salesman
- Public Utilities Salesman
- Meterman

Public Health

- County Health Officer
- Sanitarian
- Field Health Officer

Labor Affairs

- Employment Services
- Manpower Development and Training
- Job Corps
- Public Service Careers
- Work Incentive Program
- Employment Counselor
- Employment Compensation
- Safety Engineer
- Safety and Sanitary Inspector
- Time-Study Engineer
- Compliance Investigator
- Labor Union Business Agent

Social Services, Rehabilitation and Correction

- Social Worker
- Family Service
- Child Welfare
- Social Aid Children
- Rehabilitation Service
- Probation and Parole
- Social Service Aides:
  - Institutional Child Care Technicians
  - Rehabilitation Counselors
  - Lawyers

RESOURCES

FILMS

American Gas Association Public Relations Dept. 605 Third Avenue New York, New York 10016	"The Flame of the Future" 16mm color sound - 13 minutes
Association Films Inc. 600 Madison Avenue New York, New York 10022	"Power for People" 16mm color sound - 28 minutes S-188 "Distributive Education: Tell It Like It Is" 16mm color sound, 28 minutes S-146 "The Littlest Giant" 16mm color sound - 14 minutes S-500 "I Wish - I Wish" 35mm Slidefilm 13½ minutes color - 33 1/3 rpm record narration
Anti Defamation League 24 Commerce Street Newark, New Jersey 07102	"About People" 63 frames
Bell Telephone Company Local Office	"Famous Women of New Jersey" "New Jersey - Know Your State" (filmstrips) "Operator" - Color, 14 minutes
Department of the Air Force USAF Central Audio-Visual Library AF Audio-Visual Center Norton AFB, California 92409	SFP 1241 "The Air Force Nurse" Color, 16 minutes SFP 1350 "Air Force's Flying Hospitals" Color, 14 minutes SFP 1230 "The New Approach" Color, 14 minutes
Department of the Army Third United States Army Attn: Audio-Visual Support Center Fort McPherson, Georgia 30330	"The Combat Industry Soldier" Color, 28 minutes "Engineering for Tomorrow" Color, 28 minutes "The Feminine Touch" Color, 28 minutes "Something to Build On" - color, 28 min.

"The Army Chaplain - Yesterday and Today" Black and white, 28 minutes

"Army Nurse - Soldier of Mercy" Black and white, 28 minutes (TV 667)

"Call Me Mister" (TV 759) Color, 28 minutes

"The Chaplain and the Commander" Black and white, 28 min. (TV 532)

"Chopper Pilot" (TV 694) Color, 28 minutes

Department of the Navy
Sixth Naval District
U.S. Naval Base
Charleston, S. C. 29403

MN 9680 "Adventures in Inner Space" Color, 28 minutes

MN 10063 "Careers in Oceanography" Color, 28 minutes

MN 10367 "A Moment in Time" Color, 28 minutes

MN 8238 "Navy Frogmen" Black and white, 28 minutes

"Oceanographer in Polar Regions" Color, 29 minutes

Marine Corps
Sixth Marine Corps District
Attention: Director
275 Peachtree Street
Atlanta, Georgia 30303

"Backbone of the Corps" Black and white, 23 minutes

"The Beginning" - Color, 18 minutes

"Bright Future" - Black and white, 14 minutes

"Engineers Up" - Black and white, 13 minutes

"Modern Marine" - Color, 15 minutes

National Aeronautics and Space Administration
George C. Marshall Space Flight Center, Public Affairs Office
Huntsville, Alabama 35812

AD 4 "Astronaut Training" - Color, 7 min.

HQ 143 "Poetry of Polymers" Color, 19 minutes

HQ 164 "Universe on a Scratch Pad" Black and white, 28 minutes

Nat'l Association of Manufacturers
277 Park Avenue
New York, New York 10017

No. 377 - Steps Industry Takes to Protect Against Disasters, to its Own People and Community
16mm - 13½ minutes

No. 419 - Heading Off Crime
16mm - 13½ minutes

No. 453 - Setting the Standard (America's standard of living)
16mm - 13½ minutes

No. 467 - Grade A Citizens (milkmen)
16mm - 13½ minutes

U.S. Atomic Energy Commission
Oak Ridge Operations Office
P.O. Box E
Oak Ridge, Tennessee 37830

Atoms in Agriculture
Color, 26 minutes

Go Fission
Color, 14 minutes

Horizons Unlimited
Color, 37 minutes

Preparing for Tomorrow's World
Color, 26 minutes

U.S. Civil Service Commission
240 Peachtree Street, N.E.
Atlanta, Georgia 30303

Labor of Love
Black and white, 22 minutes

U.S. Coast Guard
Public Information Service
Washington, D.C. 20226

Always Ready
Color, 12 minutes

U.S. Postal Service
Regional Director
Public Information Office
Memphis, Tennessee 38101

The City Letter Carrier
Color, 14 minutes

Mainstay of the Mail
Color, 14 minutes

The Vehicle Maintenance Story
Color, 13 minutes

ORGANIZATIONS

American Academy of Political and Social Sciences
3937 Chestnut Street
Philadelphia, Pennsylvania

American Association of Nurserymen
835 Southern Building
Washington, D.C.

American Bar Association
1115 East 60th Street
Chicago, Illinois 60637

American Dairy Association
20 North Wacker Drive
Chicago, Illinois

American Gas Association
605 Third Avenue
New York, New York 10016

American Association for Health, Physical Education and Recreation
1201 16th Street, N.W.
Washington, D.C. 20036

American Association for Horticultural Science
Roy Marshall, Secretary
Michigan State University
East Lansing, Michigan

American Library Association
50 East Huron Street
Chicago, Illinois 60611

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45 Beacon Street
Boston, Massachusetts

American Personnel and Guidance Association
1605 New Hampshire Avenue N.W.
Washington, D.C. 20009

American Public Health Association
1790 Broadway
New York, New York 10019

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2000 K Street, N.W.
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American Society of Naval Engineers
1012 14th Street, N.W.
Washington, D.C. 20005

American Anthropological Association
1530 P Street, N.W.
Washington, D.C. 20005

American Geological Institute
2101 Constitution Avenue, N.W.
Washington, D.C. 20036

American Geophysical Union
Waldo E. Smith, Executive Secretary
1515 Massachusetts Avenue, N.W.
Washington, D.C. 20005

Association of American Geographers
1785 Massachusetts Avenue, N.W.
Washington, D.C. 20036

Child Welfare League of America
44 East 23rd Street
New York, New York 10010

Council of Social Work Education
345 East 46th Street
New York, New York 10017

Family Service Association of America
215 Fourth Avenue
New York, New York 10003

Institute of Food Technologist
Suite 2120
North LaSalle Street
Chicago, Illinois

International Association of Chiefs of Police
1319 Eighteenth Street, N.W.
Washington, D.C. 20036

Music Educators National Conference
1201 Sixteenth Street, N.W.
Washington, D.C. 20036

National Association of Housing and Development Officials
1413 K Street, N.W.
Washington, D.C. 20005

National Association of Retail Grocers of the United States
360 North Michigan Avenue
Chicago, Illinois

National Association of Social Workers
95 Madison Avenue
New York, New York 10016

National Association of Teachers Agencies
Hoyt S. Armstrong, Secretary
82 St. Paul Street
Rochester, New York 14604

National Council of Teachers of Mathematics
1201 Sixteenth Street, N.W.
Washington, D.C. 20036

National Council on Crime and Delinquency
44 East 23rd Street
New York, New York 10010

National Education Association
1201 Sixteenth Street, N.W.
Washington, D.C. 20036

National Police Officers Association of America
Police Hall of Fame Building
Venice, Florida

National Retail Hardware Association
964 North Pennsylvania Street
Indianapolis, Indiana

National Society of Crippled Children and Adults
2023 West Ogden Avenue
Chicago, Illinois 60612

Society of American Florists
Sheraton Park Hotel
Washington, D.C. 20008

Society of Economic Geologists
E. N. Camerson, Secretary
Science Hall
University of Wisconsin
Madison, Wisconsin

Society of Exploration Geophysicists
913 Shell Building
Tulsa, Oklahoma 74119

Society of Fire Protection Engineers
60 Batterymarch
Boston, Massachusetts 02110

U.S. Civil Service Commission
Washington, D.C. 20415

FILMS AND PAMPHLETS

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Elizabethtown Plaza
Elizabeth, New Jersey 07207

Home Service Dept. in Elizabeth, or American Gas Assn., New York, New York. Films, filmstrips, pamphlets, models, periodicals, books, company publications, and teaching units.

Public Service Electric & Gas Co.
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162 Smith Street
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PAMPHLETS

American Association of Law Libraries , Secretary
53 West Jackson Boulevard
Chicago, Illinois 60604

Law Librarianship

American Astronomical Society
516 Fifth Avenue
New York, New York 10036

American Astronomical Society
211 FitzRandolph Rd.
Princeton, New Jersey 08540

A Career in Astronomy

American Bar Association
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1155 East 60th Street
Chicago, Illinois

The Profession of Law

American Chemical Society
Education Office
1155 Sixteenth Street, N.W.
Washington, D.C. 20036

Information on careers in chemistry and chemical technology

American Federation of Teachers
1012 14th Street, N.W.
Washington, D.C. 20005

Teaching as a Career

American Gas Association Inc.
Educational Services
1515 Wilson Boulevard
Arlington, Virginia 22209

Information on scientists in the gas industry

American Institute of Astronauts and Aeronautics 1290 Avenue of the Americas New York, New York	Your Career as an Aerospace Engineer
American Legion National Security Division 1608 K Street Washington, D.C. 20006	Information on space science and aeronautics careers
American Meteorological Society 45 Beacon Street Boston, Massachusetts 02108	A Selective Bibliography in Meteorology
American Society of Civil Engineers 345 East 47th Street New York, New York 10017	Information on careers in civil engineering
The Crayon, Water Color and Craft Institute, Inc. Eden Hill Road Newton, Connecticut 06470	Teaching Art as a Career
Federal Bureau of Investigation U.S. Department of Justice Washington, D.C. 20535	Information on FBI Career Opportunities
Field Enterprises Educational Corp. Educational Services Merchandise Mart Plaza Chicago, Illinois 60654	Library
American Library Association 50 East Huron Street Chicago, Illinois 50511	The Children's Librarian Future Unlimited Lively Concern of a School Librarian The Public Librarian Who in the World Wants to be a Librarian
High School News Service Director Building 1-B Great Lakes, Illinois 60088	Basic Facts About Military Service
Internal Revenue Service Teaching Taxes Coordinator Local District Director of Internal Revenue	Careers in Tax Work
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	Should You Go into the Rehabilitation Services
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	Should You Seek a Career in Youth Services
	Should You Be a Scientist
	Should You Be a Space Scientist
NEA Publications Sales Section 87 1201 16th Street, N.W. Washington, D.C.	ABC's of Teaching in Elementary Schools
National Career Center Department FF 3839 White Plains Road Bronx, New York 10467	Careers in Cosmetology Men's Hairstyling as your Career
National Council of Teachers of Mathematics 201 16th Street, N.W. Washington, D.C. 20036	Mathematics Teaching as a Career
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National Rehabilitation Counseling Association 1522 K Street, N.W. Washington, D.C. 20005	How Will You Choose to Help Others? Up Against The Wall
New Jersey Highway Authority (Garden State Parkway) Woodbridge, N. J. 07095	Mrs. Evelyn Barker, Public Relations Office -- Pamphlets, booklets and maps.
Pennsylvania Bureau of Employment Security Labor and Industry Building 7th and Forester Street Harrisburg, Pennsylvania 17121	Job Opportunity Guide - Food Service Occupations, Protective Service Occupations.
Public Service Electric & Gas Co. Sewaren Generating Station Cliff Road Sewaren, N. J. 07077	Booklets, brochures, company newspaper and professional magazines.
Society of Exploration Geophysicists P.O. Box 3098 Tulsa, Oklahoma 74101	Career information on exploration geophysicists
Trautwein , Inc. Amboy Avenue & High Street Woodbridge, N. J. 07095	Materials available from National Fire Protective Ass'n and Fire Engineering Group.
U.S. Air Force Academy Director of Admissions USAF Academy, Colorado 80840	Gateway to Aerospace
U.S. Air Force Recruiting Service Attn: Director of Advertising & Publicity Randolph AFB, Texas 78148	Questions and Answers About the Air Force The United States Air Force Brochure Women Officers in the Air Force
U.S. Army Recruiting Command Commanding General Attn: Director, Advertising and Information Hampton, Virginia 23369	The Secret of Getting Ahead Wouldn't It Be the Smart Thing for You to Stay in School?
U.S. Atomic Energy Commission P.O. Box 62 Oak Ridge, Tennessee 37830	Careers in Atomic Energy The Creative Scientist, His Training & Role
U.S. Civil Service Commission Washington, D.C. 20415	Working for the U.S.A. Information on careers and employment in the federal government

U.S. Dept. of Labor Bureau of Labor Statistics 1371 Peachtree Street, N.W. Atlanta, Georgia 30309	Social Science and Your Career
U.S. Independent Telephone Ass'n 438 Pennsylvania Building Washington, D.C. 20004	Your Career in Independent Communications
U.S. Marine Corps Headquarters Commandant of the Marine Corps Washington, D.C. 20380	NAVMC 7070 - Marine NAVMC 7113 - Officer of Marines NAVMC 7038 - Women Marine NAVMC 7037 - Women Marine Officers
United States Military Academy West Point, New York 10996	Information on military careers

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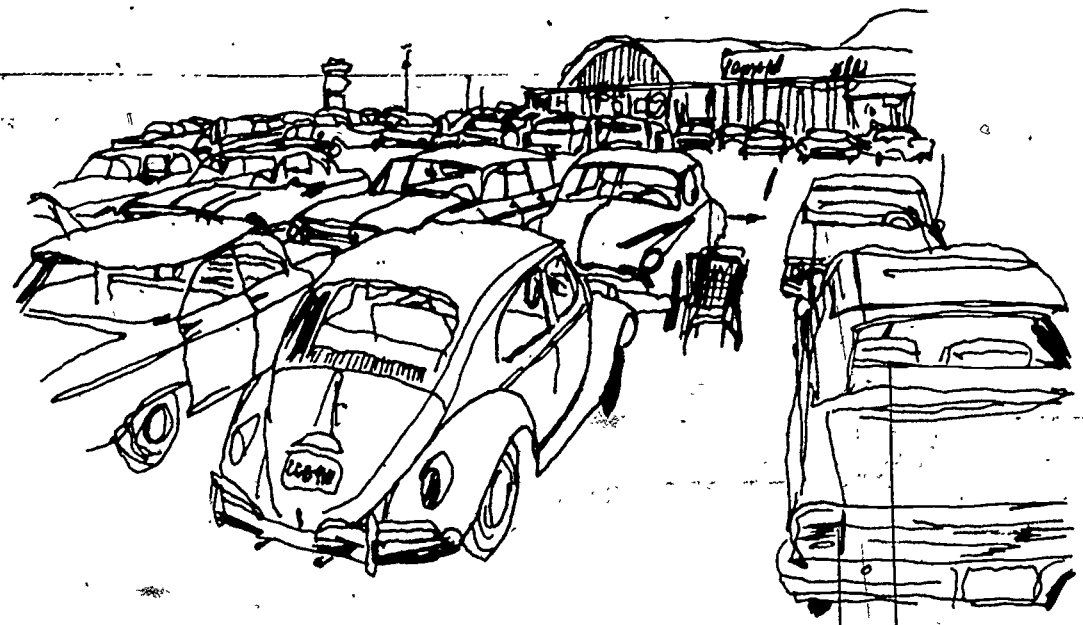
TRANSPORTATION



JOB FAMILIES

Highway Transport
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Highway Transport

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Maintenance and Repair Personnel
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Bus Driver
Dispatcher
Supervisory Personnel
Spotter
Ticket Agent
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Car Carder
Bus Hostess
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Motor Vehicle Dispatcher
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Driver Supervisor
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Truck Foreman
Checker
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Locomotive Foreman
Road Freight Conductor
Passenger Service Personnel
Clerks
Railway Express Agent
Railway Express Branch Office Foreman
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Hostler
Switch Tender
Turntable Operator
Car Retarder Operator
Motorman
Signal Foreman

Towerman
Brakeman
Yardmaster
Right-of-Way Personnel
Freight Operations Personnel
Electrical Train Personnel
Round House Foreman
Car Barn Operator
Maintenance and Repair Personnel
Tracer
Baggage and Mail Agent
Mail Sorter
Car Distributor
Traffic Agent
Road Foreman of Engines
Express Messenger
Lampman
Special Agent
Patrolman
Engine Dispatcher
Train Dispatcher
Train Director
Supervisory Personnel

Airborne Transport

Pilot
Navigator
Flight Engineer
Airplane Stewardess
Air Traffic Control Personnel
Maintenance and Repair Personnel
Reservation Agent
Ticket Agent
Airline Radio Officer
Personnel Instructor
Scheduling Personnel
Weather Clerk
Baggage Porter
Load Control Agent
Cargo Agent
Traffic Rate Clerk
Plotting Board Operator
Supervisory Personnel

Pipeline Transport

Coal Pipeline Operator
Coating Inspector Pipeline
Gasman Head
Dock Foreman
Gager
Line Walker

Loading Rack Foreman
Pumpman
Station Engineer
Dispatching Personnel
Supervisory Personnel
Supervisors of Pipeline Maintenance
Pipeline Foreman

Water Transport

Ship Master
Ship Mate
Engineer
Radio Officer
Passenger Service Personnel
Ship Pilot
Ship's Crew
Maintenance and Repair
Freight Handling Personnel
Lock Personnel
Baggage Master
Checker
Tugboat Dispatcher
Gearman
Storekeeper
Supercargo
Wharf Personnel
Wharfman
Navigation Instructor
Clerks and Office Personnel
Ticket Agent
Supervisory Personnel

RESOURCES

FILMS

Association Films, Inc.
600 Madison Avenue
New York, New York 10022

"Tournament Flight"
16mm color sound - 28 minutes

BW-104 "Bikeway"
35mm filmstrip - 24 minutes

S-679 "For Every Wheel That Rolls"
16mm color sound - 26 minutes

Federal Aviation Administration
FAA Film Library AC 921
P.O. Box 25082
Oklahoma City, Oklahoma 73125

FA 605 "Aviation Workshop"
Color, 29 min.

FA 315 "Aviation Mechanic"
16mm sound - 17 min.

Jim Handy Productions
Division of T.T.P. Corp.
2821 East Grand Blvd.
Detroit, Michigan 48211

"Be an A-C-E Driver"
16mm color - 14 minutes

"Know Your Car"
16mm color - 29 minutes

"In Control"
16mm color - 15 minutes

"A Special Breed"
16mm color - 22 minutes

"We're On Our Way"
16mm color - 25 minutes

"Handling the Unexpected"
16mm color - 15 minutes

McDonnell Douglas Corporation
Film Library - Dept. 92
Room 167, Building 2
P.O. Box 516
St. Louis, Missouri

"Excellence - By Design"
Color, 15 minutes

Modern Talking Pictures Service
1212 Avenue of the Americas
New York, New York 10036

"Occupation - Auto Mechanic"
16mm sound - 13 minutes

Nat'l Association of Manufacturers
277 Park Avenue
New York, New York 10017

"Design for Highway Safety"
Full color motion - 13½ minutes

382 - "Roadways and Super-Highways"
16mm - 13½ minutes

396 - "The Long Haul" (Railroads)
16mm - 13½ minutes

418 - "Delivering the Goods" (Delivery trucks) 16mm - 13½ minutes

493-C2 - "Quest for Perfection"
(Tire Industry) Color

New Holland
Division of Sperry Rand Corp.
7230 Morgan Road, Box 10
Liverpool, New York 13088

"Whistling Steamers"
16mm color sound - 10 minutes

Farm Film Foundation
Sterling Movies
43 West 61st Street
New York, New York 10003

"Tommy Looks at Careers" (Trucking)
16mm sound - 20 minutes

Union Pacific Railroad
Motion Picture Bureau
1416 Dodge Street
Omaha, Nebraska 68102

"The Inside Track"
Color, 28 minutes

"New Horizons Along the Milky Way"
Color, 26 minutes

FILMS AND PAMPHLETS

Eastern Airlines
Middlesex-Essex Turnpike
Iselin, New Jersey 08830

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ORGANIZATIONS

Aerospace Industries Association of America
1725 DeSales Street, N.W.
Washington, D.C. 20036

Airline Pilots Association
Washington, D.C.

Airport Operators Council
1700 K Street, N.W.
Washington, D.C.

Airline Ground Transportation Association
1201 "K" Street, N.W.
Washington, D.C.

Air Transport Association of America
1000 Connecticut Avenue, N.W.
Washington, D.C. 20036

American Railway Engineering Association
59 East Van Buren Street
Chicago, Illinois 60605

American Road Builders Association
918 16th Street
Washington, D.C.

American Society of Traffic and Transportation
22 ~~West~~ Madison Street
Chicago, Illinois 60602

American Trucking Association
1616 P Street, N.W.
Washington, D.C. 20036

Association of American Railroads
Transportation Building
Washington, D.C. 20036

Automobile Manufacturers Association
Detroit, Michigan

PAMPHLETS

Air Transport Association 1000 Connecticut Avenue, N.W. Washington, D.C. 20036	Your Career with the Airline
American Trucking Association, Inc. Education Section-Public Relations 1616 P Street, N.W. Washington, D.C. 20036	On the Road with the Truckers Opportunities in the Trucking Industry Wheels for America's Progress Trucks & Things You'll Want to Know About Them
Ass'n of American Railroads American Railroads Building Washington, D.C. 20036	The Human Side of Railroads Railroads in Action
Delta Air Lines Public Relations Department Atlanta Airport Atlanta, Georgia	Information on airline careers.

Dept. of Labor in Railroad Industry Washington, D.C.	Apprenticeship Programs
Federal Aviation Administration Special Assistant for Aviation Education Office of General Aviation Affairs Washington, D.C.	Career information concerning aviation
Public Relations Staff General Motors Detroit, Michigan 48202	We Drivers
The Greyhound Corporation 10 South Riverside Plaza Chicago, Illinois 60606	Go Greyhound
Institute of Traffic Engineers 2029 K Street, N.W. Washington, D.C. 20006	A Career in Traffic Engineering
Mississippi Employment Security Commission P.O. Box 1699 Jackson, Mississippi 39205	Occupational Guides - Airplane Hostess
National Airlines, Inc., Stewardess Employment P.O. Box 2055, AMF Miami, Florida 33159	Stewardesses
National Tire Dealers and Retreaders Association 1343 L Street Washington, D.C. 20005	Get Rolling
Reading Company Port Reading Terminal Woodbridge, New Jersey 07095	Coal Loading on Barges Booklets, films and other materials may be obtained from: Reading Terminal, 12th & Market Sts., Philadelphia, Pa.
Trans World Airlines Manager, Flight Crew Employment 10 Richards Road Municipal Airport Kansas City, Missouri 64108	Be a Woman of the World

ACCESSION NUMBER: VT101416

PUBLICATION DATE: 27JUN74

TITLE: THE OREGON VO-TECH MATH PROJECT, PHASE ONE OF TWO. FINAL REPORT.

DESCRIPTOR: *INSTRUCTIONAL MATERIALS; *INDIVIDUALIZED INSTRUCTION; *PRACTICAL MATHEMATICS; *TEACHER DEVELOPED MATERIALS; *VOCATIONAL EDUCATION; OCCUPATIONAL CLUSTERS

IDENTIFIER: LINN-BENTON COMMUNITY COLLEGE; OREGON

EDRS PRICE: MF AVAILABLE IN VT-ERIC SET.

DESCRIPTIVE NOTE: 206P.

ABSTRACT: TO PROVIDE REALISTIC VERBAL PROBLEM SETS FOR OCCUPATIONAL COURSES OFFERED IN OREGON COMMUNITY COLLEGES AND HIGH SCHOOLS, THE LINN-BENTON COMMUNITY COLLEGE HAS EVALUATED A SMALL SUBSET OF INSTRUCTIONAL PACKAGES FOR A NUMBER OF SPECIFIC CAREER CLUSTERS. TWELVE SELECTED HIGH SCHOOLS AND SEVEN COMMUNITY COLLEGES PROVIDED THE EVALUATION SITES FOR THE STUDY. THE INSTRUCTIONAL MATERIALS WERE CONVERTED TO AN INDIVIDUALIZED FORMAT USING THE FOLLOWING MATH TOPICS: WHOLE NUMBERS, DECIMALS, FRACTIONS AND RATIO AND PORTIONS. PROBLEM SETS WERE CHOSEN FOR THE OCCUPATIONAL FIELDS OF BUILDING CONSTRUCTION, INDUSTRIAL MECHANICS, METALS, MARKETING, CLERICAL, AND WOOD PRODUCTS. FOLLOWING THEIR CLASSROOM USE OF THE MATERIALS, INSTRUCTORS PROVIDED SUGGESTIONS AND REVISIONS FOR THE PROBLEM SETS. SAMPLE WORKSHEETS ARE INCLUDED IN THE DOCUMENT. (MU)

INSTITUTION NAME: LINN-BENTON COMMUNITY COLL., ALBANY, OREG.

SPONSORING AGENCY NAME: OREGON STATE DEPT. OF EDUCATION, SALEM. DIV. OF COMMUNITY COLLEGES AND VOCATIONAL EDUCATION.

VT 101 416

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PHASE ONE OF TWO FINAL REPORT

THE OREGON VO-TECH MATH PROJECT

(Project No. EP9874)
(Grant No. 22-65-060)

Project Director
Dell L. Swearingen

Linn-Benton Community College

Albany, Oregon

June 27, 1974

STATE DEPARTMENT OF EDUCATION

COMMUNITY COLLEGES AND CAREER EDUCATION

T 101 416

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TITLE: The Oregon Vo-Tech Math Project (Phase I)

INSTITUTION: Linn-Benton Community College

PROJECT DIRECTOR: Dell L. Swearingen, Math Instructor
Address: 6500 S.W. Pacific Blvd
Albany, Oregon 97321
Phone: 928-2361, extension 304

PROJECT DURATION PHASE I: January 1, 1974 through June 30, 1974

PROJECT DURATION PHASE II: July 1, 1974 through June 30, 1975

COSTS:

Federal	Local (in kind)	Other	Total
$19,858.21	$2,800	$12,500	$35,158.21

NUMBER OF STUDENTS AFFECTED: 500 NUMBER OF STAFF INVOLVED: 30

PROJECT DESCRIPTION:

Oregon high school students who will continue their education in terminal career occupational programs at Oregon community colleges make up more than half of the total Oregon high school enrollment. To provide these students, many of whom have severe learning handicaps, with the mathematics they "need", and to allow for flexibility in mathematics programs, resources must be made available to high school and community college instructors to make mathematics relevant to career occupations.

The ongoing Oregon Vo-Tech Math Project is designed to provide resources in the form of verbal problem sets for occupational courses offered in Oregon community colleges and secondary schools. At the present time the project has produced rough draft problem sets in each of the following areas: Wood Products, Forestry Tech., Marketing, Agriculture, Aviation Mechanics, Machine Tool Tech., Wastewater Tech., Food Processing, Nursing and Dental Assisting, Police and Fire Science, Welding, Building Construction, Diesel Mechanics, Industrial Mechanics, Industrial--Electrical and Hydraulics, Automotive Tech., Electronics, Drafting and Clerical.

At the present time verbal problems previously collected because of demand are out of print. Moreover, they were contained in rough draft booklets according to career cluster areas. These booklets were not in a practical form from a student or instructor's view point. We adopted an individualized format and will print the problem sets accordingly. Such a format allows students to work problems in various career areas and will alleviate material duplication by individual instructors. The above mentioned materials will be printed and ready for dissemination by September 1, 1974. The materials may be obtained through the Division of Continuing Education (DCE) on the Oregon State University Campus at a nominal fee.

Purpose:

The purpose of this phase of the ongoing Oregon Vo-Tech Math Project was to evaluate a small subset of our problem sets which have been individualized. We conducted this evaluation in 12 high schools and seven community colleges. Using the evaluation data, we hoped to: (1) make our materials more meaningful to students, (2) improve articulation and (3) investigate instructional strategies which seem to be most appropriate in the high schools and community colleges.

Prodecures and Outcomes:

The steering committee for the Oregon Vo-Tech Math Project identified the math packages to be evaluated and the high school and community college instructors who were to evaluate the problem sets. The problem packages were converted from their rough draft format to a new individualized format by nine (9) community college instructors. A secretary provided the human resources to type, edit and proofread the testing packages. An intensive, one-day orientation meeting was held at Linn-Benton Community College to suggest possible instructional strategies, encourage articulation and disseminate the evaluation materials. The evaluation instruments consisted of a student form, an instructor form and the project materials.

After the evaluation was successfully begun, nine problem sets in rough draft were sent to earlier project participants. They converted the materials to the new individualized format, classified by math topic. As these problem sets were returned the secretaries began putting them in print-ready form.

Using the information gleaned from the evaluation materials we: (1) altered the format of the problem sets and (2) obtained further funding from OMEC for instructors to work on a summer project aimed at instructional strategies for using the Oregon Vo-Tech Math Project materials.

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Appendix 24

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A. PROJECT BACKGROUND

The ongoing Oregon Vo-Tech Math Project is designed to provide realistic verbal problem sets for occupational courses offered in Oregon community colleges and high schools. The math problems are identified by observation and discussion with technicians involved in specific career activities. The problems selected are aimed at: (1) providing the math skills necessary for an individual to get a job and perform that job adequately and (2) providing an individual with the math skills necessary for advancement. This information will be valuable in determining course content needed to meet new high school graduation requirements. The problem sets provide a primary resource for planning occupational math curriculum and determining related behavior objectives. They are designed to create a learning climate which will be supportive to and provide positive reinforcement of math concepts with relevancy to specific occupational areas.

The verbal problems were contained in booklets according to career cluster area. These booklets were not in a practical form from the student's or instructor's point of view. We adopted an individualized format and printed the problem sets accordingly. Such a format allows a student to work problems in various career areas and will relieve the instructor from duplicating volumes of material.

Although the realistic occupational math problem sets have been used in many Oregon community college and high school classrooms over the past two years, they had never undergone any type of evaluation.

The steering committee of the Oregon Vo-Tech Math Project felt it was time to evaluate both the new individualized format and the realistic verbal problem sets for the occupational courses. In order to evaluate the individualized problem sets in a realistic setting, we proposed to select 12 high schools, geographically distributed throughout the state, to serve as evaluation sites. This evaluation was undertaken jointly by high school and community college instructors thus facilitating articulation between the educational institutions, industry and community.

The Oregon high school students who will continue their education in terminal career occupational programs at Oregon community colleges make up more than half of the total high school enrollment. To provide these students with the mathematics they "need" and allow for flexibility in mathematics programs, the objectives and related relevant problem sets needed to be made available to the high school math instructors.

REVIEW OF GOALS AND OBJECTIVES
PRESENTLY COMPLETED

GOALS	OBJECTIVES	ACTIVITIES
1. To evaluate a small subset of the Oregon Vo-Tech Matn Project materials in Oregon high schools and community colleges.	1.1 Identify those problem sets and career areas to be evaluated.	1.1.1 By mid-November the project director will identify from the rough draft problems produced the previous two summers those problem sets to be evaluated.
	1.2 Identify twelve model high schools and seven community colleges to evaluate and critique the problem sets.	1.2.1 By mid-December the project director will identify twelve model high schools and seven community colleges to evaluate and critique the problem sets.
	1.3 Adopt an individualized format and convert the choosen subset of rough draft problem sets in specific career areas to this format.	1.3.1 Set up a tenative individualized format. Contact each member of the steering committee for reaction.
		1.3.2 The project director will contact previous project members to convert the choosen subset of the rough draft problems to the new individualized format by the end of November.
		1.3.3 Schedule a meeting of the Oregon Vo-Tech Math Project steering committee to be held on January 26, 1974. To adopt an individualized format for the complete set of roughdraft problems.

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GOALS	OBJECTIVES	ACTIVITIES
	1.4 Print the individualized problem sets and evaluation instruments.	1.4.1 A local printer will be contacted by mid-December.
		1.4.2 The individualized problem sets and evaluation instruments will be printed by mid-January.
	1.5 Conduct an orientation meeting for participating instructors.	1.5.1 Participating instructors will receive a letter explaining the orientation meeting to be held at Linn-Benton Community College on January 26, 1974. Instructors will be encouraged to bring other instructors and/or principals from their schools.
		1.5.2 At the orientation meeting on January 26,1974 four schools of varying size and composition will describe their ongoing delivery system using the individualized Vo-Tech math materials.
		1.5.3 The orientation meeting will allow us to explain how to use the evaluation materials. The meeting will also provide an opportunity to disseminate the evaluation materials.

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GOALS	OBJECTIVES	ACTIVITIES
	1.f Conduct staff visitation and follow-up to include a taped interview of each of the participating instructors' reactions to the Vo-Tech materials.	1.f.1 The project director will visit each of the participating schools at least once during the duration of the project. The data collected from these visitations will be incorporated in the final report.
2. Promote articulation between educational institutions, Oregon State Board of Education, community colleges, industry and the community.	2.1 Strengthen lines of articulation between: a. secondary schools, and four year schools. b. math and Vo-Tech instructors. c. schools and the community they serve. d. community colleges and the State Department of Education.	2.1.1 Reorganize the steering committee to provide a better cross section representation of high schools, community colleges, and four year schools. 2.1.2 If a participating instructor feels there is articulation taking place between the math and Vo-Tech department at his school, the project director will request a conference with this instructor's direct supervisor concerning this articulation. 2.1.3 The project director will explain the project at the N.C.T.M. meeting in Portland on February 22 and the N.C.T.M. Annual Meeting in Atlantic City, N.J. in April. 2.1.4 The project director will attend each of the community college math department meetings to keep their departments informed as to the progress of the project.

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GOALS	OBJECTIVES	ACTIVITIES
		2.1.5 The project director will speak to the O.C.E. student teachers about the evaluation materials.
		2.1.6 The project director will send minutes of each steering committee meeting to a representative of each community college in Oregon.
		2.1.7 The project director will explain the project to the local apprentice board on January 9, 1974.
		2.1.8 The local apprentice board will be asked to evaluate the individualized problem sets.

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EDUCATIONAL SETTING

The Vo-Tech areas evaluated fit into the following career cluster areas: Building Construction, Industrial Mechanics, Metals, Marketing, Clerical, and Wood Products. The evaluation problem sets are individualized by math topics. The math topics include whole numbers, decimals, fractions, and ratio and proportions. Each package includes problems with complete solutions, problems with just the answers, and supplementary problems with answers only included for the instructors.

The following schools participated in an evaluation of the above listed subset of the Oregon Vo-Tech Math Project materials.

*Churchill High School
*Chemeketa Community College
*Marshfield High School
*Blue Mountain Community College
Central Oregon Community College
Sprague High School
Mt. Hood Community College
Burns High School
*Benson High School
*Lane Community College
Clackamas Community College
Portland Community College
*Canby High School
*Rogue Community College
*Philomath High School
*Franklin High School
*Treasure Valley Community College
*Lebanon High School
*Medford Mid-High School
*Roseburg High School
*Baker High School

The Oregon Vo-Tech Math Project rented calculators for those schools that did not have them available for students.

Of the schools which were asked to participate in the project, those marked with (*) supplied us with data.

PERSONNEL

STEERING COMMITTEE

Oregon Vo-Tech Math Project Steering Committee:

Chairman: Dell Swearingen, Linn-Benton Community College

Members: Dr. Bill Simons, Oregon State University

Dr. Bob Main, Oregon College of Education

Harold Hauser, Blue Mountain Community College

Frank Weeks, Mount Hood Community College

Mike Morgan, Linn-Benton Community College

Gene Enfield, Sprague High School

Dennis Dedrick, Medford Mid-High School

Dick Holiday, Rogue Community College

ASSESSMENT TEAM

Burr Fancher will serve both as third party evaluator and chairman of the assement team. The other two members of the assessment team are:

Dr. Peter C. Scott, Linn-Benton Community College

Mr. G. Y. Arnold, Philomath High School

PROJECT STAFF

The project staff consisted of Linn-Benton Community College students. Without the dedication of these students, the project would not have been completed on time.

Graphic Artist:	Rose Davis
Editor:	Norma Cosler
Assistant Editors:	Bob Mack Mike Long
Typists:	Tina Hale Shelley Mack

Harold Hauser of Blue Mountain Community College was the final proof-reader. He enabled the project staff to meet their deadlines.

B. MAJOR ACCOMPLISHMENTS OR OUTCOMES

(1) On January 26, 1974 the program personnel for the Oregon Vo-Tech Math Project at Linn-Benton Community College conducted an orientation meeting for Vo-Tech math instructors and administrators from the model schools for the project. At the meeting project materials and evaluation instruments were disseminated and explained. Possible instructional strategies were also discussed.

(2) Acquainting the instructors involved in the evaluation with the problem sets has caused them to become more career conscientious. Suggestions gleaned from evaluation participants provided empetus for and the content of an orientation meeting held at The Inn of the Seventh Mountain to discuss instructional strategies (see attached agenda and participant list). Further funding was acquired from O.M.E.C. to conduct a summer project concerning instructional strategies. The problem sets along with this orientation meeting motivated at least five math instructors to develop pilot Vo-Tech math courses to be offered at their high schools.

(3) The use of the evaluation sets has allowed us to finalize a format and convert nine of the complete rough draft sets to this format. The complete problem sets converted to this format are:

1) Clerical
2) Industrial Mechanics
3) Welding
4) Machine Tools
5) Police and Fire Science
6) Auto Mechanics
7) Wastewater Tech
8) Marketing
9) Food Processing

These problems along with the following will be printed and ready for dissemination by September 1, 1974.

1) Wood Products
2) Agriculture
3) Aviation Mechanics
4) Nursing & Dental Assisting
5) Construction
6) Diesel Mechanics
7) Industrial, Electrical and Hydraulics
8) Electronics
9) Drafting
10) Forest Products
11) Forestry
12) Real Estate

The materials may be obtained from D.C.E. on the Oregon State University Campus at a nominal fee.

(4) The project director was able to promote articulation by: 1) attending meetings of the local apprentice board, 2) reporting on the project to; O.C.E. student teachers, N.C.T.M. meeting in Portland, and N.C.T.M. Annual Convention in Atlantic City, 3) visiting each of the participating schools, 4) attending meetings of the community college math department chairmen and steering committee, 5) telephoning schools, 6) attending each of the Executive Meetings of the O.C.T.M. and 7) writing articles for the O.C.T.M. Newsletter and local papers.

(5) Dr. Bob Main, Math Department Chairman at O.C.E., Mike Morgan, LBCC Math Department chairman, and myself are going to offer a

graduate class through D.C.E. on the Oregon Vo-Tech materials and their uses. This will start on October 5, 1974.

C. EVALUATION

As stated earlier, a small subset of the Oregon Vo-Tech Math Project problem sets were evaluated in a number of model schools.

Each of these model schools were invited to Linn-Benton Community College for an orientation meeting on January 16, 1974. The orientation meeting provided an opportunity to disseminate the evaluation materials and discuss possible instructional strategies for using the problem sets. Copies of the letter of invitation, agenda, materials which were evaluated, student and instructors evaluation instruments may be found in the appendix.

The instructors were given flexibility in the use of the problem sets. They were to decide with what type of student and instructional strategy they were to be used. It was felt that from this flexibility could be gleaned functional methods of using the problem sets. In addition insight could be gained into the best use of the problem sets.

Two weeks after the orientation meeting the project director called each participant to see if they had any questions.

As problems developed, the project director made appointments and visited the project participants. The project director travelled to some of the model schools three times. Due to the energy crisis, however it was possible to go to some distant schools only once during the evaluation. The evaluation was conducted from January 16, 1974 thru May 20, 1974. The project director kept in touch with participants by phone.

After the students and instructors at the model schools had filled in the evaluation instruments, the project director met with them and taped their reaction to the problem sets. The project director collected the tapes and evaluation instruments, then the data was condensed over a two-week period by Linn-Benton Community College students. Then the information was given to a third disinterested evaluator. His evaluation of the data is included later in this document. The appendix will include histograms of the students feelings on each of the questions which were asked on their evaluation forms.

The data collected from the instructors will be very useful in revising the problem sets, but the comments are too specific to be helpful to the general reader. Thus they are not included in the appendix.

A majority of the evaluation comments were favorable. However, many errors were found in the materials. The subsequent histogram is a summary of student responses to each question. The questions asked of the students are the following:

2. The problems in this package were:

   too easy [a] about right [b] too difficult [c]

3. How long did it take you to complete this problem package?

   1 class period [a] 2 class periods [b]

   more than 2 class periods [c]

4. How could the material in this package be improved?

   more instruction sheets [a] more instructor help [b]

   packages explaining math concepts [c] group discussions [d]

   work experience [e] more lectures [f]

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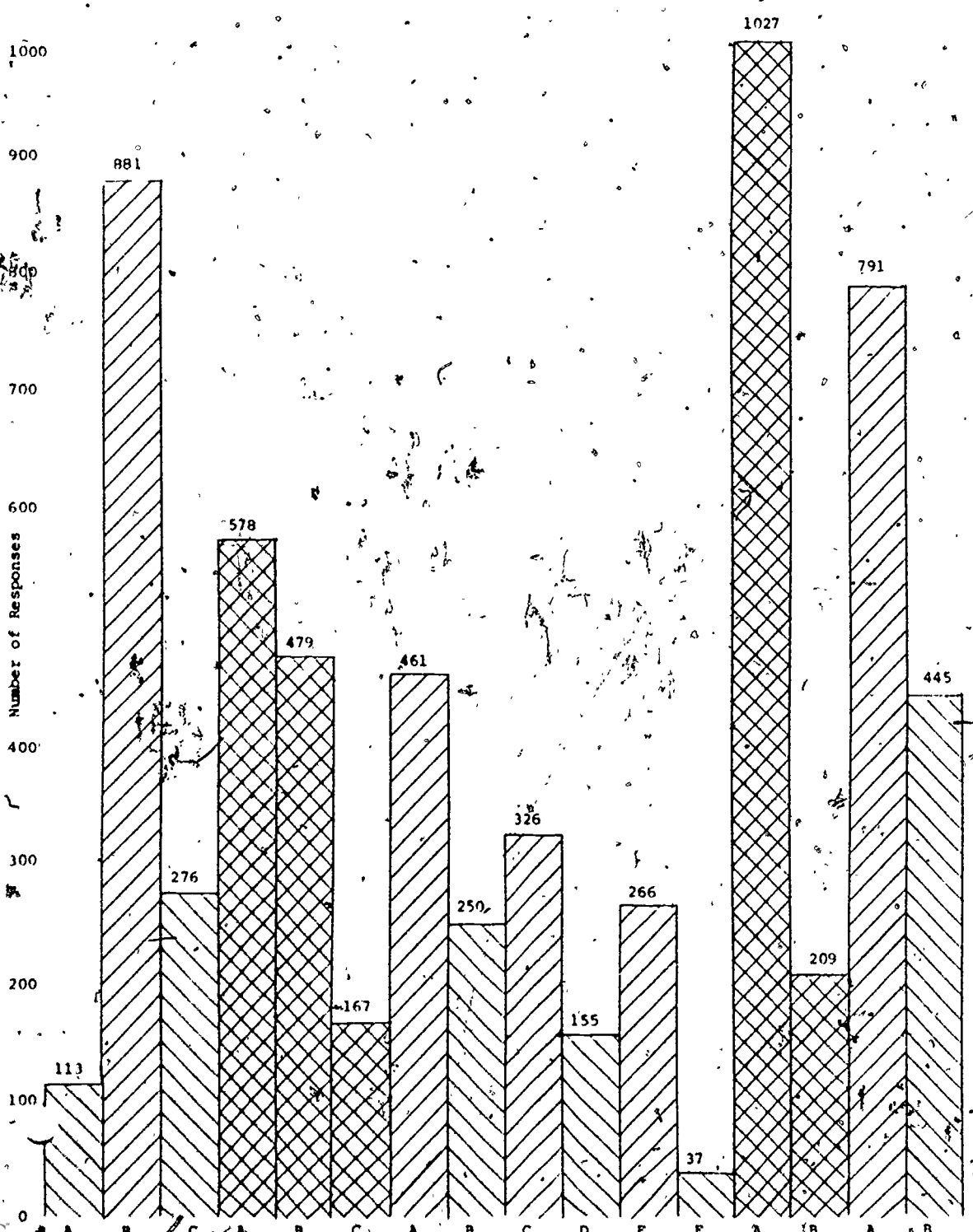
5. Were you able to solve the problems in sections B and C of this package?

yes [a] no [b]

6. Would you like to see more problems of this type used in your math class?

yes [a] no [b]

One might add that the materials have been revised three times since the evaluation was carried out by the model schools.



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LBIED

LINN - BENTON INTERMEDIATE EDUCATION DISTRICT

June 28, 1974

EVALUATION SUMMARY OF VO-TECH MATH PROJECT

As an outside evaluator of the Vo-Tech Math Project, I have studied samples of the individualized math packets, talked with instructors involved in field testing the packets, read the transcripts of taped interviews with students and teachers, and the individual written evaluations by administrators, teachers, and students. From this vantage point I will attempt to make an overall summary statement of the merit of this project.

Overall, the response to these packets was highly positive. The majority feel that the packages are needed to fill a gap in mathematics education. All indicate some positive benefits, even though many encountered some problems in usage.

As expected, the range of responses is quite wide. This variation appears to be due to:

1) Teacher attitude toward vocational education, in general, and practical math, specifically.

2) Ability of teacher to handle package material in his classes.

3) Whether the student was working problems associated with his career objectives.

4) Nature of math exposure prior to involvement with packets.

This project appears to have met and exceeded the objectives set forth in the project proposal. The evaluations are encouraging for further efforts in this direction.

Recommendations that might be made from my study of the evaluation are:

1) That the packets be further revised according to feedback from the field.

2) That considerable attention be given to addition of staff development component to this project, one that will bring math instructors into a closer working relationship to vocational teachers and teach them the best ways to use the material.

P.O. Box 967 · Albany, Oregon 97321 · Phone (503) 926-8621

3) That further revision be directed toward level of difficulty of the packages to eliminate the too hard-too easy criticism.

The Vo-Tech Math Project is a much needed one that can fill a highly identifiable need. The writing team and project director are to be commended for their efforts in a very difficult mission. I fully endorse this project and will lend my support to its continuation.

Burr Fancher
Regional Coordinator
Linn-Benton I.E.D.

BF/gh

D. SUMMARY

The ongoing Oregon Vo-Tech Math Project evaluated a small subset of their materials. These materials were converted to a new individualized format by math topic. The math topics included were: Whole Numbers, Decimals, Fractions, and Ratio and Proportions. The problem sets were chosen from the following career areas: Building Construction, Industrial Mechanics, Metals, Marketing, Clerical, and Wood Products. The participating instructors were allowed to choose both the instructional strategy and the classes in which to conduct the evaluations. The problem sets have been found to be useful at both the high school and community college level. The favorable evaluations and money from O.M.E.C. allowed us to include thirteen math instructors in a summer project dealing with instructional strategies for using the project's materials. This summer project is placing heavy emphasis on creating hands-on activities for the classroom.

E. CONCLUSIONS

1. Both the student and instructor evaluations indicated very positive support for the use of these problem sets in the classroom.

2. Four-year schools need to offer inservice and preservice courses which introduce these materials and their uses.

3. The materials seemed to be less effective in the schools where the problems were assigned only as extra credit.

4. The materials were the most effective when integrated into the regular classroom setting and used with sophomores, juniors or seniors.

5. To improve the use of these problem sets at the high school level, they should include a glossary of terms and more definitions. (Keep in mind they were written for Community College students.)

6. The materials have been found to be effective in the following settings: 1) high school consumer math, 2) shop classes, 3) a two-year high school algebra course, 4) a geometry course, and 5) the 4200 series of industrial math at the community college level.

7. Very little articulation took place between the majority of high school Math, Vo-Tech and Language Arts Departments.

8. Students working on Vo-Tech Math problems, shoud have easy access to calculators.

9. The majority of participating instructors would like to see hands-on activities relating to the Vo-Tech problem sets available for classroom use.

10. Vo-Tech Math problem sets need to be developed for other career cluster areas. Instructors commented that we need more Vo-Tech problems which would interest girls.

11. The project director feels that the project was an overwhelming success in that we accomplished every objective, and converted nine complete rough draft sets into print-ready form. In addition we have thirteen math instructors working on instructional strategies which involve making hands-on materials for the classroom from June 20 thru August 3, 1974. We have also encouraged five high school math instructors to develop Vo-Tech math courses for their high schools. It is very encouraging to find classroom instructors solving classroom instructors problems.

F. RECOMMENDATIONS

The participants of the Oregon Vo-Tech Math Project feel:

1. The State Department of Education needs to devise a model articulation system which will work in the high schools and community colleges. Articulation between Math and Vo-Tech departments on the high school level is the exception instead of the rule.

2. The State Department of Education needs to solicit proposals that would develop pilot courses which integrate Vo-Tech, Math and Language Arts courses. We suggest a three-day retreat attended by a Math, Language Arts and Vo-Tech instructor from each of six schools. The topic of this retreat would be discussion of instructional strategies which incorporate the above subjects. A summer project should follow to involve Math, Language Arts and Vo-Tech instructors in the designing and institution of such courses in their schools.

   Presently, each discipline make plans separately. By the time they have had a chance to communicate, they have no chance to compromise. Thus, students find not only the Math, Language Arts but even some of the Vo-Tech courses irrelevant to the real life setting.

3. Future writing teams, such as the welding instructors writing packets this summer, should have a math and communication skills instructor working with them.

4. The total set of Oregon Vo-Tech Project materials needs to be revised in some areas. There is even the question, should they immediately be redone in light of metrication. A system needs to be implemented which keeps the Oregon Vo-Tech materials up to date with the industry they represent.

5. The colleges and universities should offer inservice and preservice courses dealing with instructional strategies for using these problem sets if they are to be functional in schools which have not been involved in the project.

6. Future math instructors should have some knowledge about careers and what type of mathematics to expect in various occupations. Many math instructors have very little idea about career education except that they don't think they like it.

7. We recommend that where possible students have the opportunity to use calculators in the classroom. We have found that the use of inexpensive calculators not only revives student interest in mathematics, but they have also been found to be effective teaching devices to introduce and chain mathematical concepts.

8. We recommend that the State Department of Education negotiate with a publisher or alternate source such as D.C.E. to publish the Oregon Vo-Tech Math Project materials after this year. Money gained from the sale of the materials could be used to continue curriculum projects of this nature. Four publishers have indicated an interest in such publication. They are in a better position to handle both

national dissemination and have the technical staff needed to really bring these materials to life.

APPENDIX

For the readers convience the Appendix is arranged in three parts: 1) letters of communication between the project director and participants, 2) letters requesting project materials and 3) a copy of the evaluation materials and summary of results.

In letters requesting copies of the Oregon Vo-Tech Math Project materials, it was not felt appropriate to include copies of all of the communication which took place. Thus the project director selected some letters which seem to typify the scope and interest that others have in the project.

It is worth noting that the heaviest demand so far has been in Oregon, Washington and Canada with over 150 request from Oregon. Although the list is not complete, we have received requests from each of the following states:

Virginia	Nebraska	Montana
New Jersey	Michigan	Alaska
Hawaii	Minnesota	Indiana
New York	California	Florida

LINN-BENTON COMMUNITY COLLEGE

6500 S.W. Pacific Blvd.
Albany, Oregon 97321
503-926-6091

January 4, 1974

You have expressed an interest in participating in the evaluation of a small subset of the Oregon Vo-tech Math Problem Sets.

This evaluation will include the math topics of whole numbers, fractions, decimals, and ratio and proportion. The problems will be selected from seven occupations which fall in the career cluster areas of industrial mechanics, building construction, clerical, marketing, forest products, and metals. The problems seem to be applicable to several high school and community college math courses. We would like to include one math instructor, and hopefully, some Vo-tech instructors from each of the model schools. We will be asking both instructors and students to evaluate the problem sets.

In order to further explain the evaluation process and disseminate materials to be evaluated, an orientation meeting will be held in the board room at Linn-Benton Community College on Saturday, January 26, 1974. An agenda for this meeting and a map directing you to LBCC have been included in this letter. We invite you to bring other instructors or administrators from your school who are interested in this project.

The project will provide a noon meal of Kentucky fried chicken. If this is not to your liking we suggest a sack lunch. The project will provide a grant of $30 to the participating member from each school. If more than one instructor comes from a school, the participants may divide up the $30 if they wish. This money will be distributed at the meeting.

In light of the energy crisis we strongly suggest that you form car pools to come to the meeting. In some cases a community college and a model high school or junior high school are in the same town. In other cases participants will pass through the town of other participants. A car pool would not only help the energy crisis, but would also go a long way in increasing vertical articulation among schools. Some money will be available for travel. The travel money would be mailed to you at a later date. To help you set up car pools, you will find the names and schools of the participants included.

Thank you very much for your interest.

Sincerely,

Dell L. Swearingen

Dell L. Swearingen
Project Director

DLS/bds

cls.

Oregon Vo-Tech Math Project Evaluation

Meeting Agenda for January 26, 1974

9:00 - 9:30	Introduction
9:30 - 10:30	Description of content and evaluation tool
10:30 - 11:00	Break and discussion
11:00 - 11:20	Project operation
11:20 - 12:00	Use of material
12:00 - 12:30	Vo-Tech and Math articulation
12:30 - 1:30	Lunch
1:30 - 2:30	Material distribution and inspection
2:30 - 3:15	Question and answer
3:15 - 4:00	Campus tour (optional)

LINN-BENTON COMMUNITY COLLEGE

6500 S.W. Pacific Blvd.
Albany, Oregon 97321
503-928-2361

May 23, 1974

Dear Participant:

I would like to take this opportunity to thank you for participating in the evaluation of the small subset of Oregon Vo-Tech Math Project materials.

If possible, I would like to have all evaluation forms returned to me by June 4, 1974. It would also be a great help to have a brief summary from your principal and vo-tech departments on their feelings about the materials. I must have these forms back as soon as possible to meet the deadline for our final report to the Oregon State Board of Education.

Due to the energy crisis it was not feasible to get to each school as many times as I had planned. I hope this did not inconvenience you in any way.

For those of you who have calculators and wish to keep them, please contact Mr. Sam Zimmerman at Corvallis Business Machines, 111 NW 2nd, Corvallis, Oregon.

I hope you found these materials interesting and useful. Thanks again for your participation.

Sincerely,

Dell L. Swearingen
Director
Vo-Tech Math Project

DLS/hds

QUESTIONS FOR TAPED INTERVIEW

1. What is the enrollment of your school?

2. What was the enrollment of your math class which used these problems?

3. What type of classroom setting did you use to evaluate the problem sets?

4. What plan of attack or instructional strategy did you use?

5. In what type of math class did you use the individualized math problem sets?

6. Did you enjoy using these individualized verbal problems in your classroom? Will you use them again next year?

7. Did these individualized Vo-Tech math problems help generate articulation between you and your Vo-Tech instructors?

8. Did you have a good communication channel with your Vo-Tech instructors before you received these materials? If so, how did you get it started? If not, why not?

9. What does your principal think of this approach which uses real life verbal problems in the classroom?

10. Did you find the problem sets reasonable?

11. Would you like to see more work done along the lines of instructional strategy for teaching the Vo-Tech math student? If so, along what lines?

12. What do you think of the following instructional strategies: (a) teaching the math in the shop, (b) integration of the Language Arts, Math and Vo-Tech, (c) hands-on materials developed and (d) project approach?

13. Which of these approaches would best suit your teaching situation?

14. If time and money were not a problem, how would you improve the math instruction of the Vo-Tech students in your school?

15. Would you like to see some preservice and inservice courses at the 4-year schools? Can you suggest how these materials might be used?

16. How would you suggest disseminating the materials in Oregon?

17. How will you use these problems next time you teach the class?

18. What did your students think of the first individualized problem sets?

19. In your opinion, which course or courses in high school should include the use of these problems (if any)? On what level would they be most effective?

20. Would you like to see more of these Vo-Tech math problem sets developed? If so, in what occupations and math topics?

21. What other changes would you suggest in format, etc.?

22. Are there other materials you would like to see developed for the Vo-Tech math students?

May 28, 1974

Dear Participants:

The second phase of the Oregon Vo-Tech Math Project concerning the development of teaching strategies will consist of three meetings, (a fourth if the participants feel it is necessary).

The first meeting will be held at the Inn of the Seventh Mountain near Bend, Oregon. It will start at 6:00 pm on June 20 and continue through noon on Saturday, June 22.

The meeting will have two major objectives: 1) to aid communication between high school instructors who would like to offer a vo-tech math course in their high schools; and 2) to investigate possible instructional strategies to help integrate our problem sets into the math classrooms. In addition you will write a contract stating which area and instructional strategy you will develop.

Two weeks after the June 20 meeting we will contact you by phone to see if you would like to have Ed Wright and myself meet with you individually. If not, we will meet with you in your geographical area about mid-summer.

The last meeting will be held at Linn-Benton Community College in Albany, Oregon on August 1 or 2. At this meeting the material which you developed will be presented. After your presentation you will be receiving a check in the amount of _____ for your participation in the project.

We will also provide your meals and lodging while attending the meetings at Bend and Albany. However, we will not pay travel expenses to and from the meetings.

Thank you very much for your continued interest in the Oregon Vo-tech Math Project. We are looking forward to seeing you on June 20, 1974.

Sincerely,

Ed Wright
Group Leader

Dell Swearingen
Project Director

DS/bds

CONFERENCE
June 20-22
Inn of the Seventh Mountain
Bend Oregon 97701

A G E N D A

Thursday, June 20

6:30 PM — Dinner at the Red Toe Restaurant

7:30 PM — Opening Remarks, Ed Wright, Linn-Benton Community College
History, Bell Swearingen, Linn Benton Community College
Address on classroom instruction, Dr. Bill Fitzgerald, University of Oregon

Note: Dr. Fitzgerald is a visiting professor from Michigan State University. He will be at the meeting as a consultant all day Friday.

Friday, June 21

8:00 AM — Breakfast

9:00 AM — Instruction Strategies
Dick Holliday, Rogue Community College
Harold Hauser, Blue Mountain Community College
Ed Wright, Linn-Benton Community College

10:30 AM — Coffee Break

10:45 AM — Discuss in Small groups possible use of problem situation in math instruction

12:30 PM — Lunch

2:00 PM — Write Contracts

3:00 PM — High School vocational mathematics content discussion

6:00 PM — Dinner

7:00 PM — Discuss format of developed material and documentation

Saturday, June 20

8:00 AM — Breakfast

9:00 AM — Presentation of Proposals by Members. Each member will present his plan of development. Everyone will receive a copy of topics to be developed.

Note: Please bring curriculum material and texts used in mathematics classes. We will hold an open discussion session centered around this material.

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May 29, 1974

[illegible] Instructor
[illegible] Division

[illegible] letter is to thank you for allowing me to gain [illegible] problems compiled by the Oregon Vo-Tech Math Project. [illegible] stimulated my students in an amazing way. There [illegible] significant increase in individual participation and the [illegible] devotion to this segment of our daily work.

[illegible] vo-tech problems to start my 9th grade math classes daily for [illegible] nine week sessions. The format is to take from 8 to 12 minutes daily at the beginning of the period to work as a group on a vo-tech problem [illegible] beforehand by the teacher from the set of problems compiled by your Oregon Vo-Tech Math Project. These problems do not necessarily need to fit into the immediate material involved in the coursework being taught.

I do not require that the students compute these problems like an assignment. I do, however, demand that they listen and are quiet during the short session involved. I find they like this method. I, also, find that I always get voluntary suggestions on how to attack and solve the problem.

The type problems I find most helpful for my students are those concerning computations with fractions, decimals, and ratio-proportion. I find this a beautiful way to keep these young people in constant review of the basics they will need.

I want to emphasize that these ninth graders are all from the lower or lower middle group of achievers, sprinkled with just a few, who, when turned on, can perform very well. It has happened more than a few times that these low achievers came to the teacher before class time and presented their own [illegible] problem. A good example is the boy who ran a 61 second 440 yard run [illegible] He wanted to know how many miles per hour this was.

[illegible], I want to re-state that I believe the key for my success is that there [illegible] any so-called work being demanded of the students but, I know by observation, that they are listening, and I believe, therefore, they are learning [illegible] that the coke breaks have turned off in the part.

[illegible], thank you for your assistance. I am looking forward to obtaining the [illegible] set of materials this fall.

Yours truly,

Frank J. [illegible]
Western Vista Junior High
Route [illegible]
Corvallis, Oregon [illegible]

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JOHN TYLER COMMUNITY COLLEGE, Chester, Virginia 23831, Telephone 804/748-0481

April 26, 1974

[illegible]
[illegible] Junior College
[illegible]

Dear [illegible]:

I attended the recent AMATYC Annual Meeting in Atlantic City and had the pleasure of attending the discussion of "The Credibility Gap - The Needs of Industry, The Student's Desires, and the Two-Year College Offerings".

I was impressed with your discussion of the Oregon Vo-Tech Math Project. Our college offers several vocational-technical programs and I am most interested in more information, literature, material, etc. of the Oregon project.

I am primarily interested in the material that relates to the following programs:

A. Machine Tool
B. Welding
C. Construction
D. Industrial Mechanics
E. Automotive Technology
F. Electronics
G. Drafting.

Thank you for your time and effort and once again let me say that I enjoyed your presentation at the Annual Meeting.

Sincerely yours,

Joseph T. Jordan
Associate Professor of Mathematics
John Tyler Community College

JTJ:hca

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NATIONAL COUNCIL OF TEACHERS OF MATHEMATICS
1906 Association Drive, Reston, Virginia 22091/(703) 620-9840

13 May 1974

Mr. Dell Swearingen, Director
Vo-Tech Math Project
Linn-Benton Community College
6500 SW Pacific Boulevard
Albany, Oregon 97321

Dear Mr. Swearingen:

The National Council of Teachers of Mathematics has developed a Teacher/Learning Center which displays and makes available for use, in the Council's Headquarters facility, the wide range of materials relevant to mathematics education.

We feel that your Vo-Tech Math Project would be an appropriate addition to the NCTM Teacher/Learning Center. Also, we hope that information concerning products with specific relevance for mathematics educators will be routinely forthcoming by including the NCTM Professional Services Office on appropriate mailing lists.

The enclosed brochures describe the Council's concerns, programs, and publications. We look forward to working with you and are always available for assistance in providing professional services to the mathematics community.

Sincerely,

Joseph R. Caravella
Director of Professional Services

JRC:jld

Enclosures

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CENTRAL JERSEY INDUSTRY EDUCATION COUNCIL

71 Main Street, Woodbridge, N. J. 07095 · (201) 636-0348

April 22, 1974

Mr. Dell L. Swearingen
Linn-Benton Community College
6500 Southwest Pacific Boulevard
Albany, Oregon 97321

Dear Dell,

I would like to thank you very much for your excellent presentation for our panel program at the NCTM Convention on April 18. The slide program that you had was really very well done as well as being very interesting and informative. When the results of your efforts are finally finished and published, I would very much like to have a copy. Would the best way be, as you suggested at the meeting, to write to the State Department of Education in the Fall?

I must say that you people really plan for marvelous weather at your conventions. I hope that you found your convention to be a worthwhile experience--professionally as well as in the line of pleasure, meaning the sun, the weather, and the beach.

Perhaps someday we will meet again. Again let me thank you for your fine presentation.

Sincerely,

Donna Cubit-Swoyer
Consultant

DCS/cam

Community College Division
McGraw-Hill Book Company

1221 Avenue of the Americas
New York, New York 10020

Dell Swearingen
Dept. of Math
Lynn Benton C.C.
6500 S.W. Pacific Blvd.
Albany, Oregon, 97321

May 16th 1974

Dear Mr. Swearingen,

My goal is to research, develop, and publish innovative educational materials on the applications arts and sciences to two-year, occupational curricula.

Naturally, therefore, I was most interested to hear from Harold Hauser regarding the Oregon Applied Mathematics Program. I wonder if you could fill me in on more of the parameters of the materials that have evolved to date? Specifically, I'd be interested in the course title/description and student population profile, the mode of instruction, the media utilized, the number of modules developed, the key individuals involved, and the time schedules for completion.

I realize that this represents considerable time on your part, and I hope that I can make this up to you in terms of additional outside input. My hope is that over-time, McGraw-Hill will be able to review these programs for possible publication under the McGraw-Hill imprint.

Cordially,

Gerald O. Stoner
Sponsoring Editor

GOS:

CC: HAROLD HAUSER

OREGON VO-TECH MATH PROJECT

LEARNING PACKAGE EVALUATION SHEET

Please check the most appropriate box or boxes.

1. Learning package indentification _____.

2. The problems in this package were:

   too easy [a] about right [b] too difficult [c]

3. How long did it take you to complete this problem package?

   1 class period [a] 2 class periods [b]

   more than 2 class periods [c]

4. How could the material in this package be improved?

   more instruction sheets [a] more instructor help [b]

   packages explaining math concepts [c] group discussions [d]

   work experience [e] more lectures [f]

5. Were you able to solve the problems in sections B and C of this package?

   yes [a] no [b]

   If not, please comment:

   _____

   _____

6. Would you like to see more problems of this type used in your math class?

   yes [a] no [b]

7. Other comments:

   _____

   _____

   _____

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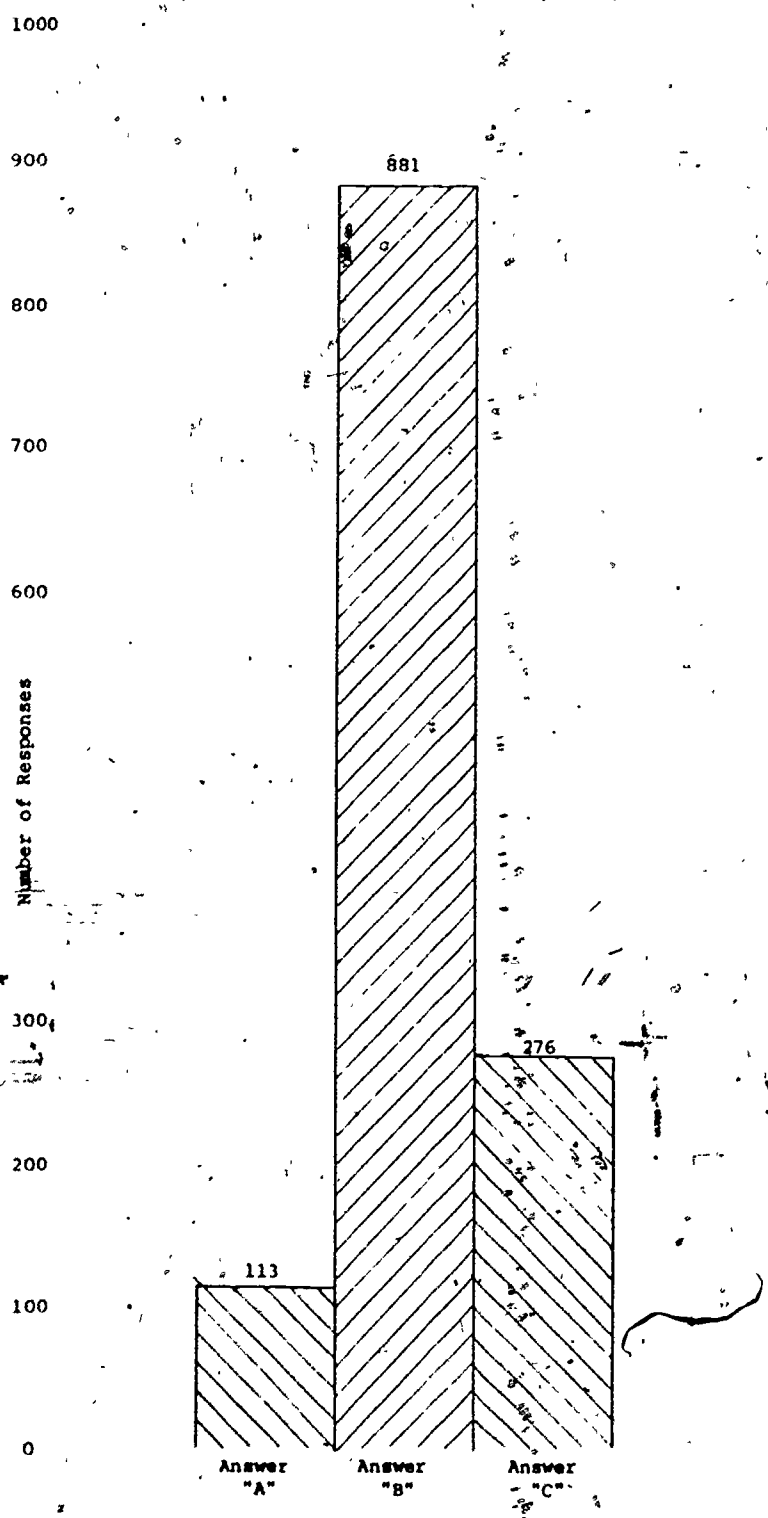
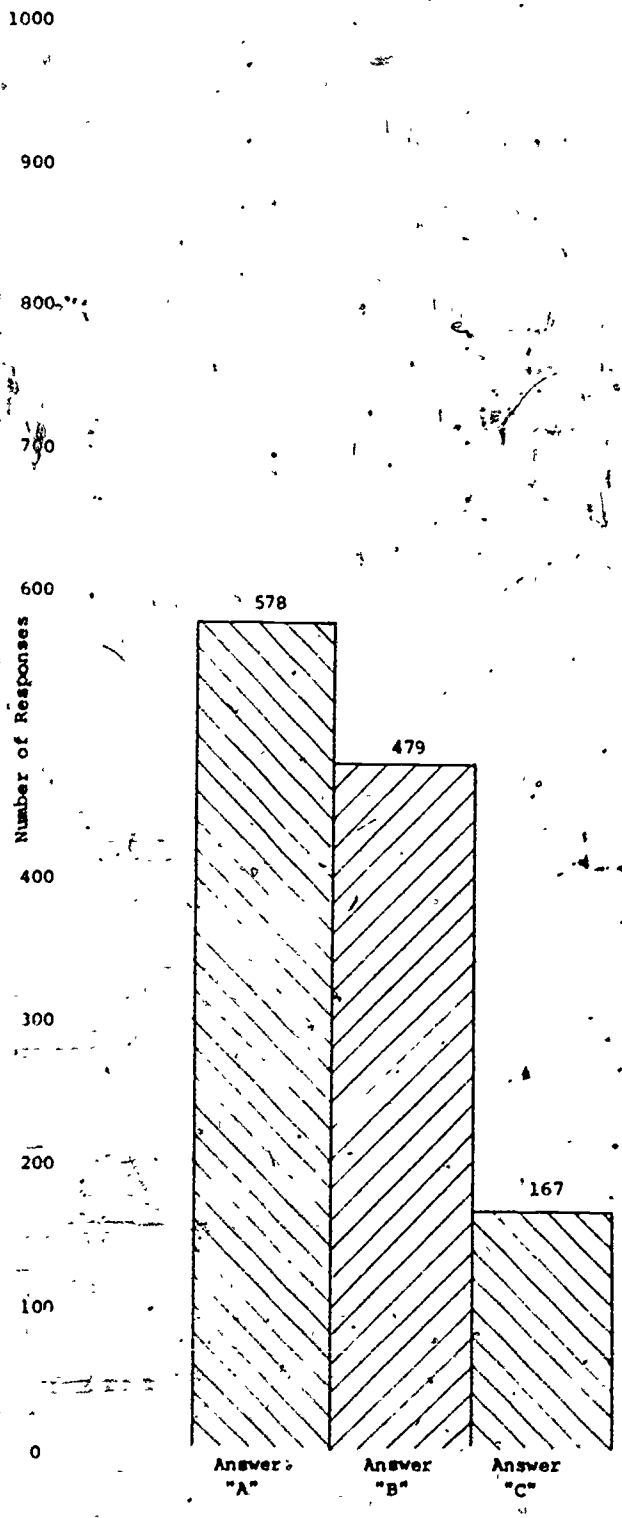
QUESTION 2



QUESTION 3.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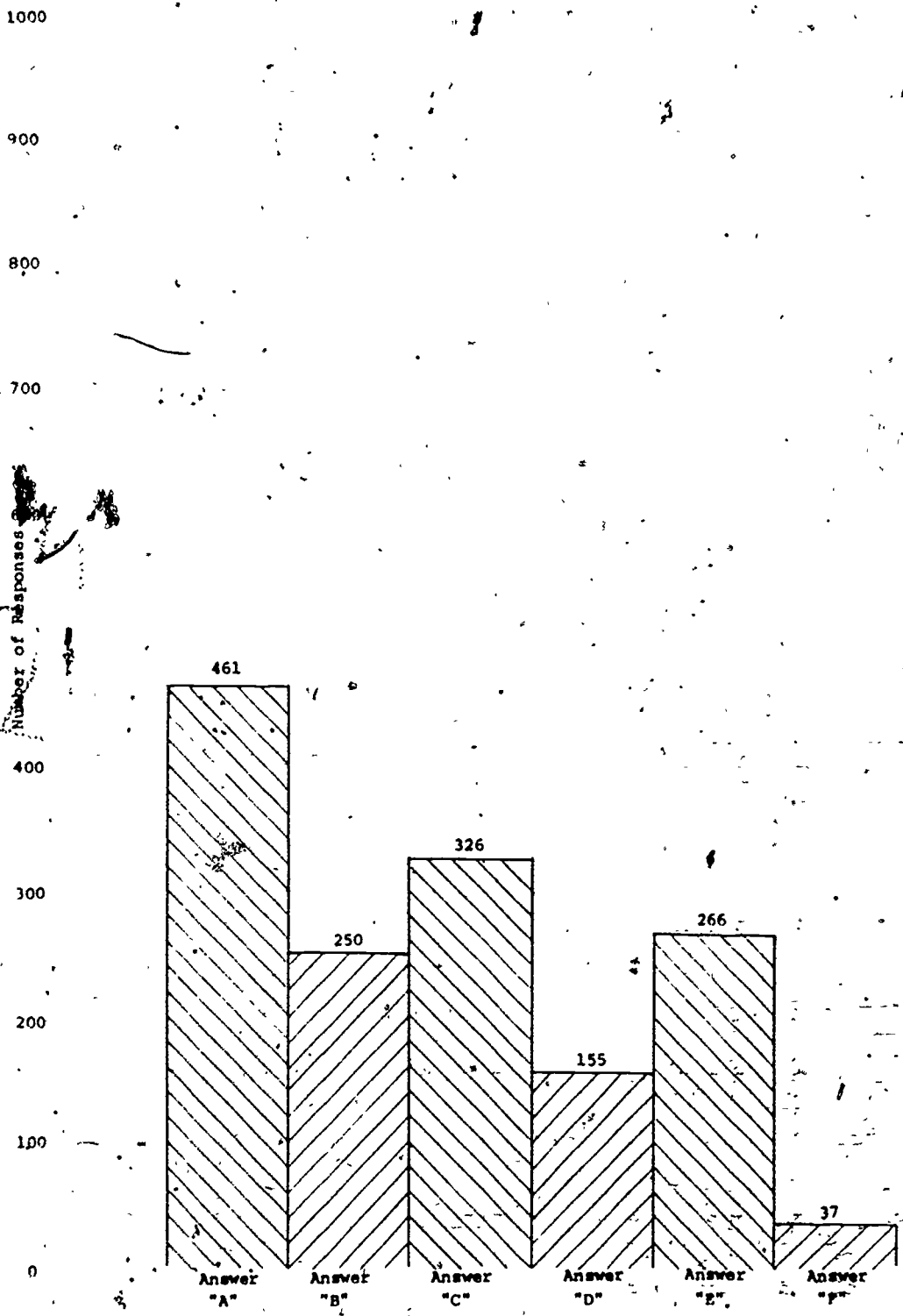
700
600
400
300
200
100
0
Number of Responses
578
479
167
Answer "A"
Answer "B"
Answer "C"

QUESTION 4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900
800
700
600
500
400
300
200
100
0
Number of Responses
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250
326
155
266
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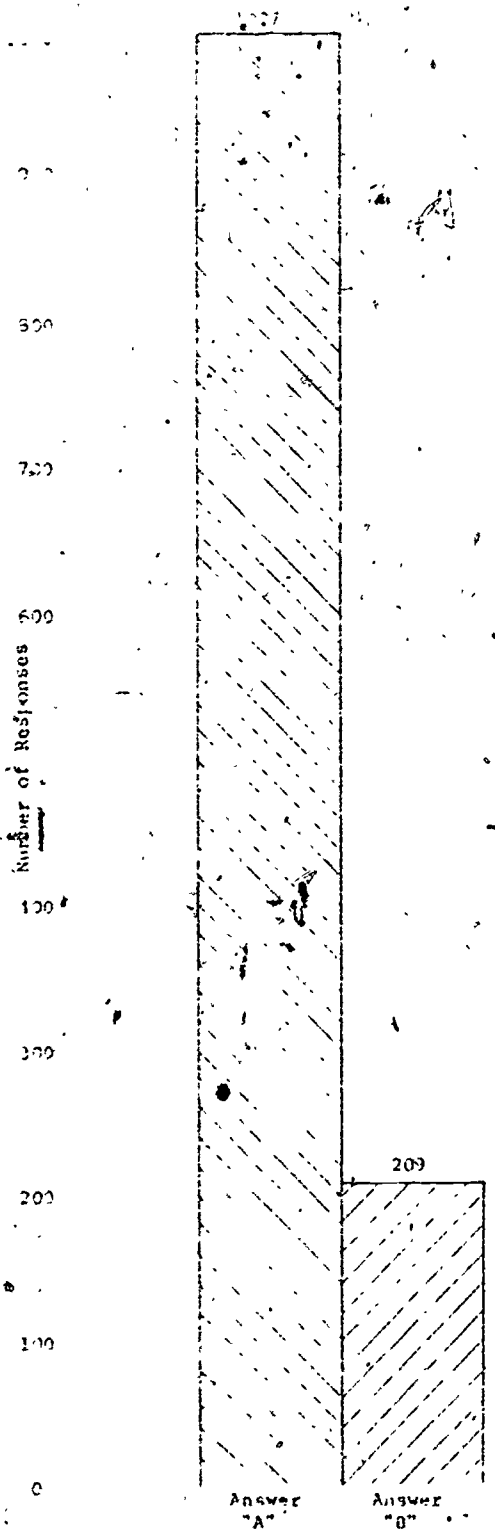
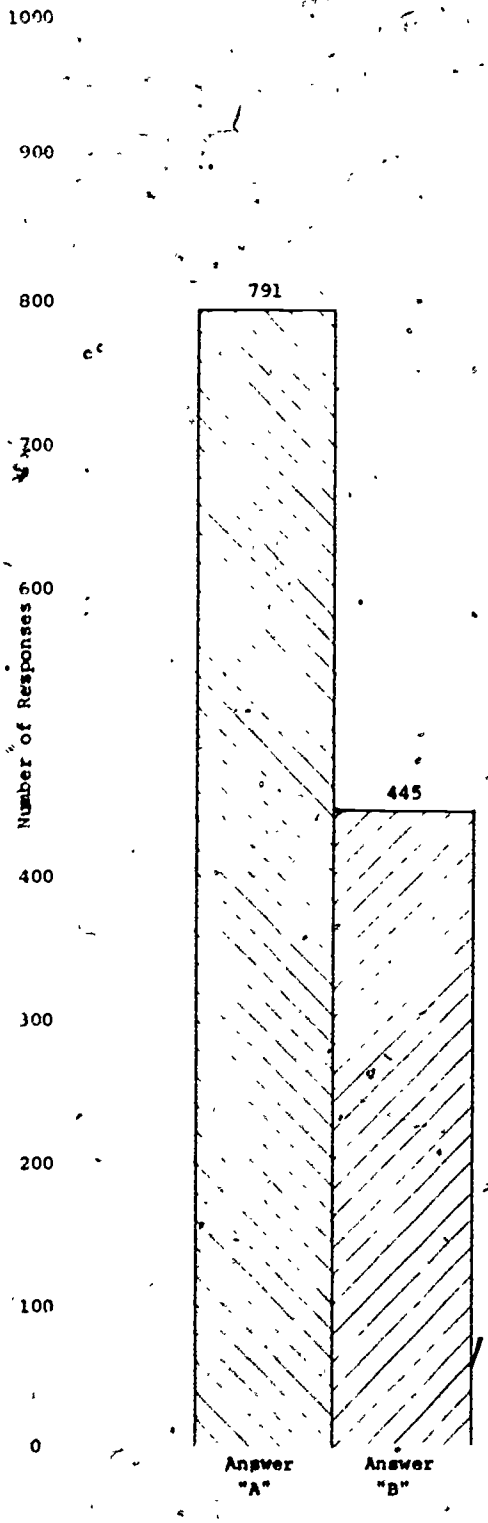
Answer "A"
Answer "B"
Answer "C"
Answer "D"
Answer "E"
Answer "F"

BEST COPY AVAILABLE

QUESTION 5



QUESTION 6


1000
900
800
700
600
400
300
200
100
0
Number of Responses
791
445
Answer "A"
Answer "B"

OREGON VO-TECH MATH PROJECT

EVALUATION PACKAGE

WHOLE NUMBERS — CLERICAL

A. Problems with Solutions

1. Statistics show that our town has 20,258 persons under 25 years old; 16,977 between 25 and 65 years of age; and 8,968 over 65 years old. How many people live in our town?

Solution:

Add 20,258
16,977
+ 8,968
46,203 people

2. Man-Hours Lost From Industrial Accidents, 1973

Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
185	96	128	89	195	116	129	160	98	114	136	145

(a) Compute the total 1973 man-hours lost

(b) What is the average monthly man-hours lost?

Solution:

(a) 185 + 96 + 128 + 89 + 195 + 116 + 129 + 160 + 98 + 114 + 136 + 145 = 1591 man-hours lost

(b) Divide the total by the number of addends.

$$\frac{1591 \text{ man-hours lost}}{12} = 132.583 \text{ average man-hours lost}$$

3. If there are 759 families in the suburb of Linnville and the median family income is $12,750 a year, what should be a good estimate of the annual income of the community?

Solution:

759 families x $12,750 per family = $9,677,250

B. Problems with Separate Solutions

4. Burns Bakery uses 59 lbs of rye flour a week. They have 354 lbs on hand. How many weeks will it last?

Solution:

5. At the beginning of the week Smith's Grocery had 14 brooms in stock. During the week a shipment of 3 dozen arrived and all of them were put in stock. At the end of the week 23 remained in stock. How many were sold during the week?

Solution:

6. A ticket seller at a baseball game was given 150 eighty-five cent tickets and $25.00 in change. At the end of the game he turned in 17 tickets and $138.25 in money.

(a) Is this the amount of money he should have returned?

(b) If not, how much was it more or less than the correct amount?

Solution:

C. Problems without Solutions

7. The following quotations were given for two days for the New York Stock Exchange.

	Friday	Thursday
Volume of shares traded	14,150,00	18,300,000
Different companies whose stock was traded (Issues Traded)	1,582	1,612
Issues that advanced in price	741	584
Issues that declined in price	604	832

(a) How much less was the volume for Friday than it had been on Thursday?

(b) What was the difference in issues traded for the two days?

(c) How many more stocks showed advances on Friday than on Thursday?

(d) By how much did those stocks showing advances outnumber those showing declines on Friday?

Solution:

8. Deliveries of milk to the Green Haven Cheese Factory from five local dairies were as follows: 2,470 gallons; 3,240 gallons; 2,210 gallons; 1,570 gallons and 3,765 gallons. How many gallons were delivered to the factory?

Solution:

C. Problems without Solutions (continued)

9. The New York Stock Exchange listed the following stocks as the ten leaders in volume of sales for a particular day:

Imperial Cp of Amer	425,700
Bristol Myers	233,700
Sinclair	199,400
Occidental Petrol	136,300
Eastern Airlines	128,700
Gulf and Western	125,600
Chrysler	125,400
Gerber Products	124,400
American Motors	120,500
Swift Company	109,100

(a) What was the total number of shares sold for the top ten companies that day?

(b) By how many shares did the volume of Chrysler stock exceed the sales of American Motors Stock?

(c) What was the total number of shares sold of Sinclair, Occidental Petrol, and Gulf and Western?

Solution:

10. Vistors to the county museum during the first week after it had opened were as follows: Sunday, 869; Monday, 456; Tuesday, 317; Wednesday, 725; Thursday; 294; Friday, 375; and Saturday, 961. What was the average daily attendance?

Solution:

C. Problems without Solutions (continued)

11. A real estate agent sold a 37-acre farm at $420.00 per acre. He took as part payment a smaller farm of 16 acres at $500.00 per acre. How much cash should he receive in addition?

Solution:

Solutions to B problems

B.4

$$\frac{354 \text{ lbs}}{59 \text{ lbs/week}} = \frac{354 \text{ lbs} \times \text{week}}{59 \text{ lbs}} = 6 \text{ weeks}$$

B.5

There are 12 in a dozen. Multiply 3 x 12 and add 14. This tells how many he had to sell all together. Then subtract 23.

$$\begin{array}{rl} (3)(12 \text{ brooms}) = & 36 \text{ brooms} \\ & +14 \text{ brooms} \\ \hline & 50 \text{ brooms} \\ & -23 \text{ brooms} \\ \hline & 27 \text{ brooms} \end{array}$$

B.6

(a) First find out how many tickets he sold:

150 tickets - 17 tickets = 133 tickets

At $0.85 per ticket: (133 tickets)($0.85/ticket) = $113.05

He should turn in this plus the $25.00: $113.05 + $25.00 = $138.05

The anwser to (a) is No.

(b) The difference between $138.25 - $138.05 = $0.20

He turned in $0.20 more than the correct amount.

OREGON VO-TECH MATH PROJECT

EVALUATION PACKAGE

FRACTIONS CLERICAL

A. Problems with Solutions

1. If 1/20 of each paycheck is deducted for insurance, what is the total annual salary of a man who receives $1,710.00 each month after the deduction has been made?

Solution:

$1,710 is 19/20 of the paycheck before deductions

$1,710 = (19/20)x x = total monthly salary

$34,200 = 19x

$1,800 = x

total annual salary = ($1,800)(12) = $21,600

2. During the week the stockroom issued the following amounts of No. 206 nails.

Monday	26 7/8 lbs
Tuesday	18 1/3 lbs
Wednesday	21 5/16 lbs
Thursday	24 3/8 lbs
Friday	19 7/16 lbs
Total	_____ lbs

If there were 206 1/8 lbs on hand at the beginning of the week, how many pounds were remaining in stock at the end of the week?

Solution:

26 7/8 lb + 18 1/3 lb + 21 5/16 lb + 24 3/8 lb + 19 7/16 lb =

26 42/48 lb + 18 16/48 lb + 21 15/48 lb + 24 18/48 lb + 19 21/48 lb =

108 112/48 lb = 110 1/3 lbs

Amount remaining = 206 3/24 lbs - 110 8/24 lbs

= 205 27/24 lbs - 110 8/24 lbs

= 95 19/24 lbs

A. Problems with Solutions (continued)

3. Mr. Jones must have new baseboard installed in two offices. One office is 12 3/4 ft by 14 2/3 ft with a 3 ft door. The other office is 13 1/6 ft by 17 1/2 ft with a 2 1/2 ft door. How many feet of baseboard should Mr. Jones order?

Solution:

We add the perimeters of both rooms and subtract the door widths

12 3/4 ft + 12 3/4 ft + 14 2/3 ft + 14 2/3 ft - 3 ft =

12 9/12 ft + 12 9/12 ft + 14 8/12 ft + 14 8/12 ft - 3 ft =

49 34/12 ft = 51 5/6 ft

17 1/2 ft + 17 1/2 ft + 13 1/6 ft + 13 1/6 ft - 2 1/2 ft =

17 3/6 ft + 17 3/6 ft + 13 1/6 ft + 13 1/6 ft - 2 3/6 ft =

58 5/6 ft

51 5/6 ft + 58 5/6 ft = 110 2/3 ft

B. Problems with Separate Solutions

4. $100 was divided among three people. The first received 2/5 of the amount and the second received 1/4. How much did each of the three people receive?

Solution:

5. A freight car which is 7/16 full takes on an additional load of 1/5 of its capacity. At its first delivery stop, 3/8 of its capacity is delivered. What fraction of its capacity is now available for use?

Solution:

B. Problems with Separate Solutions (continued)

6. Mr. White owned 1/3 of a business, Mr. Hoyt owned 1/2, Mr. Evans owned 1/9 and Mr. Baines owned the remainder. If Mr. Baines' share was worth $3,700, how much were the shares held by each of the other partners worth?

Solution:

C. Problems without Solutions

7. Calculate the cubic feet of storage in a bin which measures 2 5/12 ft by 3 1/8 ft by 1 3/4 ft. (length x width x depth)

Solution:

8. A clerk cannot find the production figures for two years ago. He has last year's figures showing 511,000 units produced and remembers figuring that last year's production was up approximately 1/6 over the year before. Approximately what was the production two years ago?

Solution:

9. If it requires 16 weeks at 40 hours per week for 22 men to complete a job, how many weeks would it take them to complete the job working 56 hours per week if they accomplish only 9/10 as much per hour when working for a greater number of hours per week?

Solution:

C. Problems without Solutions (continued)

10. Total area of Grey's Lumber Mill is 1,773 sq ft. The parts department occupies 591 sq ft. What fraction of the total space does the parts department occupy?

Solution:

Solutions to B problems

B.4

($100)(2/5) = $40	1st person receives
($100)(1/4) = $25	2nd person receives
($100 - $40) - $25 = $35	3rd person receives

B.5

7/16 + 1/5 = 35/80 + 16/80 = 51/80	amount of capacity that the car carries
51/80 - 3/8 = 51/80 - 30/80 = 21/80	amount of capacity now available

B.6

x = Mr. Baines' share	B = total amount in business
1/3 + 1/2 + 1/9 + x = 1	$3,700 = (1/18)B
6/18 + 9/18 + 2/18 + x = 1	($3,700)(18) = B
x = 1/18	$66,600 = B
Mr. White (1/3)($66,600) = $22,200	
Mr. Hoyt (1/2)($66,600) = $33,300	
Mr. Evers (1/9)($66,600) = $ 7,400	

OREGON VO-TECH MATH PROJECT

EVALUATION PACKAGE

DECIMALS CLERICAL

A. Problems with Solutions

1. Sales for the day in one department of a notions store were as follows: $26.50, $0.76, $12.20, $3.56, $20.09, $8.80, $5.60, $3.76 and $4.20. Find the total of all sales that were less than $10.00 and the total sales for the day.

Solution:

It is necessary to add all numbers less than $10.00. Remember to keep the decimals in a vertical line.

$$\begin{array}{r} \$\ .76 \\ 3.56 \\ 8.80 \\ 5.60 \\ 3.76 \\ 4.20 \\ \hline \$26.68 \end{array}$$

For the second part, add $26.68 to all those values over $10.00.

$$\begin{array}{r} \$26.68 \\ 26.50 \\ 12.20 \\ 20.09 \\ \hline \$85.47 \end{array}$$

2. The monthly telephone bills for the Banes Optical Company for 6 months were: $47.16, $59.25, $63.75, $43.50, $59.25 and $87.16. What was the average monthly telephone bill during this time?

Solution:

To find the average, add all the bills and divide by the number of bills.

$$\begin{array}{r} \$\ 47.16 \\ 59.25 \\ 63.75 \\ 43.50 \\ 59.25 \\ 87.16 \\ \hline \$360.07 \end{array}$$

$$\frac{\$360.07}{6} = \$60.01$$

A. Problems with Solutions (continued)

3. Find the cost of shipping 37 boxes whose average weight is 26.25 lbs at 16.5¢ per hundred pounds.

Solution:

total weight = (26.25 lbs/box)(37 boxes)

= 971.25 lbs

971.25 lbs expressed in hundreds of lbs = 9.7125 lbs

cost = (9.7125 hundred lbs)($0.165/hundred lbs)

= $1.60

B. Problems with Separate Solutions

4. J. Jenkins worked 43 hours during the week at the rate of $2.35 an hour. What was his gross earnings if he was paid 1 1/2 times his regular rate for any time over 40 hours?

Solution:

5. Mrs. Harvey assembles, on an average, 217 items per day at 12¢ each. How much does she earn in a week if she maintains this average for 6 days?

Solution:

B. Problems with Separate Solutions (continued)

6. From 26.653 tons of steel, 18.36 tons are sold. How many tons are left?

Solution:

C. Problems without Solutions

7. If 35.6 miles of highway cost $1,157,000, what would 46.3 miles cost at the same price per mile?

Solution:

8. Upholstery fabric costs $3.97 a yard. What is the cost of 12.35 yards?

Solution:

9. During the week, R. J. Hopland worked 8 1/4 hours, 7 hours, 10 hours, 7 3/4 hours, 6 3/4 hours and 4 hours. If he received $6.50 per hour, how much did he earn?

Solution:

10. What is the tax on a piece of property if the assessed valuation is $660 and the tax rate is $8.33 per $100?

Solution:

C. Problems without Solutions (continued)

11. Pencils for the office cost two and forty-three hundredths cents apiece. How much would one gross (144) cost?

Solution:

Solutions to B problems

B.4

For 40 hours work he makes

(40 hrs)($2.35/hr) = $94.00

For his overtime he makes

(43 hrs - 40 hrs)($2.35/hr)(1.5) = (3 hrs)($3.525/hr)

= $10.575 rounds to $10.58

Total Pay = $94.00 + $10.58 = $104.58

B.5

In one day she earns

(217 items)($0.12/item) = $26.04

In 6 days she would earn

($26.04)(6) = $156.24

B.6

The rule for subtracting decimals is the same as for adding - keep the decimals in a line.

```
 26.653 tons
-18.36  tons
 ------------
  8.293 tons
```

OREGON VO-TECH MATH PROJECT

EVALUATION PACKAGE

RATIO AND PROPORTION — CLERICAL

A. Problems with Solutions

1. A salesman was paid a commission of $20 for selling $250 worth of goods. What sould be his commission on $350 of sales at the same rate of commission?

The ratio of the dollars of commissions equals the ratio of the dollars of sales.

Solution:

$$\frac{\$20}{\$250} = \frac{x}{\$350}$$

$$250x = (\$350)(20)$$

$$250x = \$7{,}000$$

$$x = \$28$$

2. A logging crew cuts, loads, and trucks 9,300 board feet of timber to the mill in 3 days and continues to work at the same rate. On what day is the 150,000th board foot delivered to the mill?

Solution:

$$\frac{3 \text{ days}}{9{,}300 \text{ board ft}} = \frac{x}{150{,}000 \text{ board ft}}$$

$$(9{,}300 \text{ board ft})x = 450{,}000 \text{ board ft} \times \text{day}$$

$$x = \frac{450{,}000 \text{ board ft} \times \text{day}}{9{,}300 \text{ board ft}}$$

$$x = 48 \text{ days}$$

A. Problems with Solutions (continued)

3. Dick was paid $5.85 for working 4 1/2 hours. At the same rate, how much should he be paid for working 7 hours?

The ratio of the dollars equals the ratio of the hours.

Solution:

$$\frac{4.5 \text{ hr}}{\$5.85} = \frac{7 \text{ hr}}{s}$$

$$(4.5 \text{ hr})s = \$40.95 \times \text{hr}$$

$$s = \frac{\$40.95 \times \text{hr}}{4.5 \text{ hr}}$$

$$s = \$9.10$$

B. Problems with Separate Solutions

4. If 6 yards of cloth cost $5.25, what will 10 yards cost at the same rate?

Solution:

5. If 9 yards of goods cost $7.50, how many yards can be bought for $50.00?

Solution:

B. Problems with Separate Solutions (continued)

6. Aaron Rank sells a customer a 5-yard remnant of chintz for $2.75. "Here's another piece of 13 yards," he says, "that you can buy at the same rate." How much is Aaron Rank asking for the 13 yard piece?

Solution:

C. Problems without Solutions

7. Apex Company granted wage increases to its employees. The monthly payroll rose from $10,000 to $12,000. Steve's wages, which had been $575, rose in proportion. How much a month did he earn after the raise?

Solution:

8. A firm's expenses for 5 weeks amounted to $1,600. At this rate what would the expenses amount to in a year?

Solution:

C. Problems without Solutions (continued)

9. Carl Maynard, maintenance supervisor, drove to the plant Monday morning and found that the cellar was flooded to a depth of 18 inches. He turned on the pump and in 40 minutes the water level went down 1 1/2 inches. At this rate, how long did it take Carl to pump all the water out of the cellar?

Solution:

10. Compare the cost of paint at $5.00 a gallon with the cost of paint at $1.50 a quart.

Solution:

11. A man receives $14 for working 8 hrs. How much would he receive for working 50 hours, at the same rate of pay?

Solution:

Solutions to B problems

B.4

$$\frac{6 \text{ yards}}{\$5.25} = \frac{10 \text{ yards}}{s}$$

$$(6 \text{ yards})s = \$52.50 \times \text{yards}$$

$$s = \frac{\$52.50 \times \text{yards}}{6 \text{ yards}} \qquad s = \$8.75$$

Solutions to B problems (continued)

B.5

$$\frac{9 \text{ yards}}{\$7.50} = \frac{x}{\$50}$$

$$(\$7.50)x = \$450 \text{ yards}$$

$$x = \frac{\$450 \text{ yards}}{\$7.50}$$

$$x = 60 \text{ yards}$$

B.6

$$\frac{5 \text{ yards}}{\$2.75} = \frac{13 \text{ yards}}{x}$$

$$(5 \text{ yards})x = \$35.75 \text{ yards}$$

$$x = \frac{\$35.75 \text{ yards}}{5 \text{ yards}}$$

$$x = \$7.15$$

Solutions to C Problems

C.7

(a) Subtract
18,300,000 shares
- 14,150,000 shares
4,150,000 shares

(b) Subtract
1,612 issues
- 1,582 issues
30 issues

(c) Subtract
741 stocks
- 584 stocks
157 stocks

(d) Subtract
741 stocks
- 604 stocks
137 stocks

C.8

2,470 gallons
3,240 gallons
2,210 gallons
1,570 gallons
+ 3,765 gallons
13,255 gallons

C.9

(a)
425,700
233,700
199,400
136,300
128,700
125,600
125,400
124,400
120,500
+ 109,100
1,728,800 shares

(b)
125,400
- 120,500
4,900 shares

(c)
199,400
136,300
+ 125,600
461,300 shares

Solutions to C problems (continued)

C.10

$$\frac{869 + 456 + 317 + 725 + 294 + 375 + 961}{7} = \frac{3,997 \text{ people}}{7 \text{ days}}$$

$$= 571 \text{ people per day}$$

C.11

($420.00/acre)(37 acres) - ($500.00/acre)(16 acres) =

$15,540 - $8,000 = $7,540

Solutions to C problems

C.7

$$\frac{\$1,157,000}{35.6 \text{ miles}} = \$32,500 \text{ per mile}$$

($32,500/mile)(46.3 miles) = $1,504,750

C.8

(12.35 yards)($3.97/yard) = $49.03

C.9

8.25 hr + 7 hr + 10 hr + 7.75 hr + 6.75 hr + 4 hr = 43.75 hr

(43.75 hr)($6.50/hr) = $284.38

C.10

$$(\$660)\left(\frac{\$8.33}{\$100}\right) = (\$660)(0.0833)$$

= $54.98

C.11

(144 pencils)(2.43¢/pencil) = (144 pencils)($0.0243/pencil)

= $3.50

Solutions to C problems

C.7

$$\left(\frac{29}{12}\text{ ft}\right)\left(\frac{25}{8}\text{ ft}\right)\left(\frac{7}{4}\text{ ft}\right) = \frac{5075}{384}\text{ cu ft}$$

$$= 13\frac{83}{384}\text{ cu ft}$$

C.8

x = production of two years ago

511,00 units = (7/6)x

3,066,000 units = 7x

438,000 units = x

C.9

(16 weeks)(40 hours/week)(22) = 14,080 hours to complete job

$w\left(\frac{9}{10}\right)(36\text{ hrs/week})(22) = 14{,}080\text{ hrs}$

$w\left(\frac{504}{10}\text{ hrs/week}\right)(22) = 14{,}080\text{ hrs}$

$w\left(\frac{11{,}088}{10}\text{ hrs/week}\right) = 14{,}080\text{ hrs}$

$w = (14{,}080\text{ hrs})\left(\frac{10}{11{,}088\text{ hr/week}}\right)$

$w = \frac{140{,}800\text{ hr x week}}{11{,}088\text{ hr}}$

$w = 12\frac{7{,}744}{11{,}088}\text{ weeks}$

$w = 12\frac{44}{63}\text{ weeks}$

Solutions to C problems

C.10

$$\frac{591 \text{ sq ft}}{1,773 \text{ sq ft}} = \frac{1}{3}$$

Solutions to C problems

C.7

$$\frac{\$10,000}{\$12,000} = \frac{\$575}{x} \qquad 10,000x = \$6,900,000 \qquad x = \$690$$

C.8

$$\frac{5 \text{ weeks}}{\$1,600} = \frac{52 \text{ weeks}}{x}$$

$$(5 \text{ weeks})x = \$83,200 \text{ weeks}$$

$$x = \frac{\$83,200 \text{ weeks}}{5 \text{ weeks}}$$

$$x = \$16,640$$

C.9

$$\frac{40 \text{ min}}{1.5 \text{ in}} = \frac{x}{18 \text{ in}}$$

$$(1.5 \text{ in})x = 720 \text{ min(in)}$$

$$x = \frac{720 \text{ min(in)}}{1.5 \text{ in}}$$

$$x = 480 \text{ min} = 8 \text{ hrs}$$

C.10

$$\frac{\$5.00}{4} : \$1.50$$

$$\$1.25 : \$1.50$$

$$5:6$$

C.11

$$\frac{\$14}{8 \text{ hr}} = \frac{x}{50 \text{ hr}}$$

$$(8 \text{ hr})x = \$700 \text{ hr}$$

$$x = \frac{\$700 \text{ hr}}{8 \text{ hr}}$$

$$x = \$87.50$$

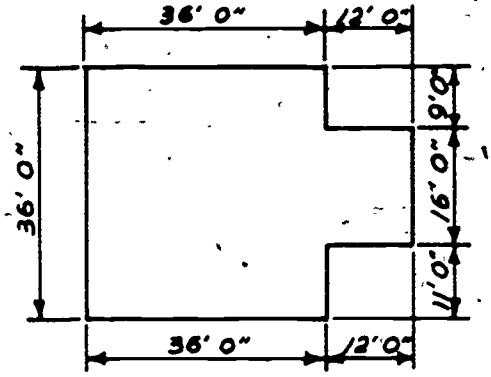
OREGON VO-TECH MATH PROJECT

EVALUATION PACKAGE

WHOLE NUMBERS CONSTRUCTION

A. Problems with Solutions

1. Find the total lineal feet of wall for the floor plan shown.



Solution:

lineal feet = 36' + 36' + 12' + 9' + 16' + 11' + 12' + 36'

= 168 ft

2. If one man could lay 115 square feet of flooring per hour, how many square feet could a crew of three men lay in an 8-hour day?

Solution:

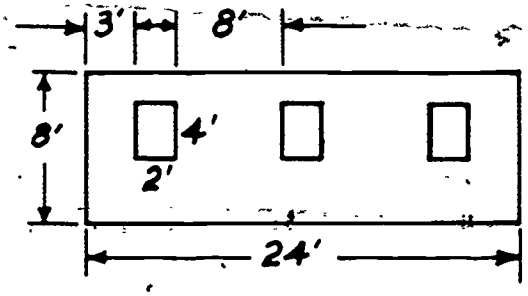
(115 sq ft/man hr)(3 men) = 345 sq ft/hr

(345 sq ft/hr)(8 hr) = 2,760 sq ft

therefore three men could lay 2,760 sq ft in 8 hours

A. Problems with Solutions (continued)

3. Determine the number of 4' x 8' sheets of sheet rock needed for the wall in the accompanying figure.



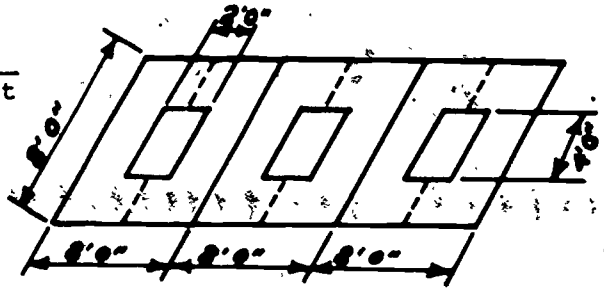
In calculating the number of sheets of sheetrock, the number, size, and location of openings must be considered since the minimum number of joints is desirable.

Solution:

In this figure the size and location of the openings make it necessary to cut the openings from full sheets of material.

$$\frac{\text{lineal feet of wall}}{\text{width of wall board}} = \frac{24\ \cancel{ft}}{4\ \cancel{ft}/\text{sheet}}$$

$$= 6 \text{ sheets}$$



B. Problems with Separate Solutions

4. From a board 96 inches long 3 pieces are to be cut--24 inches, 28 inches, and 36 inches in length. How long is the piece that remains?

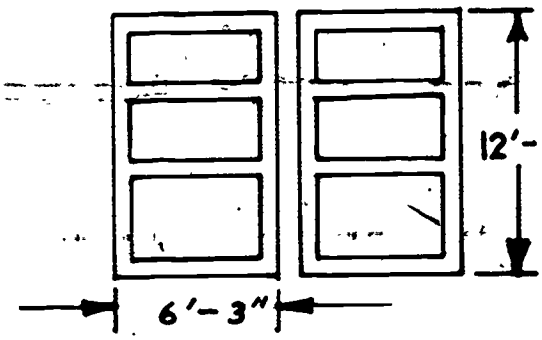
Solution:

5. How many pieces of tile will be needed to cover a floor having an area of 35 square yards if there are 16 pieces of tile per square yard?

Solution:

B. Problems with Separate Solutions (continued)

6. How many linear feet of 2" x 6" will be needed to frame the sliding door as shown?



How many 14 foot pieces would be needed? How many board feet would this be? If 2" x 6" cost $150 per thousand board foot, how much would these 14 foot pieces cost?

$$\text{board feet} = \frac{(\text{thickness, in})(\text{width, in})(\text{length, ft})}{12}$$

Solution:

C. Problems without Solutions

7. The walls of a building measure 242 feet, 143 feet, 210 feet, 18 feet, 32 feet, and 125 feet. What is the total length of the walls?

Solution:

C. Problems without Solutions (continued)

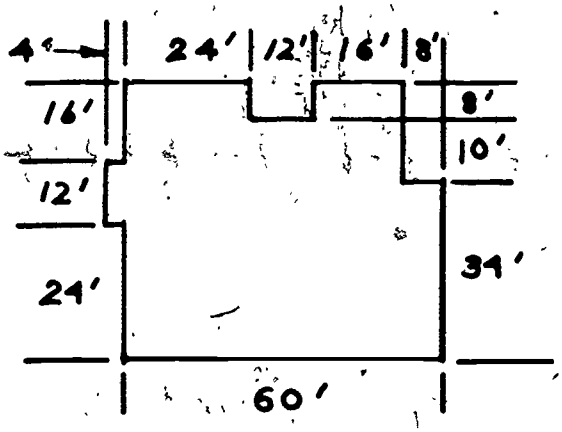
8. A pile of lumber contains 205 boards 10 feet long, 83 boards 12 feet long, 172 boards 8 feet long, and 16 boards 16 feet long.

a) How many boards are in the pile?

b) How many linear feet of lumber are in the pile?

Solution:

9. The number of studs in the exterior walls can be estimated by finding the lineal feet of wall, with no deductions. How many studs would be required for the exterior walls for the floor plan shown?



Solution:

C. Problems without Solutions (continued)

10. A room is 15 feet wide and 21 feet long. How many 9" x 9" tile would be needed to cover the floor of this room?

Solution:

Solutions to B problems

B.4

24" + 28" + 36" = 88 in

96" - 88" = 8 in

therefore 8 inches remains

B.5

(35 sq yds)(16 tiles/sq yd) = 560 tiles

B.6

linear feet = (4)(12' 6") + (8)(6' 3")

= 48' 24" + 48' 24"

= 50' + 50' = 100 ft

$\frac{100 \text{ ft}}{14 \text{ ft}} = 7.1$ therefore 8 pieces 14 feet long are needed

board feet = $\left[\frac{(2)(6)(14)}{12}\right] 8 = 112$ board ft

cost = ($150/thousand board ft)(0.112 thousand board ft)

= $16.80

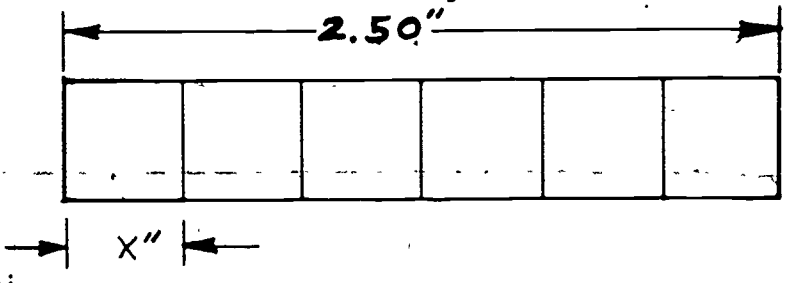
OREGON VO-TECH MATH PROJECT

EVALUATION PACKAGE

DECIMALS — CONSTRUCTION

A. Problem with Solution

1. A steel sheet 2.5 inches wide is to be sheared into 6 strips of equal width. How wide will each strip be?



Solution:

x = width of strips

$$x = \frac{2.5 \text{ in}}{6 \text{ strips}}$$

x = 0.42 in per strip

B. Problem with Separate Solution

2. How high would a pile of 18 metal sheets reach if each sheet is 0.0181" thick?

Solution:

C. Problems without Solutions

3. If nails cost $19.85 per 100-lb keg, how much would 539 pounds cost? (The 39 pounds were bought at the same rate)

Solution:

C. \Problems without Solutions (continued)

4. How many metal sheets will there be in a stack of sheets approximately 24 inches high if each sheet is 0.0096 inches thick?

Solution:

5. Concrete for a slab floor cost $341.42. At $19.85 per cubic yard, how many yards of concrete were used?

Solution:

Solution to B problem

B.2

height = (18 sheets)(0.0181 in/sheet)

= 0.3258 in

OREGON VO-TECH MATH PROJECT

EVALUATION PACKAGE

FRACTIONS CONSTRUCTION

A. Problems with Solutions

1. What is the thickness of a table top made of 3/4 inch plywood and covered with 3/16 inch glass?

Solution:

thickness = 3/4" + 3/16" = 12/16" + 3/16" = 15/16 in

2. How many pieces of lumber 1 5/8 inches wide will be needed to cover a space 39 incnes wide?

Solution:

p = number of pieces needed

$$p = \frac{39 \text{ in}}{1\ 5/8 \text{ in/piece}}$$

$$p = \frac{39 \text{ in} \times \text{piece}}{13/8 \text{ in}}$$

p = (39 pieces)(8/13)

p = 24 pieces

B. Problems with Separate Solutions

3. A carpenter needed a piece of lumber 2 7/8 inches wide. How wide a piece is left if the original piece was 5 5/8 inches, and 3/16 inch is allowed for the saw cut?

Solution:

4. What is the thickness of a wall if the stud is 3 5/8 inches, the exterior covering 11/16 inch and the interior covering 13/32 inch?

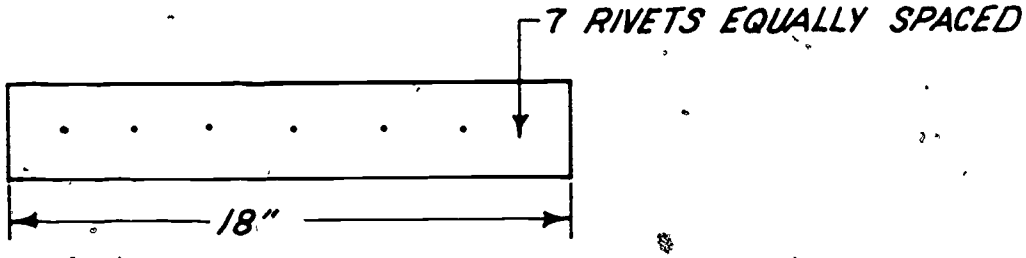
Solution:

C. Problems without Solutions

5. If 5/32 inch is allowed for each cut, what will be the width of each of three equal pieces cut from a piece of lumber 7 5/8 inches wide?

Solution:

6. Compute the rivet spacing on the drawing.



Solution:

7. Find the length of the rivets (1/8 inch diameter) needed to rivet one thickness of 28-gauge (0.0149 inch thick) sheet metal and one piece of 12-gauge (0.1046 inch thick) band iron to the closest 32nd of an inch.

Note: In order to form the head on a rivet it must project 1 1/2 times the diameter of the rivet beyond the thickness of the material being riveted.

Solution:

FRACTIONS CONSTRUCTION

Solutions to B problems

B.3

amount left = (5 5/8" - 2 7/8") - 3/16"

= (4 13/8" - 2 7/8") - 3/16"

= 2 6/8" - 3/16"

= 2 12/16" - 3/16"

= 2 9/16 in

B.4

thickness = 3 5/8" + 11/16" + 13/32"

= 3 20/32" + 22/32" + 13/32"

= 3 55/32"

= 4 23/32 in

Solutions to C problems

C.7

total length = 242' + 143' + 210' + 18' + 32' + 125'

= 770 ft

C.8

a)
205 boards
83 boards
172 boards
+ 16 boards
476 boards

b) (205 boards)(10 ft/board) = 2,050 ft

(83 boards)(12 ft/board) = 996 ft

(172 boards)(8 ft/board) = 1,376 ft

(16 boards)(16 ft/board) = 256 ft

Total linear feet = 2,050' + 996' + 1,376' + 256'

= 4,678 ft

C.9

total lineal feet = 24' + 4' + 12' + 4' + 16' + 24' + 8' +
12' + 8' + 16' + 8' + 10' + 8' + 34' + 60'

= 248 ft

therefore 248 studs are required

C.10

(15 ft)(12 in/ft) = 180 in

(21 ft)(12 in/ft) = 252 in

$\frac{180 \text{ in}}{9 \text{ in/tile}} = \frac{180 \text{ in} \times \text{tile}}{9 \text{ in}} = 20$ tiles

$\frac{252 \text{ in}}{9 \text{ in/tile}} = \frac{252 \text{ in} \times \text{tile}}{9 \text{ in}} = 28$ tiles

(20 tiles)(28 tiles) = 560 sq tiles

therefore 560 tiles 9" x 9" are required

Solutions to C problems

C.3

total cost = ($19.85/hundred lbs)(5.39 hundred lbs)

= $106.99

C.4

s = number of sheets

$$s = \frac{24 \text{ in}}{0.0096 \text{ in/sheet}}$$

$$s = \frac{24 \text{ in} \times \text{sheet}}{0.0096 \text{ in}}$$

s = 2,500 sheets

C.5

$$\text{yards of concrete} = \frac{\$341.42}{\$19.85/\text{cu yd}}$$

$$= \frac{\$341.42 \times \text{cu yd}}{\$19.85}$$

= 17.2 cu yds

Solutions to C problems

C.5

$$\text{width of pieces} = \frac{7\ 5/8" - (2)(5/32")}{3 \text{ pieces}}$$

$$= \frac{7\ 5/8" - 5/16"}{3 \text{ pieces}}$$

$$= \frac{7\ 10/16" - 5/16"}{3 \text{ pieces}}$$

$$= \frac{7\ 5/16"}{3 \text{ pieces}}$$

$$= \frac{117/16 \text{ in/piece}}{3}$$

$$= \left(\frac{1}{3}\right)\left(\frac{117}{16} \text{ in per piece}\right)$$

$$= 39/16 \text{ in per piece}$$

$$= 2\ 7/16 \text{ in per piece}$$

C.6

$$\text{placement of rivets} = \frac{18 \text{ in}}{8 \text{ spaces}}$$

$$= 2\ 1/4 \text{ in per space}$$

C.7

$$\text{length of rivet} = 0.0149" + 0.1046" + (1.5)(1/8")$$

$$= 0.1195" + (3/2)(1/8")$$

$$= \frac{1{,}195"}{10{,}000} + \frac{3"}{16}$$

$$= \frac{38{,}240"}{320{,}000} + \frac{60{,}000"}{320{,}000}$$

$$= \frac{98{,}240"}{320{,}000}$$

$$= \frac{9.8"}{32}$$

therefore 10/32 inch is needed

OREGON VO-TECH MATH PROJECT

EVALUATION PACKAGE

WHOLE NUMBERS — FOREST PRODUCTS

A. Problems with Solutions

1. The purchaser of timber is required to post bond to cover the value of the timber cut. One purchaser has obtained bond to cover timber cuts in several sales in the Ochoco National Forest as indicated below. What is the total bond required of the purchaser?

Name of Sale	Amount of Bond
Latigo	$34,500
Dry Mountain	45,000
Crowsfoot Salvage	62,000
Wickiup	125,000
Claw Creek	34,000
Sundown	46,000
Yellow Belly	500
Sourdough	75,000
Copperson Two	18,000

Solution:

Total amount = $34,500 + $45,000 + $62,000 + $125,000 +

$34,000 + $46,000 + $500 + $75,000 + $18,000

= $440,000

2. Complete the following cost analysis report for a timber sale in the Deschutes National Forest.

			units of area	COSTS per unit	total
1. Machine	a)	Piling		$55	
	b)	Burning	462	$10	
2. Hand	a)	Piling	15	$80	
	b)	Burning	15	$10	
3. Other	a)	Spur Road - Landing & Slash	--	---	$905
	b)	Mapping and Signing	--	---	$373
4. Supplemental Protection			--	---	$3,307
5. Improvement			--	---	$239
6. Indirect Costs			---	---	$22,937
TOTAL COSTS			---	---	

A. Problems with Solutions (continued)

2. Solution:

Items 3 through 6 are single item costs and do not depend on per unit costs. Thus these costs appear only in the "total" column.

1. a) (462 units)($55/unit) = $25,410
   b) (462 units)($10/unit) = $4,620

2. a) (15 units)($80/unit) = $1,200
   b) (15 units)($10/unit) = $150

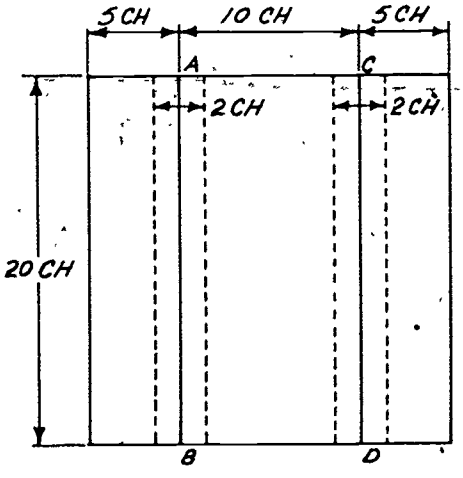
Total Costs = $25,410 + $4,620 + $1,200 + $150 + $905 +

$373 + $3,307 + $239 + $22,937 +

= $59,141

3. If a timber cruiser ran two parallel lines AB and CD across a forty acre tract (1/16 of a section - see sketch) and tallied all trees for one chain on each side of each line, how many acres of timber would be tally?

Definition: 10 square chains equals one acre



Solution:

We need to know the area in each rectangle along the lines AB and CD and then add these areas.

Area = width x length

= (2 ch)(20 ch)

= 40 square chains

We have 2 equal rectangles, therefore
total area = 40 sq ch + 40 sq ch = 80 sq ch

$$\text{Acres} = \frac{80 \text{ sq ch}}{10 \text{ sq ch/acre}} = \frac{80 \text{ sq ch} \times \text{acre}}{10 \text{ sq ch}} = 8 \text{ acres}$$

B. Problems with Separate Solutions

4. The following information was obtained during a precruise in a proposed sale area in the Ochoco National Forest.

Unit No	Acres	Plots
1	156	17
2	33	4
3	20	2
4	122	13
5	16	2
6	59	6
7	83	9

a) Determine the total number of acres and plots in this precruise.

Determine the average number of: (to the nearest whole number)

b) plots per unit
c) acres per unit
d) acres per plot

Solution:

5. A truck load of alder trees for pulp wood is delivered to a paper mill. The loaded truck weighs 74,540 lbs and the empty truck weighs 24,140 lbs. The driver-owner of the truck is paid $3.65 per ton for delivery of the load. Find the total weight of the load and the trucker's pay. The seller of the trees is paid by the cord which is figured on the basis of 5,000 lbs per cord. Find the number of cords in the truck load to the nearest hundredth.

Definitions: Cord - a unit of wood measurement 4 feet wide, 8 feet long, and 4 feet high

Solution:

B. Problems with Separate Solutions (continued)

6. A hardboard plant operates for three 8-hour shifts. A certain day's production in 1/8" measure board for the day shift was 224,000; swing shift was 179,200; graveyard shift was 224,000. The total production for the year up to this day was 99,941,815 standard boards. Find the total production for the year as of this day.

Solution:

C. Problems without Solutions

7. A company employs a total of 15 people. Six of them earn $8,500 per year; two earn $10,500; two were employed at an annual salary of $11,000. The remaining employees earn $9,800. Determine the average annual salary for the employees.

Solution:

8. A forester strip cruises a 40 acre tract and obtains a sample from 1/5 or 20% of the tract. How many acres does he sample?

Solution:

C. Problems without Solutions (continued)

9. The following items are costs incurred by a self-employed logger with one employee who operates an average of 10 hours per day throughout the work season of 120 days. Determine the annual business cost and the cost per hour of operation due to the following items:

Business Liability Insurance	$ 443/yr
Workman's Compensation	706
Life Insurance ($50,000)	1,190
Office in home @ $25/mo x 12 mo.	300
Telephone in home.	240
Bookkeeping, Taxes, Attorney	500
Pick up @ 17¢/mile x 25,000 miles.	4,250
Firewagon @ $1000 divided over 10 yrs.	100
Chain Saws & Small Tools	600
72 chokers @ $25 each (3/4 in)	1,800
Moving Cost.	250
Other Costs.	OPEN

Solution:

10. The Oregon State Department of Forestry furnishes fire protection for 16.3 million acres of forests. An average of 1,057 fires are controlled annually. The average number of acres of forest burned each year during the last six years was 14,641 acres. Fire control expenditures total $674,000 annually.

a) Determine the average number of acres of forest burned per fire each year to the nearest acre.

b) Determine the average per acre cost for fire suppression each year to the nearest ten cents.

Solution:

C. Problems without Solutions (continued)

11. Fill in the blanks below and cross-check.

Volume in Board Feet, Decimal Scale

Log#	Gross Scale	Deductions for defects	Net Scale
1	660	0-	_____
2	30	0-	_____
3	660	60-	_____
4	160	50-	_____
5	140	40-	_____
6	1,010	470-	_____
7	2,060	20-	_____
8	430	0-	_____
9	780	330-	_____
10	300	10-	_____
Totals	_____	_____	_____
Cross-check total net scale			_____

Solution:

Solutions to B problems

B.4

a) 156 acres + 33 acres + 20 acres + 122 acres + 16 acres + 59 acres + 83 acres = 489 acres

17 plots + 4 plots + 2 plots + 13 plots + 2 plots + 6 plots + 9 plots = 53 plots

b) $\frac{53 \text{ plots}}{7 \text{ units}}$ = 8 plots per unit

c) $\frac{489 \text{ acres}}{7 \text{ units}}$ = 70 acres per unit

d) $\frac{489 \text{ acres}}{53 \text{ plots}}$ = 9 acres per plo

Solutions to B problems (continued)

B.5

Load weight in pounds = 74,540 lbs - 24,140 lbs

= 50,400 lbs

$$\text{Tons of load} = \frac{50{,}400 \text{ lbs}}{2{,}000 \text{ lbs/ton}} = 25.2 \text{ tons}$$

Pay for load delivery = (25.2 tons)($3.65/ton) = $91.98

$$\text{Cords in load} = \frac{50{,}400 \text{ lbs}}{5{,}000 \text{ lbs/cord}} = 10.08 \text{ cords}$$

B.6

Production of day

224,000 standard boards
179,200 standard boards
\+ 224,000 standard boards
627,200 standard boards

Production of year

99,941,815 standard boards
\+ 627,200 standard boards
100,569,015 standard boards

OREGON VO-TECH MATH PROJECT

EVALUATION PACKAGE

DECIMALS — FOREST PRODUCTS

A. Problems with Solutions

1. A rectangular piece of land 4.7 chains by 16.2 chains contains how many square chains and how many acres? (10 square chains equals one acre)

Solution:

$$\text{Area, square chains} = (4.7 \text{ chains})(16.2 \text{ chains})$$

$$= 76 \text{ sq chains}$$

$$\text{Area, acres} = \frac{\text{area, sq chains}}{\text{sq chains/acre}}$$

$$= \frac{76 \text{ sq chains}}{10 \text{ sq chains/acre}}$$

$$= 7.6 \text{ acres}$$

2. Complete the labor cost report below.

a)	Timber Fallers	35 hrs @ $13.50	_____
b)	Buckers	67 hrs @ $11.75	_____
c)	Cat Skinners	150 hrs @ $7.00	_____
d)	Over-time, Cat Skinners	15 hrs @ $11.00	_____
e)	Chokermen	40 hrs @ $3.50	_____
	Total		_____

Solution:

a)	$ 472.50
b)	787.25
c)	1,050.00
d)	165.00
e)	140.00
Total	$2,614.75

B. Problems with Separate Solutions

3. The formula commonly used for determining the board-foot content of sawed lumber is

$$\text{board feet} = \frac{(\text{thickness, in})(\text{width, in})(\text{length, ft})}{12}$$

Compute the total volume of board feet and the total price for the following items of lumber. (TBF means thousand board feet)

# Pieces	Size	Price/TBF
129	2 x 6 x 16 ft	$ 169.00
256	2 x 4 x 18 ft	170.00
346	2 x 8 x 20 ft	185.50
87	2 x 6 x 14 ft	170.00
44	2 x 4 x 12 ft	170.00

Solution:

4. A rule of thumb for estimating the number of board feet of lumber in a saw log (which assumes a 4 inch slab and a 5/16 inch saw Kerf) is Doyle's Rule. This rule results in a large underscale for small logs and overscale for large logs. Use this formula to estimate the board feet of lumber in 16 foot logs whose "diameters inside bark" (d.i.b.) are 10 inches, 20 inches, and 40 inches. D is "diameter inside bark" in inches.

Solution: Doyle's Rule:

$$\text{board feet} = \left(\frac{D - 4}{4}\right)^2 (\text{length, ft})$$

Solution:

C.. Problems without Solutions

5. In measuring the cubic foot contents of logs it is convenient to assume a circular cross-section, determine this cross-sectional area (Basal area) in square feet, and then simply multiply the Basal area by the length in feet to obtain the total volume.

Since logs are not perfect cylinders, various methods have been devised for approximating the volume. Three common formulas are:

Huber's Volume = $(B_{\frac{1}{2}})(L)$

Smalian's Volume = $\left(\frac{B + b}{2}\right)(L)$

Newton's Volume = $(B + 4\ B_{\frac{1}{2}} + b)\left(\frac{L}{6}\right)$

Where $B_{\frac{1}{2}}$ = Basal area at log midpoint

B = Basal area at the large end

b = Basal area at the small end

L = Log length

Compute the volume of a 16 foot log whose diameter(d.i.b.) is 20 inches on the small end; 21 inches at the midpoint and 22 inches on the large end -- using each of the above formulas.

Solution:

C. Problems without Solutions (continued)

6. There isn't a reliable method for converting from board feet log scale to board feet of lumber. A rule of thumb formula (which provides a close approximation to Scribner's log rule) for the board feet of lumber in a 16 foot log is:

$$(0.8)(D - 1)^2 - \frac{D}{2}$$ where D is the diameter inside bark (d.i.b.)

Use this formula to estimate the number of board feet in 16 foot logs whose d.i.b. are 10 inches, 20 inches, and 40 inches.

Solution:

7. Complete the following portion of a timber sale contract:

Species	Class of Material	Unit	Price per Unit	No. of Units	Total
Ponderosa Pine	Sawlogs	M bd ft	$110	350.41	
Spruce	Sawlogs	M bd ft	$125	108.40	
Douglas Fir	Peeler logs	M bd ft	$138	185.00	
Oak	Fuelwood	Cord	$10	78.00	
			Grand Total		

Solution:

Solutions to B problems

B.3

# Pieces	Size	Board ft	Price/TBF	Cost
129	2 x 6 x 16 ft	2,064	$ 169.00	$ 348.82
256	2 x 4 x 18 ft	3,072	170.00	522.24
346	2 x 8 x 20 ft	9,227	185.50	1,711.61
87	2 x 6 x 14 ft	1,218	170.00	207.06
44	2 x 4 x 12 ft	352	170.00	59.84
Totals 862		15,933		$2,849.57

B.4

10 inch d.i.b. board feet $= \left(\frac{10 - 4}{4}\right)^2 (16 \text{ ft})$

$= \left(\frac{6}{4}\right)^2 (16 \text{ ft})$

$= \left(\frac{36}{16}\right) (16 \text{ ft})$

$=$ 36 board feet

20 inch d.i.b. board feet $= \left(\frac{20 - 4}{4}\right)^2 (16 \text{ ft})$

$= (16)(16 \text{ ft})$

$=$ 256 board feet

40 in d.i.b. board feet $= \left(\frac{40 - 4}{4}\right)^2 (16 \text{ ft})$

$= (81)(16 \text{ ft})$

$=$

$=$ 1,296 board feet

OREGON VO-TECH MATH PROJECT

EVALUATION PACKAGE

FRACTIONS — FOREST PRODUCTS

A. Problem with Solution

1. Nominal 2" timber now has an actual thickness of 1 5/8". It is being proposed that this be reduced to 1 1/2" thickness. What is the actual reduction in thickness which is being proposed?

Solution:

$$1\ 5/8" - 1\ 1/2" = 1\ 5/8" - 1\ 4/8" = 1/8 \text{ in}$$

B. Problem with Separate Solution

2. A wood products company is experimenting with reducing their 8 ply laminated beams to 7 ply without changing the overall dimensions. This would amount to a significant reduction in the amount of glue needed to produce the beam. State the thickness for each ply first in 8 ply and then in 7 ply laminated beams whose overall thickness is to be:

a) 14" b) 16"

Solution:

C. Problems without Solutions

3. A No. 2 grade plank may have a split equal in length to 1 1/2 times the width of the board. What length of a split is allowed for a 2 x 8 plank which is 12 feet long?

Definition: No. 2 grade -- quality classification of lumber
2 x 8 plank -- a board 2 inches thick and 8 inches wide

Solution:

C. Problems without Solutions (continued)

4. The pine products industry usually describes the thickness of its products in "quarters" or 1/4 inch specifications. Thus a board which is 1 inch in nominal thickness would be described as a four quarter board. How would the pine industry describe boards of the following nominal thicknesses?

   a) 3/4 in

   b) 1/2 in

   c) 1 1/4 in

   d) 3 in

   e) 2 1/2 in

Solution:

Solution to B problems

B.2

a) For 8 ply

$$\frac{14"}{8 \text{ ply}} = 1\ 3/4 \text{ in per ply}$$

For 7 ply

$$\frac{14"}{7 \text{ ply}} = 2 \text{ in per ply}$$

b) For 8 ply

$$\frac{16"}{8 \text{ ply}} = 2 \text{ in per ply}$$

For 7 ply

$$\frac{16"}{7 \text{ ply}} = 2\ 2/7 \text{ in per ply}$$

OREGON VO-TECH MATH PROJECT

EVALUATION PACKAGE

RATIO AND PROPORTION — FOREST PRODUCTS

A. Problems with Solutions

1. If 6 men can plant 10,000 fir seedlings in 5 days with a density of 400 plants per acre, how many acres can 24 men plant in 35 days?

Solution:

$$\text{Number of plants per day} = \frac{10{,}000 \text{ plants}}{5 \text{ days}} = 2{,}000 \text{ plants/day}$$

$$\text{Number of plants per man per day} = \frac{2{,}000 \text{ plants per day}}{6 \text{ men}}$$

$$= 333 \text{ plants per man per day}$$

Number of acres planted per man per day

$$\frac{333 \text{ plants/man per day}}{400 \text{ plants/acre}} = \frac{(333 \text{ plants/man per day})(\text{acres})}{400 \text{ plants}}$$

$$= 0.833 \text{ acres per man per day}$$

Number of acres for 24 men per day

$$\frac{(0.833 \text{ acres})}{(\text{day})(\text{man})}(24 \text{ men}) = 20 \text{ acres/day}$$

Number of acres planted by 24 men in 35 days

$$(20 \text{ acres/day})(35 \text{ days}) = 700 \text{ acres}$$

2. A line was measured with a 100 ft chain and found to be 813.67 ft long. Later the chain was found to be 99.91 ft long. What was the corrected length of the line? Round your answer to the nearest 0.01 ft.

Solution:

x = corrected length of the line

$$\frac{813.67 \text{ ft}}{100 \text{ ft}} = \frac{x}{99.91 \text{ ft}}$$

$$100x = 81{,}294 \text{ ft}$$

$$x = 812.94 \text{ ft}$$

B. Problems with Separate Solutions

3. A man uses the shadow method to estimate the height of a tree. The man is 6 feet tall and his shadow measures 7 1/2 feet when the length of the shadow cast by the tree is 227 feet. Both shadows are on level ground. Determine the height of the tree.

Solution:

4. A stream has an average width of 3.4 mm on an aerial photo with a scale of 1 to 12,000. How many inches wide would the stream appear on a print which had a scale of 1 in = 300 ft. (1 inch = 25.4 mm)

Solution:

C. Problems without Solutions

5. A forester decides to 10% cruise an area in strips one chain wide. The total distance traveled during the sample is 230 lineal chains. The volume obtained by the sample is 225 million board feet (M.B.F.). There are 10 square chains in one acre.

Determine:

a) The average timber volume per acre
b) The total volume of the tract based on the cruise
c) The total number of acres in the tract

Solution:

C. Problems without solutions (continued)

6. Aerial application of DDT mixed with diesel fuel has been used to control past infestations of the tussock moth. Each gallon of the mixture contains 11/16 pounds of DDT and weighs 7 15/16 pounds. Determine the number of pounds of DDT in a 20,000 pound plane load of the solution.

Solution:

7. A spur road in a logging area is 500 ft long and leads to a landing which is circular in shape and 300 ft in diameter. On an aerial photo with a scale of 1:20,000 what would be the size of these images? i.e., the 'length of the road' and the 'diameter of the landing'.

Solution:

Solution to B problems

B.3

$$\frac{\text{Man's height}}{\text{Man's shadow}} = \frac{\text{Tree's height}}{\text{Tree's shadow}}$$

h is the height of the tree

$$\frac{6 \text{ ft}}{7.5 \text{ ft}} = \frac{h}{227 \text{ ft}}$$

$$(7.5)h = 1{,}362 \text{ ft}$$

$$h = 181.6 \text{ ft}$$

Solutions to B problems (continued)

4

$$\text{Width of stream} = \frac{(12{,}000)(3.4 \text{ mm})}{(25.4 \text{ mm/in})(12 \text{ in/ft})}$$

$$= \frac{40{,}800 \text{ x ft}}{304.8}$$

$$= 133.86 \text{ ft}$$

$$\text{Width on print} = \frac{133.86 \text{ ft}}{300 \text{ ft/in}}$$

$$= 0.446 \text{ in}$$

Solutions to C problems

C.7

(6 employees)($8,500/employee) = $51,000

(2 employees)($10,500/employee) = $21,000

(2 employees)($11,000/employee) = $22,000

remaining employees = 15 employees - 6 employees - 2 employees - 2 employees

= 5 employees

(5 employees)($9,800/employee) = $49,000

Total annual salaries = $51,000 + $21,000 + $22,000 + $49,000

= $143,000

$$\text{Average Salaries} = \frac{\text{Total Salaries}}{\text{15 employees}}$$

$$= \frac{\$143,000}{\text{15 employees}}$$

= $9,533.33 per employee

C.8

acres in sample = (1/5)(Total area)

= (1/5)(40 acres)

= 8 acres

C.9

Total Annual Business Cost

$	443
	706
	1,190
	300
	240
	500
	4,250
	100
	600
	1,800
+	250
	$10,379

Solutions to C problems (continued)

C.9 (continued)

$$\text{Business Cost per Hours of operation} = \frac{\text{Annual Cost}}{(10 \text{ hrs/day})(120 \text{ days})}$$

$$= \frac{\text{Cost}}{1{,}200 \text{ hrs}}$$

$$= \frac{\$10{,}379}{1{,}200 \text{ hrs}}$$

$$= \$8.65 \text{ per hour}$$

C.10

a) $$\text{Average acres burned per fire} = \frac{14{,}641 \text{ acres}}{1{,}057 \text{ fires}}$$

$$= 14 \text{ acres per fire}$$

b) $$\text{Average per acre cost} = \frac{\$674{,}000}{14{,}641 \text{ acres}}$$

$$= \$4.60 \text{ per acre}$$

C.11

Log#	Net Scale
1	660
2	30
3	600
4	110
5	100
6	540
7	2,040
8	430
9	450
10	290
Total	5,250

	Gross Scale	Deductions
Total	6,230	980

Cross-check of Net Scale Total

6,230 - 980 = 5,250

Solutions to C problems

C.5

$$\text{cross-sectional area, sq ft} = \frac{\pi\left(\frac{\text{d.i.b.}}{2}\right)^2}{144 \text{ sq in/sq ft}}$$

b = 2.2 sq ft
B_t = 2.4 sq ft
B = 2.6 sq ft

Huber's Volume = (2.4 sq ft)(16 ft) = 38.4 cu ft

$$\text{Smalian's Volume} = \left(\frac{2.2 \text{ sq ft} + 2.6 \text{ sq ft}}{2}\right)(16 \text{ ft}) = 38.4 \text{ cu ft}$$

$$\text{Newton's Volume} = \left[2.6 \text{ sq ft} + 4(2.4 \text{ sq ft}) + 2.2 \text{ sq ft}\right]\left(\frac{16 \text{ ft}}{6}\right)$$

$$= 38.4 \text{ cu ft}$$

C.6

10 inches $(0.8)(10 - 1)^2 - 10/2 = (0.8)(81) - 5$

$= 64.8 - 5$

$= 59.8$ board feet

20 inches $(0.8)(20 - 1)^2 - 20/2 = (0.8)(361) - 10$

$= 288.8 - 10$

$= 278.8$ board feet

40 inches $(0.8)(40 - 1)^2 - 40/2 = (0.8)(1,521) - 20$

$= 1,216.8 - 20$

$= 1,196.8$ board feet

C.7

	Total
Ponderosa Pine	$38,545.10
Spruce	13,550.00
Douglas Fir	25,530.00
Oak	780.00
	$78,405.10 Grand Total

Solutions to C problems

C.3

split allowance = (1 1/2)(width)

= (1 1/2)(8")

= (3/2)(8")

= 12 in

C.4

a) 3/4 = (3)(1/4) = 3 quarters

b) 1/2 = 2/4 = (2)(1/4) = 2 quarters

c) 1 1/4 = 5/4 = (5)(1/4) = 5 quarters

d) 3 = 12/4 = (12)(1/4) = 12 quarters

e) 2 1/2 = 5/2 = 10/4 = (10)(1/4) = 10 quarters

Solutions to C problems

C.5

a) Number of acres cruised = $\frac{(230 \text{ chains})(1 \text{ chain})}{10 \text{ sq chains/acre}}$

= 23 acres

Average timber volume per acre = $\frac{\text{volume cruised}}{\text{acres cruised}}$

= $\frac{225 \text{ M.B.F.}}{23 \text{ acres}}$

= 9.8 M.B.F. per acre

b) Total volume of tract = $\frac{\text{timber volume}}{\text{fraction of total area cruised}}$

= $\frac{225 \text{ M.B.F.}}{0.10}$

= 2,250 M.B.F.

c) Total acres in the tract = $\frac{\text{acres cruised}}{\text{fraction of total area cruised}}$

= $\frac{23 \text{ acres}}{0.10}$

= 230 acres

C.6

x = lbs of DDT

$\frac{11/16 \text{ lb}}{7\ 15/16 \text{ lb}} = \frac{x}{20{,}000 \text{ lb}}$

$x = \frac{(20{,}000 \text{ lb})(11/16)}{7\ 15/16}$

x = 1,732 lb

Solutions to C problems

C.7

a) $$\frac{\text{length of road, ft}}{500 \text{ ft}} = \frac{1}{20{,}000}$$

$$\text{length of road} = \frac{500 \text{ ft}}{20{,}000}$$

$$= \left(\frac{1}{40} \cancel{\text{ft}}\right)(12 \text{ in}/\cancel{\text{ft}})$$

$$= 12/40 \text{ in}$$

$$= 0.3 \text{ in}$$

b) $$\frac{\text{diameter of landing, ft}}{300 \text{ ft}} = \frac{1}{20{,}000}$$

$$= \frac{300 \text{ ft}}{20{,}000}$$

$$= (0.015 \cancel{\text{ft}})(12 \text{ in}/\cancel{\text{ft}})$$

$$= 0.18 \text{ in}$$

OREGON VO-TECH MATH PROJECT

EVALUATION PACKAGE

WHOLE NUMBERS — MACHINE TOOLS

A. Problems with Solutions

1. The Machine Shop ordered 25 bars of C.R.S. (cold rolled steel) #1020, 5/8" in diameter; 18 bars 1" in diameter; 18 bars 1 1/4" in diameter; 5 bars 2" in diameter; and 1 bar 3" in diameter. How many bars did they order?

   Solution:

   number of bars = 25 bars + 18 bars + 18 bars + 5 bars + 1 bar

   = 67 bars

2. For metal fitting (also known as metal bench work) a boy is told to cut a piece of flat steel stock 1/8" x 2" into pieces 17", 23", 9", 32" and 15". How long a piece of flat steel does he need?

   Solution:

   length of steel bar = 17" + 23" + 9" + 32" + 15"

   = 96 in = 8 ft

3. A machine shop buys 876 lbs of 1/2" diameter steel; 1567 lbs of 1" diameter steel; 675 lbs of 3" diameter steel; 5743 lbs of flat stock rectangular shape 1" x 2"; 250 lbs. 1/8" x 2"; and 365 lbs 1/2" square. How many pounds were purchased?

   Solution:

   total weight = 876 lbs + 1567 lbs + 675 lbs + 5743 lbs +

   250 lbs + 365 lbs = 9476 lbs

B. Problems with Separate Solutions

4. A group of castings are made from patterns for a lathe. The base weighs 432 lbs; the tail stock weighs 35 lbs; the head stock weighs 63 lbs; the face plate weighs 3 lbs; the bed weighs 217 lbs; and the pulley weighs 13 lbs. What is the total weight of the parts?

   Solution:

B. Problems with Separate Solutions (continued)

5. A casting weighs 473 lbs and 117 lbs are removed by a shaper during the finishing processes. How much does the casting weigh when finished?

Solution:

6. In the pattern shop, 67 screws 3/4 #10 F.B.H. (Flat Bright-Headed) were used from a box containing one gross(144). How many were left?

Solution:

C. Problems without Solutions

7. A machinist has a bar of steel 3" in diameter, weighing 364 lbs. If 176 lbs are used for making die stocks, how many pounds are left?

Solution:

8. A power hack saw operates at 126 strokes per minute. It works continuously for 420 minutes(7 hrs). How many strokes does it make on the job?

Solution:

C. Problems without Solutions (continued)

9. In the Northwestern Machine Shop there are: 16 lathes each weighing 2145 lbs; four milling machines each weighing approximately 2460 lbs; two drill presses each weighing 450 lbs. What is the entire weight of these machines on the floor?

Solution:

10. One dozen metal drills 11/32" diameter costs $18.00. How much does one-half dozen cost?

Solution:

Solutions to B problems

B.4

total weight = 432 lbs + 35 lbs + 63 lbs + 3 lbs + 217 lbs + 13 lbs

= 763 lbs

B.5

weight left = 473 lbs - 117 lbs = 356 lbs

B.6

number of screws left in box = 144 screws - 67 screws

= 77 screws

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OREGON VO-TECH MATH PROJECT

EVALUATION PACKAGE

DECIMALS MACHINE TOOLS

A. Problems with Solutions

1. In the following figure, find the following information:

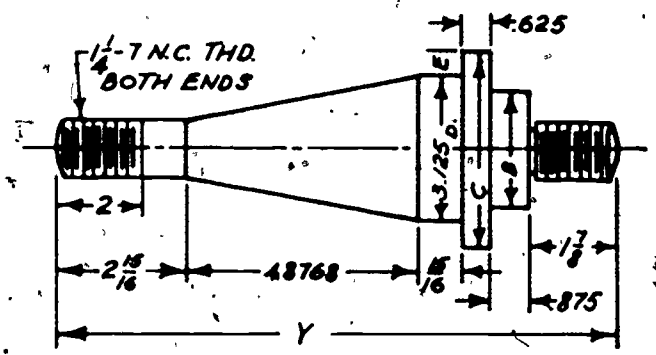
   a) Find total length of Y

   b) If E = .250", what is the diameter of C

   c) If B = 2.0625" and C = 3.625", how much is taken off C on the lathe to make C = B?

   d) If the "rough side" of C = 3.625", how much of a "finished cut" would have to be taken from C to make it 3 9/16"?

   e) E = .250. If the difference between diameter 3.125 and B is 4 times E, what is the value of B?



Solution:

a) Find sum of individual parts

Y = Total Length = 2 15/16" + 4.8768" + 15/16" + .625" + .875" + 1 7/8"

Y = 2.9375" + 4.8768" + .9375" + .625" + .875" + 1.875"

Y = 12.1268 in

b) Need sum of smaller diameter plus twice E

C = 3.125" + 2(.250") = 3.125" + .5" = 3.625 in

c) Need to find difference between C and B

C - B = 3.625" - 2.0625" = 1.5625 in

A. Problems with Solutions (continued)

1. Solution: (continued)

d) Find difference between rough cut and finish cut. Need to change 9/16 to 3 decimal places.

difference = 3.625" - 3 9/16"

= 3.625" - 3.563"

= .062 in

e) Need difference between larger diameter and 4 times E

B = 3.125" - 4(.250") = 3.125" - 1"

= 2.125 in

2. If 17 holes are each 1.125" apart from center line to center line, what is the distance from the center of the first hole to the center of the last hole?

Solution:

There will be one less space between center line than the number of holes. We need the product of distance between center line and number of spaces.

Total distance = (16 spaces)(1.125 in/space)

= 18 in

3. A broach has 40 teeth. Each tooth cuts .015". How much material does the entire broach remove?

Solution:

find product of number of teeth and amount each tooth cuts

Total cut = (40 teeth)(.015 in/tooth)

= .6 in

B. Problems with Separate Solutions

4. A laminated shim is made up of 30 pieces of material. Each lamination is 0.002" thick. What is the thickness of the shim?

Solution:

5. A draftsman is to draw 11 national course screw threads per inch on a piece of material 4" long. What is the distance between any two threads:

Solution:

6. How many cuts would be needed to turn down 1.460" stock to 1" on a lathe, each cut being 0.023" deep?

Solution:

C. Problems without Solutions

7. A drill makes 280 rpm and drills a hole 2.125" deep in 0.800 minutes. What is the feed?

(Feed is the distance the drill advances with each revolution)

Solution:

C. Problems without Solutions (continued)

8. A machine shop makes a drill press which requires a round leather belt 3/16" diameter. The belting costs $0.08 per ft. Each drill press uses 38" of belt. If 76 drill presses are made, what will be the belting cost?

Solution:

9. The machine shop orders 18 second cut 10" hand files. Each one costs $0.69. What is the total cost?

Solution:

10. The metal fitting shop uses 1 oz of parting compound per day per class. If there are 9 classes per day and 88 school days per term, how much will this compound cost at $0.0425 per lb? (16 oz = 1 lb)

Solution:

Solution to B problems

B.4

Total thickness = (30 shims) (.002 in /shim)

= .06 in

Solutions to B problems (continued)

B.5

11 threads per inch means 1/11" between threads, spread this over 4 inches and there would be 4/11 inch between threads

i.e. $4(1/11 \text{ in}) = 4/11 \text{ in}$

B.6

find difference between stock and finished product, then divide by depth of each cut

$1.460" - 1.000" = 0.460 \text{ in}$

$$\frac{0.460 \text{ in}}{0.023 \text{ in/cut}} = \frac{0.460 \text{ in} \times \text{cut}}{0.023 \text{ in}} = 20 \text{ cuts}$$

OREGON VO-TECH MATH PROJECT

EVALUATION PACKAGE

FRACTIONS — MACHINE TOOLS

A. Problems with Solutions

1. A machine shop has a job which requires drilling 3 holes for a fixture. It is 12 11/16" from the center line of the first hole to the center line of the second; 9 5/8" from the center line of the second hole to the center line of the third; and it is 12 11/16" from the center line of the first and third hole to the ends of the fixture. What length of stock does he need for the job?

   Solution:

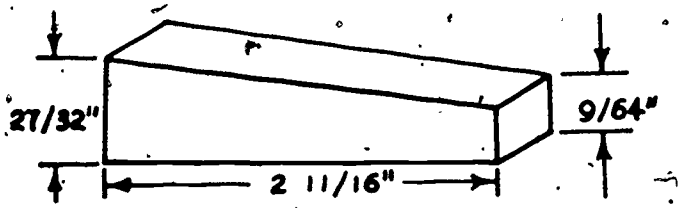
   Need sum of distances between center lines and twice distance from center line of first and third hole to edge

   Length of stock = 2(12 11/16") + 12 11/16" + 9 5/8"

   = 24 22/16" + 12 11/16" + 9 10/16"

   = 45 43/16" = 47 11/16 in

2. What is the difference between the ends of the key?



   Solution:

   Need to subtract the low end from the high end

   End difference = $\frac{27"}{32} - \frac{9"}{64} = \frac{54"}{64} - \frac{9"}{64} = \frac{45}{64}$ in

B. Problems with Separate Solutions

3. If it takes 47 minutes to set up a job and cut the teeth on a gear blank, how many hours will be required to complete a job of 29 different diameter gear blanks? (60 minutes equals one hour)

   Solution:

B. Problems with Separate Solutions (continued)

4. In a machine shop class of 36 boys, each makes a drill blank on the lathe. Each drill blank requires a piece of rough material 5 3/4" long. How many feet are used by the class?

Solution:

C. Problems without Solutions

5. In a metal bench work class of 42 boys, each is allowed 7 1/2" of wire solder for his work. How many feet of wire solder does the class use?

Solution:

6. A machinist is making a square detail for a jig. The allowed over all distance on the jig is 9 5/8". If 8 teeth are to be cut, how far apart are the teeth?

Solution:

C. Problems without Solutions (continued)

7. In metal bench work a boy is to tap two holes 1 1/16" apart in a cast iron "T" block. One hole is 3/8 x 16 N.C. and the other hole is 1/2 x 13 N.C. The "T" block is 2 5/8" long. How far from the edge is the center line of each tapped hole?

Def: 3/8 x 16 N.C. means

3/8 -- diameter of bolt or thread

16 -- number of threads per inch

N.C. -- National Course

Solution:

Solutions to B problems

B.3

$$(47 \text{ min/blank})(29 \text{ blanks}) = 1363 \text{ min} = 22\ 43/60 \text{ hrs}$$

B.4

$$\text{Length of stock} = \frac{(36 \text{ boys})(5\ 3/4 \text{ in per boy})}{12 \text{ in/ft}}$$

$$= \frac{180\ 108/4 \text{ in x ft}}{12 \text{ in}}$$

$$= 15\ 9/4 \text{ ft}$$

$$= 17\ 1/4 \text{ ft}$$

OREGON VO-TECH MATH PROJECT

EVALUATION PACKAGE

RATIO AND PROPORTION — MACHINE TOOLS

A. Problems with Solutions

1. A lathe operator turns 9 brass bushings in 2 hrs 15 min. At the same rate, how many can be finished in an 8 hour day?

Solution:

x = number of bushings

$$\frac{x}{9 \text{ bushings}} = \frac{8 \text{ hrs}}{2.25 \text{ hrs}}$$

$$(2.25)x = 72 \text{ bushings}$$

$$x = 32 \text{ bushings}$$

Note: Compare like quanities, and compare large to small in both fractions or compare small to large in both fractions.

Def: Ratio - comparison of two terms
Proportion - equality between two ratios
Means - second and third terms (b and c)
Extremes - first and fourth terms (a and d)

Ex. $\frac{a}{b} = \frac{c}{d}$

2. A piece of 1 3/4" round stock is required to mill a hexagonal bar 1 1/2" across the flats. What size stock is needed for a bar 2 1/2" across the flats? (stock is available in 1/4" sizes)

Solution:

x = size of stock needed

$$\frac{x}{1\ 3/4 \text{ in}} = \frac{2\ 1/2 \text{ in}}{1\ 1/2 \text{ in}}$$

$$(1.5)x = (2.5)(1.75 \text{ in})$$

$$(1.5)x = 4.375 \text{ in}$$

$$x = 2.92 \text{ in}$$ therefore, 3 inch stock is needed

B. Problems with Separate Solutions

3. A 9" pulley on a drill press makes 1350 rpm. It is belted to a 5" pulley on a motor. Find the rpm of the motor.

Solution:

4. A workman desires to run a grinder at 1200 rpm. The shaft is belted to a 5" pulley on a motor running at 1800 rpm. How large a pulley should be installed on the grinder shaft?

Solution:

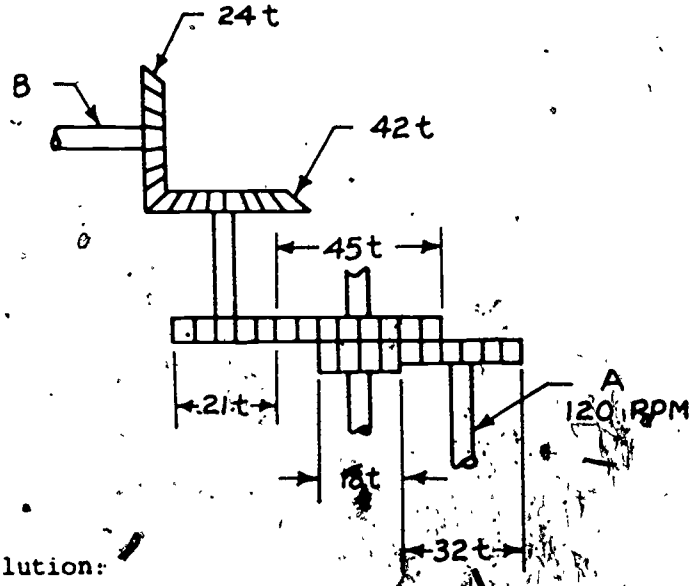
C. Problems without Solutions

5. What is the cost of 6 reamers if 8 reamers cost $35.40?

Solution:

C. Problems without Solutions (continued)

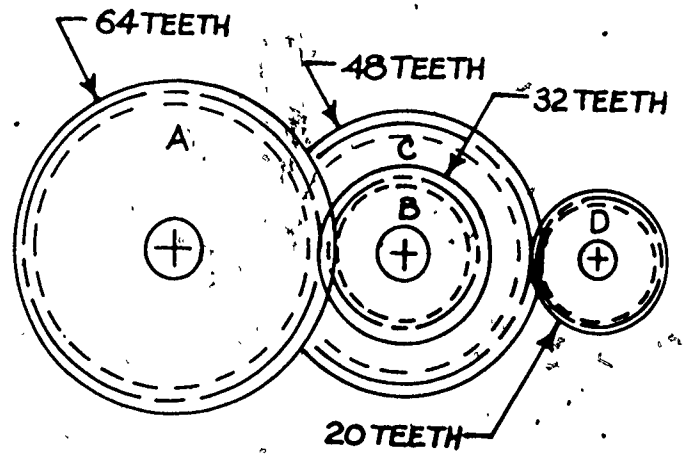
6. A machinist desires to increase the speed of shaft B to 1000 rpm by changing the 32-tooth gear. How many teeth must the new gear have?



Solution:

C. Problems without Solutions (continued)

7. A machinist wishes to replace gear D with a gear that will make 960 rpm. How many teeth must the new gear have? (rpm of gear A is 320)



Solution:

Solutions to B problems

B.3

$$\frac{5 \text{ in}}{9 \text{ in}} = \frac{x}{1350 \text{ rpm}}$$

x = rpm of motor

$$9x = 6750 \text{ rpm}$$

$$x = 750 \text{ rpm}$$

B.4

$$\frac{x}{5 \text{ in}} = \frac{1200 \text{ rpm}}{1800 \text{ rpm}}$$

x = size of pulley on grinder shaft

$$1800x = 6000 \text{ in}$$

$$x = 3.33 \text{ in}$$

Solutions to C problems

C.7

weight left = 364 lbs - 176 lbs = 188 lbs

C.8

number of strokes = (126 strokes/min)(420 min)

= 52,920 strokes

C.9

Lathes	(16 machines)(2,145 lbs/machine) =	34,320 lbs
Milling machines	(4 machines)(2,460 lbs/machine) =	9,840 lbs
Drill press	(2 machines)(450 lbs/machine) =	900 lbs
	total weight of machines	45,060 lbs

C.10

$$\text{cost per drill} = \frac{\$18.00}{6 \text{ drills}} = \$3.00 \text{ per drill}$$

Solution to C problems

C.7

$$\text{Number of revolutions} = (280 \text{ rev/min})(.800 \text{ min})$$

$$= 224 \text{ rev}$$

$$\text{Cut per revolution} = \frac{2.125 \text{ in}}{224 \text{ rev}} = .0095 \text{ inchs per revolution}$$

C.8

$$\text{Total length of belt} = (76 \text{ presses})(38 \text{ in/press})$$

$$= 2888 \text{ in} = 240.76 \text{ ft}$$

$$\text{Total cost of belt} = (240.67 \text{ ft})(\$0.08/\text{ft})$$

$$= \$19.25$$

C.9

$$\text{Total cost} = (18 \text{ files})(\$0.69/\text{file})$$

$$= \$12.42$$

C.10

$$\text{Total cost} = \left(\frac{(1 \text{ oz/day/class})(9 \text{ classes})(88 \text{ days})}{16 \text{ oz}} \right) (\$0.0425)$$

$$= \left(\frac{792}{16}\right)(\$0.0425) = (49.5)(\$0.0425) = \$2.10$$

Solutions to C problems

C.5

$$\text{Total length of solder} = \frac{(42 \text{ boys})(7\ 1/2 \text{ in per boy})}{12 \text{ in/ft}}$$

$$= \frac{294\ 42/2 \text{ in} \times \text{ft}}{12 \text{ in}}$$

$$= \frac{315 \text{ ft}}{12} = 26\ 1/4 \text{ ft}$$

C.6

$$\text{Length between teeth} = \frac{9\ 5/8"}{8} = \left(\frac{77"}{8}\right)\left(\frac{1}{8}\right) = \frac{77"}{64} = 1\ 13/64 \text{ in}$$

C.7

$$\text{Distance from edge to center line} = \frac{2\ 5/8" - 1\ 1/16"}{2}$$

$$= \frac{2\ 10/16" - 1\ 1/16"}{2}$$

$$= \frac{1\ 9/16"}{2}$$

$$= \left(\frac{25"}{16}\right)\left(\frac{1}{2}\right) = \frac{25}{32} \text{ in}$$

Solutions to C problems

C.5

x = cost of 6 reamers

$$\frac{6 \text{ reamers}}{8 \text{ reamers}} = \frac{x}{\$35.40}$$

$$8x = \$212.40$$

$$x = \$26.55$$

C.6

A = number of teeth in new gear

$$\frac{120 \text{ rpm}}{1000 \text{ rpm}} = \frac{(24 \text{ teeth})(21 \text{ teeth})(18 \text{ teeth})}{(42 \text{ teeth})(45 \text{ teeth})(A)}$$

$$120A = \frac{(24)(21)(18 \text{ teeth})(1000)}{(42)(45)}$$

$$A = \frac{9,072,000 \text{ teeth}}{(1890)(120)}$$

$$A = \frac{9,072,000 \text{ teeth}}{226,800}$$

$$A = 40 \text{ teeth}$$

C.7

$$\frac{B}{320 \text{ rpm}} = \frac{64 \text{ teeth}}{32 \text{ teeth}}$$

$$32B = 20,480 \text{ rpm}$$

$$b = 640 \text{ rpm}$$

$$\frac{960 \text{ rpm}}{640 \text{ rpm}} = \frac{48 \text{ teeth}}{D}$$

$$960D = 30,720 \text{ teeth}$$

$$D = 32 \text{ teeth}$$

OREGON VO-TECH MATH PROJECT

EVALUATION PACKAGE

WHOLE NUMBERS — MARKETING

A. Problems with Solutions

1. A grocer buys a crate of strawberries (16 quarts) for $5.40. At what price per quart should he sell the berries so that his gross profit on the entire lot will be $1.80?

Solution:

He bought the berries for $5.40 and wants to make $1.80, therefore he must take in $5.40 + $1.80 = $7.20.

$$\frac{\$7.20}{16 \text{ quarts}} = \$0.45 \text{ per quart}$$

2. A merchant in one year had sales of $25,608. The inventory of the goods on hand at the beginning of the year was $5,682, and at the end of the year was $3,169. He purchased merchandise during the year at a cost of $12,468. If his selling expenses for the year were $6,829 and in addition he spent $1,026 for advertising, did he gain or lose and how much?

Solution:

His expenses during the year were:

$$\begin{aligned} \$5,682 - \$3,168 &= \$\ 2,513 \\ &\quad\ 12,468 \\ &\quad\ 6,829 \\ &\quad +\ 1,026 \\ &\quad \$22,836 \end{aligned}$$

His sales were larger than his expenses, therefore he had a a gain or gross profit. The difference between his sales and expenses tells us how much he gained.

$$\$25,608 - \$22,836 = \$2,772$$

A. Problems with Solutions (continued)

3. An appliance manufacturer sold 56,583 refrigerators during the first quarter of the year. Second quarter sales were 65,325. What were the average sales per month for the first half of the year?

Solution:

two quarters make a half

$$\begin{array}{r} 56{,}583 \text{ refrigerators} \\ +\ 65{,}325 \text{ refrigerators} \\ \hline 121{,}908 \text{ refrigerators} \end{array}$$

To find average we divide by the number of months per half year

$$\frac{121{,}908 \text{ refrigerators}}{6 \text{ months}} = 20{,}318 \text{ refrigerators per month}$$

B. Problems with Separate Solutions

4. A retail furniture dealer buys a studio couch for $125. At what price should he sell it if he desires a gross profit of $95?

Solution:

5. Irwin Miller is the owner of Miller's Paint Store. His inventory on October 1 showed a stock of merchandise amounting to $11,984. His purchases in October amounted to $2,842; and his sales totaled $4,173. His inventory on October 31 was $12,189.

a) Find the cost of the goods sold during the month.

b) Find the gross profit for the month.

Solution:

B. Problems with Separate Solutions (continued)

6. The packing department of Ajax Industry is required to keep records of the shipping weight, net weight and packing weight of all items shipped. The following form must be completed and turned into the records department.

	Shipping Weight	Net Weight	Difference
Item A	1,500 lbs	1,343 lbs	
Item B	2,800 lbs	2,551 lbs	
Item C	675 lbs	619 lbs	
Total			

Compute and check*

Solution:

C. Problems without Solutions

7. Sales for the Rockwell Mft. Company amounted to $376,000 last year. During the first 6 months of this year the monthly sales were $37,000; $15,000; $26,500; $34,500; $28,750 and $32,500; respectively. How much must the sales total for the remainder of the year to equal last year's figure?

Solution:

8. Evans Company had 10,700 gear parts in stock. During January 8,978 were sold. How many should be left in stock?

Solution:

Solutions to B problems (continued)

B.5

a) Inventory on October 1 + Purchases = Cost of Goods Available

$11,984 + $2,842 = $14,826

Cost of Goods Available - Inventory on October 31 = Cost of Goods Sold

$14,826 - $12,189 = $2,637

b) Gross Profit = Sales - Cost of Goods Sold

Gross Profit = $4,173 - $2,637

= $1,536

B.6

As a check the sum of the differences should equal the difference of the sums

Item A 1,500 lbs - 1,343 lbs = 157 lbs

Item B 2,800 lbs - 2,551 lbs = 249 lbs

Item C 675 lbs - 619 lbs = 56 lbs

	Shipping Weight	Net Weight	Difference
	1,500 lbs	1,343 lbs	157 lbs
	2,800 lbs	2,551 lbs	249 lbs
	+ 675 lbs	+ 619 lbs	+ 56 lbs
Totals	4,975 lbs	4,513 lbs	462 lbs

Total Shipping Weight minus Total Net Weight should equal Total Difference inorder to make sure that the totals cross check.

4,975 lbs - 4,513 lbs = 462 lbs which cross checks.

OREGON VO-TECH MATH PROJECT

EVALUATION PACKAGE

DECIMALS — MARKETING

A. Problems with Solutions

1. Chet's Chicken Inn sells chicken dinners at $1.95 per serving. If there is $421.20 in the register at the end of the day, how many dinners were served that day?

Solution:

$$\frac{\$421.20}{\$1.95/\text{dinner}} = \frac{\$421.20 \times \text{dinner}}{\$1.95} = 216 \text{ dinners}$$

2. Compute the price of the following stocks:

10 shares of Wolf Oil @ 16 3/8 _____

100 shares of 3rd Nat. Bank @ 52 3/8 _____

150 shares of United Auto @ 12 1/8 _____

TOTAL _____

Solution:

Shares of stock are priced in dollars and eighths of dollars. For example: 12 1/4 means $12.25.

(10 shares)($16.375/share) = $163.75

(100 shares)($52.375/share) = $5,237.50

(150 shares)($12.125/share) = $1,818.75

Total = $163.75 + $5,237.50 + $1,818.75 = $7,220.00

3. Goods valued at $1,800, after being damaged by fire, were sold at a reduction of 0.25. For what were the goods sold?

Solution:

$1,800 - ($1,800 x 0.25) = $1,800 - $450

= $1,350

B. Problems with Separate Solutions

4. A grocery dealer bought potatoes at various times during the year as follows: 3,500# at $7.90 per 100#; 5,000# at $6.83 per 100#; 2,500# at $6.15 per 100#; and 6,500# at $4.70 per 100#. Find the average cost per 100# for all the potatoes bought.

   Solution:

5. Davis Company purchased 2,500 ft of wire at $0.1575 per ft and 5000 bolts at $1.625 per 1000 units. Compute the cost of the purchase and round the final amount to the nearest cent.

   Solution:

6. Find the cost of sending the following shipment of boxes by freight when the rate between the two cities is 82.14¢ per hundred-weight. The boxes weigh as follows: 216 lbs, 429 lbs, 176 lbs, and 314 lbs.

   Solution::

C. Problems without Solutions

7. An article sold for $37.50, yielding a profit of 0.25 of the cost. What is the cost?

   Solution:

C. Problems without Solutions (continued)

8. A merchant buys beans at $16 per hundred pounds and sells them in 4-lb sacks at 95¢ per sack. What is his gain per pound, per hundred pounds?

   Solution:

9. A customer bought 2 7/8 yds of satin priced at $2.75 per yard and 5 1/4 yds of muslin at $1.80 per yard. What should the customer be charged?

   Solution:

10. The Analy Market has 3 cash registers. Sales for each on a particular day during a typical hour were as follows: Register No. 1: $3.04, $0.79, $15.67, $32.50, $11.00, $22.66, $19.65, $0.91, and $10.16; Register No. 2: $37.89, $11.99, $5.60, $11.27, $41.20, $8.86, and $10.01; Register No. 3: $20.06, $52.00, $17.89, $5.89, $6.03, $14.56, $27.16, and $30.09. Find the total sales for each register and the total sales for all three registers.

    Solution:

Solutions to B problems

B.4

(35 hundred lbs)($7.90/hundred lbs) = $ 276.50

(50 hundred lbs)($6.83/hundred lbs) = $ 341.50

(25 hundred lbs)($6.15/hundred lbs) = $ 153.75

(65 hundred lbs)($4.70/hundred lbs) = $ 305.50

TOTAL $1,077.25

To find the average divide by the number of 100#.

35 hundred lbs + 50 hundred lbs + 25 hundred lbs + 65 hundred lbs = 175 hundred lbs

$\frac{\$1,077.25}{175 \text{ hundred lbs}}$ = $6.16 per hundred lbs

B.5

(2,500 ft)($0.1575/ft) = $393.75

(5 thousand bolts)($1.625/thousand bolts) = $8.125

Cost = $393.75 + $8.125 = $401.875

To round off the answer the cost is always rounded up,

Cost = $401.88

B.6

Total weight = 216 lbs + 429 lbs + 176 lbs + 314 lbs = 1,135 lbs

Number of hundred lbs = $\frac{1,135}{100}$ = 11.35

Cost = ($0.8214/hundred lbs)(11.35 hundred lbs)

= $9.33

OREGON VO-TECH MATH PROJECT

EVALUATION PACKAGE

FRACTIONS MARKETING

A. Problems with Solutions

1. Stock Gain and Loss

	Price, Jan 31	Price, Feb 28	Change
United Electric	62 5/8	68 3/4	
General Oil	22	20 3/8	
NET			

Compute and check net change during month*

Solution:

United Electric 68 3/4 - 62 5/8 = 68 6/8 - 62 5/8

= 6 1/8 change +6 1/8

General Oil 22 - 20 3/8 = 21 8/8 - 20 3/8

= 1 5/8 change -1 5/8

Net Price Jan 31 = 62 5/8 + 22 = 84 5/8

Net Price Feb 28 = 68 6/8 + 20 3/8 = 89 1/8

Net Price Feb 28 - Net Price Jan 31 should equal change in United Electric + change in General Oil

89 1/8 - 84 5/8 = 6 1/8 + (-1 5/8)

88 9/9 - 84 5/8 = 6 1/8 - 1 5/8

4 4/8 = 4 4/8

A. Problems with Solutions (continued)

2. An inventory count in the yardage department of a retail store indicated that there were 6 rolls of #216 gingham containing 16 1/8, 27 4/8, 36 2/8, 45 3/8, 50 7/8 and 42 5/8 yards, respectively. At $1.76 a yard, what was this stock worth?

Solution:

$$\begin{array}{r} 16\ 1/8 \text{ yards} \\ 27\ 4/8 \text{ yards} \\ 36\ 2/8 \text{ yards} \\ 45\ 3/8 \text{ yards} \\ 50\ 7/8 \text{ yards} \\ +\ 42\ 5/8 \text{ yards} \\ \hline 216\ 22/8 \text{ yards} = 218\ 3/4 \text{ yards} \end{array}$$

Worth = (218 3/4 yards)($1.76/yard)

= (875/4 yards)($1.76/yard)

= $385

3. Mr. Brown owned 3/7 of a store. He sold 1/3 of his share for $13,000. At the same rate, what was the value of the store?

Solution:

He sold 1/3 of 3/7 = (1/3)(3/7) = 1/7

(1/7)x = $13,000 x = value of the store

x = $91,000

B. Problems with Separate Solutions

4. A company packs its cat food in cans containing 13 1/2 oz of cat food. Each can weighs 1 3/4 oz. Two dozen cans are packed in a carton weighing 12 oz. What is the shipping weight of one carton?

Solution:

B. Problems with Separate Solutions (continued)

5. If a merchant raises the price of goods 1/4 and thereby cuts his sales 1/5, does he make less or more or the same profit?

Solution:

6. A profit of $3,160 is to be divided amoung three employees; Jack, John and Bill in the ratios of 1/2, 1/3, and 1/6, respectively. How much should each receive?

Solution:

C. Problems without Solutions

7. A grocer bought 255 3/4 pounds of bacon which he divided into 1/2 pound packages. How many packages did he have for sale?

Solution:

8. A carton of groceries ready for shipment weighs 22 1/3 lbs. If the carton weighs 2 3/16 lbs, what is the net weight of the contents?

Solution:

C. Problems without Solutions (continued)

9. A man worked the following number of hours each day during a 5-day week: 6 1/2 hours, 7 3/4 hours, 8 1/2 hours, 8 hours and 7 2/3 hours, respectively. How many hours did he work and how much did he earn if he was paid at the rate of $6.20 an hour?

Solution:

10. Mr. Bradshaw bought 200 used tires for $175 at an auction. He sold 1/4 of them for $60.00; 16 tires at $7.50 each; 51 tires at $10.00 each and junked the rest. How many tires did he throw away? What was his total profit if the cost of handling this transaction amounted to $65.00?

Solution:

11. Three and five-eighths yards of fabric are required to manufacture a certain type of jacket. How many jackets can be made from 5,000 yards of fabric?

Solution:

12. Ben's Burger Bar expects to sell 400 hamburgers over the weekend. If each hamburger requires 2/9 lbs of ground beef, how much meat should be ordered? (round to even pounds)

Solution:

Solutions to B problems

B.4

Total weight of cat food = (13 1/2 oz/can)(24 cans)

= 324 oz

Total weight of cans = (1 3/4 oz/can)(24 cans)

= 42 oz

Total weight = 324 oz + 42 oz + 12 oz = 378 oz

Shipping weight per carton = $\frac{378 \text{ oz}}{16 \text{ oz/lb}}$ = 23 lbs 10 oz

B.5

In the overall situation, he has increased his intake by 1/4 while decreasing his intake by 1/5.

So, it is merely a comparison between the two fractions 1/4 and 1/5. 1/4 = 5/20, 1/5 = 4/20.

1/4 is larger so he is making more profit.

B.6

Jack ($3,160)(1/2) = $1,580

John ($3,160)(1/3) = $1,053.33

Bill ($3,160)(1/6) = $526.67

OREGON VO-TECH MATH PROJECT

EVALUATION PACKAGE

RATIO AND PROPORTION — MARKETING

A. Problems with Solutions

1. Three partners, Able, Baker and Carter have shares in the partnership of 1:2:7 respectively. If there is a profit of $43,120 and it is to be distributed in proportion to share in the partnership, how much would each partner receive?

Solution

Total shares = 10 x = share of profits

Able $\frac{1}{10} = \frac{x}{\$43,120}$

$x = \$4,312$

Baker $\frac{2}{10} = \frac{x}{\$43,120}$

$x = \$8,624$

Carter $\frac{7}{10} = \frac{x}{\$43,120}$

$x = \$30,184$

2. Brown invests $4,400 and Black $5,200 in a partnership. If profits are to be shared in the ratio that each partner's investment bears to the total amount invested, what return should Black receive if Brown's share of the profits is $900?

Solution:

$\frac{\$4,400}{\$5,200} = \frac{\$900}{x}$ x = Black's share of the profits

$(4,400)x = \$4,680,000$

$x = \$1,063.64$

3. Bruce and Sidney are partners. How much does each receive if a profit of $13,000 is divided in a ratio of 7 to 3 in favor of Bruce?

Solution:

Bruce $(7/10)(\$13,000) = \$9,100$

Sidney $(3/10)(\$13,000) = \$3,900$

B. Problems with Separate Solutions

4. Current ratio is defined as the ratio of a firm's current assets to current liabilities. Compute the current ratio for Kleq Corp. which has current assets of $126,000 and current liabilities of $91,500.

Solution:

5. The ratio of net income to net worth (stockholder's equity) indicates the percent of return on invested capital. Compute the rate of return on equity for a firm with $4,000 net income and $29,000 stockholder's equity.

Solution:

6. A gain of $32,550 is to be divided between the Company President, Vice President and comptroller in the ratios of 3/8, 1/5 and 17/40, respectively. How much should each receive?

Solution:

C. Problems without Solutions

7. A salted-nut mixture is made up of 3 pounds of cashews to 5 pounds of peanuts. How many pounds of each are needed to make 40 pounds of the mixture?

Solution:

8. Two business partners divide their profits in a 1 to 4 ratio. Find each partner's share of a profit amounting to $8,400.

Solution:

C. Problems without Solutions (continued)

9. A building assessed at $15,000 is billed $475.50 for property taxes. A similar building next door, assessed at $21,000, should be billed how much for taxes?

Solution:

10. The ratio of a firm's net income to net sales gives a measure of the firm's percent of profit on sales. Compute the ratio for a firm with net income of $4,000 and net sales of $90,000.

Solution:

Solutions to B problems

B.4

$$\frac{\$126,000}{\$91,500} = 1.377$$

B.5

$$\frac{\$4,000}{\$29,000} = 0.1379 = 13.79\%$$

B.6

Company President	(3/8)($32,550) = $12,206.25
Vice-President	(1/5)($32,550) = $6,510.00
Comptroller	(17/40)($32,550) = $13,833.75

Solutions to C problems

C.7

$$\begin{array}{r} \$\ 37{,}000 \\ 15{,}000 \\ 26{,}500 \\ 37{,}500 \\ 28{,}750 \\ +\ 32{,}500 \\ \hline \$177{,}250 \end{array}$$ Sales for first half of year

$$\begin{array}{r} \$376{,}000 \\ -\ 177{,}250 \\ \hline \$198{,}750 \end{array}$$ Sales for last half of year

C.8

$$\begin{array}{r} 10{,}700 \text{ gear parts} \\ -\ 8{,}978 \text{ gear parts} \\ \hline 1{,}722 \text{ gear parts left in stock} \end{array}$$

C.9

a) Beginning Inventory + Purchases = Cost of Goods Available

$10,344 + $21,246 = $31,590

Cost of Goods Available - Ending Inventory = Cost of Goods Sold

$31,590 - $9,868 = $21,722

b) Sales - Cost of Goods Sold = Gross Profit

$31,482 - $21,722 = $9,760

C.10

Inventory at beginning of year + Purchases = Cost of Goods Available

$41,049 + $356,285 = $397,334

Cost of Goods Available - Inventory at end of year = Cost of Goods Sold

$397,334 - $57,372 = $339,962

Solutions to C problems

C.7

$37.50 = (1.25)x

x = $30.00

C.8

x = cost per lbs

$$x = \frac{\$16}{100 \text{ lbs}}$$

x = $0.16 per lb

s = selling price per lb

$$s = \frac{\$0.95/\text{sack}}{4 \text{ lb/sack}}$$

$$s = \frac{\$0.95/\text{sack} \times \text{sack}}{4 \text{ lbs}}$$

s = $0.24 per lb

Gain per lb = $0.24 - $0.16 = $0.08

Gain per 100 lbs = ($0.24/lb)(100 lbs) - $16

= $24 - $16

= $8

C.9

(2.875 yards)($2.75/yard) = $7.91

(5.25 yards)($1.80/yard) = $9.45

TOTAL $17.36

C.10

Register No. 1	Register No. 1	Register No. 3
$ 3.04	$ 37.89	$ 20.06
.79	41.20	52.00
15.67	11.99	17.89
32.50	5.60	5.89
1.00	11.27	6.03
22.66	8.86	14.56
19.65	+ 10.01	27.16
10.16	$126.82	+ 30.09
+ .91		$173.69
$106.38		

Total sales = $106.38 + $126.82 + $173.69

= $406.88

Solutions to C problems

C.7

$$\frac{255\ 3/4\ \text{lbs}}{1/2\ \text{lbs/package}} = \frac{1023/4\ \text{lbs} \times \text{package}}{1/2\ \text{lbs}} = \left(\frac{1023\ \text{package}}{4}\right)(2)$$

$$= \frac{1023\ \text{package}}{2}$$

$$= 511\ 1/2\ \text{package}$$

therefore 511 half-pound packages can be sold

C.8

$$22\ 1/3\ \text{lbs} - 2\ 3/16\ \text{lbs} = 22\ 16/48\ \text{lbs} - 2\ 9/48\ \text{lbs}$$

$$= 20\ 7/48\ \text{lbs}$$

C.9

$$6\ 1/2\ \text{hr} + 7\ 3/4\ \text{hr} + 8\ 1/2\ \text{hr} + 8\ \text{hr} + 7\ 2/3\ \text{hr} =$$

$$6\ 6/12\ \text{hr} + 7\ 9/12\ \text{hr} + 8\ 6/12\ \text{hr} + 8\ \text{hr} + 7\ 8/12\ \text{hr} = 37\ 29/12\ \text{hr}$$

$$= 39\ 5/12\ \text{hr}$$

$$\text{Earnings} = (39\ 5/12\ \text{hr})(\$6.20/\text{hr}) = (473/12\ \text{hr})(\$6.20/\text{hr})$$

$$= \$244.39$$

C.10

$$(1/4)(200\ \text{tires}) = 50\ \text{tires}$$

$$50\ \text{tires} + 16\ \text{tires} + 51\ \text{tires} = 117\ \text{tires sold}$$

$$200\ \text{tires} - 117\ \text{tires} = 83\ \text{tires thrown away}$$

$$\text{Sales} = \$60.00 + (16\ \text{tires})(\$7.50/\text{tire}) + (51\ \text{tires})(\$10.00/\text{tire})$$

$$= \$60.00 + \$120.00 + \$510.00$$

$$= \$690.00$$

$$\text{Cost} = \$175 + \$65 = \$240$$

$$\text{Gross Profit} = \$690.00 - \$240.00 = \$450.00$$

Solutions to C problems (continued)

C.11

$$\frac{5000 \text{ yards}}{3\ 5/8 \text{ yards/jacket}} = \frac{5000 \text{ yards} \times \text{jacket}}{3\ 5/8 \text{ yards}} = \frac{5000 \text{ jacket}}{29/8}$$

$$= (5000 \text{ jacket})\left(\frac{8}{29}\right)$$

$$= 1,379\ 9/29 \text{ jackets}$$

therefore 1,379 jackets can be made

C.12

$$(400 \text{ hamburgers})(2/9 \text{ lbs/hamburger}) = 800/9 \text{ lbs}$$

$$= 88.88 \text{ lbs}$$

therefore 89 lbs should be ordered

Solutions to C problems

C.7

Total parts = 3 + 5 = 8

(3/8 cashews)(40 lbs) = 15 lbs cashews

(5/8 peanuts)(40 lbs) = 25 lbs peanuts

C.8

Total shares = 1 + 4 = 5

(1/5)($8,400) = $1,680

(4/5)($8,400) = $6,720

C.9

x = amount of taxes

$$\frac{\$475.50}{\$15,000} = \frac{x}{\$21,000}$$

(15,000)x = $9,985,500

x = $665.70

C.10

$$\frac{\$4,000}{\$90,000} = 0.0444 = 4.44\%$$

OREGON VO-TECH MATH PROJECT

Evaluation Package

WHOLE NUMBERS — MILLWRIGHT

A. Problems with Solutions

1. In order to construct a certain pipe system, 5 elbows, 7 tees, and 2 couplings are needed. Also needed are 12 pieces of pipe of lengths: 5", 7", 12", 13", 2", 17", 27", 3", 31", 42" and 9". Each elbow costs 27¢, each tee costs 37¢, each coupling costs 17¢, and the pipe costs 12¢ per lineal foot. How much will the material for the system cost?

Solution:

cost of elbows = (5 elbows)($0.27/elbows) = $1.35

cost of tees = (7 tees)($0.37/tee) = $2.59

cost of couplings = (2 couplings)$0.17/coupling) = $0.34

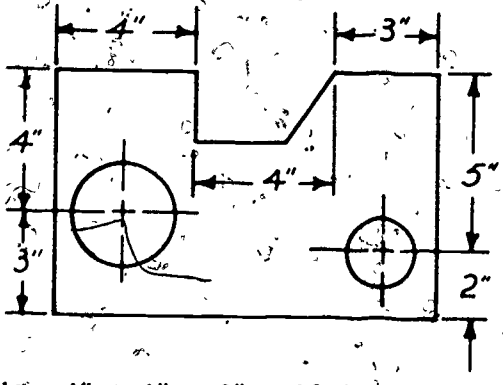
length of pipe = 5" + 7" + 12" + 13" + 2" + 17" + 27" + 3" + 31" + 42" + 9" = 168 in

$$168 \text{ in} \left(\frac{1 \text{ ft}}{12 \text{ in}}\right) = 14 \text{ ft}$$

cost of pipe = (14 ft)($0.12/ft) = $1.68

Total cost = $1.35 + $2.59 + $0.34 + $1.68 = $5.96

2. A piece of metal is to be cut according to the diagram. What is the overall length and width of the piece?



Solution:

length = 4" + 4" + 3" = 11 in

width = 3" + 4" = 2" + 5" = 7 in

A. Problems with Solutions (continued)

3. A tank of oil contains 450 gallons. 90 gallons are used each day. How many days will it take to use up the oil?

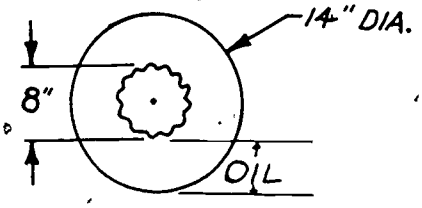
Solution:

$$\text{time to use up oil} = \frac{450 \text{ gals}}{90 \text{ gals/day}} = \frac{450 \text{ gals} \times \text{day}}{90 \text{ gals}} = 5 \text{ days}$$

B. Problems with Separate Solutions

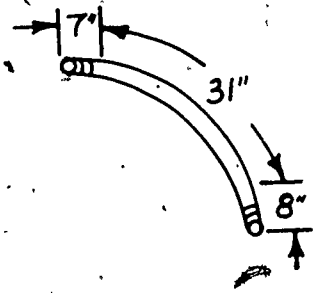
4. A sprocket and chain assembly is enclosed in a circular oil bath as shown in the diagram. The sprocket has a diameter of 8" and the oil bath has a diameter of 14". What must the depth of oil in the bath be to achieve lubrication?

Solution:



5. What length of pipe would be needed to form a bend like the one in the drawing? An extra inch of pipe in needed in order to form the bend.

Solution:



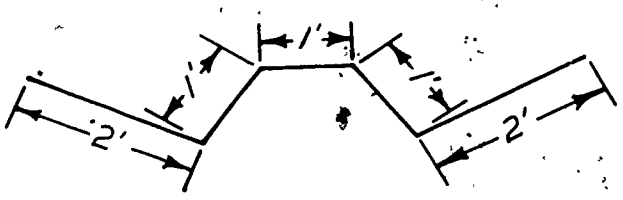
6. A piece of pipe 72" long is to be bent in a 90° arc with a straight portion 3" on each end. How long is the arc?

Solution:

C. Problems without Solutions

7. A steel rod is cut and welded to match the drawing. Approximately how many lineal feet of rod would be needed to make the finished product?

Solution:



8. A pipe fitter is going to place a wrinkle bend in a piece of pipe 2' long. He wants a 45° bend and he wishes to accomplish the bend with 9 wrinkles. How many degrees are there in each wrinkle?

Solution:

9. A circular tank has a volume of 1085 cubic feet. If 1 gallon of liquid occupies approximately 7 cubic feet of space, how many gallons of liquid will the tank hold?

Solution:

10. A gallon of oil has a volume of 231 cubic inches. If a tank held 420 gallons of oil, what is the volume of the tank in cubic inches?

Solution:

C. Problems without Solutions (continued)

11. A spherical tank has a surface area of 351 sq ft. If 1 gallon of a rust-preventative paint will cover 13 sq ft, how many gallons of the paint will be needed to cover the tank?

Solution:

12. From a piece of hexagon stock, 5 pieces are to be cut off. If the pieces are 11", 9", 13", 23" and 15", what is the total length of rod required. Include 1" for rod wasted in making the cuts.

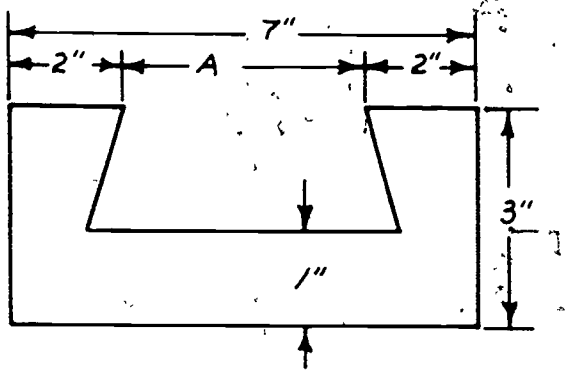
Solution:

13. It is desired to lay out a group of machines in a straight line. If 2' are required between machines and there are 5 machines of 12, 7, 8, 13 and 15 feet lengths, what is the total length of the line?

Solution:

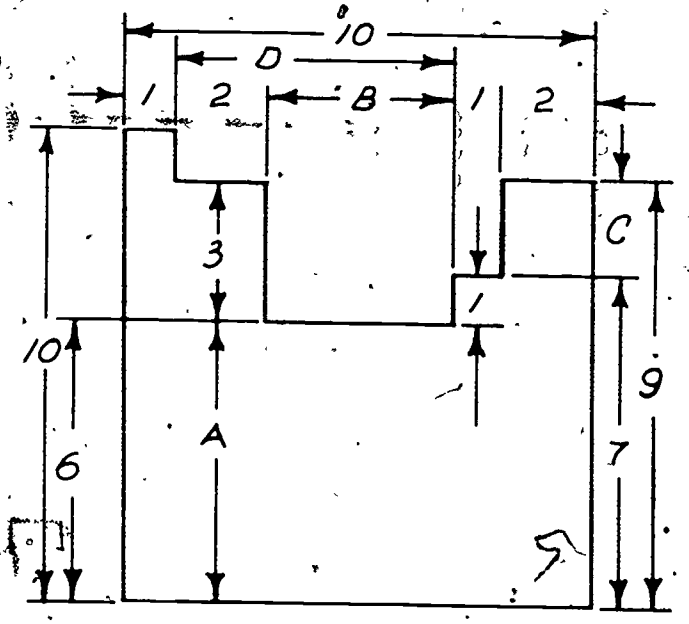
C. Problems without Solutions (continued)

14. Find A and the depth of the dovetail.



Solution:

15. Find A, B, C, and D.
(all dimensions are in inches)



Solution:

C. Problems without Solutions (continued)

16. A foreman was given $2,375.00 to buy tools. Each tool costs $16.00. How many tools did he buy? How much money was left over?

Solution:

17. A bearing of a test machine failed after 467,245,800 cycles were completed. If the machine was operating at 4,200 cycles per minute, after how many minutes did the failure occur?

Solution:

Solution to B problems

B.4

depth must be at least $\frac{14" - 8"}{2} = 3$ in

B.5

length = 7" + 31" + 8" + 1" = 47"

$$47 \text{ in}\left(\frac{1 \text{ ft}}{12 \text{ in}}\right) = 3 \text{ ft } 11 \text{ in}$$

B.6

arc length = 72" - 2(3") = 66"

$$66 \text{ in}\left(\frac{1 \text{ ft}}{12 \text{ in}}\right) = 5 \text{ ft } 6 \text{ in}$$

OREGON VO-TECH MATH PROJECT

EVALUATION PACKAGE

DECIMALS

MILLWRIGHT

A. Problems with Solutions

1. A piece of pipe 3.4' long is shortened by .7'. How long are the two remaining pieces if the width of the saw cut is .125"?

Solution:

3.4' = 40.8" .7' = 8.4"

40.8" - 8.4" - .125" = 32.275"

The two pieces are .7 ft and 32.275 in

2. A 5/16" bolt weighs .43 lbs. How many bolts are there in a 125 lb keg?

Solution:

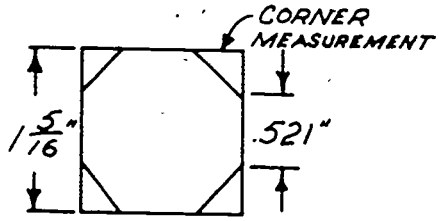
$$\frac{125 \text{ lbs}}{.43 \text{ lbs/ bolt}} = \frac{125 \text{ lbs} \times \text{bolt}}{.43 \text{ lbs}} = 291 \text{ bolts}$$

3. What would be the corner measurement for laying out an octagonal end on a square bar as shown in the diagram below.

Solution:

$$\frac{1\ 5/16" - .521"}{2} = \frac{1.3125" - .521"}{2}$$

$$= \frac{.7915"}{2} = .396 \text{ in}$$



B. Problems with Separate Solutions

4. A piece of steel weighs 162.3 lbs. A piece of aluminum weighs .51 as much as the steel. How much does the aluminum weigh?

Solution:

C. Problems without Solutions (continued)

8. A shaft should be 1.317" in diameter. However, it is 1 3/16" in diameter. How much has it been worn?

Solution:

9. Fifteen equally spaced holes are to be drilled in a piece of metal 27 1/8" long. Allowing 1" on each end, how far will it be, to the nearest thousandth of an inch, from center to center of two consecutive holes?

Solution:

10. Rule of Thumb:

The rim or cutting speed of a cylindrical rod is found by multiplying the circumference by the revolutions per minute. Find the cutting speed of a rod whose circumference is 2.42" turning at 120 rpms.

Solution:

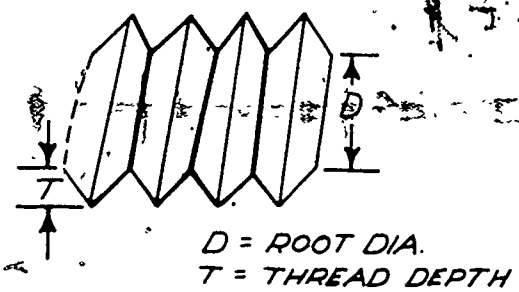
B. Problems with Separate Solutions (continued)

5. If a millwright earns $5.73 an hour and time and a half for overtime based on a 40 hour week, how much will he make in a 55 hour week?

Solution:

6. A bolt is made from a piece of 3/4" stock. The thread depth is .041". What is the root diameter of the bolt? See the drawing.

Solution:



C. Problems without Solutions

7. The actual inside diameter of a pipe is 1.12". The actual outside diameter is 1.316". Find the thickness of the pipe.

Solution:

C. Problems without Solutions (continued)

11. Rule of Thumb:

We can find the length of pipe needed to complete a bend by multiplying three numbers together: the radius of the bend, the degrees in the bend, and the constant .01745. To the nearest thousandth, find the length of pipe needed to complete a 22 1/2° bend with a radius of 13".

Solution:

Solutions to B problems

B.4

.51(162.3 lbs) = about 82.77 lbs

B.5

40($5.73) + 15(1.5)($5.73) = $229.20 + $128.93

= $358.13

B.6

d = 3/4" - 2(0.041")

= 0.750" - 0.082"

= 0.668 in

OREGON VO-TECH MATH PROJECT

EVALUATION PACKAGE

FRACTIONS MILLWRIGHT

A. Problems with Solutions

1. A 12" piece of shafting 1 5/8" in diameter is placed in a lathe and one end is turned down to a diameter of 1 1/32". The diameter of the small end is how much smaller than the diameter of the large end?

   Solution:

   1 5/8" - 1 1/32" = 1 20/32" - 1 1/32" = 19/32 in

2. A piece of shafting 11 5/32" long is cut from a piece 37 1/2" long. Will there be enough of the original piece left to make another piece 26 1/4" long if 1/16" of shafting was wasted in making the cut?

   Solution:

   length left = 37 1/2" - 11 5/32" - 1/16"

   = 37 16/32" - 11 5/32" - 2/32"

   = 26 9/32 in

   Yes, since 26 9/32 in. is greater than 26 1/4 in

3. From a bar of brass 16 1/2" long the following three pieces are cut: 1 1/8", 3 1/2", and 3 5/32". What is the final length of the bar allowing 3/32" for each cut?

   Solution:

   16 1/2" - 1 1/8" - 3 1/2" - 3 5/32" - 3(3/32")

   = 16 16/32" - 1 4/32" - 3 16/32" - 3 5/32" - 9/32"

   = 16 16/32" - 7 34/32"

   = 16 16/32" - 8 2/32"

   = 8 14/32"

   = 8 7/16 in

B. Problems with Separate Solutions

4. The volume of a rectangular box is found by multiplying the length times the width times the height. What is the volume of a rectangular box if its dimensions are 15 1/4", 12 1/2" and 7 5/32"?

Solution:

5. To find the approximate circumference of a circle we multiply 3 1/7 by the diameter. What is the approximate circumference of a circle whose diameter is 49 1/2"?

Solution:

6. A cubic foot contains approximately 7 1/2 gallons. How many cubic feet are there in a tank which contains 72 1/4 gallons?

Solution:

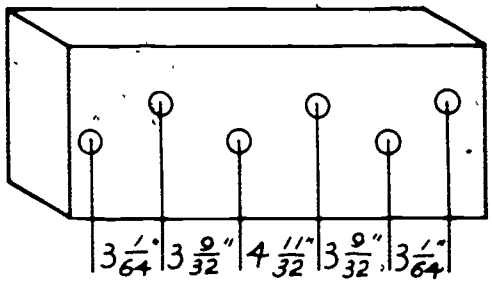
C. Problems without Solutions

7. How many holes spaced 1 7/16" center to center can be drilled in a piece of angle iron 22 5/8" long, allowing 1 1/4" on each end?

Solution:

C. Problems without Solutions (continued)

8. Find the distance between the end holes in the plate pictured.



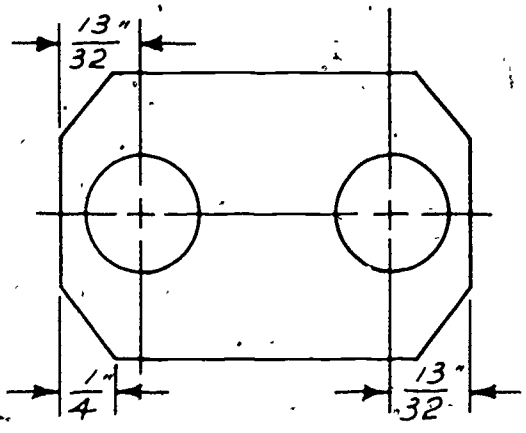
Solution:

9. How long will it take to machine 25 pins if each pin takes 10 1/2 minutes? Allow 1 1/2 minutes per pin for placing stock in the lathe and putting away the finished pin.

Solution:

10. A series of links are to be made like the one illustrated with all measurements the same except for the center to center distance between the holes. Find the length of stock used for each link if 3/16" is allowed for was saw and finishing the ends. The center to center distances are as follows: a) 1 53/64", b) 1 7/16" and c) 1 13/64".

Solution:



C. Problems without Solutions

11. An order of 31 bars of steel were delivered to a machine shop. Each bar was 19' 7 4/32" long. Find the total linear feet in the order.

Solution:

Solutions to B problems

B.4

$$\text{volume} = \left(15\ \tfrac{1}{4}"\right)\left(12\ \tfrac{1}{2}"\right)\left(7\ \tfrac{5}{32}"\right)$$

$$= \left(\frac{61"}{4}\right)\left(\frac{25"}{2}\right)\left(\frac{229"}{32}\right)$$

$$= \frac{349{,}225}{256} \text{ cu in}$$

$$= 1364 \text{ cu in}$$

B.5

$$\text{circumference} = \left(3\ \tfrac{1}{7}\right)\left(49\ \tfrac{1}{2}"\right) = \left(\frac{22}{7}\right)\left(\frac{99"}{2}\right) = \frac{2178"}{14} = \text{about } 156 \text{ in}$$

B.6

$$\frac{72\ \frac{1}{4} \text{ gals}}{7\ \frac{1}{2} \text{ gals/cu ft}} = \frac{\frac{289}{4} \text{ gals} \times \text{cu ft}}{\frac{15}{2} \text{ gals}} = \left(\frac{289}{4} \text{ cu ft}\right)\left(\frac{2}{15}\right)$$

$$= \frac{578}{60} \text{ cu ft or about } 9\ \tfrac{1}{2} \text{ cu ft}$$

OREGON VO-TECH MATH PROJECT

EVALUATION PROJECT

RATIO AND PROPORTION — MILLWRIGHT

A. Problems with Solutions

1. If 3/8" wire will support a lead of 2,000 lbs, how much would a 9/16" wire support?

Solution:

w = weight supported by 9/16" wire

$$\frac{w}{2{,}000 \text{ lbs}} = \frac{\frac{9}{16} \text{ in}}{\frac{3}{8} \text{ in}} \qquad \frac{3}{8}w = \frac{9}{16}(2{,}000 \text{ lbs})$$

$$\frac{3}{8}w = \frac{18{,}000}{16} \text{ lbs}$$

$$w = \left(\frac{18{,}000}{16} \text{ lbs}\right)\left(\frac{8}{3}\right)$$

$$w = 3{,}000 \text{ lbs}$$

2. A gear with 72 teeth meshes with a gear with 24 teeth. The larger gear has a speed of 180 rpms. What is the rpms of the smaller gear?

Solution: x = rpms of smaller gear

$$\frac{x}{180 \text{ rpms}} = \frac{72 \text{ teeth}}{24 \text{ teeth}}$$

$$24x = (180 \text{ rpms})(72)$$

$$24x = 12{,}960 \text{ rpms}$$

$$x = \frac{12{,}960 \text{ rpms}}{24}$$

$$x = 540 \text{ rpms}$$

A. Problems with Solutions (continued)

3. If 50 gallons of oil flowed through a feeder pipe in 20 minutes, how long will it take to fill a tank of 1,250 gallon capacity?

Solution: t = time to fill tank

$$\frac{t}{20 \text{ min}} = \frac{1{,}250 \text{ gal}}{50 \text{ gal}}$$

$$50t = (20 \text{ min})(1{,}250)$$

$$50t = 25{,}000 \text{ min}$$

$$t = \frac{25{,}000 \text{ min}}{50}$$

$$t = 500 \text{ min or } 8 \text{ hrs } 20 \text{ min}$$

B. Problems with Separate Solutions

4. A 15.3" shaft has a taper of 0.065". What is the taper in 4"?

Solution:

5. The pressure of water increases with the depth. If the pressure is 6.72 lbs per square inch at a depth of 15', what is the pressure at a depth of 25' 8"?

Solution:

B. Problems with Separate Solutions (continued)

6. Seventeen taps cost $10.50, what would 7 taps cost?

Solution:

C. Problems without Solutions

7. For each 2.5°C increase in water temperature above 20.0°C, a certain thermostatically controlled valve opens 0.035". Find the valve opening at
   (a) 62°C
   (b) 98°C.
   (c) What is the water temperature when the valve opening is 0.84"?

Solution:

8. Of two gears in mesh, one turns at a rate of 75 rpms, and the other turns at 50 rpms. What is their gear ratio?

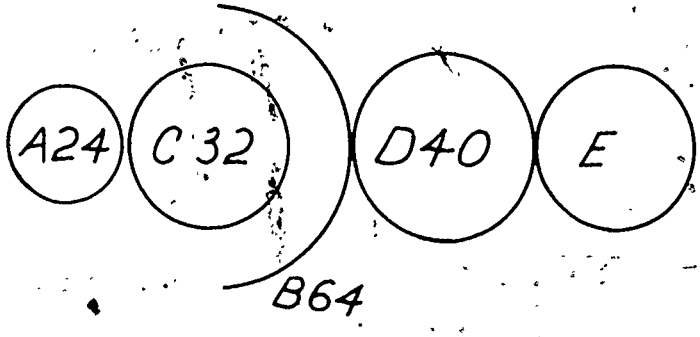
Solution:

C. Problems without Solutions (continued)

9. A step pulley has steps of 3", 3 1/2" and 4" in diameter, and running at 3400 rpms drives another step pulley with steps of 3", 3 1/2" and 4". What speeds can be obtained?

Solution:

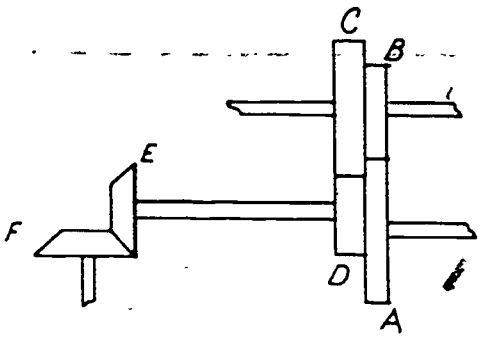
10. Gear B in the figure is required to make 100 rpms while A makes 75 rpms. How many teeth must E have if A has 24; B has 64; C has 32 and D has 40 teeth? (Gears C and B are on the same shaft)



Solution:

C. Problems without Solutions (continued)

11. In the figure how many teeth must F have if it is required to make 320 rpms while A makes 120 rpms and has 72 teeth; B has 24 teeth; C has 40 teeth; D has 36 teeth; and E has 32 teeth? (Gears B and C are on the same shaft. Gear D and E are on the same shaft.)



Solution:

Solutions to B problems

B.4

t = taper in 4"

$$\frac{t}{0.065"} = \frac{4 \text{ in}}{15.3 \text{ in}}$$

$$15.3t = 4(0.065")$$

$$15.3t = .26"$$

$$t = \frac{.26"}{15.3}$$

$$t = 0.017 \text{ in}$$

Solutions to B problems (continued)

B.5

p = pressure at 25' 8" or 25.67'

$$\frac{p}{6.72 \text{ lbs/sq in}} = \frac{25.67 \cancel{\text{ ft}}}{15 \cancel{\text{ ft}}}$$

$$15p = (6.72 \text{ lbs/sq in})(25.67)$$

$$15p = 172.5 \text{ lbs/sq in}$$

$$p = \frac{172.5 \text{ lbs/sq in}}{15}$$

$$p = 11.5 \text{ lbs/sq in}$$

B.6

c = cost of 7 taps

$$\frac{c}{\$10.50} = \frac{7 \cancel{\text{ taps}}}{17 \cancel{\text{ taps}}}$$

$$17c = 7(\$10.50)$$

$$17c = \$73.50$$

$$c = \frac{\$73.50}{17}$$

$$c = \$4.32$$

Solutions to C problems

C.7

length = 2' + 1' + 1' + 1' + 2' = 7 ft

C.8

$$\text{degrees in each wrinkle} = \frac{45^\circ}{9 \text{ wrinkles}} = 5^\circ \text{ per wrinkle}$$

C.9

$$\text{gallons} = \frac{1085 \text{ cu ft}}{7 \text{ cu ft/ gal}} = \frac{1085 \cancel{\text{cu ft}} \times \text{gal}}{7 \cancel{\text{cu ft}}} = 155 \text{ gals}$$

C.10

$$\text{volume} = (420 \cancel{\text{gal}})\left(\frac{231 \text{ cu in}}{\cancel{\text{gal}}}\right) = 97{,}020 \text{ cu in}$$

C.11

$$\text{gallons of paint} = \frac{351 \text{ sq ft}}{13 \text{ sq ft/gal}} = \frac{351 \cancel{\text{sq ft}} \times \text{gal}}{13 \cancel{\text{sq ft}}} = 27 \text{ gals}$$

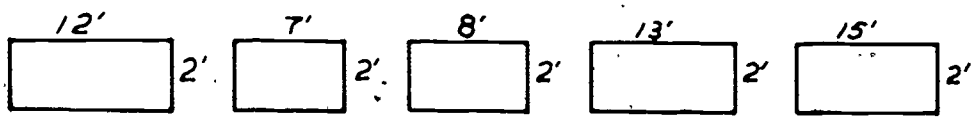
C.12

length = 11" + 9" + 13" + 23" + 15" + 1" = 72"

$$72 \cancel{\text{in}}\left(\frac{1 \text{ ft}}{12 \cancel{\text{in}}}\right) = 6 \text{ ft}$$

C. 13

Length of line = 12' + 7' + 8' + 13' + 15' + 4(2')= 63'



Solutions to C problems (continued).

C.14

A = 7" - 2" - 2" = 3 in

depth of dovetail = 3" - 1" = 2"

C.15

A = 6" - 3" = 3 in

C = 9" - 7" = 2 in

D = 10" - 1" - 1" - 2" = 6 in

B = D - 2" = 6" - 2" = 4 in

C.16

number of tools = 148

money left = \$7.00

$$\frac{\$2,375.00}{\$16.00} = 148 + \$7.00$$

C.17

$$\text{minutes of operation} = \frac{467,245,800 \text{ cycles}}{4,200 \text{ cycles/min}} = \frac{467,245,800 \text{ cycles} \times \text{min}}{4,200 \text{ cycles}}$$

$$= 111,249 \text{ min}$$

Solutions to C problems

C.7

$$\text{thickness} = \frac{1.316" - 1.12"}{2} = .098 \text{ in}$$

C.8

$$\text{amount worn} = 1.317" - 1\ 3/16" = 1.317" - 1.1875"$$

$$= 0.1295" \text{ or about } 0.130 \text{ in}$$

C.9

$$\frac{27\ 1/8" - 2(1")}{14} = \frac{25\ 1/8"}{14} = \frac{25.125"}{14} = 1.795 \text{ in}$$

C.10

$$\text{cutting speed} = (2.42 \text{ in})(120 \text{ rpms}) = 290.4 \text{ in/min}$$

C.11

$$\text{length of pipe needed} = (13")(22\ 1/2^{\circ})(.01745)$$

$$= (13")(22.5^{\circ})(.01745)$$

$$= 5.104 \text{ in}$$

Solutions to C problems

C.7

$$\text{number of holes} = \frac{22\frac{5}{8}" - 2\left(1\frac{1}{4}"\right)}{1\frac{7}{16}"} = \frac{22\frac{5}{8}" - 2\frac{1}{2}"}{1\frac{7}{16}"}$$

$$= \frac{20\frac{1}{8}"}{1\frac{7}{16}"} = \frac{\frac{161}{8}\text{ in}}{\frac{23}{16}\text{ in}}$$

$$= \left(\frac{161}{8}\right)\left(\frac{16}{23}\right) = \frac{2576}{184}$$

$$= 14$$

C.8

$$\text{distance} = 3\frac{1}{64}" + 3\frac{9}{32}" + 4\frac{11}{32}" + 3\frac{9}{32}" + 3\frac{1}{64}"$$

$$= 3\frac{1}{64}" + 3\frac{18}{64}" + 4\frac{22}{64}" + 3\frac{18}{64}" + 3\frac{1}{64}"$$

$$= 16\frac{60}{64}"$$

$$= 16\frac{15}{16}\text{ in}$$

C.9

$$(25\text{ pins})\left(10\frac{1}{2}\frac{\text{min}}{\text{pin}}\right) + (25\text{ pins})\left(1\frac{1}{2}\frac{\text{min}}{\text{pin}}\right) = 250\frac{25}{2}\text{ min} + 25\frac{25}{2}\text{ min}$$

$$= 275\frac{50}{2}\text{ min} = 300\text{ min}$$

Solutions to C problems (continued)

C.10

a) $1\frac{53"}{64} + 2\left(\frac{13"}{32}\right) + \frac{3"}{16} = 1\frac{53"}{64} + \frac{52"}{64} + \frac{12"}{64} = 1\frac{117"}{64}$

$= 2\frac{53}{64}$ in

b) $1\frac{7"}{16} + 2\left(\frac{13"}{32}\right) + \frac{3"}{16} = 1\frac{14"}{32} + \frac{26"}{32} + \frac{6"}{32} = 1\frac{46"}{32}$

$= 2\frac{7}{16}$ in

c) $1\frac{13"}{64} + 2\left(\frac{13"}{32}\right) + \frac{3"}{16} = 1\frac{13"}{64} + \frac{52"}{64} + \frac{12"}{64} = 1\frac{77"}{64}$

$= 2\frac{13}{64}$ in

C.11

length $= (31)\left(19' \; 7\frac{4"}{32}\right) = 589' \; 217\frac{124"}{32}$

$= 589' \; 220\frac{28"}{32}$

$= 607' \; 4\frac{28"}{32}$

$= 607$ ft $4\frac{7}{8}$ in

Solutions to C problems

C.7

x = valve opening

a) at 62°C valve is affected by 62°C - 20.0°C = 42°C

$$\frac{x}{.035"} = \frac{42^\circ C}{2.5^\circ C} \qquad 2.5x = 42(.035")$$

$$2.5x = 1.47"$$

$$x = 0.588 \text{ in}$$

b) at 98°C valve is affected by 98°C - 20.0°C = 78°C

$$\frac{x}{.035"} = \frac{78^\circ C}{2.5^\circ C} \qquad 2.5x = 78(.035")$$

$$2.5x = 2.730"$$

$$x = 1.092 \text{ in}$$

c) t = temperature producing opening of .84"

$$\frac{t}{2.5^\circ C} = \frac{0.84 \text{ in}}{0.035 \text{ in}} \qquad 0.035t = (0.84)(2.5^\circ C)$$

$$0.035t = 2.1^\circ C$$

$$t = 60^\circ G$$

True temperature is t + 20°C = 80°C

C.8

either 75:50 = 3:2

or 50:75 = 2:3

C.9

Possible combinations are:

r = rpms of driven pulley

3:3 $\frac{r}{3400 \text{ rpms}} = \frac{3 \text{ in}}{3 \text{ in}}$

$\frac{r}{3400 \text{ rpms}} = 1$

r = 3400 rpms

3:3 1/2 $\frac{r}{3400 \text{ rpms}} = \frac{3 \text{ in}}{3\ 1/2 \text{ in}}$

4r = 10,200 rpms

r = 2,914 rpms

Solutions to C problems (continued)

C.9 (continued)

3:4 $\frac{r}{3400 \text{ rpms}} = \frac{3 \text{ in}}{4 \text{ in}}$

$4r = 10{,}200 \text{ rpms}$

$r = 2550 \text{ rpms}$

3 1/2:3 $\frac{r}{3400 \text{ rpms}} = \frac{3\ 1/2 \text{ in}}{3 \text{ in}}$

$3r = 11{,}900 \text{ rpms}$

$r = 3967 \text{ rpms}$

3 1/2:3 1/2 $\frac{r}{3400 \text{ rpms}} = \frac{3\ 1/2 \text{ in}}{3\ 1/2 \text{ in}}$

$r = 3400 \text{ rpms}$

3 1/2:4 $\frac{r}{3400 \text{ rpms}} = \frac{3\ 1/2 \text{ in}}{4 \text{ in}}$

$4r = 11{,}900 \text{ rpms}$

$r = 2975 \text{ rpms}$

4:3 $\frac{r}{3400 \text{ rpms}} = \frac{4 \text{ in}}{3 \text{ in}}$

$3r = 13{,}600 \text{ rpms}$

$r = 4533 \text{ rpms}$

4:3 1/2 $\frac{r}{3400 \text{ rpms}} = \frac{4 \text{ in}}{3\ 1/2 \text{ in}}$

$(3\ 1/2)r = 13{,}600 \text{ rpms}$

$r = 3886 \text{ rpms}$

4:4 $\frac{r}{3400 \text{ rpms}} = \frac{4 \text{ in}}{4 \text{ in}}$

$r = 3400 \text{ rpms}$

C.10

compute the rpms of each gear in succession

rpm of C : $\frac{24 \text{ teeth}}{32 \text{ teeth}} = \frac{C}{75 \text{ rpm}}$ $32C = 1800 \text{ rpm}$

$C = 56.25 \text{ rpm}$

rpm of B = rpm of C since they are on the same shaft

$B = 56.25 \text{ rpm}$

rpm of D : $\frac{64 \text{ teeth}}{40 \text{ teeth}} = \frac{D}{56.25 \text{ rpm}}$ $40D = 3600 \text{ rpm}$

$D = 90 \text{ rpm}$

rpm of E = 100 rpm t = teeth in E

$\frac{t}{40 \text{ teeth}} = \frac{90 \text{ rpm}}{100 \text{ rpm}}$ $100t = 3600 \text{ teeth}$

$t = 36 \text{ teeth}$

Solutions to C problems (continued)

C.11

compute the rpm of each gear in succession

rpm of B : $\frac{B}{120 \text{ rpm}} = \frac{72 \text{ teeth}}{24 \text{ teeth}}$ $24B = 8640 \text{ rpm}$ $B = 360 \text{ rpm}$

rpm of C = rpm of B since they are on the same shaft

rpm of C = 360 rpm

rpm of D : $\frac{D}{360 \text{ rpm}} = \frac{40 \text{ teeth}}{36 \text{ teeth}}$ $36D = 14400 \text{ rpm}$ $D = 400 \text{ rpm}$

rpm of E = rpm of D since they are on the same shaft

rpm of E = 400 rpm

t = teeth in F

$\frac{t}{32 \text{ teeth}} = \frac{400 \text{ rpm}}{320 \text{ rpm}}$ $320t = 12800 \text{ teeth}$ $\underline{t = 40 \text{ teeth}}$

OREGON VO-TECH MATH PROJECT

EVALUATION PACKAGE

DECIMALS — WELDING

A. Problems with Solutions

1. A 1" x 1" x 1/8" steel bar will weigh 0.38 pounds per foot. What is the weight of a 20' bar?

   Solution:

   $(0.38 \text{ lbs/ft})(20 \text{ ft}) = 7.6 \text{ lbs}$

2. A stock 20' bar of 7 inch I-beam weighs 306 pounds. What is the weight of a 16' bar?

   Solution:

   $\frac{306 \text{ lbs}}{20 \text{ ft}} = 15.3 \text{ lbs/ft}$

   $(15.3 \text{ lbs/ft})(16 \text{ ft}) = 244.8 \text{ lbs}$

3. A stock 8" x 8" H-beam weighs 32.6 lbs per foot. Find the weight of a beam 87 1/4 inches in length.

   Solution:

   $\frac{87\ 1/4 \text{ in}}{12 \text{ in/ft}} = \frac{349/4 \text{ in} \times \text{ft}}{12 \text{ in}} = \frac{349 \text{ ft}}{48} = 7.27 \text{ ft}$

   $(7.27 \text{ ft})(32.6 \text{ lbs/ft}) = 237 \text{ lbs}$

B. Problems with Separate Solutions

4. A 1/2 ton pickup has a load capacity of 4500 pounds. How many sheets of galvanized 60" x 144" 24 guage could be carried if the estimated weight per sheet is 69.4 pounds?

   Solution:

B. Problems with Separate Solutions (continued)

5. Convert each of the following measurements to feet in decimals:

a) 4' 6" b) 6' 3"

c) 2' 4 1/4" d) 9' 10 5/8"

e) 7" f) 27"

g) 103 1/2" h) 1/4"

Solution:

6. If a welder receives an hourly wage of $6.38 with time and one-half being paid for any hours over 40 during a given week, find his gross pay for a week in which he puts in 56 hours?

Solution:

C. Problems without Solutions

7. A stock 20' length of 3-inch channel weighs 82 lbs and costs $0.265 per pound. What is the cost of 116 inches of 3-inch channel?

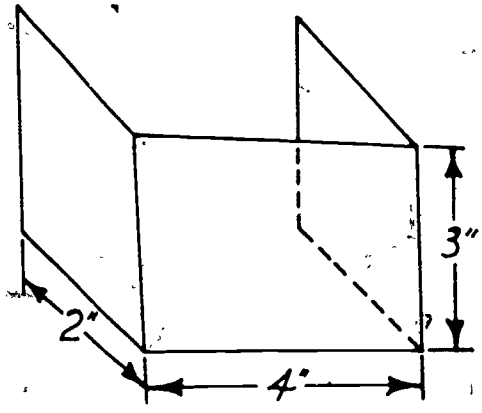
Solution:

C. Problems without Solutions (continued)

8. Find the cost of 1/8" electrodes if there is 12.5 feet to be welded with two Stringer passes and if each electrode will weld 8". The cost of the electrodes is $0.76 per lb and there are 12.6 electrodes per pound.

Solution:

9. Eight pieces as pictured are to be constructed from 1/4" x 3" F.B. whose weight is 2.55 lbs per foot and whose cost is $0.235 per pound. Find the cost of the steel.



Solution:

C. Problems without Solutions (continued)

10. If you receive an hourly wage of $7.14 with time and one-half being paid for any hours over 40 during a given week, compute your gross pay for the week whose time card reads as follows:

Monday	9 hrs	Thrusday	9 hrs
Tuesday	10 hrs	Friday	10 hrs
Wednesday	8 hrs	Saturday	4 hrs

Solution:

11. Convert each of the following measurements to feet and inches rounding to the nearest 1/4".

a) 6.3'

b) 4.27'

c) .39'

d) 1.09'

e) .088'

f) 4.11'

g) .89"

h) 2.33"

0" or greater but less than .125" rounds to 0"
.125" or greater but less than .375" rounds to 1/4"
.375" or greater but less than .625" rounds to 1/2"
.625" or greater but less than .875" rounds to 3/4"
.875" or greater rounds to 1"

Solution:

Solutions to B problems

B.4

$$\frac{4500 \text{ lbs}}{69.4 \text{ lbs/sheet}} = \frac{4500 \text{ lbs} \times \text{sheet}}{69.4 \text{ lbs}} = 64.84 \text{ sheets}$$

therefore 64 sheets could be carried

B.5

a) 4' 6" = 4 6/12 ft = 4.5 ft

b) 6' 3" = 6 3/12 ft = 6.25 ft

c) 2' 4 1/4" = $2 \frac{4\ 1/4}{12}$ ft = $2 \frac{17}{48}$ ft = 2.35 ft

d) 9' 10 5/8" = $9 \frac{10\ 5/8}{12}$ ft = $9 \frac{85}{96}$ ft = 9.89 ft

e) 7" = 7/12 ft = 0.58 ft

f) 27" = 27/12 ft = 2.25 ft

g) 103 1/2" = $\frac{103\ 1/2}{12}$ ft = $\frac{207}{24}$ ft = 8.63 ft

h) 1/4" = $\frac{1/4}{12}$ ft = $\frac{1}{48}$ ft = 0.021 ft

B.6

regular pay	(40 hrs)($6.38/hr) =	$255.20
overtime pay	(16 hrs)($6.38/hr)(1.5) =	153.12
	Gross Pay	$408.32

OREGON VO-TECH MATH PROJECT

EVALUATION PACKAGE

FRACTIONS WELDING

A. Problems with Solutions

1. Find the total amount of each type of steel needed: (Do not consider any waste)

Type	Lengths needed
a) [	4' 3"; 4' 8"; and 7' 2"
b) L	5' 6 1/2"; 8'; and 12' 2 1/2"
c) Ø	11 3/4"; 4' 2 3/4"; 8' 9 1/4"; and 5' 3 3/4"
d) I	2' 4 1/8"; 7' 3 3/4"; 9 1/2"; and 6' 8 5/8"
e) R	6"; 5' 7 1/3"; 4' 3 1/2"; and 5' 3 7/8"

Solution:

a) 4 ft 3 in + 4 ft 8 in + 7 ft 2 in = 15 ft 13 in = 16 ft 1 in

b) 5 ft 6 1/2 in + 8 ft + 12 ft 2 1/2 in = 25 ft 9 in

c) 11 3/4 in + 4 ft 2 3/4 in + 8 ft 9 1/4 in + 5 ft 3 3/4 in =
17 ft 25 10/4 in = 17 ft 27 1/2 in = 19 ft 3 1/2 in

d) 2 ft 4 1/8 in + 7 ft 3 3/4 in + 9 1/2 in + 6 ft 8 5/8 in =
15 ft 24 16/8 in = 17 ft 2 in

e) 6 in + 5 ft 7 1/3 in + 4 ft 3 1/2 in + 5 ft 3 7/8 in =
14 ft 19 41/24 in = 14 ft 20 17/24 in = 15 ft 8 17/24 in

A. Problems with Solutions (continued)

2. Find the total amount of each type of steel needed: (Do not consider any waste)

	Type	Lengths needed
a)	[	4 pieces 5' 2" in length
b)	L	7 pieces 8' 5" in length
c)	⌀	22 pieces 7 3/4" in length
d)	I	3 pieces 5' 7 3/8" in length
e)	PL	2 pieces 7' 8 1/2" in length and 9 pieces 6' 8 3/4" in length

Solution:

a) (4)(5 2/12 ft) = (4)(62/12 ft) = 248/12 ft
= 20 ft 8 in

b) (7)(8 5/12 ft) = (7)(101/12 ft) = 707/12 ft
= 58 ft 11 in

c) (22)(7 3/4 in) = (22)(31/4 in) = 682/4 in
= 170 1/2 in
= 14 ft 2 1/2 in

d) (3)(5 ft 7 3/8 in) = (3)(5 ft) + (3)(7 3/8 in)
= 15 ft + (3)(59/8 in)
= 15 ft + 177/8 in
= 15 ft + 22 1/8 in
= 16 ft 10 1/8 in

e) (2)(7 ft 8 1/2 in) = (2)(7 ft) + (2)(8 1/2 in)
= 14 ft + (2)(17/2 in)
= 14 ft + 34/2 in
= 14 ft + 17 in = 15 ft 5 in

A. Problems with Solutions (continued)

2. Solution: (continued)

e) (9)(6 ft 8 3/4 in) = (9)(6 ft) + (9)(8 3/4 in)

= 54 ft + (9)(35/4 in)

= 54 ft + 315/4 in

= 54 ft + 78 3/4 in

= 60 ft 6 3/4 in

total length = 60 ft 6 3/4 in + 15 ft 5 in

= 75 ft 11 3/4 in

B. Problems with Separate Solutions

3. How many pieces of 10 5/16" bar can be cut from a stock 20' bar. The material is to be torch cut and an allowance of a 3/16" kerf is to be made.

Solution:

4. A 39" piece of flat bar is to have 11 equally spaced holes drilled on the center line of the bar. The two end holes are to be 1 3/4" from the end of the bar. What will the distance be between each consecutive hole?

Solution:

C. Problems without Solutions

5. If an I-beam is to be cut into sections with the given tolerance, find the longest and shortest acceptable lengths:

	Length of Section	Tolerance
a)	22 1/2"	± 1/4"
b)	2' 7"	± 1/2"
c)	13'	± 1 1/2"
d)	23 3/4"	+ 1/8"; - 1/2"
e)	2' 1/8"	+ 1/4"; - 3/16"
f)	10'	+ 1/16"; - 1/8"

Solution:

6. The center points of two holes drilled in a piece of F.B. are 18 3/4" apart. Two more holes are to be equally spaced between these two holes. Locate the center point of each of the remaining holes.

Solution:

C. Problems without Solutions (continued)

7. An inventory of all stock on hand shows:

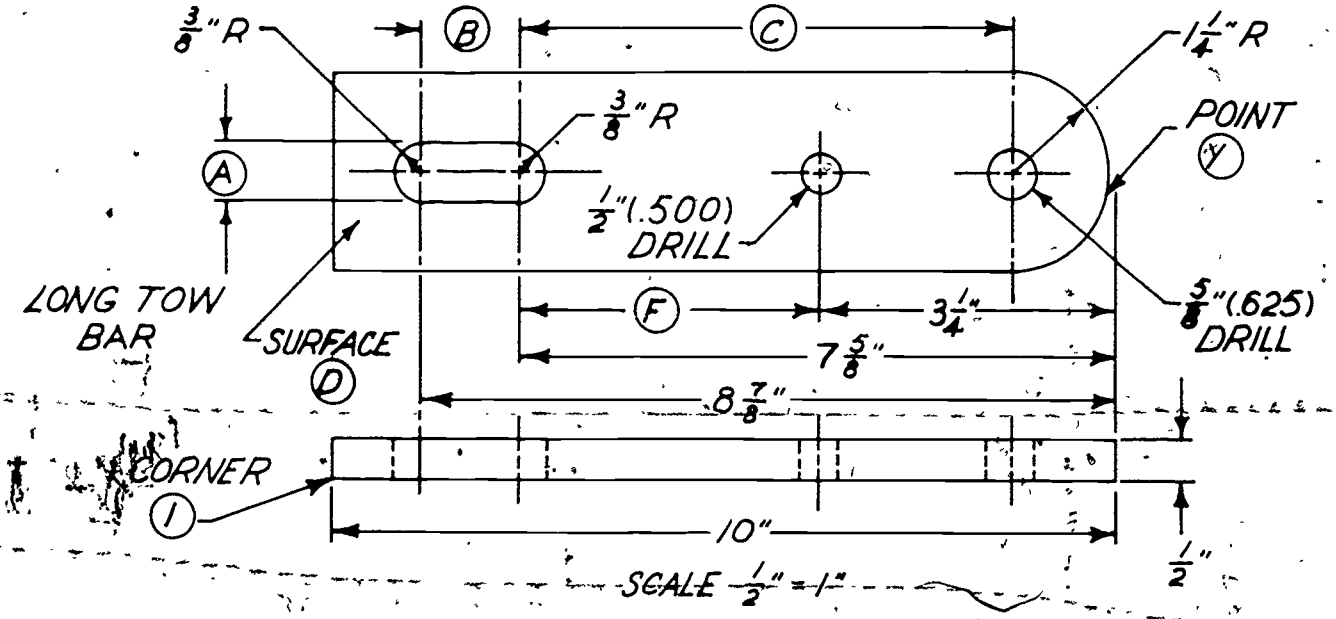
Flat Bar	16 ea.	1/4" X 3" X 20'
	8 ea.	1/2" X 4" X 10'
	20 ea.	3/4" X 6" X 15'
Steel Plate	2 ea.	1/2" X 4' X 12'
	5 ea.	5/16" X 3' X 9'
	1 ea.	3/4" X 4' X 8'
Round Stock	2 ea.	1/2" X 20'
	1 ea.	3/4" X 20'
	2 ea.	5/8" X 15'

Find the total weight of all the steel. The weight of steel can be found by the formula: thickness x width x length x .2835 (the measurements must be in inches)

Solution:

C. Problems without Solutions (continued)

8. Find the distances A, B, C, and F on the given blueprint.



Solution:

Solutions to B problems

B.3

10 5/16" + 3/16" = 10 8/16" = 10.5 in

20 ft = 240 in

$\frac{240 \text{ in}}{10.5 \text{ in}} = 22.86$ therefore 22 pieces can be cut

Solutions to B problems (continued)

B.4

$$39" - 1\ 3/4" - 1\ 3/4" = 39" - 3\ 1/2" = 35\ 1/2 \text{ in}$$

$$\frac{35\ 1/2 \text{ in}}{10} = \frac{72/2 \text{ in}}{10} = \left(\frac{72}{2} \text{ in}\right)\left(\frac{1}{10}\right) = \frac{72}{20} \text{ in} = 3\ 11/20 \text{ in}$$

FRACTIONS WELDING

Solutions to C problems

C.5

	Longest	Shortest
a)	22 1/2" + 1/4" = 22 3/4 in	22 1/2" - 1/4" = 22 1/4"
b)	2' 7" + 1/2" = 2 ft 7 1/2 in	2' 7" - 1/2" = 2 ft 6 1/2 in
c)	13' + 1 1/2" = 13 ft 1 1/2 in	13' - 1 1/2" = 12 ft 10 1/2 in
d)	23 3/4" + 1/8" = 23 7/8 in	23 3/4" - 1/2" = 23 1/4 in
e)	2' 1/8" + 1/4" = 2 ft 3/8 in	2' 1/8" - 3/16" = 1 ft 15/16 in
f)	10' + 1/16" = 10 ft 1/16 in	10' - 1/8" = 9 ft 7/8 in

C.6

$$\frac{18\ 3/4\ \text{in}}{3} = \frac{75/4\ \text{in}}{3} = \left(\frac{75}{4}\ \text{in}\right)\left(\frac{1}{3}\right) = \frac{75}{12}\ \text{in} = 6\ 1/4\ \text{in}$$

C.7

Flat Bar	(16)(1/4)(3)(240)(.2835) =	816.48
	(8)(1/2)(4)(120)(.2835) =	544.32
	(20)(3/4)(6)(180)(.2835) =	4,592.70
Steel Plate	(2)(1/2)(48)(144)(.2835) =	1,959.55
	(5)(5/16)(36)(108)(.2835) =	1,722.26
	(1)(3/4)(48)(96)(.2835) =	979.78
Round Stock	(2)(1/2)(240)(.2835) =	68.04
	(1)(3/4)(240)(.2835) =	51.03
	(2)(5/8)(180)(.2835) =	63.79
	Total weight of steel	10,797.95 lbs

C.8

A = 3/8" + 3/8" = 6/8" = 3/4 in

B = 8 7/8" - 7 5/8" = 1 2/8" = 1 1/4 in

C = 7 5/8" - 1 1/4" = 7 5/8" - 1 2/8" = 6 3/8 in

F = 7 5/8" - 3 1/4" = 7 5/8" - 3 2/8" = 4 3/8 in

Solutions to C problems

C.7

$$\frac{116 \text{ in}}{12 \text{ in/ft}} = \frac{116 \text{ in} \times \text{ft}}{12 \text{ in}} = 9.67 \text{ ft}$$

$$\frac{82 \text{ lbs}}{20 \text{ ft}} = 4.1 \text{ lbs/ft}$$

$$(9.67 \text{ ft})(4.1 \text{ lbs/ft}) = 39.65 \text{ lbs}$$

$$(39.65 \text{ lbs})(\$0.265/\text{lb}) = \$10.51$$

C.8

$$\frac{12.5 \text{ ft}}{0.67 \text{ ft/electrode}} = \frac{12.5 \text{ ft} \times \text{electrode}}{0.67 \text{ ft}} = 18.66 \text{ electrodes}$$

$$= 19 \text{ electrodes}$$

$$\frac{\$0.76/\text{lb}}{12.6 \text{ electrodes/lb}} = \frac{\$0.76/\text{lb} \times \text{lb}}{12.6 \text{ electrodes}} = \$0.06/\text{electrode}$$

$$(19 \text{ electrodes})(\$0.06/\text{electrode})(2) = \$2.28$$

C.9

Total length = 8 (2" + 4" + 3") = 72" = 6 ft

Total weight = (6 ft)(2.55 lbs/ft) = 15.3 lbs

Total cost = (15.3 lbs)($0.235/lb) = $3.60

C.10

9 hr + 10 hr + 8 hr + 9 hr + 10 hr + 4 hr = 50 hrs

50 hr - 40 hr = 10 hrs overtime

regular pay	(40 hrs)($7.14/hr) =	$285.60
overtime pay	(10 hr)($7.14/hr)(1.5) =	107.10
	Gross Pay	$392.70

Solutions to C problems (continued)

C.11

a) (0.3 ft)(12 in/ft) = 3.6 in, therefore 6.3' = 6 ft 3 1/2 in

b) (0.27 ft)(12 in/ft) = 3.24 in, therefore 4.27' = 4 ft 3 1/4 in

c) (0.39 ft)(12 in/ft) = 4.68 in, therefore 0.39' = 4 3/4 in

d) (0.09 ft)(12 in/ft) = 1.08 in, therefore 1.09' = 1 ft 1 in

e) (0.088 ft)(12 in/ft) = 1.056 in, therefore 0.088' = 1 in

f) (0.11 ft)(12 in/ft) = 1.32 in, therefore 4.11' = 4 ft 1 1/4 in

g) 0.89" = 1 in

h) 2.33" = 2 1/4 in

OREGON VO-TECH MATH PROJECT

LEARNING PACKAGE EVALUATION SHEET

Please check the most appropriate box or boxes.

1. Learning package indentification _____.

2. The problems in this package were:

   too easy ☐ about right ☐ too difficult ☐

3. How long did it take you to complete this problem package?

   1 class period ☐ 2 class periods ☐

   more than 2 class periods ☐

4. How could the material in this package be improved?

   more instruction sheets ☐ more instructor help ☐

   packages explaining math concepts ☐ group discussions ☐

   work experience ☐ more lectures ☐

5. Were you able to solve the problems in sections B and C of this package?

   yes ☐ no ☐

   If not, please comment:

   _____

   _____

6. Would you like to see more problems of this type used in your math class?

   yes ☐ no ☐

7. Other comments:

   _____

   _____

   _____

OREGON VO-TECH MATH PROJECT

LEARNING PACKAGE EVALUATION SHEET

INSTRUCTOR

Learning Package Identification_____

1. What difficulties did your students encounter in using this package?

2. What revisions, modifications, deletions, or additions to this learning package would help your students?

3. What corrections are necessary?

State Department of Education
Salem, Oregon 97310

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Community Colleges
and Career Education

APPLICATION FOR APPLIED RESEARCH OR EXEMPLARY
PROJECTS IN VOCATIONAL EDUCATION
(Submit in Triplicate)

1. Applicant Agency: Linn-Benton Community College
2. Address: 6500 S.W. Pacific Blvd., Albany, Oregon
3. Project Initiator: Dell Swearingen Phone No. 928-2361
4. Check type of project: ___ Research X Exemplary
5. Title of project: Vo-Tech Math Project
6. Starting date: Dec 1, 1973 Ending date: June 30, 1974
7. Identify nature of project (check proper spaces):

___ Career Awareness	___ Guidance and Counseling
___ Career Exploration	X Articulation
X Career Preparation	X In-Service
X Career Specialization	___ Other ___

Level

___ Elementary	X Post-Secondary
X Secondary	___ Adult

8. Funding:

___	Local Funds
19,858.21	Federal Funds Requested
___	Other Funds (Identify)
19,858.21	Estimated Total Cost

9. I certify that the program services and activities under this project will be conducted in accordance with the provisions of the state plan for the administration of vocational education.

Raymond J. Needham — Director
Authorized Local Agency Representative — Title

Mar 14 1973
Date

IMPORTANT: Attach a description of the proposed project using the basic format outlined on the back of this page. The description should be sufficient to permit evaluation of the project against the indicated criteria.

For State Department of Education Use

10. Date application received ___ Project No. Assigned ___
11. Approval Action: Amount of funds allocated 19,858
12. ___ ___
State Department of Education Designated Representative — Date

Form 4613 (10-73)

STATE-WIDE VO-TECH MATH PROJECT

PROPOSED BUDGET 1 Jan 74 - 30 Jun 74

1.	Salaries	
	Director 1/2 FTE for 6 months	3374.00
	Secretary-Editor 1 1/2 FTE for 6 months	4500.00
	Benefits 17%	1338.58
2.	Indirect costs 5%	945.63
3.	Travel and per diem	1750.00
4.	Printing costs - 10,000 pages	3000.00
5.	Supplies and materials - paper, envelopes, secretarial	300.00
6.	Telephone and postage	500.00
7.	Orientation meeting for participants	1430.00
8.	Consultants/writers 9 people for 2 days	720.00
9.	Writers/revisers 4 people/60 hours/$7.50/hour	1800.00
10.	Contingency	200.00
		19,858.21

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PROPOSAL FOR VO-TECH MATH PROJECT

Purpose

The ongoing Oregon Vo-Tech Math Project is designed to provide realistic verbal problem sets for occupational courses offered in Oregon Community colleges and high schools. The math problems are identified by observation and discussion with technicians involved in specific career activities. The problems selected are aimed at: 1) providing the math skills necessary for an individual to get a job and perform that job adequately and 2) providing an individual with the math skills necessary for advancement. This information will be valuable in determining course content needed to meet new high school graduation requirements. The problem sets provide a primary resource for planning occupational math curriculum and determining related behavior objectives. They are designed to create a learning climate which will be supportive to and provide positive reinforcement of math concepts with relevancy to specific occupational areas.

At the present time the verbal problems are contained in booklets according to career cluster area. These booklets are not in a practical form from the student's or instructor's point of view. We need to adopt an individualized format and print the problem sets accordingly. Such a format will allow a student to work problems in various career areas and will relieve the instructor from duplicating volumes of material.

Although the realistic occupational math problem sets have been used in many Oregon Community College and high school classrooms over the past two years they have never undergone any type of evaluation. The steering committee of the Oregon Vo-Tech Math Project feels it is now time to evaluate both the new individualized format and the realistic verbal problem sets

for the occupational courses. In order to evaluate the individualized problem sets in a realistic setting, we propose to select twelve (12) high schools, geographically distributed throughout the state, to serve as evaluation sites. This evaluation is to be undertaken jointly by high school and college instructors thus facilitating articulation between the educational institutions, industry and community.

The Oregon high school students who will continue their education in terminal career occupational programs at Oregon Community Colleges make up more than half of the total high school enrollment. To provide these students with the mathematics they "need" and allow for flexibility in mathematics programs, the objectives and related relevant problem sets must be available to the high school math instructors.

Objectives

General Vo-Tech Math Project Objectives

1. Continue to identify the mathematical needs for occupational career areas.
2. Continue to identify performance objectives related to specific occupational career areas. These objectives will help Oregon high schools meet the new graduation requirements.
3. Adopt format and prepare individualized instructional packages for specific career clusters.
4. Evaluate materials produced by project participants.
5. Evaluate existing related instructional materials.
6. Promote articulation between educational institutions, industry and the community.
7. Conduct staff visitation and follow-up to include a written report from participants to the project director.

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8. Compile participants evaluation forms in cooperation with the State Board of Education.
9. Revise and prepare complete individualized career problem sets for printing.

Specific Objectives

Nov. 7, 1973 - June 30, 1974

1. Identify from the rough draft problem sets produced during the previous two summers those individualized problems and career areas to be evaluated.
2. Identify twelve model high schools and seven community colleges to evaluate and critique the individualized instructional packages.
3. Establish model articulation programs. Efforts will be made to encourage articulation between:
   a) High schools, community colleges, and four year schools.
   b) All of the community colleges in Oregon.
   c) Math and vo-tech instructors.
   d) Schools and the community they serve.
4. Print the individualized problem sets and the evaluation instruments.
5. Conduct orientation for participating instructors.

Personnel

Participants will be selected from twelve Oregon high school and seven Oregon community college mathematics departments. The project director will communicate with prospective participants. The project director will also select participants from the Vo-Tech Math Project for editing, revision and continuing the development of problem sets. Participant selection will be based on the following:

1. Involvement in Vo-Tech mathematics courses.

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2. Occupational and mathematics experience.

3. Expressed a strong desire to participate.

4. Indication of flexibility in instructional methods.

Dell L. Swearingen, Linn-Benton Community College, Albany, Oregon, was selected by the Vo-Tech Math Project steering committee to act as project director. Dell Swearingen served as a participant of the OMEC summer projects the previous two summers. Dell has also been a member of the steering committee during the last year.

Funds from this project will be used to hire the secretarial assistance necessary to compose, edit and type the print ready copies of the problem sets to be evaluated. As time permits the complete problem sets of high priority will be made print ready.

Procedures

By mid-November the steering committee for the Oregon Vo-Tech Math Project will have identified the two components of the proposed evaluation. These components are: 1) the math problem packages to be evaluated, and 2) high school and community college instructors who will perform the evaluation of the problem packages.

The math problem packages to be evaluated will be abstracted from the current material gathered by the Vo-Tech Math Project. The problem packages will be collated by nine community college instructors who will also prepare the concomitant behavioral objectives. Selection of the problems will be coordinated with the occupational areas identified in the Oregon career cluster guides.

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Starting in November, using limited funds available, secretarial positions will provide the human resources necessary to type, edit and proof the testing packages. This proposal will provide the funds necessary for printing the testing packages and evaluation instruments by mid-January, 1974. This proposal will also provide secretarial help to start preparing the entire collection of occupational math problems into print ready copy.

By the end of January 1974, a one day intensive orientation meeting for project participants who are to evaluate the individualized problem packages will be held. A guided discussion of project activities and objectives will be conducted by participants of the Oregon Vo-Tech Math Project and members of the State Board of Education. A guideline and format for evaluations of materials will be provided each participant.

The evaluation will be conducted by instruments accompanying the individualized problem packages. The evaluation will be coordinated by the project director, Dell Swearingen of LBCC. Dell will work one-half time directing and coordinating the activities of the participants during the six months of the project. His travel time will consist of at least two days a week to work directly with the model high schools and the SBE curriculum specialist. This frequent contact with project personnel will serve to promote articulation as mentioned ~~in specific~~ objective 3 and its evaluation criteria. The director will also begin efforts to provide for the continuation of the Oregon Vo-Tech Math Project. He will be responsible for establishing priorities and selecting the occupational area involvement that will provide maximum career area coverage within the needs of the state.

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Evaluation

Evaluation of the project will consist of determining if the specific objectives were accomplished.

1.1 This objective will be met if individualized problems and career areas to be evaluated are identified by mid-November.

2.1 If this objective is met the project director will have a list of participating schools by mid-December.

2.2 The individualized problems will be evaluated on the basis of an analysis of the following criteria.

a) The use of accurate mathematics and vocabulary in the problem sets.

b) The use of reasonable limits in the problem sets.

c) The use of the participating students' and instructors' suggestions for revision of the problem sets.

d) The use of the individualized problem sets in several types of student activities. For example, use in the traditional and individualized classrooms.

e) The use of the individualized problem sets as a basis for an in-service program for instructors.

f) The use of the individualized problem sets in high school and community college math classes.

3.1 a. To corroborate articulation between the high schools, community colleges and the four year schools, representatives from the respective schools will be invited to attend the steering committee meetings. All interested instructors and administrators from the respective schools will be invited to the June orientation meeting. The project director will consider this portion of objective number

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two met if each of the above mentioned meetings are well attended by representatives from each of the respective types of schools.

3.1 a,b. The project director will have individual conferences with the direct supervisor of each of the participating instructors to obtain their opinion if articulation is taking place.

3.1 a,c. The project director will explain the project at Math Conferences in Oregon and at the NCTM Annual Meeting in Atlantic City, NJ.

3.1 b,a. Articulation will take place between each of the community colleges at the department chairmans meetings. Three department chairmen will be representatives from our project. This will keep each community college informed of what problem sets are available.

3.1 b,b. The project director will send minutes of each steering committee meeting to a representative of each community college in Oregon.

3.1 c. The project director will obtain problem set evaluations from career area instructors.

3.1 d. The project director will obtain problem set evaluations from several members of the local community. In particular, an evaluation will be sought from the local apprentice board.

4.1 This objective will be met if the individualized problems and evaluation instruments are printed by mid-January.

5.1 This objective will be met if the one day intensive orientation meeting is held for participating instructors by the end of January.

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STATE-WIDE VO-TECH MATH PROJECT

PROPOSED BUDGET 1 Jan 74 - 30 Jun 74

1.	Salaries	
	Director 1/2 FTE for 6 months	3374.00
	Secretary-Editor 1 1/2 FTE for 6 months	4500.00
	Benefits 17%	1338.58
2.	Indirect costs 5%	945.63
3.	Travel and per diem	1750.00
4.	Printing costs - 10,000 pages	3000.00
5.	Supplies and materials - paper, envelopes, secretarial	300.00
6.	Telephone and postage	500.00
7.	Orientation meeting for participants	1430.00
8.	Consultants/writers 9 people for 2 days	720.00
9.	Writers/revisers 4 people/60 hours/$7.50/hour	1800.00
10.	Contingency	200.00
		19,858.21

ACCESSION NUMBER: VT101417

PUBLICATION DATE: 73

TITLE: MODELS FOR CAREER EDUCATION IN IOWA. GOALS AND OBJECTIVES FOR IMPLENTATION OF CAREER EDUCATION IN GRADES 7-12.

DESCRIPTOR: *CAREER EDUCATION; *PROGRAM DEVELOPMENT; *CAREER PLANNING; *VOCATIONAL EDUCATION; SELF CONCEPT; WORK ATTITUDES; JOB SKILLS; DECISION MAKING SKILLS

IDENTIFIER: MASON CITY COMMUNITY SCHOOL DISTRICT; IOWA

EDRS PRICE: MF AVAILABLE IN VT-ERIC SET.

DESCRIPTIVE NOTE: 79P.

ABSTRACT: ACTIVITIES TO IMPLEMENT CAREER EDUCATION INTO THE SECONDARY SCHOOL GRADES OF THE MASON CITY COMMUNITY SCHOOL DISTRICT PROVIDE LOCAL EDUCATIONAL PERSONNEL WITH SAMPLE METHODS OF MATERIALS AND EVALUATIONS FOR EACH OF THE SIX SCHOOLS INVOLVED IN THE 1973 WORKSHOP. GOALS INCLUDE THE FOLLOWING: (1) SELF-AWARENESS, (2) ALTERNATIVES IN LIFE, (3) POSITIVE ATTITUDES TOWARD WORK, (4) KNOWLEDGE OF AND EXPERIENCE IN WORK STUDY, (5) DEVELOPMENT OF SKILLS FOR CAREERS, AND (6) REFORMULATION OF TENTATIVE CAREER CHOICE. A GLOSSARY AND LIST OF RESOURCE MATERIALS ARE APPENDED. (MU)

INSTITUTION NAME: MASON CITY COMMUNITY SCHOOL DIST., IOWA.

SPONSORING AGENCY NAME: OFFICE OF EDUCATION (DHEW), WASHINGTON, D.C.

101 417

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Models for Career Education in Iowa

GOALS AND OBJECTIVES FOR IMPLEMENTATION OF CAREER EDUCATION IN GRADES 7-12

MASON CITY COMMUNITY SCHOOL DISTRICT

Summer 1973

Iowa a place to grow

Department of Public Instruction

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Models for Career Education in Iowa

GOALS AND OBJECTIVES FOR IMPLEMENTATION OF CAREER EDUCATION IN GRADES 7-12

MASON CITY COMMUNITY SCHOOL DISTRICT

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PREFACE

Career Education -- Is it good for kids? -- That's a question that has prompted many of us to search for a greater understanding of the concept and to reassess the types of experiences our educational programs provide. This search is resulting in a growing commitment to assure curriculum objectives and activities that provide career education experiences for all students.

A research project, Unifying a Career Education Theme in the Curriculum through Teacher Inservice Activities, was initiated in 1972 through the Iowa Department of Public Instruction. The purpose of the effort was to research, define, and describe possible approaches for implementing career education through teacher concept development and commitment.

The project was sponsored by the Iowa Department of Public Instruction in cooperation with the Mason City Community School District. Values clarification workshops and a variety of occupational experiences for teachers were followed by curriculum development workshops, K-12.

"Goals and Objectives for Implementation of Career Education Grades 7-12" is an outcome of a 1973 summer workshop. It provides sample methods, materials, and evaluations for each of the goals developed in project workshops. Through such curriculum development, opportunities may be provided for students to experience values clarification and self-awareness clarification as they relate to the world of work.

Publications were developed as part of the responsibility of project participants and staff to provide visibility to the findings and accomplishments of the project. These guidelines and instructional materials are provided at this time to assist local school personnel interested in initiating programs, services, and activities for their students.

Robert D. Benton

Robert D. Benton, Ed.D.
State Superintendent of
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INTRODUCTION

CAREER EDUCATION AND THE MASON CITY SCHOOL DISTRICT

Though career education should not and cannot be considered a panacea, we would be foolhardy not to regard it as a concept that seems to offer the best opportunity for charting a new direction, or to providing an uplift for what many lay people and educators feel to be a [illegible] falter-ing educational process. All we have to do is look around [illegible] and listen carefully to our critics who tell us that the educational process does not seem to be related to the real world or to preparing our young people for both creating and living in a future.

So many seem to misunderstand what should be a very broad concept and frequently define career education as a program, a course, a method, or a specific operational gimmick. Some of these people have been turned off by the concept, while others tout it as the process by which we can save education from disaster, or at least reduce education's big problems to small ones. Both groups are probably wrong.

Actually, career education is a very broad concept which provides a vehicle for a new emphasis or direction for education which can assist us in providing expanded options for young people.

The concept draws on what we know about learning, about curriculum, about human nature, and about our society so that what we do is more closely related to the needs of the individual and of our society. It is a concept for making formal and informal learning through subject matter, through activities, through a variety of experiences in the school and in the community more worthwhile and more realistic to every student's self-development and to their personal and career goals.

There need be no question of our commitment as a school district to the career education concept. We have as a prime responsibility the development and the implementation of the concept for students of all academic and intellectual abilities from all socio-economic strata, interested in all occupational and career fields, whose instruction is provided within all departments, at all levels, and in all of our buildings. "All" is inclusive and does suggest that career education should offer something for everyone. Consider, please, three of the attitudes or characteristics normally associated with career education: worth, responsibility, and productivity. Worth for one's self and for others, acceptance of responsibility, and the realization of the need to be productive are attitudes which should not be limited to any segment of our student body or our populace.

"Careers" in its very broad sense has meaning for all people whether it be for the architect or the carpenter, the sales manager or the salesman,

the homemaker or the wage earner, the nurse's aide or the physitian, the student or the teacher. Those of us in education cannot practice our art without relating what we are attempting to do to some greater purpose that will have significant, lifelong meaning for both the student and for our society. The career education concept offers the most likely opportunity to provide this meaning. Career education should assist each of us to personalize education as well as to individualize education.

-Dr. Roderick Bickert, Superintendent
Mason City Community School System

RATIONALE

Because work is paramount to the personal and economic needs of most Americans, the disinterest in work or the employment in meaningless work tasks or the absence of work opportunities are becoming increasingly significant problems. Some manifestations of these problems are readily apparent in the disregard for personal and public property, crime and delinquency, alcoholism and drug addiction, careless workmanship, and disenchantment in and rejection of the work ethic.

As a means of dealing with this concern, it is essential to approach it in a preventative, comprehensive manner. The foundation of our approach must be a new and more vital emphasis on value systems, attitudes, and the personness of each individual. Through career education as a facet of our present educational program in Mason City, we can begin to implement and facilitate the much-needed changes.

Although definitions of career education are as diverse as they are abundant, the commonality in these definitions is the coupling of career education to the world of work. In an effort to alter in a positive manner anti-social attitudes and values, it is imperative to broaden the definition of "work" from a narrowed, one-dimensional notion simply termed the 8-to-5 grind to a multi-dimensional concept. In expanding the definition of work, it is important to redefine what is meant by work. For our purposes work will be defined as "any activity that produces something of value for oneself and/or other people."

PROCEDURE

Fifteen Mason City teachers and two facilitators were involved in the writing of behavioral objectives allowing the incorporation of career education concepts within the framework of secondary curricula. For the past two summers each of these teachers has participated in a summer career education workshop. The entire group decided on six basic goals. The members were then divided into three sub-groups with the basic task of formulating the behavioral objectives of two of the goals. The task of the facilitators was essentially two-fold: to serve as sounding boards throughout the formulation of each group's objectives and to maintain an updated edition of the entire project.

The following compilation is an attempt to provide opportunities through which students may begin to experience value clarification and self-awareness clarification as they relate to the world of work. The broad-based goals and objectives on the secondary level coupled with teacher creativity and ingenuity can assist the student to develop self-awareness, economic awareness, and career awareness.

GOALS

I. Awareness of self and one's place in society

II. Awareness of alternatives in life

III. Development of positive attitudes toward work

IV. Knowledge of and experience in work settings and occupations

V. Development of skills for careers

VI. Reformulation of a tentative career choice

I. AWARENESS OF SELF AND ONE'S PLACE IN SOCIETY

GOAL I. AWARENESS OF SELF AND ONE'S PLACE IN SOCIETY

PERFORMANCE OBJECTIVE A. To promote self-acceptance through an awareness and understanding of his developing strengths, values, needs and interests as they relate to work roles, the student will...

BEHAVIORAL OBJECTIVES	METHODS & MATERIALS*	EVALUATIONS**
1) appraise his personal, social, and academic strengths;	4, 5, 6, 9, 24, 30	1, 2, 6, 8
2) relate his strengths to school and work roles;	12, 14, 16, 17, 18, 21, 23, 25	2, 3, 4, 6, 9
3) assess his individual values and needs;	1, 4, 5, 6, 7, 14, 30	1, 2, 6, 8
4) relate his individual values and needs to the school and work roles.	2, 12, 17, 18, 19, 21, 23, 24, 26, 29	2, 3, 4, 6, 9
IMPLEMENTATION SUGGESTIONS * Numbers refer to numerical listing of Methods and Materials. ** Numbers refer to numerical listing of Evaluations.		

LIST OF METHODS AND MATERIALS*

1) artistic-music
2) bulletin boards, posters
3) business games
4) buzz groups
5) case problems
6) collage
7) committee groups
8) computer
9) cumulative record interpretation
10) debate
11) demonstration
12) field trip, observation, interview
13) handicrafts
14) independent study
15) lecture
16) movies, films, video tape
17) on-the-job
18) panel discussion
19) poetry: reading, writing
20) practice & drill
21) reading
22) records, tapes, TV, radio
23) resource persons
24) role-playing
25) simulation
26) speeches
27) staffings (with the student involved)
28) supervised study
29) themes, short stories
30) work sheet or check list
31)
32)
33)
34)
35)

LIST OF EVALUATIONS**

1) check list
2) conferences-parent, student, or both
3) interview-oral, written or tape
4) observation
5) pencil & paper test, teacher-made
6) self-assessment
7) staffings
8) standardized test
9) student-prepared summaries
10)
11)
12)
13)
14)
15)

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GOAL I. AWARENESS OF SELF AND ONE'S PLACE IN SOCIETY

PERFORMANCE OBJECTIVE B. To further self-acceptance through an awareness and understanding of how others feel about him and how he feels about others, the student will...

BEHAVIORAL OBJECTIVES	METHODS & MATERIALS*	EVALUATIONS**
1) describe his personal contribution to social organizations;	4, 6, 14, 17, 18, 26	1, 3, 9
2) show how self-acceptance develops as a result of work tasks and related situations;	12, 17, 23, 27	2, 3, 4, 6, 7, 9
3) show an awareness and trust of others in task situations;	4, 7, 17, 18, 21, 24, 25	2, 3, 4, 6, 7
4) show a sensitivity and obligation to others in group task situations;	4, 7, 10, 12, 17, 24, 25, 27	2, 4, 6, 7
5) describe individual differences and identify factors accounting for these differences.	2, 6, 24, 29, 30	1, 3, 5, 9

IMPLEMENTATION SUGGESTIONS

* Numbers refer to numerical listing of Methods and Materials.

** Numbers refer to numerical listing of Evaluations.

LIST OF METHODS AND MATERIALS*

1) artistic-music
2) bulletin boards, posters
3) business games
4) buzz groups
5) case problems
6) collage
7) committee groups
8) computer
9) cumulative record interpretation
10) debate
11) demonstration
12) field trip, observation, interview
13) handicrafts
14) independent study
15) lecture
16) movies, films, video tape
17) on-the-job
18) panel discussion
19) poetry: reading, writing
20) practice & drill
21) reading
22) records, tapes, TV, radio
23) resource persons
24) role-playing
25) simulation
26) speeches
27) staffings (with the student involved)
28) supervised study
29) themes, short stories
30) work sheet or check list
31)
32)
33)
34)
35)

LIST OF EVALUATIONS**

1) check list
2) conferences- parent, student, or both
3) interview-oral, written or tape
4) observation
5) pencil and paper test, teacher-made
6) self-assessment
7) staffings
8) standardized test
9) student prepared summaries
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11)
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GOAL I. AWARENESS OF SELF AND ONE'S PLACE IN SOCIETY

PERFORMANCE OBJECTIVE C. To determine how his values and goals in life will be relevant to his life style, the student will...

BEHAVIORAL OBJECTIVES	METHODS & MATERIALS*	EVALUATIONS**
1) recognize varied life styles of ethnic, cultural, civic and religious groups;	1, 6, 7, 12, 13, 14, 15, 19, 21, 22, 23, 28	1, 2, 3, 5, 6, 7, 9
2) assess his evolving philosophy in relationship to his work role.	1, 5, 9, 10, 12, 14, 17, 19, 21, 22, 23, 30	2, 3, 6, 9

IMPLEMENTATION SUGGESTIONS

* Numbers refer to numerical listing of Methods and Materials.

** Numbers refer to numerical listing of Evaluations.

LIST OF METHODS AND MATERIALS**

1) artistic-music
2) bulletin boards, posters
3) business games
4) buzz groups
5) case problems
6) collage
7) committee groups
8) computer
9) cumulative record interpretation
10) debate
11) demonstration
12) field trip, observation, interview
13) handicrafts
14) independent study
15) lecture
16) movies, films, video tape
17) on-the-job
18) panel discussion
19) poetry: reading, writing
20) practice & drill
21) reading
22) records, tapes, TV, radio
23) resource persons
24) role-playing
25) simulation
26) speeches
27) staffings (with the student involved)
28) supervised study
29) themes, short stories
30) work sheet or check list
31)
32)
33)
34)
35)

LIST OF EVALUATIONS**

1) check list
2) conferences-parent, student or both
3) interview-oral, written or tape
4) observation
5) pencil & paper test, teacher-made
6) self-assessment
7) staffings
8) standardized test
9) student prepared summaries
10)
11)
12)
13)
14)
15)

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SAMPLE EVALUATIONS

AND

METHODS AND MATERIALS

SAMPLE METHODS AND MATERIALS: 24) Role-playing
30) Check List

I. AWARENESS OF SELF AND ONE'S PLACE IN SOCIETY

OBJECTIVE: To further self-acceptance through an awareness and understanding of how others feel about him and how he feels about others, the student will...

5) describe individual differences and identify factors accounting for these differences

---

SUGGESTIONS TO TEACHERS wishing to use these activities to achieve this goal and its objective: these are only samples. They should be modified to fit student and/or class needs.

SAMPLE ACTIVITIES:

1) Role-play situations involving conflicting values and have class offer possible selections. (Ex.: His best friend has something that doesn't belong to him.)

2) Using a scale of 1 - 10, rank two friends (or relatives) on the following traits:

a. dependability
b. sense of humor
c. responsibility
d. courtesy
e. patience
f. tolerance
g. cheerfulness

SAMPLE METHODS AND MATERIALS: 28) Supervised Study
7) Committee Groups

I. AWARENESS OF SELF AND ONE'S PLACE IN SOCIETY

OBJECTIVE: To promote self-acceptance through an awareness and understanding of his developing strengths, values, needs and interests as they relate to work roles, the student will...

1) appraise his personal, social and academic strengths.

SUGGESTIONS TO TEACHERS wishing to use a supervised study or committee group as a method to achieve this goal and its objective: these are only samples. They should be modified to suit the student and/or class needs.

SAMPLE ACTIVITIES:

1) Define and study definition for ten of the words below:

a. personality	f. appraisal	k. autobiography
b. character	g. motivation	l. traits
c. temperament	h. ability	m. characteristics
d. attitude	i. aptitude	n. career
e. culture	j. achievement	o. behavior
	p. self-concept	
	q. analysis	
	r. heredity	
	s. environment	

2) Have class discussion on topics:

Pressure on Youth
Anxieties and Frustrations

3) MAP Strength Bombardment Exercise

SAMPLE EVALUATION: 9). Student-prepared summaries

I. AWARENESS OF SELF AND ONE'S PLACE IN SOCIETY

OBJECTIVE: To further self-acceptance through an awareness and understanding of how others feel about him and how he feels about others, the student will...

1) describe his personal contributions to social organizations.

SUGGESTIONS TO TEACHERS wishing to use student-prepared summaries to evaluate this goal and its objective: This is only a sample. It should be modified to suit the student or class needs.

SAMPLE ACTIVITIES:

1) The student will write an autobiography emphasizing his personal contributions to social organizations (family, school, church, Boy Scouts, athletic teams, etc.).

2) The student will make a list of five (5) responsibilities that he now assumes at home or away and twenty (20) others that he might assume.

SAMPLE EVALUATION: 2) Conference

I. AWARENESS OF SELF AND ONE'S PLACE IN SOCIETY

OBJECTIVE: To promote self-acceptance through an awareness and understanding of his developing strengths, values, needs and interests as they relate to work roles, the student will...

2) relate his strengths to school and work roles

4) relate his individual values and needs to the school and work roles.

SUGGESTIONS TO TEACHERS wishing to use a conference to evaluate this goal and its objective: Use the suggestion below as a model conference that might be adapted to your emphasis.

SAMPLE CONFERENCE QUESTIONS:

The conference would be between student, parent and teacher. Other school personnel may be included as needed. The conference would involve three phases. Following are sample questions:

1) Information from parents

a. What home responsibilities does the student have?
b. What is his behavior at home?
c. How do the parents handle similar situations in the home?
d. Have there been any changes in the home environment?

2) Performance in class (teacher information)

a. How many days has he been absent?
b. What is his class attitude?
c. How does he apply himself?
d. What is his achievement level? Is he using his ability?

3) Goals for students

a. What can we reasonably set as a goal for the student?
b. What is his responsibility?
c. What is the teacher's responsibility?
d. What is the parent's responsibility?

SAMPLE EVALUATION: 5) Pencil and Paper Test, Teacher-made

I. AWARENESS OF SELF AND ONE'S PLACE IN SOCIETY

OBJECTIVE: To determine how his values and goals in life will be relevant to his life style, the student will....

1) recognize varied life styles of ethnic, cultural, civic and religious groups.

SUGGESTIONS TO TEACHERS wishing to use pencil and paper tests to evaluate: Use this form of evaluation as a model that might be adapted to your emphasis. Write the directions for using this form of evaluation as they apply to your particular assignment.

SAMPLE PENCIL AND PAPER TEST, TEACHER-MADE:

The student, having read a chapter on Folk and Urban Communities, will answer these questions:

1) What was the Neolithic Revolution? Why was it important?

2) What is meant by isolation? How does it affect intelligence, personality, adjustment, and social participation?

3) How does the social participation of rural people differ from that of city dwellers? Cite examples.

4) What conditions keep the American farmer from fully absorbing the urban culture around him?

5) Summarize the chief differences between farmers and urbanites in ideas, attitudes and habits.

6) Explain why world culture is more and more coming under urban domination.

II. AWARENESS OF ALTERNATIVES IN LIFE

GOAL II. INCREASING AWARENESS OF ALTERNATIVES IN LIFE

PERFORMANCE OBJECTIVE. To increase awareness of alternatives in life, the student will...

BEHAVIORAL OBJECTIVES	METHODS & MATERIALS*	EVALUATIONS**
1) identify the opportunities for continuing education in and out of the classroom: broad course choices for recreation, cultural advancement, and the world of work; re-entry courses, travel, vocational-technical schools, trade schools, apprenticeship, degree colleges, universities, and the world of work;	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30	1, 2, 3, 4, 6, 7, 8, 9
2) investigate the present and potential future career opportunities available to him.	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30	1, 2, 3, 4, 6, 7, 9

IMPLEMENTATION SUGGESTIONS

* Numbers refer to numerical listing of Methods and Materials.

** Numbers refer to numerical listing of Evaluations.

LIST OF METHODS AND MATERIALS*

1) artistic-music
2) bulletin boards, posters
3) business games
4) buzz groups
5) case problems
6) collage
7) committee groups
8) computer
9) cumulative record interpretation
10) debate
11) demonstration
12) field trip, observation, interview
13) handicrafts
14) independent study
15) lecture
16) movies, films, video tape
17) on-the-job
18) panel discussions
19) poetry: reading, writing
20) practice & drill
21) reading
22) records, tapes, TV, radio
23) resource persons
24) role-playing
25) simulation
26) speeches
27) staffings (with the student involved)
28) supervised study
29) themes, short stories
30) work sheet or check list
31)
32)
33)
34)
35)

LIST OF EVALUATIONS**

1) check list
2) conferences - parent, student, or both
3) interview-oral, written or tape
4) observation
5) pencil and paper test teacher-made
6) self assessment
7) staffings
8) standarized test
9) student prepared summaries
10)
11)
12)
13)
14)
15)

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SAMPLE EVALUATIONS

AND

METHODS AND MATERIALS

SAMPLE EVALUATION: 1) Check List
2) Standardized Test

II. AWARENESS OF ALTERNATIVES IN LIFE

OBJECTIVE: To increase awareness of alternatives in life, the student will...

1) identify the opportunities for continuing education in and out of the classroom: broad course choices for world of work, recreation, and cultural advancement; reentry courses, world of work, travel, vocational-technical schools, trade schools, apprenticeship, degree colleges, and universities.

SUGGESTIONS TO TEACHERS wishing to construct check lists to evaluate this goal and its objectives: 1) Use the following resources available in the counseling offices: DOT, OOH, and OVIS; 2) using the following two sample check lists, write directions for the check list as they would apply to the emphasis desired by the teacher.

SAMPLE CHECK LISTS:

Apprenticeship (as an opportunity to continue education)

Do you have the requirements to enter the apprenticeship program? Circle the proper choice:

1) Minimum educational requirements:
   high school diploma Yes No
   background courses Yes No

2) Score on GATB Test:
   at least 110 in Math Yes No
   at least 90 in spatial relationships Yes No
   high in mechanical aptitude Yes No

3) Have a personal interest (in the specific career choice) Yes No

4) Have a personal interview with apprenticeship committee Yes No

5) Have recommendations:
   from former employer Yes No
   from teacher Yes No
   from minister, priest or rabbi Yes No
   from neighbors Yes No

6) Will you be willing to meet continuing educational requirements? Yes No

Travel (as an opportunity to continue education)

You have just completed a trip. Identify the opportunities you had to continue your education:

1) Exposure to cultural patterns of people Much Little

2) Learn survival skills:
   map reading Much Little
   budgeting time Much Little
   budgeting money Much Little
   safety rules Much Little
   legal requirements Much Little
   respect for authority Much Little

3) Exposure to a wide variety of career clusters Much Little

4) Learn a second language as a "door" to learning about others Much Little

5) Opportunities for recreation Much Little

6) Assess background information for continuing education in
   social studies Much Little
   language Much Little
   world of work Much Little
   other (list) Much Little

SAMPLE EVALUATION: 3) Interview - Written

II. AWARENESS OF ALTERNATIVES IN LIFE

OBJECTIVE: To increase awareness of alternatives in life, the student will...

2) investigate the present and potential future career opportunities available to him.

SUGGESTIONS TO TEACHERS wishing to use interview to evaluate this goal and its objectives:

1) Use the suggestion below as a model interview form that might be adapted to your emphasis.

2) Indented lists are possible answers that might be expected depending upon the careers being investigated.

3) Write the directions for using the interview form as they apply to your particular assignment.

SAMPLE INTERVIEW:

1) Why are you interested in your career choice?

   a. social status
   b. financial gain
   c. security
   d. opportunity for advancement
   e. little emotional stress
   f. personal interest
   g. recognition
   h. fringe benefits: insurance, vacation, pension

2) What qualifications are needed for your career choice?

   a. education
   b. special skills
   c. work background
   d. personal-physical: weight, height

3) What do you feel is the future potential of your career choice?

2.

SAMPLE EVALUATION: 2) Conferences - Both Parent and Student

II. AWARENESS OF ALTERNATIVES IN LIFE

OBJECTIVE: To increase awareness of alternatives in life, the student will...

1) identify the opportunities for continuing education in and out of the classroom: broad course choices for recreation, cultural advancement, and the world of work; reentry courses, travel, vocational-technical schools, trade schools, apprenticeship, degree colleges, universities, and the world of work.

SUGGESTIONS TO TEACHERS wishing to use parent-student conferences to evaluate awareness of alternatives in life by identifying the opportunities for continuing education: The following model which is mandatory for all eighth grade students could be used with other students. The materials used could be altered to fit the emphasis desired.

SAMPLE STUDENT-PARENT CONFERENCE:

Following the cumulative record interpretation and the administration of the OVIS, the parent, student, counselor conference is scheduled by the student.

At the time of the scheduling, the student is given a copy of the description of the ninth grade courses to share with his parents in anticipation of his ninth grade scheduling.

During the parent, student, counselor conference the student interprets to his parents his permanent record, his growth in basic skills, and his identified interests (lack of interest) in the world of work. Student, then, makes selection of courses for ninth grade.

SAMPLE METHODS AND MATERIALS: 9) Cumulative Record Interpretation

II. AWARENESS OF ALTERNATIVES IN LIFE

OBJECTIVE: To increase awareness of alternatives in life, the student will...

1) identify the opportunities for continuing education in and out of the classroom: broad course choices for recreation, cultural advancement, and the world of work; reentry courses, travel, vocational-technical schools, trade schools, apprenticeship, degree colleges, universities, and the world of work.

SUGGESTIONS TO TEACHERS wishing to use cumulative record interpretation as a method to increase awareness of alternatives in life by identifying the opportunities for continuing education: Teacher recommends the student to the counselor or the student makes his own appointment with the counselor.

SAMPLE CUMULATIVE RECORD INTERPRETATION

- Counselor and student together look at student's cumulative folder.
- "Open the door" to the discussion by asking the student about his future plans.
- Look at the record of attendance and promptness.
- Ask student to explain the pattern, if there is one.
- Ask such questions as
  Does a good attendance record make a difference to you in school?
  Would it make a difference if you were on a job?
- Interpret the importance of attendance to his career choice.
- Then, have the student analyze his attitude and application and project their impact on the world of work.
- Identify progress in basic skills through a study of the ITBS record graph.
- The culmination of the conference is having the student experience whether his achievement is commensurate with his potential.

SAMPLE METHODS AND MATERIALS:

14) Independent Study
28) Supervised Study
21) Reading
12) Interview
8) Computer Assisted Instruction
16) Movies, Filmstrips, Videotape

II. AWARENESS OF ALTERNATIVES IN LIFE

OBJECTIVE: To increase awareness of alternatives in life, the student will...

1) identify the opportunities for continuing education in and out of the classroom: broad course choices for recreation, cultural advancement, and the world of work; reentry courses, travel, vocational-technical schools, trade schools, apprenticeship, degree colleges, universities, and the world of work;

2) investigate the present and potential future career opportunities available to him.

SUGGESTIONS TO TEACHERS wishing to use a variety of methods and materials as an activity to identify career opportunities:

Students could be assigned the activity as an independent study or supervised study.

The activity would be used in a social studies class.

The teacher and/or students would prepare an interview form.

Resources would include historical materials, library resources, and a film entitled, "Preparing for Jobs of the '70's." This film is available from Guidance Associates, Harcourt, Brace and World, Pleasantville, New York 10570

Computer studies are available for employment projections.

SAMPLE ACTIVITY USING A VARIETY OF METHODS AND MATERIALS:

Have the students develop a list of obsolete jobs, dead-end jobs, status quo jobs, and bright future jobs using:

a. historical sources
b. interviews with senior citizens and current workers
c. old print materials
d. current employment projections
e. film entitled, "Preparing for Jobs of the '70's"

III. DEVELOPMENT OF POSITIVE ATTITUDES TOWARD WORK

GOAL III. DEVELOPMENT OF POSITIVE ATTITUDES TOWARD WORK

PERFORMANCE OBJECTIVE A. To develop a respect for workers and the role of work in our society, the student will...

BEHAVIORAL OBJECTIVES	METHODS & MATERIALS*	EVALUATIONS**
1) describe the social worth of work by identifying the contribution of a wide range of workers to the well-being of society;	3, 4, 6, 11, 12, 21, 23, 24, 25	1, 5, 9
2) describe how work can help ameliorate social problems;	2, 5, 11, 12 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25, 26 29	1, 3, 5
3) define the importance and changing contributions of both sexes to the world of work;	1, 2, 5, 12, 14, 15, 16, 17, 18, 19, 21, 23, 24, 26, 29, 30	1, 3, 5
4) identify the importance of interdependence as it relates to community well-being.	2, 4, 6, 7, 12, 16, 18, 21, 23, 24	1, 2, 4, 6, 9

30

IMPLEMENTATION SUGGESTIONS

* Numbers refer to numerical listing of Methods and Materials.

** Numbers refer to numerical listing of Evaluations

LIST OF METHODS AND MATERIALS*

1) artistic-music
2) bulletin boards, posters
3) business games
4) buzz groups
5) case problems
6) collage
7) committee groups
8) computer
9) cumulative record interpretation
10) debate
11) demonstration
12) field trip, observation, interview
13) handicrafts
14) independent study
15) lecture
16) movies, films video tape
17) on-the-job
18) panel discussion
19) poetry: reading, writing
20) practice and drill
21) reading
22) records, tapes, TV, radio
23) resource persons
24) role-playing
25) simulation
26) speeches
27) staffings (with the student involved)
28) supervised study
29) themes, short stories
30) work sheet or check list
31)
32)
33)
34)
35)

LIST OF EVALUATIONS**

1) check list
2) conferences - parent, student or both
3) interview-oral, written or tape
4) observation
5) pencil & paper test, teacher-made
6) self-assessment
7) staffings
8) standardized test
9) student prepared summaries
10)
11)
12)
13)
14)
15)

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GOAL III. DEVELOPMENT OF POSITIVE ATTITUDES TOWARD WORK

PERFORMANCE OBJECTIVE B. To hold competence and excellence in high regard, the student will...

BEHAVIORAL OBJECTIVES	METHODS & MATERIALS*	EVALUATIONS**
1) display pride in his past accomplishments as a means to future successes;	1, 2, 4, 9, 14, 18, 19, 26, 29	3, 4, 6, 9
2) undertake and complete a task to the best of his ability;	2, 8, 9, 11, 14, 17, 26, 29, 30	1, 4, 5, 7, 9
3) observe and relate the importance of excellence in all fields of work.	11, 12, 15, 16, 17, 23	4, 5, 7

IMPLEMENTATION SUGGESTIONS

* Numbers refer to numerical listing of Methods and Materials.

** Numbers refer to numerical listing of Evaluations.

LIST OF METHODS AND MATERIALS*

1) artistic-music
2) bulletin boards, posters
3) business games
4) buzz groups
5) case problems
6) collage
7) committee groups
8) computer
9) cumulative record interpretation
10) debate
11) demonstration
12) field trip, observation, interview
13) handicrafts
14) independent study
15) lecture
16) movies, films, video tape
17) on-the-job
18) panel discussion
19) poetry: reading, writing
20) practice & drill
21) reading
22) records, tapes, TV, radio
23) resource persons
24) role-playing
25) simulation
26) speeches
27) staffings (with the student involved)
28) supervised study
29) themes, short stories
30) work sheet or check list
31)
32)
33)
34)
35)

LIST OF EVALUATIONS**

1) check list
2) conferences-parent, student or both
3) interview-oral, written or tape
4) observation
5) pencil & paper test, teacher-made
6) self-assessment
7) staffings
8) standardized test
9) student prepared summaries
10)
11)
12)
13)
14)
15)

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GOAL III. DEVELOPMENT OF POSITIVE ATTITUDES TOWARD WORK

PERFORMANCE OBJECTIVE C. To seek personal fulfillment through one's own achievement, the student will...

BEHAVIORAL OBJECTIVES	METHODS & MATERIALS*	EVALUATIONS**
1) explain how work-related experience makes his leisure time more enjoyable;	1, 2, 6, 9, 12, 13, 14, 16, 19, 21, 23, 30	1, 2, 3, 4
2) describe how various occupations would provide a means of expressing his personality and satisfying his psychological need;	1, 2, 5, 9, 11, 12, 13, 14, 15, 16, 17, 19, 21, 23, 26, 29	1, 6, 9
3) relate how several occupations would provide ways of satisfying his economic needs.	1, 2, 4, 5, 6, 7, 10, 11, 12, 14, 15, 16, 17, 18, 21, 23, 24, 26, 29, 30	1, 6, 9

IMPLEMENTATION SUGGESTIONS

* Numbers refer to numerical listing of Methods and Materials.

** Numbers refer to numerical listing of Evaluations.

LIST OF METHODS AND MATERIALS*

1) artistic-music
2) bulletin boards, posters
3) business games
4) buzz groups
5) case problems
6) collage
7) committee groups
8) computer
9) cumulative record interpretation
10) debate
11) demonstration
12) field trip, observation, interview
13) handicrafts
14) independent study
15) lecture
16) movies, films, video tape
17) on-the-job
18) panel discussion
19) poetry: reading, writing
20) practice & drill
21) reading
22) records, tapes, TV, radio
23) resource persons
24) role-playing
25) simulation
26) speeches
27) staffings (with the student involved)
28) supervised study
29) themes, short stories
30) work sheet or check list
31)
32)
33)
34)
35)

LIST OF EVALUATIONS**

1) check list
2) conferences-parent, student or both
3) interview-oral, written or tape
4) observation
5) pencil & paper test, teacher-made
6) self-assessment
7) staffings
8) standardized test
9) student prepared summaries
10)
11)
12)
13)
14)
15)

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SAMPLE EVALUATIONS

AND

METHODS AND MATERIALS

SAMPLE METHODS AND MATERIALS: 1) Artistic-Music
19) Poetry
22) Records
29) Themes, Short Stories

III. DEVELOPMENT OF POSITIVE ATTITUDES TOWARD WORK

OBJECTIVE: To seek personal fulfillment through one's own achievement, the student will...

2) describe how various occupations would provide a means of expressing his personality and satisfying his psychological needs.

SUGGESTIONS TO TEACHERS wishing to use these methods and materials to achieve these goals: These are only suggestions. They should be modified to suit the individual needs of student and class.

SAMPLE ACTIVITIES:

1) As a part of a thematic unit of contemporary literature, records, poetry, and short stories would be included as core materials.

   Students would have an opportunity to contribute poems, records, and short stories of their choosing which show characters or ideas that depict his own personality.

   How may his personality and needs be satisfied by various jobs?

   How are the needs of people in various occupations met by the music they listen to, the short stories they read, the poetry they read, etc.?

   What occupations suggested by literature would express his personality and satisfy his psychological needs?

2) Bring a record or poem that you enjoy. Why do you enjoy this record?

3) In what way/ways does the business use music as a part of its business? What use is made of posters or other art forms?

SAMPLE METHODS AND MATERIALS: 2) Posters

III. DEVELOPMENT OF POSITIVE ATTITUDES TOWARD WORK

OBJECTIVE: To seek personal fulfillment through one's own achievement, the student will...

2) relate how several occupations would provide a means of expressing his personality and satisfying his psychological need.

SUGGESTIONS TO TEACHERS wishing to use this poster idea as a method of achieving this goal and its objective: This is only a sample. It should be modified to suit the student or class need.

SAMPLE ACTIVITY:

1) Make a chart showing any three favorite school subjects, the skills or abilities they reflect, and occupations they may lead to. How would these occupations express his personality and psychological needs?

SAMPLE METHODS AND MATERIALS: 2) Bulletin Board
18) Panel Discussion

III. DEVELOPMENT OF POSITIVE ATTITUDES TOWARD WORK

OBJECTIVE: To develop a respect for workers and the role of work in our society, the student will...

1) describe the social worth of work by identifying the contribution of a wide range of workers to the well-being of society.

SUGGESTIONS TO TEACHERS wishing to use these methods to achieve this goal and its objective: These are only samples. They should be modified to suit the student or class need.

SAMPLE ACTIVITIES:

1) The students will prepare a bulletin display of five famous individuals who found success through initiative and ability. Explain the display to his peer group.

2) Prepare a group discussion showing interdependence of various personnel of the school and the school system.

a. custodian
b. librarian
c. secretary
d. para-professional
e. coach
f. principal
g. grounds crew
h. maintenance crew
i. purchasing agent
j. superintendent, etc.

SAMPLE METHODS AND MATERIALS: 30) Worksheet

III. DEVELOPMENT OF POSITIVE ATTITUDES TOWARD WORK

OBJECTIVE: To develop a respect for workers and the role of work in our society, the student will...

3) define the importance and changing contributions of both sexes to the world of work.

SUGGESTIONS TO TEACHERS wishing to use student-prepared summaries as a method to achieve this goal and its objective: This is only a sample. It should be modified to suit the student or class need.

SAMPLE ACTIVITY:

1) With which sex do you associate each position at the present time?

a. doctor
b. nurse
c. superintendent of school
d. beautician
e. English teacher
f. truck driver
g. baby sitter
h. nurse's aide
i. farmer
j. dentist
k. clerk in lady's ready-to-wear
l. clerk in men's clothing
m. priest, minister
n. elem. school teacher
o. filling station operator
p. secretary
q. lawmaker
r. school principal
s. newspaper carrier
t. garbage collector
u. district judge
v. member Nat'l Guard
w. usher
x. science teacher
y. men's hair stylist

1B) How might they have been associated fifty years ago?

1C) How might they be associated in the next fifty years?

IV. KNOWLEDGE OF AND EXPERIENCE IN WORK SETTINGS AND OCCUPATIONS

GOAL IV. KNOWLEDGE OF AND EXPERIENCE IN WORK SETTINGS AND OCCUPATIONS

PERFORMANCE OBJECTIVE A. To increase knowledge of and experience in work settings and occupations, the student will...

BEHAVIORAL OBJECTIVES	METHODS & MATERIALS*	EVALUATIONS**
1) experience the basic requirements of all workers: attendance, punctuality, adaptability to authority, health and safety practices, and legal requirements;	2, 4, 5, 6, 8, 9, 11, 12, 14, 16, 17, 18, 21, 22, 23, 24, 25, 27, 28, 30	1, 2, 3, 4, 6, 7
2) participate in work simulations in the classroom: contract plan, selection of alternative objectives for a unit of study, school paper, shop projects, library assistants, annual staff, school council or committees, volunteer assistants, or classroom companies;	3, 6, 7, 8, 11, 12, 14, 16, 17, 21, 22, 23, 24, 25, 27, 28, 30	1, 2, 3, 4, 5, 6, 7, 9
3) participate in work simulations and/or on-the-job training outside the classroom: volunteer work (ex. candy striper), released time visitations, Distributive Education, T & I, office education, Agricultural Occupation employment experience, health occupations, Work-Study, Work Release or part-time jobs.	5, 6, 7, 8, 11, 12, 14, 16, 17, 21, 22, 23, 24, 25, 27, 28, 30	1, 2, 3, 4, 7, 9

LIST OF METHODS AND MATERIALS*

1) artistic-music
2) bulletin boards, posters
3) business games
4) buzz groups
5) case problems
6) collage
7) committee groups
8) computer
9) cumulative record interpretation
10) debate
11) demonstration
12) field trip, observation, interview
13) handicrafts
14) independent study
15) lecture
16) movies, films, video tape
17) on-the-job
18) panel discussion
19) poetry: reading, writing
20) practice & drill
21) reading
22) records, tapes, TV, radio
23) resource persons
24) role-playing
25) simulation
26) speeches
27) staffings (with the student involved)
28) supervised study
29) themes, short stories
30) work sheet or check list
31)
32)
33)
34)
35)

LIST OF EVALUATIONS**

1) check list
2) conferences-parent, student or both
3) interview-oral, written or tape
4) observation
5) pencil & paper test, teacher-made
6) self-assessment
7) staffings
8) standardized test
9) student prepared summaries
10)
11)
12)
13)
14)
15)

IMPLEMENTATION SUGGESTIONS

* Numbers refer to numerical listing of Methods and Materials.

** Numbers refer to numerical listing of Evaluations.

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SAMPLE EVALUATIONS

AND

METHODS AND MATERIALS

SAMPLE EVALUATION: 4) Observation

IV. KNOWLEDGE OF AND EXPERIENCE IN WORK SETTINGS AND OCCUAPTIONS

OBJECTIVE: To increase knowledge of and experience in work settings and occupations, the student will...

3) participate in work simulations and/or on-the-job training experiences outside the classroom: volunteer work (e.g., candy striper), released time visitations, Distributive Education, Trades and Industry, Office Education, Agricultural Occupation Employment Experience, Health Occupations, Work-Study, Work Release, or part-time jobs.

SUGGESTIONS TO TEACHERS wishing to evaluate a student on his observation during a released time visitation: Use the suggestion below, which is used in Distributive Education, as a model; adjust the direction to the student to fit the purpose of the released time visitation.

SAMPLE OBSERVATION:

To the student: You are to report to a store and buy an article. Observe how well the salesman demonstrates the product to sell it. Fill in the following chart and hand to your instructor tomorrow.

Positive things you observed about salesmanship	Constructive suggestions to improve the salesmanship

SAMPLE EVALUATION: 6) Self-Assessment

IV. KNOWLEDGE OF AND EXPERIENCE IN WORK SETTINGS AND OCCUPATIONS

OBJECTIVE: To increase knowledge of and experience in work settings and occupations, the student will

1) experience the basic requirements of all workers: attendance, punctuality, adaptability to authority, health and safety practices, and legal requirements.

SUGGESTIONS TO TEACHERS wishing to use self-assessments to evaluate this goal and its objective: The sample questions could be used for student self-assessment of attendance, punctuality, and adaptability to authority. Teachers using this method of evaluation would write questions and directions for their use to obtain the emphasis they desired. Students would use the services of the counselors and their cumulative folder to assess their attendance record.

SAMPLE SELF-ASSESSMENT:

Secondary attendance record: (By the time the student is in high school, this should show his pattern).

1) How many days were you absent each year from school?
2) What were the reasons for your absence?
3) How often were you tardy each year?
4) If you are habitually tardy, why?

Adaptability to authority in the home:

1) How well do you relate with your parents or guardians?
2) What concerns do you have relating to them?

Adaptability to authority in school:

1) What kind of authority do you expect from your teachers?
2) How do those teachers that you respect most indicate authority to you?

Adaptability to civic authority:

1) How do you regard the authority of elected and appointed officials?
2) Have you ever come into conflict with the law?
3) If so, how did you feel about the decision that was made?
4) How do you regard the authority in organizations or groups of which you are a part?

Note: Health and safety practices and legal requirements could be added in the same way as the above requirements.

SAMPLE EVALUATION: 7) Staffing

IV. KNOWLEDGE OF AND EXPERIENCE IN WORK SETTINGS AND OCCUPATIONS

OBJECTIVE: To increase knowledge of and experience in work settings and occupations, the student will...

3) participate in work simulations and/or on-the-job training experiences outside the classroom: volunteer work (e.g., candy striper), released time visitations, Distributive Education, Trades and Industry, Office Education, Agricultural Occupation Employment Experience, Health Occupations, Work-Study, Work Release, or part-time jobs.

SUGGESTIONS TO TEACHERS wishing to use staffing to evaluate this goal and its objectives: Use the suggestion below, which is from Distributive Education as a model; adjust the personnel and time to fit the simulation being evaluated.

SAMPLE STAFFING:

Student, training sponsor, and teacher-coordinator meet together at least twice a semester. Discuss progress made by the student in designated areas pertaining to his on-the-job training at his training station.

SAMPLE METHODS AND MATERIALS: 3) Business Games

IV. KNOWLEDGE OF AND EXPERIENCE IN WORK SETTINGS AND OCCUPATIONS

OBJECTIVE: To increase knowledge of and experience in work settings and occupations, the student will...

1) participate in work simulations in the classroom: contract plan, selection of alternative objectives for a unit of study, school paper, shop projects, library assistants, annual staff, school council or committees, volunteer assistants, or classroom companies.

SUGGESTIONS TO TEACHERS wishing to use business games as a method to increase knowledge and experience in work settings: The following sample is an example of a classroom company used in business education in the study of the stock market. It could be used with one class or a number of classes buying and selling from each other. The use of this sample would depend upon the emphasis the teacher intended to make.

SAMPLE BUSINESS GAME:

1) Organize four or [illegible] companies with fictitious names to motivate students, such as Crank and Holler Phone Company: Backfire Motors, North of the South Railroad, or Dry Cell Electronics.

Give each student equal stock and toy money. List stocks on the board and give each a fair value based on the amount of money involved in the game.

At the end of the class period, select by drawing the amount of increase or decrease of each stock value for the day. Give students five minutes at the end of the period and until the next class meeting to buy and sell. At the next class meeting, there will be another drawing for stock quotation. Time allotment for the game should be five days.

Class discussion center around the issues involved, people, terms, and cautions.

Ultimate goal is to have all students sold out by the last day of the game. Some may have sold out ahead of that time.

Caution: Students must be reminded that the value and fun of the game will be destroyed if they steal from each other and that the stock and money should be regarded as real so that they accept the responsibility for it.

SAMPLE METHODS AND MATERIALS: 11) Demonstration
8) Buzz Groups

IV. KNOWLEDGE OF AND EXPERIENCE IN WORK SETTINGS AND OCCUPATIONS

OBJECTIVE: To increase knowledge of and experience in work settings and occupations, the student will...

3) participate in work simulations and/or on-the-job training experiences outside the classroom: volunteer work (e.g., candy striper), released time visitations, Distributive Education, Trades and Industry, Office Education, Agricultural Occupation Employment Experience, Health Occupations; Work-Study, Work Release, or part-time jobs.

SUGGESTIONS TO TEACHERS wishing to use demonstration followed by buzz groups as a method to have students participate in work simulations: The following sample is used by Distributive Education students and could be used as a model for other classes. The student is given two days to prepare his demonstration. This demonstration method could be evaluated by 4) observation as it is being presented if the teacher wished.

SAMPLE DEMONSTRATION:

To the student:

Sell a product of your choice (which has been approved by the teacher) to some member of your class. You will be given a maximum of eight minutes of time to complete the sale.

Follow the demonstration by a buzz group session in which positive suggestions and constructive criticism are given to improve future demonstrations.

SAMPLE METHODS AND MATERIALS: 13) Handicrafts

IV. KNOWLEDGE OF AND EXPERIENCE IN WORK SETTINGS AND OCCUPATIONS

OBJECTIVE: To increase knowledge of and experience in work settings and occupations, the student will...

2) participate in work simulations in the classroom: contract plan, selection of alternative objectives for a unit of study, school paper, shop projects, library assistants, annual staff, school council or committees, volunteer assistants, or classroom companies.

SUGGESTIONS TO TEACHERS wishing to use handicrafts as a method to have students participate in work simulations in the classroom: The following sample could be applied to any class depending upon the emphasis and resourcefulness of the students and teacher.

SAMPLE HANDICRAFTS:

Industrial Arts classes, as a shop project, produce a simple product for sale or produce a gift for a civic project such as toys for the Christmas party for the handicapped.

SAMPLE METHODS AND MATERIALS: 23) Resource Persons

IV. KNOWLEDGE OF AND EXPERIENCE IN WORK SETTINGS AND OCCUPATIONS

OBJECTIVE: To increase knowledge of and experience in work settings and occupations, the student will...

2) participate in work simulations in the classroom: contract plan, selection of alternative objectives for a unit of study; school paper, shop projects, library assistants, annual staff, school council or committees, volunteer assistants, or classroom companies.

SUGGESTIONS TO TEACHERS wishing to use resource persons as a method to have students participate in work simulations in the classroom: The following sample is used with the annual staff. It could be applied to any classroom simulation depending upon the interest of the teacher and the resource person used.

SAMPLE RESOURCE PERSON:

Representative of a local printing and engraving company meets with the annual staff to explain print size and page layout. Samples are displayed. Individual students participate in the activities necessary to prepare the annual for printing and engraving.

SAMPLE METHODS AND MATERIALS: 24) Role-playing
4) Buzz groups

IV. KNOWLEDGE OF AND EXPERIENCE IN WORK SETTINGS AND OCCUPATIONS

OBJECTIVE: To increase knowledge of and experience in work settings and occupations, the student will...

1) experience the basic requirements of all workers: attendance, punctuality, adaptability to authority, health and safety practices, and legal requirements.

SUGGESTIONS TO TEACHERS wishing to use role-playing followed by buzz groups as a method to experience the basic requirements of workers: Using the following sample, write directions or give directions orally as they apply to your emphasis. The problem could be changed so as to experience any of the basic requirements.

SAMPLE ROLE-PLAYING AND BUZZ GROUPS:

To the student: You are the manager of a small business. One of your workers calls in sick at five minutes of eight. Your business opens at eight o'clock.

a) What do you say to him over the phone?
b) What do you do to fill his place at opening time?
c) What action do you take when he returns to work?

Role-play the part of the manager.

Follow the role-playing by having students discuss the decisions made and the reasons for making them. This could be done in small buzz groups. Groups could share their decisions.

SAMPLE METHODS AND MATERIALS: 6) Collage

IV. KNOWLEDGE OF AND EXPERIENCE IN WORK SETTINGS AND OCCUPATIONS

OBJECTIVE: To increase knowledge of and experience in work settings and occupations, the student will...

1) experience the basic requirements of all workers: attendance, punctuality, adaptability to authority, health and safety practices, and legal requirements.

SUGGESTIONS TO TEACHERS wishing to use collage as a method to know the basic requirements they are to experience as workers: Use newspapers and magazines as resource materials. Use the following sample; write directions as they apply to your emphasis.

SAMPLE COLLAGE:

Have students collect news articles and pictures showing conformity or non-conformity to the basic requirements of all workers. Assemble them as a collage.

SAMPLE METHODS AND MATERIALS: 17) On-the-Job

IV. KNOWLEDGE OF AND EXPERIENCE IN WORK SETTINGS AND OCCUPATIONS

OBJECTIVE: To increase knowledge of and experience in work settings and occupations, the student will...

3) participate in work simulations and/or on-the-job training experiences outside the classroom: volunteer work (e.g., candy striper), released time visitations, Distributive Education, Trades and Industry, Office Education, Agricultural Occupation Employment Experience, Health Occupations, Work-Study, Work Release, or part-time jobs.

SUGGESTIONS TO TEACHERS wishing to use on-the-job as a method to have students participate in on-the-job training: The sample below is used with Trades and Industry students at the senior class level half-days for the entire school year. It could be modified and used for shorter periods of time at any grade level.

SAMPLE ON-THE-JOB:

Students, in their junior year, fill out a job application. They are then interviewed by the teacher-coordinator. Each student obtains recommendations from four or five of his high school teachers. These recommendations along with his application are sent out to prospective employers.

The summer following the junior year, interested employers contact the teacher-coordinator. The student then calls the employer, arranges for an interview, and is either accepted or rejected for the senior school year. The process continues until all students are placed in the program. Students rejected by the close of the summer do not enter the program.

Students in the program attend school half-days and work on the job the other half. The employer and his place of business become the teacher and the school. The teacher-coordinator assumes the role of liaison between employer and the school, and between the student and the employer. The student has a class with the teacher-coordinator for which he is given one credit toward graduation. One credit for graduation plus pay for the work is given on-the-job.

V. DEVELOPMENT OF SKILLS FOR CAREERS

GOAL V. DEVELOPMENT OF SKILLS FOR CAREERS

PERFORMANCE OBJECTIVE A. To enhance human relationships, the student will...

BEHAVIORAL OBJECTIVES	METHODS & MATERIALS*	EVALUATIONS**
1) demonstrate respect for others;	4, 7, 10, 11, 25	2, 3, 4
2) demonstrate responsible behavior toward others;	2, 4, 7, 12, 17, 18, 25	1, 4
3) demonstrate flexibility by being able to adapt himself to changing situation.	7, 10, 14, 17, 24, 25	3, 4

IMPLEMENTATION SUGGESTIONS

* Numbers refer to numerical listing of Methods and Materials.

** Numbers refer to numerical listing of Evaluations.

LIST OF METHODS AND MATERIALS*

1) artistic-music
2) bulletin boards, posters
3) business games
4) buzz groups
5) case problems
6) collage
7) committee groups
8) computer
9) cumulative record interpretation
10) debate
11) demonstration
12) field trip, observation, interview
13) handicrafts
14) independent study
15) lecture
16) movies, films, video tape
17) on-the-job
18) panel discussion
19) poetry: reading, writing
20) practice & drill
21) reading
22) records, tapes, TV, radio
23) resource persons
24) role-playing
25) simulation
26) speeches
27) staffings (with the student involved)
28) supervised study
29) themes, short stories
30) work sheet or check list
31)
32)
33)
34)
35)

LIST OF EVALUATIONS**

1) check list
2) conferences-parent, student, or both
3) interview-oral, written or tape
4) observation
5) pencil & paper test, teacher-made
6) self-assessment
7) staffings
8) standardized test
9) student prepared summaries
10)
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GOAL V. DEVELOPMENT OF SKILLS FOR CAREERS

PERFORMANCE OBJECTIVE B. To develop communications, competencies, the student will...

BEHAVIORAL OBJECTIVES	METHODS & MATERIALS*	EVALUATIONS**
1) improve his listening skills by performing different work roles;	2, 4, 15, 16, 20, 22, 23	9
2) identify various means of non-verbal communication;	1, 11, 13, 14, 24, 25	4
3) describe in written form how knowledge and/or skills acquired in different subjects relate to various career goals;	12, 14, 17, 19, 20, 21, 29	3, 5, 9
4) list and demonstrate those speaking abilities that would be important in seeking and holding a job;	3, 4, 7, 10, 18, 24, 25, 26	2, 3
5) acquire reading skills necessary for an anticipated work role;	14, 19, 21, 28	3, 4, 5, 8
6) glean necessary data from pertinent written material which pertain to occupations.	14, 21, 26	1, 3, 5, 8

IMPLEMENTATION SUGGESTIONS

* Numbers refer to numerical listing of Methods and Materials.

** Numbers refer to numerical listing of Evaluations.

LIST OF METHODS AND MATERIALS*

1) artistic-music
2) bulletin boards, posters
3) business games
4) buzz groups
5) case problems
6) collage
7) committee groups
8) computer
9) cumulative record interpretation
10) debate
11) demonstration
12) field trip, observation, interview
13) handicrafts
14) independent study
15) lecture
16) movies, films, video tape
17) on-the-job
18) panel discussion
19) poetry: reading, writing
20) practice & drill
21) reading
22) records, tapes, TV, radio
23) resource persons
24) role-playing
25) simulation
26) speeches
27) staffings (with the student involved)
28) supervised study
29) themes, short stories
30) work sheet or check list
31)
32)
33)
34)
35)

LIST OF EVALUATIONS**

1) check list
2) conferences-parent, student or both
3) interview-oral, written or tape
4) observation
5) pencil & paper test, teacher-made
6) self-assessment
7) staffings
8) standardized test
9) student prepared summaries
10)
11)
12)
13)
14)
15)

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GOAL V. DEVELOPMENT OF SKILLS FOR CAREERS

PERFORMANCE OBJECTIVE C. To develop his decision-making/problem-solving process, the student will...

BEHAVIORAL OBJECTIVES

	METHODS & MATERIALS*	EVALUATIONS**
1) identify the components of the decision-making process;	3, 5, 7, 14, 17, 24	1, 3, 4, 5, 6
2) apply the decision-making process to school, home and/or social related situations;	3, 5, 11, 17	3, 4, 9
3) assess the probable outcomes of his decision;	7, 10, 11, 14	5, 9
4) assume the responsibility for his decision.	3, 11, 17, 26	3, 4

IMPLEMENTATION SUGGESTIONS

* Numbers refer to numerical listing of Methods and Materials.

** Numbers refer to numerical listing of Evaluations.

LIST OF METHODS AND MATERIALS*

1) artistic-music
2) bulletin boards, posters
3) business games
4) buzz groups
5) case problems
6) collage
7) committee groups
8) computer
9) cumulative record interpretation
10) debate
11) demonstration
12) field trip, observation, interview
13) handicrafts
14) independent study
15) lecture
16) movies, films, video tape
17) on-the-job
18) panel discussion
19) poetry: reading, writing
20) practice & drill
21) reading
22) records, tapes, TV, radio
23) resource persons
24) role-playing
25) simulation
26) speeches
27) staffings (with the student involved)
28) supervised study
29) themes, short stories
30) work sheet or check list
31)
32)
33)
34)
35)

LIST OF EVALUATIONS**

1) check list
2) conferences-parent, student or both
3) interview-oral, written, or tape
4) observation
5) pencil & paper test, teacher-made
6) self-assessment
7) staffings
8) standardized test
9) student prepared summaries
10)
11)
12)
13)
14)
15)

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GOAL V. DEVELOPMENT OF SKILLS FOR CAREERS

PERFORMANCE OBJECTIVE D. To improve his psychomotor competencies, the student will...

BEHAVIORAL OBJECTIVES	METHODS & MATERIALS*	EVALUATIONS**
1) identify necessary skills for various job clusters;	3, 12, 14, 16, 23, 28	1, 9
2) develop the necessary psychomotor skills for anticipated employment.	12, 15, 20, 25	1, 4, 8

IMPLEMENTATION SUGGESTIONS

* Numbers refer to numerical listing of Methods and Materials.

** Numbers refer to numerical listing of Evaluations.

LIST OF METHODS AND MATERIALS*

1) artistic-music
2) bulletin boards, posters
3) business games
4) buzz groups
5) case problems
6) collage
7) committee groups
8) computer
9) cumulative record interpretation
10) debate
11) demonstration
12) field trip, observation, interview
13) handicrafts
14) independent study
15) lecture
16) movies, films, video tape
17) on-the-job
18) panel discussion
19) poetry: reading, writing
20) practice & drill
21) reading
22) records, tapes, TV, radio
23) resource persons
24) role-playing
25) simulation
26) speeches
27) staffings (with the student involved)
28) supervised study
29) themes, short stories
30) work sheet or check list
31)
32)
33)
34)
35)

LIST OF EVALUATIONS**

1) check list
2) conferences-parent, student or both
3) interview-oral, written, or tape
4) observation
5) pencil & paper test, teacher-made
6) self-assessment
7) staffings
8) standardized test
9) student prepared summaries
10)
11)
12)
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14)
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SAMPLE EVALUATIONS

AND

METHODS AND MATERIALS

SAMPLE EVALUATION: 1) Check List

V. DEVELOPMENT OF SKILLS FOR CAREERS

OBJECTIVE: To demonstrate responsible behavior

SUGGESTIONS TO TEACHERS: This is simply an example for teachers to show how this objective may be evaluated. They should add to or delete from the check list as they feel necessary for their classroom.

SAMPLE CHECK LIST	Frequently	Seldom	Never
1) listens without interrupting			
2) refrains from derogatory language			
3) is punctual			
4) demonstrates self-discipline			
5) respects property of others			
6) offers helpful suggestions			
7) practices safety in judgment			
8) is courteous to peers			
9) follows specified directions			
10)			
11)			
12)			

SAMPLE METHODS AND MATERIALS: 20) Practice and Drill

V. DEVELOPMENT OF SKILLS FOR CAREERS

OBJECTIVE: To develop communication competencies, the student will...

1) improve his listening skills.

SUGGESTIONS TO TEACHERS wishing to construct exercises of practice and drill for this goal and its objective: Using the following as samples, devise exercises as they relate to a specific field or classroom.

SAMPLE ACTIVITY:

1) Picture Story. The teacher distributes various pictures around the classroom so that each student has his own picture. The teacher begins a story with something like: Once upon a time a little girl....Each student then adds to that beginning with something relevant to the picture he has. As the story progresses around the room, it must be both sensible and pertinent to the picture being included.

2) Bus Stop Story. The teacher tells the following to the class: (The students may not take notes).

On a rainy day in May, an empty Mason City mini-bus stops at the corner of Indiana and State Streets to pick up twelve students (three of which are girls, one those is Norwegian). As the bus proceeds on its route, two girls exit at Grupp's Grocery and four boys take a seat on the bus. As the bus goes by the Villa Apartments, one boy becomes ill and is let off. (Include as many stops, entrances, and exits as you wish). How many stops did the bus make?

3) A B C Game. Our family is going on a vacation; on our tour we will take....

a) apple
b) bear
c) candy
d) dandelion

Each student must repeat what the others have stated and add his own according to the next letter. If he fails to repeat all, he is out of the game.

SAMPLE METHODS AND MATERIALS:
12) Field Trips
14) Independent Study
17) On-the-Job
21) Reading

V. DEVELOPMENT OF SKILLS FOR CAREERS

OBJECTIVE: To develop communication competencies, the student will...

3) describe in written form how knowledge and/or skills acquired in different subjects relate to various career goals.

SUGGESTIONS TO TEACHERS wishing to use independent study through field trips, on-the-job taining, and reading as methods for this goal and its objective: Use the resources available in the Media Center, Counseling Offices, and public relations brochures of a firm in which the class has interest.

SAMPLE ACTIVITY:

Your employer has requested that you do research within the firm to discover what tasks are available there that could be performed by a 14, 15, or 16 year old.

VI. REFORMULATION OF A TENTATIVE CAREER CHOICE

GOAL VI. REFORMULATION OF A TENTATIVE CAREER CHOICE

PERFORMANCE OBJECTIVE A. To reformulate a tentative career choice, the student will...

BEHAVIORAL OBJECTIVE	METHODS & MATERIALS*	EVALUATIONS**
1) continually reassess his personal needs, values, limitations, abilities, and interests as they relate to the changing world of work;	4, 9, 10, 18, 30	1, 6, 9
2) relate personal characteristics to entry-level requirements for employment in several fields;	12, 14, 15, 21, 28	2, 9
3) apply the decision-making process regarding job choice.	3, 4, 5, 17, 24, 25	2, 3, 4, 6, 9

IMPLEMENTATION SUGGESTIONS

* Numbers refer to numerical listing of Methods and Materials.

** Numbers refer to numerical listing of Evaluations.

LIST OF METHODS AND MATERIALS*

1) artistic-music
2) bulletin boards, posters
3) business games
4) buzz groups
5) case problems
6) collage
7) committee groups
8) computer
9) cumulative record interpretation
10) debate
11) demonstration
12) field trip, observation, interview
13) handicrafts
14) independent study
15) lecture
16) movies, films, video tape
17) on-the-job
18) panel discussion
19) poetry: reading, writing
20) practice & drill
21) reading
22) records, tapes, TV, radio
23) resource persons
24) role-playing
25) simulation
26) speeches
27) staffings (with the student involved)
28) supervised study
29) themes, short stories
30) work sheet or check list
31)
32)
33)
34)
35)

LIST OF EVALUATIONS**

1) check list
2) conferences-parent, student, or both
3) interview-oral, written or tape
4) observation
5) pencil and paper test teacher-made
6) self-assessment
7) staffings
8) standardized test
9) student prepared summaries
10)
11)
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SAMPLE METHODS AND MATERIALS: 10) Debate

VI. REFORMULATION OF A TENTATIVE CAREER CHOICE

OBJECTIVE: To reformulate a tentative career choice, the student will....

1) continually reassess his personal needs, values, limitations, abilities and interests as they relate to the changing world of work.

SUGGESTIONS TO TEACHERS wishing to use a debate format as a method for this goal and its objective: Use the resources available in the Media Center. Write directions for the debate as they would apply to the subject and the emphasis desired in the debate.

SAMPLE DEBATE QUESTIONS:

1) Resolved: Television presents a realistic portrayal of specific careers (possible programs to view: Room 222, Dr. Welby, Mannix).

2) Resolved: Shoplifting affects all consumers.

3) Resolved: Possession of material goods brings happiness.

4) Resolved: Abortion should not be legalized.

5) Resolved: ALL IN THE FAMILY is a more realistic portrayal of American life than is THE WALTONS.

SAMPLE METHODS AND MATERIALS: 4) Case Problems
5) Buzz Groups

VI. REFORMULATION OF A TENTATIVE CAREER CHOICE

OBJECTIVE: To reformulate a tentative career choice, the student will...

3) apply the decision-making process regarding job choice.

SUGGESTIONS TO TEACHERS wishing to construct case problems or buzz groups as a method for this goal and its objective: Using the following as a sample of role-playing/simulation, devise sample stories as they relate to a specific field.

SAMPLE ACTIVITY:

Charlie was a varsity wrestler in high school and graduated near the top of his class. His grades in science and math were A's. Charlie claims to have an interest in people and would like a career where he could help people. His father is a partner in a construction firm and his mother is a hairdresser who has her own shop. Charlie's teacher and his high school counselor feel that he has the ability to go to medical school. His parents would like to see Charlie become a physician. Charlie, however, wants to become a male nurse. How do you feel the following people will react to Charlie's decision?

Charlie's mother	Charlie	Charlie's coach
Charlie's father	Charlie's girlfriend	Charlie's best friend

SAMPLE METHODS AND MATERIALS: 24) Role-Playing
25) Simulation

VI. REFORMULATION OF A TENTATIVE CAREER CHOICE

OBJECTIVE: To reformulate a tentative career choice, the student will...

3) apply the decision-making process regarding job choice.

SUGGESTIONS TO TEACHERS wishing to construct role-playing or simulation as a method for this goal and its objective: Using the following as a sample of role-playing/simulation devise sample stories as they relate to a specific field.

SAMPLE ACTIVITY:

You have been working at this company for seven years. You have a supervisory position with good pay and a good work record. Your formal education ended following high school.

The company hires a college graduate with a degree and no experience in your specific area. Within six months, the college graduate has been promoted to a more authoritative position in the firm. You feel that you could handle that responsible position.

Actor 1 - EMPLOYER
Actor 2 - DEGREED EMPLOYEE, NO EXPERIENCE
Actor 3 - NON-DEGREED EMPLOYEE, EXPERIENCED

GLOSSARY

1)	ameliorate	alleviate or ease, preferably in a positive manner
2)	communication competencies	the ability to handle or use communication skills
3)	continuing education	any experience in or out of the classroom contributing to knowledge, skill, or development of an individual
4)	decision-making process	creating alternatives through reasoning, critical analyzing, questioning, and recalling
5)	D.O.T.	Dictionary of Occupational Titles
6)	glean	gather, pick out, screen
7)	non-verbal	actions only, void of words
8)	O.O.H	Occupational Outlook Handbook
9)	OVIS	Ohio Vocational Interest Survey
10)	psychomotor	coordination of mind and body
11)	reentry course	any additional education directed toward a change in one's work role
12)	role-playing	individual portraying the part of another individual in a real life situation
13)	simulation	structured student portrayal involving a group of people showing a real life situation
14)	social organizations	any primary or secondary social organization to which one belongs (primary: family; secondary: Boy Scouts, interest groups)
15)	work	any activity that produces something of value for oneself and/or other people

APPENDIX

RESOURCE MATERIAL

SENIOR HIGH SCHOOL LIBRARY*

* Material compiled by Terry Brennan, Senior High School Librarian.

The following list is a printout of the card file on the Career table in the Senior High School Library. This file contains the location designation of the permanent materials (books, tapes, lengthy pamphlets, and magazine articles) housed within the library. Also available for student use are the Chronicle Guidance Occupational Library in a small file cabinet and a less formal, four-drawer file of free pamphlets and newspaper clippings which we have obtained.

If you can add items to any of these collections--articles encountered in your reading, career materials which you believe we should order--we would appreciate your letting us know.

Please give this list some attention and, more importantly, exposure to your students.

Terry Brennan
Senior High School Librarian

Student, college	378 M12y	McCabe, Joseph E.	Your First Year at College	1967
Student, college	378.1 Foo	Footlick, Jerald K.	The College Scene Now	1967
Student, college	378.7 Sch	Schwartz, Alvin	University: The Students, Faculty, & Campus Life at One University	
General	158.7 Ber	Berger, Peter L.	The Human Shape of Work	1964
General	331 Ang	Angel, Juvenal	Student's Guide to Occupational Opportunities and Their Lifetime Earnings	1967
General	331.023 Hai	Haight, Tim	Careers After High School	1970
General	331.115 Cor	Corwen, Leonard	Find Your Job and Land It	1968
General	331.3 Gol	Goldenthal, Allen	The Teenage Employment Guide	1969
General	331.7 Bru	Brunetti, Cledo	Your Future in a Changing World	1970
General	331.7 Duc	Duckat, Walter	A Guide to Professional Careers	1971
General	331.702 Ath	Atherton, James	Essential Aspects of Career Planning and Development	1969
General	331.702 Foo	Footlick, Jerrold	Careers...For the Seventies	1969
General	331.702 Hop	Hopke, William E.	The Encyclopedia of Careers and Vocational Guidance	1972
General	331.702 San	Sandman, Peter M.	Unabashed Career Guide	1969
General	331.702 Sch	Schill, William	Career Choice and Career Preparation	1970
General	646.72 Zip	Zipp, Edith	Personal Improvement for the Career Woman	1970
General	650.19 Whi	Whitcomb, Helen	Charm - The Career Girl's Guide to Business and Personal Success	1964
General	331.86 Lis	Liston, Robert	On-the-Job Training and Where to Get It	1967

General	331.702 Spl	Splayer, Sarah	Your Career if You're Not Going to College	1973
General	331.5 Art	Arthur, Julietta	Employment for the Handicapped	1967
General	331.3 Lem	Lembeck, Ruth	Teenage Jobs	1971
General	371.42 Uni	U.S. Dept. of Labor	Occupational Outlook Handbook	
General	374 Ries	Riessman, Frank	Up From Poverty	1968
General		Eye Gate	The Job Interview	1959
General	165 T	Learning Systems	The New Unemployed	
General	Career File	Pamphlet	After High School, What?	
General	Mag. Room	Life	The Big Year Off, p. 72	6/16/72
General	Mag. Room	Today's Education	Career Education, p. 22	10/71
General	Mag. Room	Scholastic Teacher	Career Education -- A New Job for the Schools, p. 4	12/71
General	Mag. Room	Education Digest	Career Education Now, p. 9	5/71
General	Mag. Room	Vital Speeches	Career Education Now, p. 33	3/15/71
General	Mag. Room	McCall's	Careers for Kindergarteners p. 54	1/72
General	Mag. Room	American Education	A Cargo of Career Education p. 16	10/71
General	Mag. Room	American Education	Federal Funds, p. 36	1, 2/71
General	Mag. Room	Good Housekeeping	Good Careers That Don't Require College Degrees, p. 178	3/71
General	Mag. Room	Time	Graduates & Jobs: A Grave New World, p. 49	5/24/71
General	Mag. Room	Farm Journal	Help Your Kids Find the Right Career, p. 58	4/72

General	Mag. Room	Ladies Home Journal	How America Lives, p. 76	9/72
General	Mag. Room	Monthly Labor Review	Job Vacancies in 1970, p. 20	2/71
General	Mag. Room	Time	Jobs for Tomorrow, p. 70	2/15/71
General	Mag. Room	Newsweek	Learning to Earn, p. 74	8/30/71
General	Mag. Room	Today's Education	New Priorities and Old Prejudices, p. 25	3/71
General	Mag. Room	American Education	Seattle's Concentration on Careers, p. 12	7/71
General	Mag. Room	American Education	This Way to the Jobs, p. 12	3/72
General	Mag. Room	Today's Education	Tomorrow's Jobs, p. 44	1/72
General	Career File	Pamphlet	Public Service Employment: Jobs for All	
001	744.424 Hep	Heplet, Donald E.	Architecture, Drafting and Design	1965
001	921 W94	Wright, Frank L.	A Testament	1957
002	629.4 Z36c	Zarem, Lewis	Careers & Opportunities in Astronautics	1962
003.081	621.38 W52f	West, Wallace	Find a Career in Electronics	1959
01	Mag. Room	U.S. News	Choosing Careers: The Big Shift	5/31/71
017	142 T	Guidance Associates	Your Future as a Draftsman	
018	150 T	Guidance Associates	Your Future as a Surveyor	
019	620 Bro	Brooking, Walter	Engineering Technicians	1969
019	620.69 A52e	Amstead, B.	Engineering as a Career Today	1967
020.188	332.6 Aml	Amling, Frederick	Investments: An Introduction to Analysis & Management	1970

04	630 Sid	Sidney, Howard	Agricultural, Forestry & Oceanographic Technicians	1969
055.088	920 Gol	Golde, Peggy	Women in the Field: Anthropological Experiences	
07	Career File	Assoc. Health Org: of Iowa	Health Careers Unlimited	
070	610.69 L47p	Lee, Russell	The Physician	1967
073	T 159 Side 2	Dr. Hagedorn	Veterinary Medicine	1970
074	147 T	Guidance Associates	Your Future in a Drugstore	
075	T 163 Side 2	NIACC Teachers	Practical Nursing as a Career	1970
078	610.72 Col	Colman, Hila	A Career in Medical Research	1968
078	614 Kin	Kinsinger, Robert E.	Health Technicians	1970
078.602	617.602 Pai	Paige, Barbara	Your Future as a Dental Hygienist	1969
078.368	155 T	Guidance Associates	Your Future as an X-Ray Technician	
078.368	141 T	Guidance Associates	Your Future as a Dental Technician	
078.368	T 163 Side 1	Mrs. Isaac	Dental Hygienist	1970
078.381	130 T	Guidance Associates	Your Future as a Medical Laboratory Assistant	
078,381	T 158 Side 1	Mercy Hosp. Staff	Medical Laboratory Technician	1970
079	Career File	Easter Seal Society	Want to Help Make the World Better	1968
079.108	616.85 New	Newman, Parley	Opportunities in Speech Pathology	1969
079.378	615.8023 Dar	Darby, Patricia	Your Career in Physical Therapy	1969
09	371.1 Bie	Biegeleisen, J.	Careers and Opportunities in Teaching	1969

09	371.1 Dow	Dowdell, Dorothy	Your Career in Teaching	1967
09	371.1 Dow	Dowdell, Dorothy	Your Career in Teaching	1967, copy 2
09	T 157 Side 2	Clarke, Russell	The Teaching Profession	1970
092.228	371.1 L79f	Lloyd, Francis V.	Forward to Teach	1967
096	640 Mil	Mills, Nancy	Home Economists in Action	1968
096	640.69 P23y	Paris, Jeanne	Your Future as a Home Economist	1964
096	640.69 S74e	Spencer, Lila	Exciting Careers for Home Economists	1967
100	025 L831	Logsdon, Richard H.	Library Careers	1963
11	340 Sar	Sarnoff, Paul	Careers in the Legal Profession	1970
110	340 K97i	Kutner, Luis	I, the Lawyer	1966
110	340 S661	Smith, Talbot	Lawyer: Opportunities for Careers in the Legal Prof.	1961
13	650 Pla	Hersey, John	Plain Talk about the Word Business	1970
130	808.02 Gil	Giles, Carl H.	Writing Right to Sell	
130	808.02 Raf	Raffelock, David	Writing for the Markets	1969
130	808.025 New	Newcomb, Duane	How to Make Big Money Free-lance Writing	1970
132	P26f	Parsons, Tom	Find a Career in Journalism	1959
132	T 158 Side 2	Spiegel, Robert	Journalism as a Career	1970
132	Mag. Room	Mademoiselle	Magazine Jobs, USA	9/1970
K32.268	070 S36e	Schoenfield, C.A.	Effective Feature Writing: How to Write Articles That Sell	1960

132.268	070.4 Rep	Associated Press	Reporting/Writing From Front Row Seats	1971
132.168	152 T	Guidance Associates	Your Future as a Newspaper Reporter	
14	707 Kai	Kainz, Luise C.	Exploring Art	1949
14	707 Rus	Russell, Mable	Art Education for Daily Living	1946
14	658.8 Cha	Chamberlain, Betty	The Artist's Guide to His Market	1970
14	Fic Har	Harris, Christie	You Have to Draw the Line Somewhere	1964
142.081	745.2 Pul	Pulos, Arthur J.	Opportunities in Industrial Design Careers	1970
143	118 T	Guidance Associates	Your Future as a Photographer	
144	921 W87	Garwood, Darrell	Artist in Iowa: A Life of Grant Wood	1944
144.081	741.5 Lar	Lariar, Lawrence	Careers in Cartooning	1950
150	792 Gut	Guthrie, Tyrone	Life in the Theatre	1959
150.048	792 Col	Cole, Toby	Actors on Acting	1954
150.048	792 Sta	Stanslavski, C.	An Actor Prepares	1936
150.048	792.028 Ben	Bendetti, Robert	The Actor at Work	1970
151.048	921 Ti4	Maynard, Olga	Bird of Fire: The Story of Maria Tallchief	
151.058	920 T32S	Terry, Walter	Star Performance: The Story of the World's Great Ballerinas	1954
153.118	796.357 Hoo	Hoopes, Roy	What a Baseball Manager Does	1970
153.248	796.7 And	Andretti, Mario	What's It Like Out There?	1970
153.248	921 Cla	Clark, Jim	Jim Clark at the Wheel: The World Motor Racing Champion's Own Story	1964

153.248	796 Lib	Libby, Bill	Parnelli: A Story of Auto Racing	1969
153.348	796.357 Wei	Weiskopf, Don	Baseball The Major League Way	1962
153.348	921 Starr	Devaney, John	Bart Starr	1967
16	364.14 Sal	Salerno, Ralph	Crime Confederation: Cosa Nostra and Allied Operations in Organized Crime	1969
16	650 L891	Love, Albert	Listen to Leaders in Business	1963
16	650.023 Wig	Wiggs, Garland D.	Marketing, Business & Office Specialists	1970
16	651 Lit	Littlefield, C 1	Office & Administration Management	1970
16	301.41 Mac	McLean, Beth B.	The Young Woman in Business	1962
160	T 159 Side 1	Gage, Edgar S.	Accounting	1970
160	657 C33c	Cashlin, James	Careers & Opportunities in Accounting: including accounting for women	1965
162.158	658.8		The Buyer's Manual	1965
164	659.1 F55m	Fitz-Gibbon, B.	Macy's, Gimbels, and Me How to Earn $90,000 in retail Advertising	1967
164	659.1 M46m	Mayer, Martin	Madison Avenue, USA	1958
164	659.1 Woo	Wood, James Playstead	This is Advertising	1968
166	658.302	Mack, David	Opportunities in Personnel Management Careers	1970
169.168	333.7 McC	McCall, Virginia	Your Career in Parks and Recreation	1970
180	333.7 Nea	Neal, Harry E.	Nature's Guardians: Your Career in Conservation	1956
183	Career File	Des Moines Area Community College	Industrial Marketing Careers	
188	309.2023 Asb	Asbell, Bernard	Careers in Urban Affairs	1970

188	301.5 Bay	Bayliss, Sylvia	Community Service & Related Specialists	1970
188.168	119 T	Guidance Associates	Your Future in the Internal Revenue Service	
195	T 157 Side 1	Lucido	The Social Worker	1970
195	361.023 Gay	Gay, Kathlyn	Careers in Social Service	1969
20	651.023 Win	Winter, Elmer L.	Your Future as a Temporary Office Worker	1968
201.368	651.9 Bla	Blackburn, Norma	Legal Secretaryship	1971
202	653.023 Van	Van Allen, Edward	Your Future as a Shorthand Reporter	1969
213	145 T	Guidance Associates	Your Future in Data Processing	
213	621.3819 S46y	Seligsohn, I.	Your Career in Computer Programs	1967
213	651.8 Fis	Fischer, George	Your Career in Computers	1968
22	144 T	Guidance Associates	Your Future as a Production Planner	
223	280 Fs	Eye Gate	Stocker in a Supermarket	1959
23	156 T	Guidance Associates	Your Future in the Postal Service	
235	160 T	Guidance Associates	Your Future as a Telephone Operator and Supervisor	
25	129 T	Guidance Associates	Your Future in Selling	
250	121 T	Guidance Associates	Your Future as an Insurance Salesman	
250	154 T	Guidance Associates	Your Future as a Real Estate Salesman	
26	658.85 Lis	Liston, Robert	Your Career in Selling	1967
26	658.87 Har	Harding, Jack	Retail Selling is Fun!	1970

26	658.87 Wil	Wilinsky, Harriet	Careers & Opportunities in Retailing	1970
26	658.87		Readings in Modern Retailing	1969
290	272 Fs	Eye Gate	The Variety Store	1959
297	659 F90i	Fried, Eleanor	Is the Fashion Business Your Business	1958
297	646 H43f	Heal, Edith	Fashion as a Career Fashion Portfolio	1966
299.884	140 T	Guidance Associates	Your Future as a Dispensing Optician	
31	642	NAVSUP	Food Service Operations	1971
311	277 Fs	Eye Gate	The Waitress	
313.138	664 018a	O'Connell, Desmond	Aim for a Job in the Bakery Industry	1967
318	274 Fs	Eye Gate	School Cafeteria Worker	
33	646.7023 Fas	Fashion Group	Your Future in the Beauty Business	1969
355.878	275 Fs	Eye Gate	The Nurses Aide	
37	364.44 Sch	Schreiber, Flora	A Job with a Future in Law Enforcement	1970
373	146 T	Guidance Associates	Your Future as a Fireman	
375	351.7 Wil	Wilson, James	Varieties of Police Behavior	1968
375	363.2 Arm	Arm, Walter	Policeman; an inside look at his role in society	1969
375	363.2023 Lis	Liston, Robert	Your career in law enforcement	1965
375	133 T	Guidance Associates	Your Future as a Policeman/ Policewoman	
378	125 T	Guidance Associates	Your Future in the Armed Forces	
46	630 S87c	Stone, Archie A.	Careers in Agribusiness & Industry	1965

526	149 T	Guidance Associates	Your Future in Wholesale and Retailing	
6	650 K52c	King, Alice Gore	Career Opportunities for Women in Business	1963
620.281	620.28 Tay	Taylor, Dawson	Aim for a Job in Automotive Industry	1968
620.281	135 T	Guidance Associates	Your Future as an Auto Mechanic	
65	Career File	Industrial Education	Careers for the 70's in the Graphic Arts	9/70
70	132 T	Guidance Associates	Your Future as a Sheet Metal Worker	
701	153 T	Guidance Associates	Your Future as a Tool and Die Maker	
711	617.7 Sti	Stimson, Russell	Opportunities in Opticianry	1971
720	127 T	Guidance Associates	Your Future as a TV & Radio Service Technician	
723	123 T	Guidance Associates	Your Future as an Appliance Serviceman	
807.381	126 T	Guidance Associates	Your Future as an Automobile Body Repairman	
82	T 162 Side 1	NIACC teachers	Electronic Technology as a Career	
822.381	148 T	Guidance Associates	Your Future as a Telephone Installer & Repairman	
827.381	T 162 Side 2	NIACC teachers	Refrigeration & Air Cond.	
828	137 T	Guidance Associates	Your Future in Electronics	
85	128860 T	Guidance Associates	Your Future as a Construction Machine Operator	
860	136 T	Guidance Associates	Your Future as a Carpenter	
90	124 T	Guidance Associates	Your Future as a Long Haul Truck Driver	
913	120 T	Guidance Associates	Your Future in Surface Transportation	

915	276 Fs	Eye Gate	The Gas Station Attendant	
915.867	143 T	Guidance Associates	Your Future as a Service Station Attendant	
985	309.2 Cro	Crook, William	Warriors for the poor; the story of VISTA	1969
985	351.069 DuP	DuPre, Flint	Your Career in Federal Civil Service	1967

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DESCRIPTIVE NOTE: 23P.

ABSTRACT: THIS THIRD AND FOURTH GRADE LEVEL UNIT ON TELEVISION-RELATED CAREERS, UTILIZES A SHORT PLAY WITH A VARIETY OF FOLLOW-UP ACTIVITIES. THE PLAY CENTERS AROUND STUDENTS WHO VISIT A LOCAL TELEVISION STUDIO. INCLUDED IN THE UNIT ARE FOLLOW-UP ACTIVITIES INCLUDING GAMES, PUZZLES, RESOURCE SPEAKERS, FIELD TRIPS, AND THE ACTUAL PREPARATION OF A TELEVISION PROGRAM. A PRE-TEST, POST-TEST AND BIBLIOGRAPHY ARE INCLUDED. (KB)

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CAREERS IN TELEVISION COMMUNICATION
THIRD AND FOURTH GRADE LEVEL

OMAHA PUBLIC SCHOOLS
DEPARTMENT OF VOCATIONAL EDUCATION
OMAHA, NEBRASKA

IN-SERVICE WORKSHOP
CAREER EDUCATION

The Exemplary Program - U. S. Commissioner of Education
Vocational Amendment of 1968
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Expanded Vocational Education Program for Disadvantaged Youth

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CAREERS IN TELEVISION COMMUNICATION

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INTRODUCTION

This unit on television-related careers, utilizes a short play with a variety of follow-up activities. It provides several meaningful and enjoyable experiences for the students of your room. The play centers around two students who visit a local television studio. They discover that there are other jobs besides that of the actor in the production of a television program. Included in the unit are many follow-up activities including games, puzzles, resource speakers, field trips, and the actual production of a television program by the children. There are a multitude of careers in which a student can become involved. This unit shows that by looking at one career carefully, a student might find something of interest in this field or a related one.

David Morton

Debra Sydoryk

CAREERS IN TELEVISION COMMUNICATION

Concept

A variety of occupations are necessary for the production of a television program. Each job is important and requires different skills and training.

Objectives

1. Television is an important source of information and entertainment.

2. The many people who work to produce television programs provide a service to the community.

3. People who work behind the scenes at the television studio are especially skilled and trained for their jobs.

PRE-TEST

See how well you can answer these questions.

1. What is communication?

2. What is media?

3. What is a career?

4. How many different jobs do you think are involved in the making of a television program? List some of them.

5. Do you think working in a television studio would be easy?

6. Do you think the job of a janitor is important to a television show? Why or why not?

VOCABULARY WORDS

audio

cameramen

communication

control room

cues

director

engineers

floormen

head set

media

microphone

monitor

recording

script

set

show production

studio

transmitter

video tape

visuals

A One Act Play

"Hey, That's What I Want To Do"

(Careers In Media and Communications)

Hey, That's What I Want To Do!

(Careers In Media and Communications)

Characters

Person 1: . . . . . The name of the student can be inserted here.

Person 2: . . . . . The name of the student can be inserted here.

Secretary: . . . . Mary, she is the cousin of student or person 2.

Director: . . . . . Mr. Morton

Cameraman: . . . . George, nice friendly man.

Audio Engineer: . . Paul, man very proud of his job.

Teacher . . . . . Ms. Smith

Four other students: The name of the students can be inserted.

Act I, Scene I

The two people are sitting and talking as the curtain opens. T. V. set with back to audience. They decide to turn on the set as the show begins.

Person 1: I think I am gonna turn on the T.V. Did you see Kung Fu last nite?

Person 2: Wasn't it great!

Person 1: If I had any wish, it would be to spend my time doing things like that.

Person 2: You mean fighting Kung Fu?

Person 1: No working in the Television studio.

Person 2: Oh, I think that would be easy! All you do is go in, they turn on the camera and you do your thing. In an instant you are a star!

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Person 1: I have a feeling it takes a lot more than just going in and standing in front of a camera. There must be lots of jobs in the making of one single show.

Person 2: Well, if you're really interested, my cousin works as a secretary in the downtown studio. If I asked her, maybe we'd be able to go down and find out what really goes on.

Person 1: Sounds great, we'll do it!

Curtain Closes

Act I, Scene II

The boys are about to enter the studio. They see the secretary, and beyond her is the cameraman and the Audio Engineer working in the studio.

Sec.: Good Morning, KXYZ studios, (Answering the phone), Can I help you? Fine, I'll connect you.

Person 2: Hi Mary, glad to see you. This is my friend (name of Person 1) I told you all about.

Sec.: Glad to meet you. I have talked with my cousin all about your interest. Television is an important source of information and entertainment. There are many people who work to produce television programs which provide a valuable service to our community.

Person 1: Mary, are most of the productions done here?

Sec.: Yes, most of the programs are produced in the television studio. The large room over there with the men performing a variety of jobs is called the studio. There are lights, sets, cameras, and monitors. All taking people doing different jobs. Speaking of important people here comes our director.

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(Director enters)

Dir.: Hi Mary, any messages for me?

Sec.: Yes, they are on your desk. Mr. Morton I would like to introduce my cousin (Person 2), and his friend (Person 1). They are here to find out a little bit about the many careers in television communication.

Dir.: Pleased to meet you fellas. Let me take you around to meet a few of the people who hold jobs in the making of a single show. First let me tell you a little about what the director does. The main duty of the director lies in the control room giving directions to everyone involved in the show. He selects the picture which appears on the screen. All this leads to the introduction of another important man in the studio. The Cameraman.

(All walk over to the cameraman who is working with camera.)

Cameraman: Good Morning Mr. Morton.

Dir.: Good Morning George, I have a couple of young people here who are interested in what you do.

Cameraman: Well, the job of the cameraman and the floormen is to work in the studio with the performers. The cameraman operates the camera, which we've been trained for. The floormen give cues to the performers.

Dir.: Thanks George.

Person 1: What are those guys over there doing (Pointing off stage).

Dir.: Those are the Engineers. Their jobs are to adjust the T.V. picture for quality, operate film and slide projector and place video tape on the machine at the proper time.

Person 2: I am beginning to see that there are many types of jobs and careers in one studio a person could get into.

Dir.: Yes, there certainly are. Here is one more person I would like for you to meet. Our Audio Engineer.

(All Walk over to Audio man)

Audio Eng.: Good Morning, Mr. Morton.

Dir.: Good Morning, Paul. These young people with me are interested in knowing about your job.

Audio Eng.: Always pleased to let people know what I do. The audio Engineer has charge of the music and sound effects. He regulates the volume so the voices come through clearly. He watches the timing and notifies the director when it is time to bring the program to a close.

Person 1: Wow, I have really learned a lot today! I never knew so many jobs were involved in making of a show.

Person 2: I can hardly wait to get back and give our report to the class. I am sure our teacher, Ms. Smith, will be pleased. Thanks so much Mr. Morton for our tour.

Dir.: You are more than welcome. I am sure you see that in communications by means of television many people are involved, performing many different jobs. Every job is important to the production of the show. From the secretary who takes messages to the Maintenance Man who makes sure all things are in working order. All jobs and careers are important.

Curtain Closes

Act I, Scene III

The final scene is in the classroom. The two students are at the teacher's desk after completing their report to the class. The other students are at their desks eager to ask questions. Curtain Opens.

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Teacher: You two have done an outstanding job on your report. There are so many careers in not just television communication, but in radio, telegraph and any other form of communication. I see we have a few questions. (Classroom students have hands raised).

Classroom Student A: Are there many other careers that one can go into beside the ones you mentioned in your report.

Person 1: Yes, communicating by forms of media enters into almost any field you can think of.

Classroom Student B: My favorite part was the cameraman. He gets to work with the performers and operates the cameras.

Classroom Student C: Could you tell us again what the Audio Engineer does?

Person 2: The Audio Engineer works in the control room. He gets to regulate the music and all sound effects. He is responsible for all you hear.

Classroom Student D: Are all the jobs you talked about really important to television?

Person 1: Sure, all jobs are important. The secretary who takes messages important to the show. The maintenance man who makes sure all things are in good working order. These all help to make the show run smoothly.

Person 2: When you think about it, this would be true in almost any job you would go into.

Teacher: That is right. If you stop to think about the jobs you see around you every day. They are all important. I want you to notice all the people around you that help you in someway. The cafeteria workers, the man who makes the lights for our room. These jobs are all important. Communications by means of tele-

vision is made up of many people performing many jobs for our benefit.

Person 2: Hey, Ms. Smith, do you think we could visit the studio as a class?

Class: All respond with a big "Yeah!"

I wanna go!

Please!

Teacher: Alright class we'll go. I am sure we would all learn a great deal.

Person 1: Who knows, this could lead to me being a great Audio Engineer.

Person 2: Who, you? Never! Maybe me! (They laugh)

Curtain Closes

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TELEVISION RELATED CAREERS

- Accountant
- Actor
- Administrator
- Announcer
- Artist
- Audio Engineer
- Beautician
- Broadcast Engineer
- Cameraman
- Carpenter
- Continuity Manager
- Costumer
- Director
- Editor
- Electrician
- Farm Director
- Floormen
- Home Economics Specialist
- Journalist
- Maintenance Man
- Music Librarian
- Music Specialist
- News Correspondent
- News Writer
- Producer
- Promotion Director
- Research Personnel
- Sales Representative
- Scene Designer
- Sportscaster
- Traffic Manager
- Video Engineer
- Writer

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LEARNING ACTIVITIES

FOR UNIT DEVELOPMENT

1. When the children are familiar with how a television program is produced and the variety of workers needed, they are ready to produce their own news program and/or commercials. First review the types of workers you will need; script writers, editors, actors and actresses, directors, floormen, cameramen, engineers, etc. Each child should then be given a particular job. Using the video tape machine, the children can actually produce their own television program.

2. Mr. Wendell Belieu, Media Specialist at the Omaha Public Schools Instructional Materials Center, is an excellent resource. He is a very busy person, but when available he will gladly bring his assortment of television equipment to your classroom. He assists the children in the making of their program. He teaches the children to use the video and audio equipment. This hands-on experience is superb! Not only have the children had a meaningful experience in television equipment operation, but also they are made aware of the many careers in television.

3. Field trips to any of the commercial radio or television stations are very worthwhile for the children. However, don't overlook the trips that are available within the Omaha Public Schools. The students at Central High operate their own radio station KIOS FM. Burke High School is equipped with a television station, which is also student operated. This is a closed circuit, micro-wave station (KWU 4243). Classes are now available at the high school level in TV Production (Beginning and Advanced), TV Writing, TV Graphics, and TV Engineering.

4. To enrich vocabulary development, a television can be made from a cardboard box and a moveable paper scroll. The vocabulary words and/or pictures should be drawn on the scroll by the children. These can then, be viewed individually or in groups.

5. If another class is also studying Television careers they could be challenged for a "College Bowl" type quiz activity.

6. Of course, individual group reports requiring research or on-the-job interviews are a valuable educational experience. By assigning a different occupation to each group, the inter-relationship of their jobs can be emphasized.

7. The game of Concentration is another fun way to learn the television vocabulary. Communication-career words should be printed on cards. This game is patterned after the TV game show.

WORD HUNT

o s h a t l f i b s o l n s h e l

e x t r a n s m i t t e r m o a b

m l a u d i o n y o h v z n c d i

c k m c d n b o b m s l h r k n r

e s a m n i t s t u n f u a m e d

b o a f l o o r m e n x r b s y s

u x b r s d m o c a m e r a m e n

d d e l z v i s u a l s c l e n h

v i d e o x c v e u x o u t h g v

a r w y l t r x s h y s a e e i k

s e f a x d o r v c z b t a d n c

k c v e h a p c b w r d n h v e t

y t n e s f h b y i d i g k f e w

m o c e t l o e l o s t p i n r o

l r o s f d n u r h s z u t v s f

t o n k b s e t d c l o s m w r i

Find these words in the puzzle above.

studio	set	script	director
cues	microphone	cameramen	floormen
engineers	audio	video	visuals
transmitter			

What other words did you find?

SCRAMBLED VOCABULARY FUN

1. tse _____
2. diame _____
3. osutdi _____
4. nprdoutcio _____
5. ecus _____
6. oauid _____
7. mtcmounnicoai _____
8. evdio _____
9. gneniree _____
10. lfrmoeno _____
11. mremaneac _____
12. poenhorimc _____
13. rdiceotr _____
14. tcsirp _____

SCRAMBLED VOCABULARY FUN

ANSWERS

1. set
2. media
3. studio
4. production
5. cues
6. audio
7. communication
8. video
9. engineer
10. floormen
11. cameramen
12. microphone
13. director
14. script

POST-TEST

A. Short Answer

1. Why is television communication important to our community?

2. How can a job as a carpenter be important to a television show?

3. How could the job of an artist be important to the making of a television show?

4. What jobs can you think of that were not mentioned which might be important in the making of a show.

B. Listing

1. List the main duties of the Director.

   a.
   b.

2. List the duties of an Audio Engineer.

   a.
   b.

3. List different types of careers you could find in television.

   a.
   b.
   c.
   d.
   e.
   f.

C. Matching

1. Career	A. Variety of forms of communication
2. Director	B. Sending or receiving messages by speaking, writing, or gestures
3. Set	C. Person responsible for keeping records, taking dictation, and relaying messages
4. Cameraman	D. Person entirely responsible for running of a show
5. Media	E. Person responsible for the music and all sound effects.
6. Communication	F. Man who operates the camera
7. Audio Engineer	G. A large room with lights, sets, and camera equipment
8. Maintenance Man	H. A lifetime occupation or job
9. Secretary	I. A person responsible for keeping the building and equipment in working order
10. Show Production	J. People working together to present a show to an audience
11. Studio	K. Background and props needed to make scene lifelike

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Smith, Joseph, Fun-Time Radio Building, Childrens, 1961

Stoddard, Edward, The First Book of Television, Watts, 1955.

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DESCRIPTIVE NOTE: 19P.

ABSTRACT: THIS IS A LEARNING EXPERIENCE MINI-UNIT ABOUT MANUFACTURING CENTERED AROUND AN ORIGINAL PLAY. THE PLAY CENTERS AROUND A GROUP OF CHILDREN WHO HAVE BEEN STUDYING ABOUT MANUFACTURING AND SPECIFICALLY THE ASSEMBLY LINE. THE UNIT ALSO INCLUDES PRE-PLAY ACTIVITIES, POST-PLAY ACTIVITIES, RESOURCES, AND A TEACHER EVALUATION. (KB)

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INTRODUCTION

This is a learning experience mini-unit about manufacturing centered around an original play. Its purpose is to meet the objectives stated in this paper.

The play centers around a group of children who have been studying about manufacturing and specifically the assembly line. As a culminative experience, the class is taken on a field trip to see how dentist chairs are made. One child does not follow the behavior guidelines set forth by his teacher which causes an amusing but beneficial chain of events to occur.

CONCEPTS

1. The dignity of all work must be recognized if it is performed in a dignified manner.
2. The qualifications of a job should be met by the individual seeking the position without regard to sex.
3. The organizational structure of a business can range from a very simple one with two employees to a complex factory with several hundred employees.

OBJECTIVES

1. To show how important the job of an assembly line worker is.
2. To gain recognition that a man or a woman may hold a job if the qualifications are met.
3. To familiarize children with different job opportunities available in a large factory.
4. To acquaint children with vocabulary terms learned from studying about the factory.
5. To study, in depth, the assembly line.
6. To recognize the existence of other departments in a large factory.
7. To simulate an assembly line by making a product.
8. To promote good dental health.
9. To encourage good behavior on field trips.

LEARNING ACTIVITIES

1. Pre-play activities
   a. Discuss and define the assembly line.
   b. List reasons on a chart, pro and con, for having an assembly line.

c. State a contest between an individual worker and an assembly line to make a simple construction using tinker toys or building blocks.

d. Make a scale model assembly line.

e. Invite an assembly line worker to speak.

f. Take a field trip to the Omaha Playhouse.

g. Write and discuss new vocabulary words. (Appendix)

h. Begin a class booklet about the factory and items learned.

2. The Play (Appendix)

a. Introduce the play and hold tryouts for parts.

b. Design and make costumes.

c. Make props.

d. Make backdrops for scenes.

e. Practice play.

f. Make handbills and invitations.

g. Hold dress rehearsal.

h. Present the play.

3. Post-play Activities

a. Take a field trip and see an assembly line in action.

b. Make a class mural showing the assembly line from the play.

c. Complete the story - "We went to the donut factory and they forgot to make the holes!"

d. Make crossword puzzles using vocabulary words from the study of the factory.

e. Make a chart showing how the assembly line fits into the factory as a whole.

f. Make a collage of pictures of items made on an assembly

line.

g. Make a product in the classroom using the assembly line technique. (Papier mache' napkin rings-Appendix)

h. Play the game twenty questions using the vocabulary words.

RESOURCES

1. West Maple IMC

a. Encyclopedia Britannica, Human Body, "Teeth", Filmstrip, 611 H.

b. Encyclopedia Britannica, Man and His Fight For Freedom, "Man the Laborer", Filmstrip, 572 M.

c. Modern Learning Aids, "America Matures: Series Three", 'Assembly Lines and Merchandising', Filmstrip, 973.9.

d. Bailey, "Herbie's Dream", Kit 617.6 H, (Teeth)

e. Weston Woods, "Stone Soup," Marcia Brown, Kit FB.

f. Imperial, "Where Does It Come From?" Kit 600 Whe.

2. Career Education Materials

a. Curriculum Filmstrips, Box 2, "We Learn How Things Are Made".

b. Curriculum Filmstrips, Box 2, "Factory Workers, We Visit a Lumber Mill".

c. Come To Work With Us in a Toy Factory.

d. Video Tapes, "Dixie Cream Donuts," "Dr. Singer and Staff".

3. Instructional Materials of OPS, 16mm films.

a. Butter is Made This Way

b. Collage

c. George's New Suit

d. How to Make a Puppet

e. Save Those Teeth

f. Homer Price and the Donut Machine

g. The Terrarium

4. Other

a. Book - Henry Huggins and the Donut Machine, Robert McCloskey.

b. Materials available upon request.

(1) Bulletin 1700-101: Factory Operatives, 15¢, Bureau of Labor Statistics, 911 Walnut Street, Kansas City, Missouri, 64106.

(2) Bulletin 1700-7: Dentists, 10¢, Bureau of Labor Statistics, 911 Walnut Street, Kansas City, Missouri 64106

(3) Bulletin 1700-55: "Shipping and Receiving Clerks", 10¢, Bureau of Labor Statistics, 911 Walnut Street, Kansas City, Missouri 64106

(4) "Dentistry-A Changing Profession", free, American Dental Association, 211 East Chicago Avenue, Chicago, Illinois 60611.

TEACHER EVALUATION

1. Have each child construct an individual invention and present it to the class.

a. Ask the name of the invention.

b. Ask the materials involved in constructing the invention.

c. Ask how it could be made on an assembly line.

2. Form committees to make a booklet entitled "The Factory."

a. Include the stations in an assembly line.

b. Show pictures of items made on an assembly line.

c. Show the outline of a large factory.

3. Form a panel of "experts" and have the remaining class members ask questions regarding the factory.

4. Written test.

APPENDIX

Organization of a Factory

Stockholders

Board of Directors

Plant Manager

Production Manager

1. Purchasing Agent
2. Foreman, Inspection Dept.
   a. Inspector
   b. Inspector
3. Assembly Foreman
   a. Team Foreman
      i. Worker
      ii. Worker
   b. Team Foreman
      i. Worker
      ii. Worker
   c. Team Foreman
      i. Worker
      ii. Worker

Sales Manager

1. Shipping Clerk
2. Advertising Manager

Office Manager

1. Payroll Clerk
2. Corresponding Secretary
3. Public Relations
4. Personnel Department

VOCABULARY WORDS

Manufacture

Factory

Stockholders

Board of Directors

Plant Manager

Production Manager

Sales Manager

Office Manager

Purchasing Agent

Assembly Foreman

Inspector

Team Foreman

Line Worker

Shipping Clerk

Advertising Manager

Payroll Clerk

Corresponding Secretary

Public Relations

Personnel Department

Stockroom

Materials

NUMBER FOUR FORGOT
or
THE DENTIST CHAIR THAT HAD A CAVITY

An original play created by Mary Foster

CHARACTERS

Narrator
Mrs. Lane, teacher
Mr. Woods, tour guide
John, student
Susan, student
Tommy, student
Angela, student
Jeff, student
Jane, student
Billy Smith, student
Mrs. Smith
Receptionist, man
Dr. Little, lady dentist
Other students
Factory workers
Station Four Worker

SCENE ONE:

Setting: Mrs. Lane's class is arriving at the Dandy Day Dentist Chair Company.

Narrator: Mrs. Lane's class has been studying manufacturing and the factory. One of the methods to produce an item is by the use of the assembly line. They are about to begin their tour.

Mr. Woods: "Good morning, boys and girls. Welcome to the Dandy Day Dentist Chair Company. I am Mr. Woods, your tour guide for this morning. We hope you will enjoy the tour and actually see how a Dandy Day Dentist Chair is made. Before we begin 'walking the line' let me remind you that our company also relies on other companies for our materials. We buy wood for the frame of our chairs from Louie's Lumber Yard. We buy the black vinyl covers from Franny's Fabrics. We also buy nails, screws, bolts, and metal bars from the Ace Metal Works."

Students: "Wow!"

Mr. Woods: "Boys and girls, what would happen if one of the trucks delivering the wood for the frame of our chairs had a flat tire and was a day late? Yes, John?"

John: The assembly line would have to stop because there wouldn't be any wood to make frames for the chairs."

Mr. Woods: "Very good, John! We wouldn't be able to make any chairs, the dentists who ordered the chairs from us would be unhappy, and we would lose money. What could we do to pre-

vent our assembly line from stopping? Yes, Susan?"

Susan: "The company could build a stockroom and keep an extra supply of the materials needed to make the chairs."

Mr. Woods: "You are right! We do have a stockroom for extra materials just in case an emergency like that happened. I am very impressed with what your class knows about the factory and assembly lines. Let's begin our tour now. This way, please."

End of scene one.

SCENE TWO:

Setting: On a balcony overlooking the "line" at work.

Narrator: The class is about to see the actual assembly line at work but before they continue, Mrs. Lane gives them a reminder.

Mrs. Lane: "Boys and girls, I know we talked about this at school, but I want to remind you again. We are all so excited we might forget that we must not disturb the workers by asking them questions. Mr. Woods is here to answer questions so the workers will not be distracted."

Mr. Woods: "Thank you, Mrs. Lane. Let me direct your attention to the beginning of our line. This is station number one where the wood is measured, cut, and nailed together to form a frame. We have a team of four men doing these jobs. When a frame is complete they put it on the conveyor belt and send it on to station number two. Can anyone tell me who sees that the workers keep working together? Yes, Tommy?"

Tommy: "The boss."

Mr. Woods: "A very good answer if we were in a very small business where they have only one boss, but here in the Dandy Day Dentist Chair Company, we have many bosses. The boss of station number one is called a 'team foreman.' We have six team foremen and as we continue, you will see the five other stations."

Angela: (Waving her hand excitedly) "Mr. Woods! Mr. Woods! Here is an office door with a lady's name on it and it says she is the assembly foreMAN. What team does she supervise?"

Mr. Woods: "A very observant girl, Mrs. Lane, and she has a good question. First of all, the assembly foreman is in charge of all of the team foremen. She must see that each team

works smoothly and that one team doesn't work too fast or too slowly. She must also handle any problems that may arise which the team foreman cannot handle. Her most important job is to see that the chairs are being made all the time and that they are being made well. Finally, she must report to HER boss who is the production manager."

Jeff: "But why is the foreMAN a lady?"

Mr. Woods: "Times are changing and now when we hire someone to do a job, we hire the person - man or woman - who can do the best job for us. Mrs. Brown does an excellent job."

Jane: "What does the next station do, Mr. Woods?"

Mr. Woods: "Station number two workers attach the metal bars to the chairs, which hold the head rest, the foot rest, and the arm rests. There are also four people on this team. Station number three wraps padding around the frame and metal bars. You can see that we have two workers on this team."

Billy: "Look, everyone, the next station only has one worker!!"

Mr. Woods: "Right, Billy, and a very important job. Our chairs are hollow and this person at station number four must put a padded cross-bar over the seat of the chair so no one will fall in when they sit down. (Everyone laughs) Let's continue and move on to the covering station."

Billy: (Billy fascinated by the worker stays behind) "Psst, Psst! Look up here!"

Worker: (Worker looks up) "Hi there! What can I do for you?"

Billy: "Is it really true someone would fall into the chair if you forgot to put a padded cross bar on the seat?"

Worker: "To tell you the truth, I really don't know because I've never missed one. (As he is saying this, he holds up his hands to emphasize his point and a chair goes by without a padded cross bar.)

Mrs. Lane: (Seeing Billy talking to the worker) "Billy Smith, you get up here with the rest of us. You know you are not supposed to talk with the line workers. We are already at station number six where the chairs are inspected and put in boxes to be shipped."

Billy: "I'm sorry, Mrs. Lane, I just forgot."

Mr. Woods: (As Billy and Mrs. Lane join the group) "Well, boys and girls, thanks so much for visiting the Dandy Day Dentist Chair Company. Maybe at your next dental visit you'll

be sitting in one of our chairs."

Students: "Thank you, Mr. Woods. Good-bye."

End of Scene two.

SCENE THREE

Setting: Mrs. Lane's classroom the following Monday.

Mrs. Lane: "Good morning, boys and girls! I hope you all had a nice week-end! Before we begin today, I'd like to know what you liked best about our visit to the Dandy Day Dentist Chair Company. Yes, Angela?"

Angela: "I liked learning about the lady assembly foreman."

Mrs. Lane: "Good, John?"

John: "I enjoyed seeing the workers in action and how they had to work together."

Mrs. Lane: "Fine! Billy?"

Billy: "I liked the man who put the padded cross bars on the chairs so no one would fall in when they sit down. He even said he had NEVER let a chair go by without putting one on it."

Mrs. Lane: "Thank you, Billy, but you know you weren't supposed to talk to the workers. Now we must continue our lessons."

Narrator: (Later on that day, Billy's mother comes to school to get Billy a few minutes before the bell rings.

Mrs. Smith: "Hi, Mrs. Lane. May I take Billy for his dental visit a few minutes before the bell rings?"

Mrs. Lane: "Certainly, Mrs. Smith. Billy is lucky to have parents that are concerned about him having healthy teeth. Good-bye, Billy, we'll see you tomorrow."

End of Scene three.

SCENE FOUR

Setting: The Smith's are at Billy's dentist, Dr. Little.

Narrator: Billy has arrived for his six-month check-up.

Receptionist: "Hi, Billy, Dr. Little will see you now. Go right in to room three."

Billy: "OK!"

Dr. Little: (As Billy enters the room) "Good afternoon, Billy Smith, how are you today?"

Billy: "Fine."

Dr. Little: "You are a lucky boy today! You are my very first patient to try my new Dandy Dan Dentist Chair. I just got it today."

Billy: "WOW! We just took a field trip there on Friday. We saw how they were made."

Dr. Little: "You did? Well, just make yourself comfortable while I get the X-ray machine ready. (Dr. Little leaves the room)

Billy: (Talking to himself) "Oh boy, wait till the rest of the kids hear about this. Well....here goes! (Billy hops up on the chair and he falls into it and disappears)

Dr. Little: (Comes back into the room) "Billy....Billy? Billy, where are you? You're too big to play hide-and-seek."

Billy: (With a muffled voice) "Here, I'm in here. Help! Help!"

Dr. Little: "Where is 'here', Billy?"

Billy: "Inside the chair! Inside the chair!! Number four must have forgotten the padded cross bar when I was talking to him!!"

Dr. Little: "Just relax, Billy, we'll have you out in a jiffy. I'll just make a call to the Dandy Day Dentist Chair Company and see what screws to unscrew."

Narrator: (Dr. Little made the phone call and was told what screws to unscrew. Billy was gratefully rescued.)

Billy: (As he is stepping out of the chair) "Boy, that was a close call. I thought Mr. Woods was kidding when he said you could fall into the chair if the padded cross bar wasn't put in place. Next time when Mrs. Lane tells us not to talk to someone working, I'll listen. Boy, that WAS a close call."

Dr. Little: "You are right, Billy, now let's go into another room and get that checkup."

Billy: "OK."

End of scene four.

SCENE FIVE

Setting: The next morning in Mrs. Lane's classroom.

Mrs. Lane: "Good morning, boys and girls. Does anyone have anything of interest to report to the class today? (No response.) Billy, wouldn't you like to tell us about your visit to the dentist?"

Billy: (Standing) "I went to the dentist for my six-month check-up and didn't have any cavities." (He sits down.)

Mrs. Lane: "Good for you, Billy. But what about the dentist's chair. Did the doctor have a Dandy Day Dentist Chair?"

Billy: (Standing) "Yes, she did." (He sits down.)

Mrs. Lane: (With a puzzled look) "But Billy, can't you tell us more about it than that?"

Billy: (Slowly standing) "Well....uh.....it was.....uh, quite an experience. That's about all I can say. It was REALLY quite an experience!"

THE END

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PAPIER MACHE' NAPKIN RINGS

Materials Needed:

1. Papier mache' paste
2. Empty spools from toilet tissue rolls
3. Colored tissue paper
4. Starch, liquid
5. Newspapers
6. Brushes
7. Containers

Step one:

Slice spools into about one-inch wide rings.

Step two:

Cover rings with four layers of papier mache' newspaper. Let dry completely.

Step three:

Tear colored tissue paper into small pieces. Brush starch on the rings, doing only a small area at a time. Press tissue in place, smooth, and brush again with starch. Cover entire ring in this manner. Let dry completely.

ACCESSION NUMBER: VT101420

PUBLICATION DATE: JUL74

TITLE: CAREERS IN THE HOME, KINDERGARTEN GRADE LEVEL.

PERSONAL AUTHOR: BURNSIDE, IRENE

DESCRIPTOR: *CAREERS; *KINDERGARTEN; *FAMILY ENVIRONMENT

IDENTIFIER: OMAHA PUBLIC SCHOOLS

EDRS PRICE: MF AVAILABLE IN VT-ERIC SET.

DESCRIPTIVE NOTE: 23P.

ABSTRACT: THIS BOOKLET IS A COLLECTION OF MINI-UNITS FOR KINDERGARTEN STUDENTS CONCENTRATING ON CAREERS IN AND AROUND THE HOME. IT STRESSES THE IMPORTANCE OF WORK PERFORMED BY VARIOUS MEMBERS OF THE FAMILY, AND PROVIDES LISTINGS OF THE OUTSIDERS WHO PROVIDE SERVICES FOR THE HOME AND FAMILY. SURVEY LETTERS AND SUGGESTIONS FOR RESOURCE PEOPLE ARE PROVIDED. (KB)

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VT 101 420

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Superintendent of Schools

Distributed by:

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Omaha, Nebraska
351-P227-74

CAREERS IN THE HOME
Kindergarten Grade Level

OMAHA PUBLIC SCHOOLS
DEPARTMENT OF VOCATIONAL EDUCATION
OMAHA, NEBRASKA

IN-SERVICE WORKSHOP
CAREER EDUCATION

The Exemplary Program - U. S. Commissioner of Education
Vocational Amendment of 1968
Part D

Expanded Vocational Education Program for Disadvantaged Youth

Occupational Guidance K-12

Comprehensive Center for Occupational Education

Vendor Number - 465668
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Department of Vocational Education

Betty Barr
Project Director

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Survey letter--asking parent, occupation

Survey letter--especially for homemakers

Suggestions for Resource People

Homemaking Career

Fathers in the home

Children's work in the home

List of people who supply services

INTRODUCTION

This booklet is a collection of mini-units concentrating on careers in and around the home. It stresses the importance of the work performed by the various members of the family, and provides listings of the outsiders who provide services for the home and family.

SURVEY LETTER I

Dear Parents,

The students in our class plan to study about the importance of all types of work. We want to learn more about the work of each of the parents of the boys and girls in our class.

Would you answer these questions for us and send it to school with your child. We will study how your job affects our lives.

1. What is your job? _____

2. What are some of your responsibilities? _____

_____

_____

3. Is there anything about your work which the children would enjoy seeing? (pictures, materials, tools, uniforms, etc.?) _____

_____

4. Would you be able to talk to the class about your work?

_____

5. Would a field trip to your place of employment be beneficial at this grade level? _____

SURVEY LETTER II

Dear Parents,

We are especially interested in careers in homemaking. Our biggest resource is YOU!

1. Mothers and/or fathers could you talk to the class about your duties in the home? _____

2. Are you interested in cooking, sewing, cleaning, repair work, painting, woodworking, etc.? _____

3. Which would you like to tell us about? _____

_____

3. Are you a working mother who might have a free time to explain how an outside job and homemaking are managed? _____

4. What time or day would be convenient for you to come to talk to us? _____

_____

I really appreciate your cooperation in this survey.

Sincerely,

_____

Teacher

SUGGESTIONS FOR RESOURCE PEOPLE

1. Exactly what do you do?
2. What training and/or education was required?
3. What tools do you use?
4. What are your hours?
5. Is one time of the year busier than the others?
6. What are the joys and problems of your job?

If possible bring--

1. Pictures
2. Tools
3. Special clothes needed
4. Any ideas of your own

Concept: Homemaking Career

Behavioral objective:

The kindergarten child will, upon completion of these activities, better understand and appreciate the importance of the work performed by the homemaker in the family. They will demonstrate knowledge via role playing in the playhouse.

Procedure:

The children will be seated in a circle and each child is to give a complete sentence in response to a given question.

1. What is a mother?
2. What does a mother do in the morning?
3. What does a mother do in the afternoon?
4. What does a mother do in the evening?
5. The hardest work my mother does is _____.
6. For fun my mother does _____.
7. I know my mother is interested in school because she _____.
8. If I were a homemaker I would change _____ _____.

Plan to ask mothers (or fathers who are performing the role of homemaker) to come to speak to the children. Each mother should plan to talk about two aspects of being a homemaker, and bring the necessary tools for that job.

1. Laundry and sewing--tools necessary: soap, spot removers, bleach, iron, clothes pins,

baskets, etc. Scissors, needles, pins, thread, patterns, material, finished product.

Child activity:

Yarn and burlap sewing, pattern tracing using stencils, sew together with yarn.

Draw pictures of the laundry. Hang doll clothes on a line in the playhouse.

2. Cooking and shopping--tools needed: pots, pans, mixer, bowls, peelers, measuring cups and spoons, pie cutters, rolling pins, spices, cook books, dish pan, soap, grocery ads, shopping lists.

Child activity:

Draw pictures of the kitchen. Plan a party, mix instant pudding, make jello. Design individual place mats. Following day whip topping and serve food at milk break.

3. Other aspects of homemaking--tools:

Child care	bottles, diapers, lotions, clothes
Nursing	aspirin, pills, bandaids, thermometer, alcohol
Gardening	seeds, hand tools
Cleaning	polish, window cleaner, rags, scrub bucket, wax
Repair	screwdriver, plunger, hammer, tape, glue

4. Parent who has a job outside the home and still has the responsibility of the home-maker.

   Have a talk on the ways she (or he) arranges their time to do both jobs.

POEMS

Mother shake the cherry tree
Susan catch a cherry,
Oh, how funny that will be
Let's all be merry.

One for brother, one for sister
Two for mother more
Six for father hot and tired
Knocking at the door.
--Christina Rossetti

H is for homemaker
Wonderful mother
She teaches her children
To love one another.

I think a mothers work is fun
How much she pleases everyone
She cooks and sews and keeps things clean
And cares for children in between.

She does each daily shopping chore
And then finds time to do much more
Like taking children here and there
To school, to meetings, everywhere.

With daddy helping day by day,
And children too in their own way
It will be nice as it can be
To raise a happy family.

Only One Mother

Hundreds of stars in the pretty sky
Hundreds of shells on the shore together
Hundreds of birds that go singing by
Hundreds of lambs in the sunny weather.

Hundreds of dewdrops to greet the dawn
Hundreds of bees in the purple clover
Hundreds of butterflies on the lawn
But only one mother the wide world over.
--George Cooper

I Like Housecleaning

It's fun to clean house
The food isn't much
And paints all about
That we mustn't touch
But strange stored away things
Not like everyday things
From attics and such.

The boxes come out
From closets and chests
With odd sorts of clothes
Like old hats and vests
And photographed faces
And ribbons and laces
And post cards of places
And cards left by guests.

Then Mother says "Throw
The whole lot away!"
And Father says, "Wait-
I'll need this someday."
But either way's meaning
A chance to go gleaning
Among the housecleaning
For new things to play!

--Dorothy Brown Tompson

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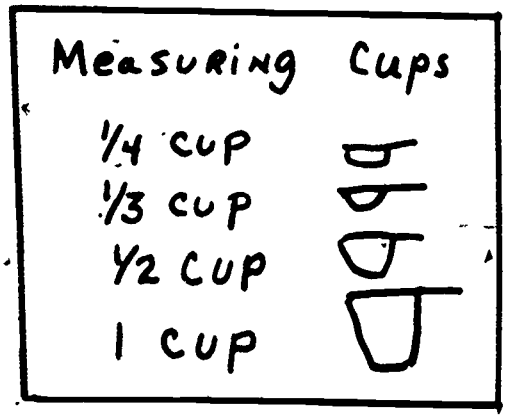
KITCHEN TUNES

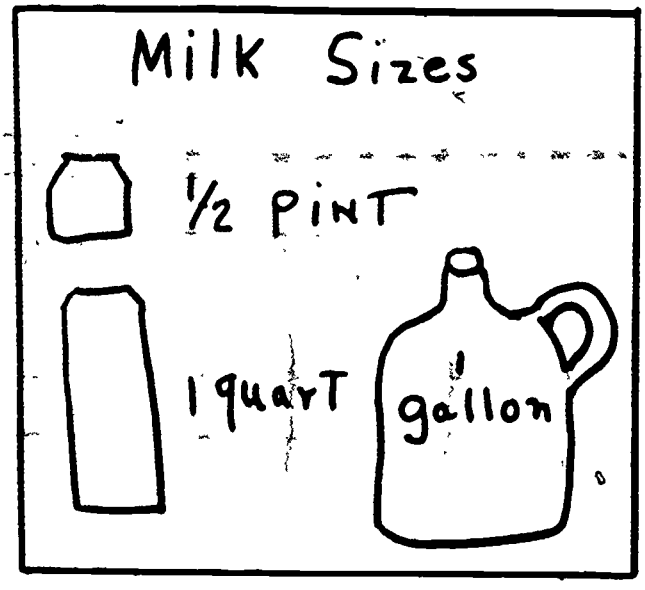
Our kitchen is a noisy place
It's full of merry sound
The pans make music on the stove
When mother is around.

The carrots stew with "Burble! Bup!"
The meat fries "Crackle! Pop!"
The oven creaks while cooling off
The corn bread sighs on top.

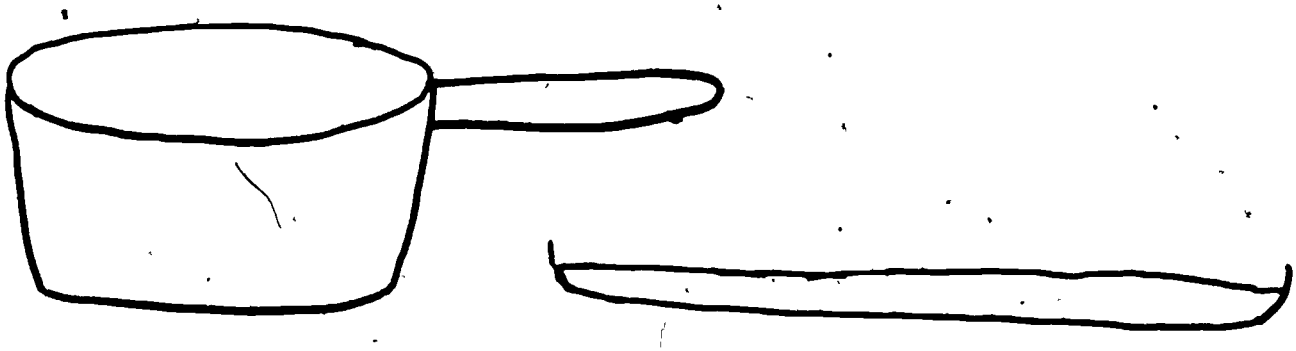
Sometimes my mom stirs up a cake
And beats time with a spoon
And then the kettle whistles loud
To keep them all in tune.

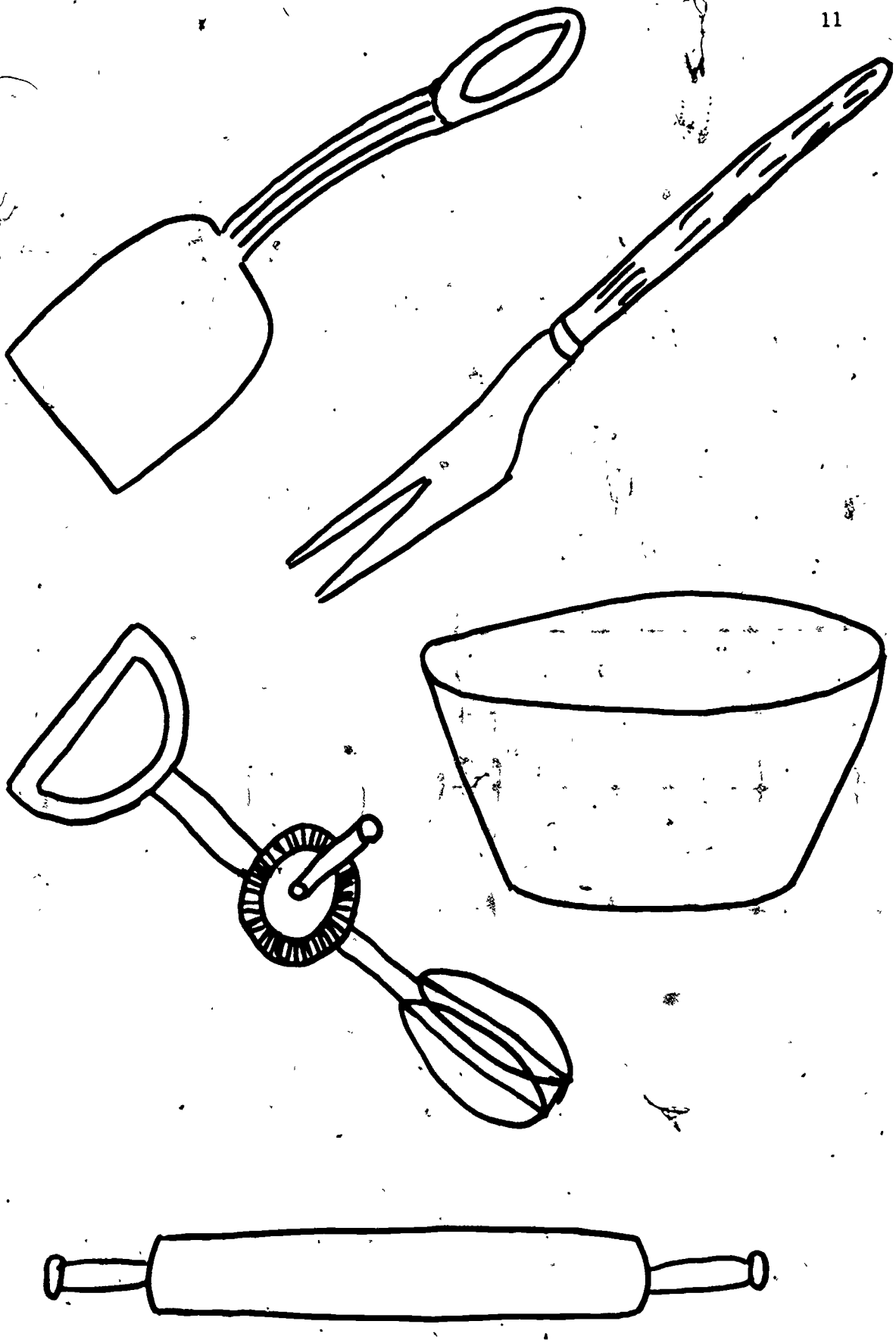
--Ida M. Pardue





Tools Used in the Kitchen





Concept: Fathers work at home as well as away.

Behavioral objective:

Children will be able to tell the various duties performed by the father in the home. He will be able to identify common tools.

Procedure:

The children will be seated in a circle and each child is to give a complete sentence in response to a given question.

1. What does father do before he goes to his work?
2. What does father do in the evening?
3. What does father do on the weekend?
4. What does father do for fun?

Place a display of common household tools in the center of the circle. Present the children with various problems and have him respond with the solution and the tools needed to solve the problem.

1. A picture needs to be hung. What is your plan and what do you need?

   hammer and nails

2. The sink is stopped up. What is your plan and what do you need?

   plunger, Drano, and wrench

3. The faucet leaks. What is your plan and what do you need?

   wrench, screwdriver, and washers
   (If possible have a faucet for a hands on demonstration)

4. The picnic table is loose. What is your plan and what do you need?

hammer, nails, screwdriver, screws,

nuts, bolts, and pliers
(If possible have an assortment of nuts and bolts in various sizes)

5. The car has a flat tire. What is your plan and what do you need?

jack, tire, and wrench

Have a father come as a resource speaker on home repair and/or hobbies. If available plan to visit the home of a parent that does woodworking etc. as a hobby or occupation.

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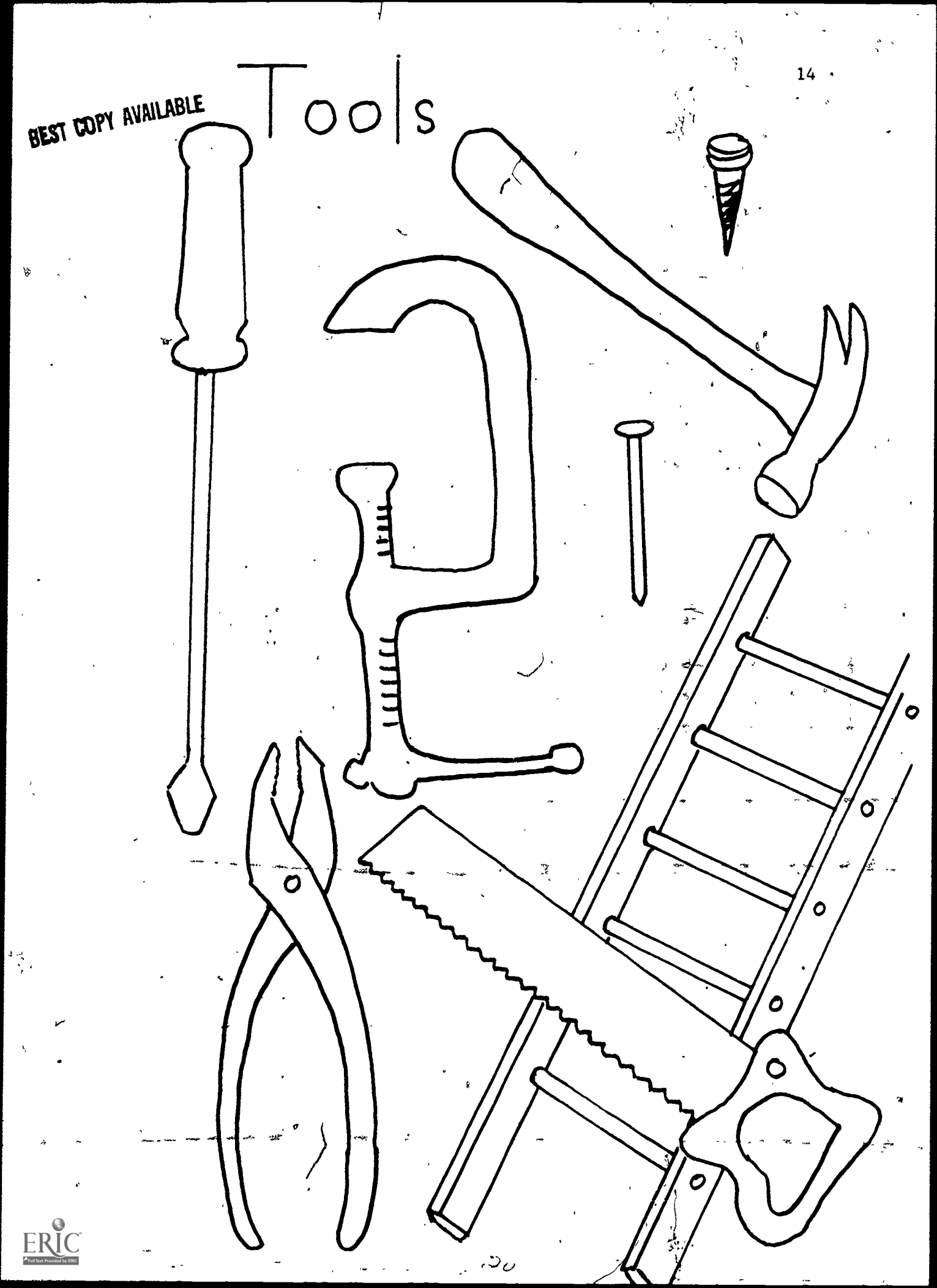
Tools



TOOL BOX

My toolbox is a wishing box
I make a wish or two
Then open it and take some tools
And make my wish come true.

--Unknown

I am a builder, so I have a pocket
To carry the things that I use
I put on my coveralls, roomy and wide
That reach nearly down to my shoes.

I have a hammer so strong and so shiny
A screwdriver, pincers, and pliers
Some different-sized nails that I carry in pails
And ruler and tape line and wires.

I am a builder, so I have a plane too
A square and a saw and a bit
I saw up lumber and plane it off smooth
And nail it together to fit.

--Nona Keen Duffy

Concept: Children work at home

Behavioral objective:

Following this activity the kindergarten child will be able to name the various duties that can be performed by children in the home.

Procedure:

1. Introduce activity by using the short strip from

   Schools, Families, Neighborhoods

   A Multimedia Readiness Program

   Field Educational Publications, Inc.

2. Discussion questions

   What is your work at school?

   What happens if you don't do your work at school?

   Role play--Have a group of three children working together. Do another with the situation of one child that will not cooperate.

3. What is your responsibility at home as a five year old? What happens if you don't do your job? (make bed, pick up toys, etc.) Role play the situation.

4. Pretend you are the older brother or sister. Are your duties the same as a five year old? Can you go outside the home to earn money?

   Older children can be used as resource speakers. They can tell of their duties as a baby sitter, paper boy, lawn cutter, etc.

PEOPLE WHO SUPPLY SERVICES TO THE FAMILY

Occupation--Unit in Schools, Families, Neighborhoods

People who supply goods

Grocery store	Unit 46
Clothing store*	Unit 46
Hardware store	Unit 46
Bakery	Unit 46
Shoe store	
Department store	
Farm	

People who supply routine services

Beauty shop*	Unit 47
Barber shop	Unit 47
Cleaners	Unit 47
Shoe repair	Unit 47
Banks	Unit 48
Restaurants	Unit 49

People who supply health services

Doctor	Unit 50
Nurses*	
Dentists	

People who supply recreation

Parks and swim pool	Unit 51
Golf course	
Movie Theatres	

People who supply protective services

Policeman*	Unit 52
Fireman*	Unit 53
Sanitation men	Unit 54

People who supply communication

Telephone man*	Unit 55
Mail man	Unit 55
Newsboy	Unit 56

People who supply repair services

Electrician*	Plumber*
Mechanic	Carpenter*

*Additional resource is the redbook INTRODUCTION TO WORLD OF WORK K-1

Resources from IMC

301.42	Bradley
F	FAMILY
Flannel Board	
372.82	S V E
P	PRIMARY Social Studies Group I
Fmstp	
301	Encyclopedia Britannica
Y	HOME COMMUNITY
Fmstp	
301.4	Imperial
Fmstp	THEY NEED ME

ACCESSION NUMBER: VT101421

PUBLICATION DATE: JUL74

TITLE: CAREER POSSIBILITIES AFTER TAKING BUSINESS COURSES.

PERSONAL AUTHOR: EADEN, CONNIE; PRUSS, PAT

DESCRIPTOR: *CAREERS; *BUSINESS EDUCATION; *HIGH SCHOOL STUDENTS; BOOKKEEPING; ACCOUNTING; OFFICE PRACTICE; OFFICE MACHINES; STENOGRAPHY; TYPEWRITING

IDENTIFIER: OMAHA PUBLIC SCHOOLS

EDRS PRICE: MF AVAILABLE IN VT-ERIC SET.

DESCRIPTIVE NOTE: 13P.

ABSTRACT: THE MATERIALS IN THIS UNIT ARE INTENDED FOR USE BY TEACHERS AND STUDENTS IN BUSINESS COURSES. EACH STUDENT WILL RECEIVE A CHART INFORMING HIM OR HER OF THE CAREER POSSIBILITIES AFTER COMPLETING A BUSINESS COURSE. THE MATERIALS ARE INTENDED TO SUPPLEMENT CLASSROOM ACTIVITIES IN THE VARIOUS BUSINESS COURSES. CHARTS, LEARNING ACTIVITIES AND AVAILABLE MEDIA ARE PRESENTED. (KB)

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351-P139-74

CAREER POSSIBILITIES AFTER TAKING BUSINESS COURSES

OMAHA PUBLIC SCHOOLS
DEPARTMENT OF VOCATIONAL EDUCATION
OMAHA, NEBRASKA

IN-SERVICE WORKSHOP
CAREER EDUCATION

The Exemplary Program - U. S. Commissioner of Education
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Vendor Number - 465668
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July, 1974

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South High School

Approved by:

Owen A. Knutzen
Superintendent of Schools

Daniel C. Fahrlander
Acting Director
Department of Vocational Education

Betty Barr
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I. CONCEPT

We developed this unit because business courses often do not emphasize career aspects of the knowledge and skills acquired in the classroom.

Materials in the unit are intended for use by teachers and students in each business course. Each student will receive a chart informing him of the career possibilities after completing the business course.

The materials are intended to supplement classroom activities in the various business courses.

A large blow-up of each chart has been prepared for display in individual classrooms.

II. OBJECTIVE

To make students aware of the many job possibilities available after completing business courses.

ERIC

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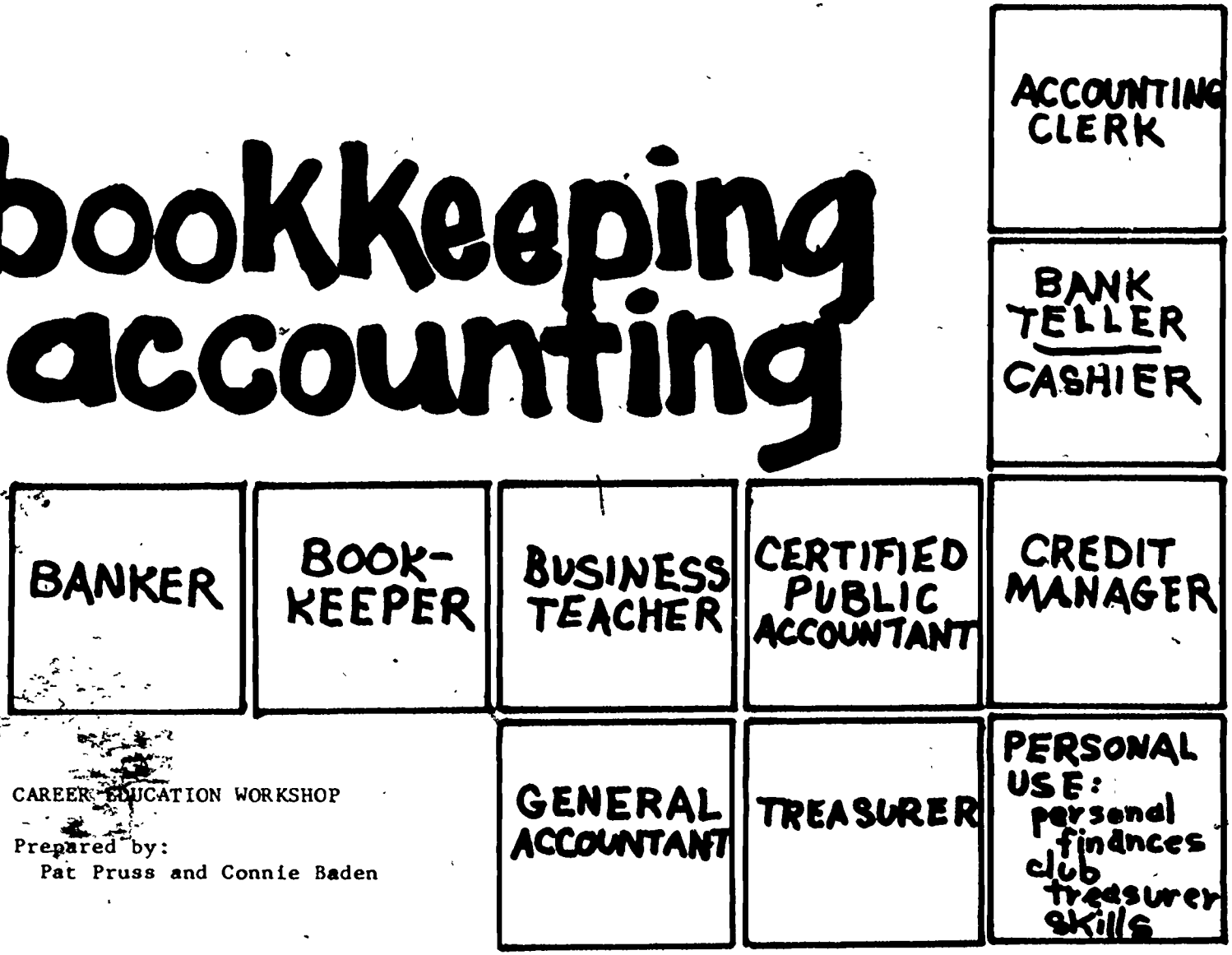
bookkeeping accounting



CAREER EDUCATION WORKSHOP

Prepared by:
Pat Pruss and Connie Baden

ERIC

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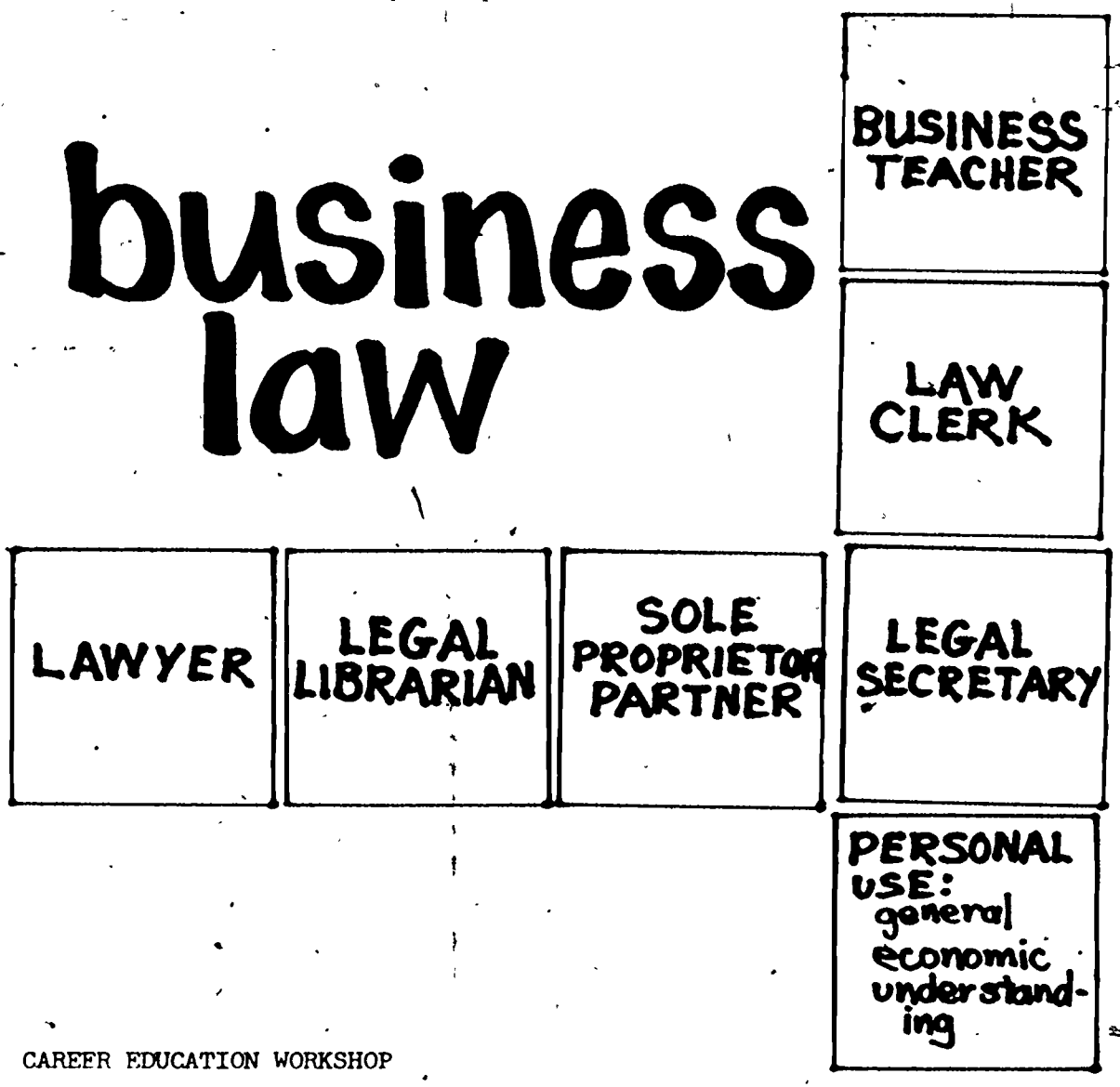
business law



CAREER EDUCATION WORKSHOP

Prepared by: Pat Pruss and Connie Baden

ERIC

general business

			BANK CASHIER/ TELLER	
			BANKER	BUSINESS TEACHER
CLERK: hotel insurance post office reserva-tions shipping	CREDIT MANAGER	GENERAL MANAGER	INSURANCE AGENT/ SALESMAN	MESSENGER
OFFICE MANAGER	PURCHASING AGENT	REAL ESTATE AGENT/ SALESMAN	SOLE PROPRIETOR — PARTNER	PERSONAL USE: letter writing personal finances general economics understanding

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Prepared by: Pat Pruss and Connie Baden

ERIC

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office practices
office machines

BUSINESS TEACHER

CLERK:
billing
file
insurance
general office clerk

CLERK-TYPIST

KEYPUNCH OPERATOR

MESSENGER

OFFICE MACHINE OPERATOR:
adding
bookkeeping
calculating
duplicating
transcribing

RECEPTIONIST

SECRETARY

STENOGRAPHER

STENOGRAPHIC POOL SUPERVISOR

SWITCHBOARD OPERATOR

PERSONAL USE:
correct telephone procedures

CAREER EDUCATION WORKSHOP

Prepared by: Pat Pruss and Connie Baden

ERIC

shorthand

BUSINESS TEACHER

COURT REPORTER

NEWSPAPER REPORTER

PUBLIC STENOGRAPHER

RECEPTIONIST

STENOGRAPHER

SECRETARY:
- administrative/executive
- educational
- legal
- medical
- technical

STENOGRAPHIC POOL SUPERVISOR

PERSONAL USE:
- message and note taking

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Prepared by: Pat Pruss and Connie Baden

ERIC

typing

			AUTOMATIC TYPEWRITER OPERATOR	BUSINESS TEACHER	CLERK: general office miscellaneous post office railroad shipping
CLERK-TYPIST	COPY-WRITER	DISPATCHER airline railroad trucking	KEYPUNCH OPERATOR	LAW ENFORCEMENT DESK OFFICER	LIBRARIAN
LIBRARIAN ASSISTANT	NEWSPAPER EDITOR/ WRITER	MILITARY CLERK-TYPIST	MESSEN-GER	NEWSPAPER and WIRE SERVICE REPORTER	RECEPTION-IST
	TELETYPE OPERATOR	TRANSCRIB-ING MACHINE OPERATOR	TYPIST	VARITYPIST OPERATOR	PERSONAL USE: letter writing research projects high school college

Prepared by: Pat Pruss and Connie Baden

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III. LEARNING ACTIVITIES

1. Student would choose a job title from the circular charts that excites him and research it in the Occupational Outlook Handbook. Student would submit a written report from the research.

2. Student would choose a job title (different from Activity 1) to investigate. Student would interview a person in that career at his place of business and present the findings to the class orally. (Preferably the interview would be taped.)

   Points to cover during an interview:

   Educational background necessary
   Job qualifications necessary
   Work duties and responsibilities
   Compensation and fringe benefits
   Work surroundings and environment
   Need to relocate

3. Student would become acquainted with job possibilities through the use of the Want Ads section in at least three Sunday newspapers. Student would cut out ads which capture his interest and bring them to class for informal discussion. There should be a Want Ad example of:

   1) A position the student could qualify for immediately.

   2) A position for which the student needs further training.

4. Student would survey businesses (colleges and business schools) which provide business courses that will assist students in job advancement. Student would bring brochures and class schedules to school which inform other students of the cost and time necessary to expend in order to acquire advanced skills.

IV. MEDIA AVAILABLE

The following films and filmstrips are available from the Omaha Public Schools Media Center. These could be used in conjunction with regular classroom activities.

Applying for a Job

Careers: Clerical

Choosing a Job

Choosing Your Career

Duties of a Secretary

Getting a Job is a Job

Getting a Promotion

High School Course Selection and Your Career

How to Investigate Vocations

Jobs for High School Students

Preparing for Jobs of the 70's

The Secretary: A Normal Day

The Secretary: Taking Dictation

The Secretary: Transcribing

What You Should Know Before You Go To Work

Working Together

There are also many books, cassettes, film loops, and video tapes available from the Career Education materials at Lake School Resource Center, Room I.

V. BIBLIOGRAPHY

Desk-Top Career Kit, Careers, Inc., Largo, Florida.

U. S. Department of Labor, Bureau of Labor Statistics, Occupational Outlook Handbook, 1974-75 Edition.

ACCESSION NUMBER: VT101422

PUBLICATION DATE: JUL74

TITLE: THEY GIVE US GOOD THINGS TO EAT.

PERSONAL AUTHOR: OWENS, SUSAN

DESCRIPTOR: *CAREERS; *GRADE 2; *FOOD SERVICE WORKERS

IDENTIFIER: OMAHA PUBLIC SCHOOLS

EDRS PRICE: MF AVAILABLE IN VT-ERIC SET.

DESCRIPTIVE NOTE: 20P.

ABSTRACT: THIS UNIT, FOR A SECOND GRADE, IS PRIMARILY CONCERNED WITH DRIVE-IN RESTAURANTS. OBJECTIVES, LEARNING ACTIVITIES, RESOURCES, AND A TEACHER EVALUATION ARE INCLUDED. (KB)

CONTRACT NUMBER: (EG-0-71-4661(361)

INSTITUTION NAME: OMAHA PUBLIC SCHOOLS, NEBR. DEPT. OF VOCATIONAL EDUCATION.

SPONSORING AGENCY NAME: BUREAU OF OCCUPATIONAL AND ADULT EDUCATION (DHEW/OE), WASHINGTON, D.C.

VT 101 422

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Omaha Public Schools
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THEY GIVE US GOOD THINGS TO EAT

OMAHA PUBLIC SCHOOLS
DEPARTMENT OF VOCATIONAL EDUCATION
OMAHA, NEBRASKA

IN-SERVICE WORKSHOP
CAREER EDUCATION

The Exemplary Program - U. S. Commissioner of Education
Vocational Amendment of 1968
Part D

Expanded Vocational Education Program for Disadvantaged Youth

Occupational Guidance K-12

Comprehensive Center for Occupational Education

Vendor Number - 465668
Grant Number - OEG-0-71-4661 (361)

July, 1974

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I. Concept

Restaurant workers provide the service of offering to people in the community good food served in pleasant and sanitary surroundings. This unit is primarily concerned with drive-in restaurants such as the Dairy Queen and McDonald's since second graders are more familiar with and, thus, can concretely relate to such establishments.

II. Objectives

A. Children should be able to name 3 skills any restaurant worker must have in order to perform his job.

1. Math skills used in making change, measuring ingredients, paying employees, and arranging time schedules.
2. The ability to get along well with the public and fellow employees.
3. A knowledge and practice of good sanitation procedures.

B. Children should be able to show through role playing how a food service worker needs to interact with his customers courteously. Students should also be able to tell why it is necessary for them to act this way.

C. Children should show a knowledge of using cup, pint, and quart measures; and the fractions 1/4 and 1/2 by measuring any dry ingredient.

D. Children should be able to list 4 related workers upon whom a restaurant worker depends. These would include farmers, truck drivers, garbage collectors, grocers, sanitation inspectors, et cetera.

E. Children should be able to identify different types of restaurants

located in their own neighborhood. They should be able to distinguish between drive-in restaurants and cafeterias.

F. The children should be able to tell why food service workers are valuable to the community.

1. They provide quick service when a person is rushed for time to eat.
2. They provide a recreational service insofar as creating a pleasant and relaxing atmosphere in which to eat.
3. They, at times, offer foods which are difficult and too time consuming to prepare at home.

G. Children should show a knowledge of the proper way to act as consumers at any food service establishment.

III. Learning Activities

A. Begin by discussing places the children have eaten outside of their homes. Ask the students why they ate away from home. Chart the specific names of these places and then discuss what type of food service they provide.

B. Walk to a nearby Dairy Queen; let each child purchase his own ice-cream cone. Before the trip discuss the proper way of ordering, the money they will use, and the change to expect. Have children pay special attention to the machinery and supplies found in the back of the store, what the employee is wearing, the manner in which the employee acts, and the menu. Evaluate and discuss what was seen after returning to school.

C. Set up a play Dairy Queen. Use a table, toy cash register, empty paper dishes and cups, play money, aprons, and paper

hats. Also, use ice-cream cones and sundaes made by the class. Use three people as employees: a manager and two waitresses. Some of the other classmates may be customers. Another group may make an attractive menu which lists realistic products and prices.

D. Using rice, practice measuring 1 quart (mayonnaise bottle), 1 pint (pop bottle), 1 cup, 1/4 cup, 1/2 cup, 1 tablespoon, 1 teaspoon, 1/2 teaspoon, and 1/4 teaspoon. Stress accuracy, and "greater than" and "less than" terms. Use worksheet found in the back.

E. Make Ice Cream

1. Recipe - French Vanilla Ice Cream

1/2 cup sugar

1/4 teaspoon salt

1 cup milk

3 egg yolks, beaten

1 tablespoon vanilla

2 cups chilled whipping cream

Mix sugar, salt, milk, and egg yolks in saucepan. Cook over medium heat (use hot plate), stirring constantly, just until bubbles appear around edge of mixture in pan. Cool to room temperature. Stir in vanilla and cream.

Pour into freezer can; put dasher in place. Cover and adjust crank. Place can in freezer tub. Fill tub 1/3 full of ice; add remaining ice alternately with layers of rock salt (6 parts ice to 1 part rock salt). Have children take turns turning crank until it turns with difficulty. Draw

off water. Remove lid; take out dasher. Pack mixture down. Repack with ice and let it sit one hour.

2. Before cooking, discuss and show on map where ingredients come from: sugar--Hawaii; salt--Utah; milk--Nebraska farm; eggs--Nebraska farm; vanilla--South America; and cream--Nebraska farm.
3. Discuss importance of exact measurement.
4. Discuss importance of cleanliness of hands, clothing, and equipment.
5. Discuss importance of planning ahead and budget. Several children may go shopping with teacher for ingredients.

F. To stress interdependence of different occupations, study the dairy farmer and how a Dairy Queen operator is dependent upon him.

1. Use study prints, filmstrips, and films listed in Section IV.
2. Use bulletin board sketched in back.
3. Visit Roberts Dairy.
4. Have dairy farmer come into classroom to describe his job.
5. Use sequence worksheet found in the back.

G. Learn proper setting of a table which a busboy would need to know. Use the overhead projector, play dishes and silverware, and a small napkin so the whole class can view at once.

H. Cut out pictures from magazines of people in food-service occupations. Have children note the expressions on their faces and write stories of why they are smiling, why they are

dressed the way they are, et cetera. Assemble into booklet so students may read each other's stories.

I. Have children trace, color, and cut out 1 quart, 2 pints, and 4 cups and fasten together with a brad.

J. Have interested children use resource materials to write a report on Louis Pasteur.

K. Have children write a letter to the City Health Department asking for sanitary standards food services must meet..

L. You may use these riddles for motivation. They show an interdependence among workers.

1. In my field, cows you'll see
   Graze on grass under a tree.
   It's my job each and every day
   To milk them so I'll get my pay.
   Who am I? _____ (dairy farmer)

2. I pass out menus to a few
   Of people who then order stew.
   My dress is white, I am polite,
   I try to do my job just right!
   Who am I? _____ (waitress)

3. I take the dirty dishes away,
   And then the spoon and knife I lay
   To the right of the clean plate
   Which is for the people who wait.
   Who am I? _____ (busboy)

4. You'll find me out on the road
   Transporting my ice-cold load.
   From the farm to the dairy
   My important load I carry.
   Who am I? _____ (truck driver)

IV. Resources

A. Films: The following may be ordered through the film department of Omaha Public Schools.

1. "Behind the Scenes at the Supermarket"
2. "Bread"
3. "Butter Is Made This Way"
4. "Food Cannery"
5. "Homer Price and the Donut Machine"
6. "Uncle Jim's Dairy Farm"
7. "Lemonade Stand: What's Fair"
8. "My Milkman Joe"
9. "We Want Goods and Services"

B. Filmstrips: The following may be checked out at the Instructional Materials Center, 8800 Maple Street.

1. (Kit): "Where Food Comes From"
2. (Kit): "Food"

C. Study Prints: "Community Helpers--Dairy Helpers"

D. Books

1. You Visit a Sugar Refinery and Fruit Cannery
2. Eating and Cooking Around the World
3. Behind the Show Window

4. Your Breakfast and the People Who Made It
5. Storybook of Food
6. Peanuts, Popcorn, Ice Cream, Candy and Soda Pop and How They Began
7. How to Eat a Poem and Other Morsels

E. These materials may be found at the Career Education Resource Center.

1. "Job Opportunities in a Restaurant" (SVE Educational Filmstrips and Records)
2. Come to Work with Us in a Dairy (book)
3. I Know a Dairyman (book)

F. Vocabulary List

1. restaurant
2. cafeteria
3. cafe
4. manager
5. waiter
6. waitress
7. chef
8. busboy
9. pint
10. cup
11. quart
12. one-half
13. one-fourth
14. inspector
15. sanitary
16. Holstein
17. buttermilk
18. half-and-half
19. cottage cheese
20. sour cream
21. butter
22. ice cream
23. yogurt
24. veterinarian
25. pasteurizing
26. recipe
27. ingredients
28. employee
29. courtesy
30. order
31. menu

V. Teacher Evaluation

The worksheet designated as post-test should be read orally to the students before they fill in their true/false answers. A class discussion should also be used to see if students have achieved the objectives stated in Section II.

Number 1 to 8 in the order that these things would happen.

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____ A refrigerated truck takes the farmer's milk to the dairy.

____ Cream and milk are mixed with other ingredients to make ice cream.

____ The milk is pasteurized.

____ A farmer milks the cows.

____ A waitress smiles and says "thank-you," and her customer walks away eating an ice cream cone.

____ A buyer for Dairy Queen buys milk from a dairy.

____ A waitress makes an ice cream cone.

____ Cows graze in a field.

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Fractions and Measuring

Fill in the blanks:

___ cups = 1 pint

___ cups = 1 quart

___ pints = 1 quart

___ cup = ½ pint

___ halves = 1

___ fourths = 1

Fill in the blanks with >, <, or =.

1 pint ___ 1 quart

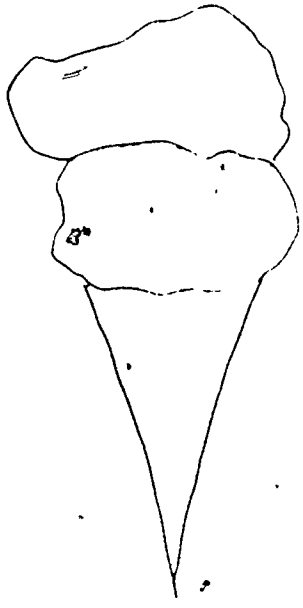
1 quart ___ 1 cup

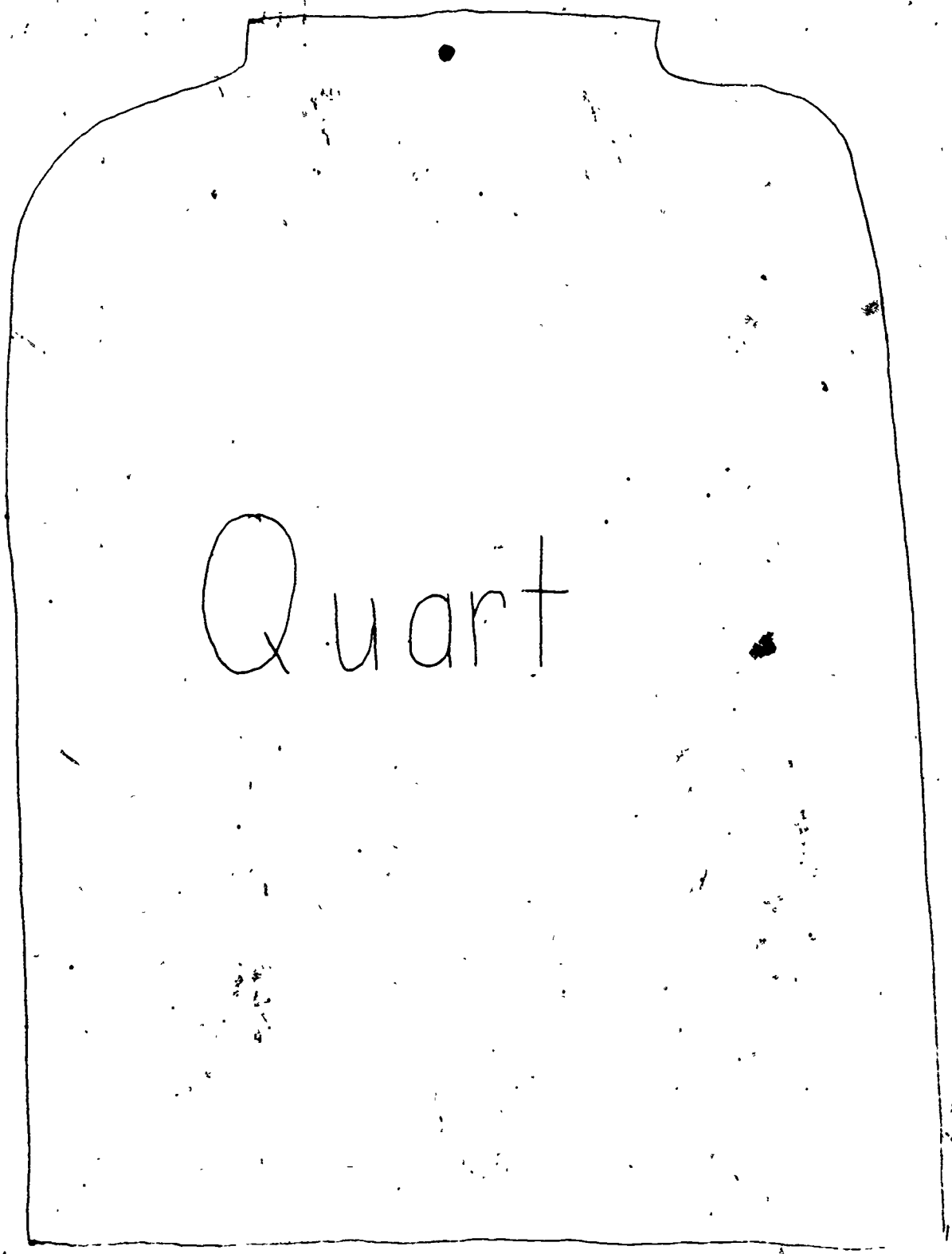
2 cups ___ 1 pint

$\frac{1}{2}$ ___ 1

$\frac{1}{4}$ ___ $\frac{1}{2}$

tablespoon ___ 1 teaspoon




Quart

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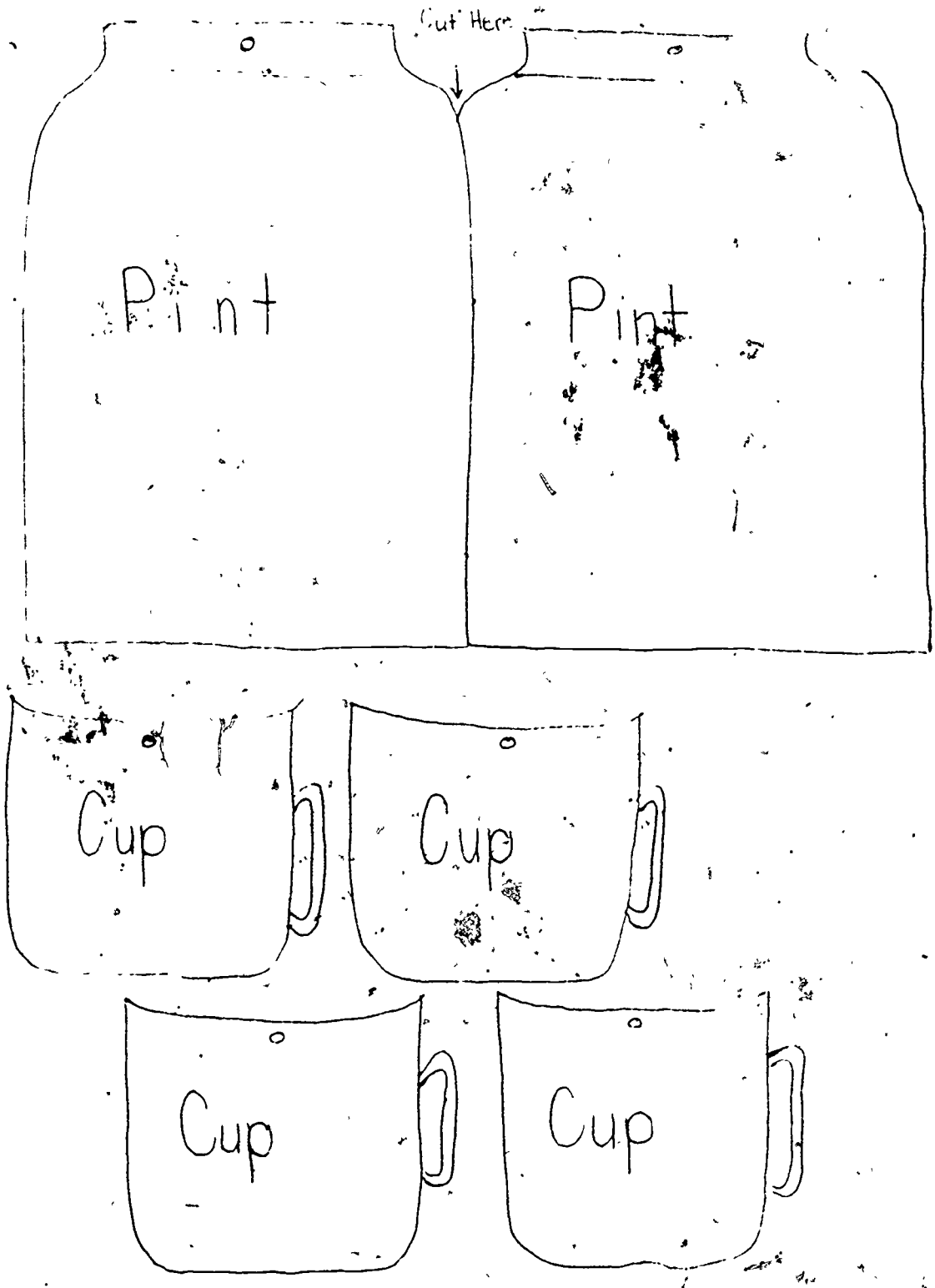

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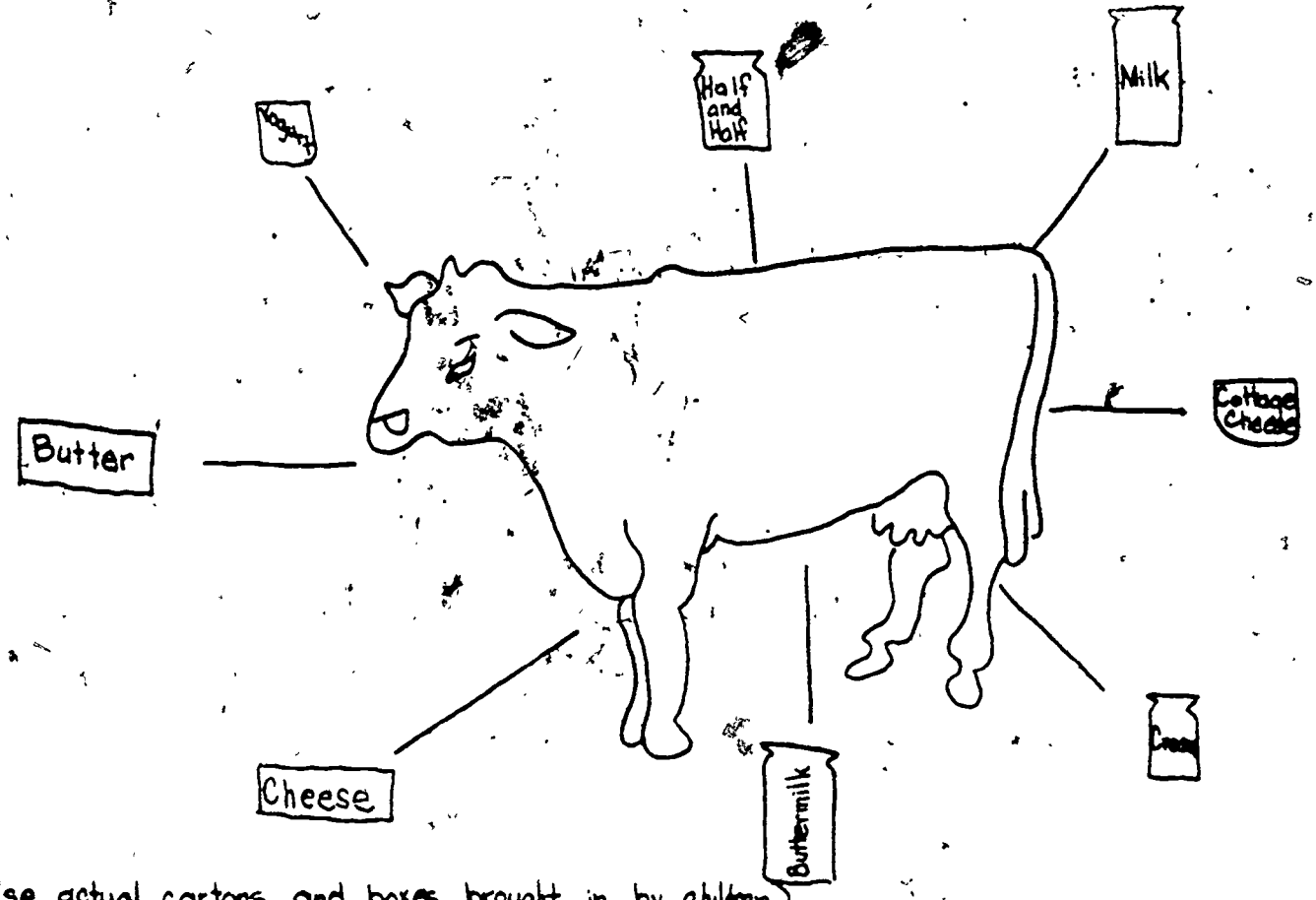
A Cow Gives Us



(Use actual cartons and boxes brought in by children.)

(Post-test)

True or False?

1. A manager of McDonald's needs to know how to work with fractions. _____

2. You will find a doctor working in a restaurant. _____

3. If an ice cream costs 10¢ and a customer gives the waiter 25¢, he would get back 5¢. _____

4. A waiter needs to be polite when he waits on customers. _____

5. A city health inspector must check all restaurants. _____

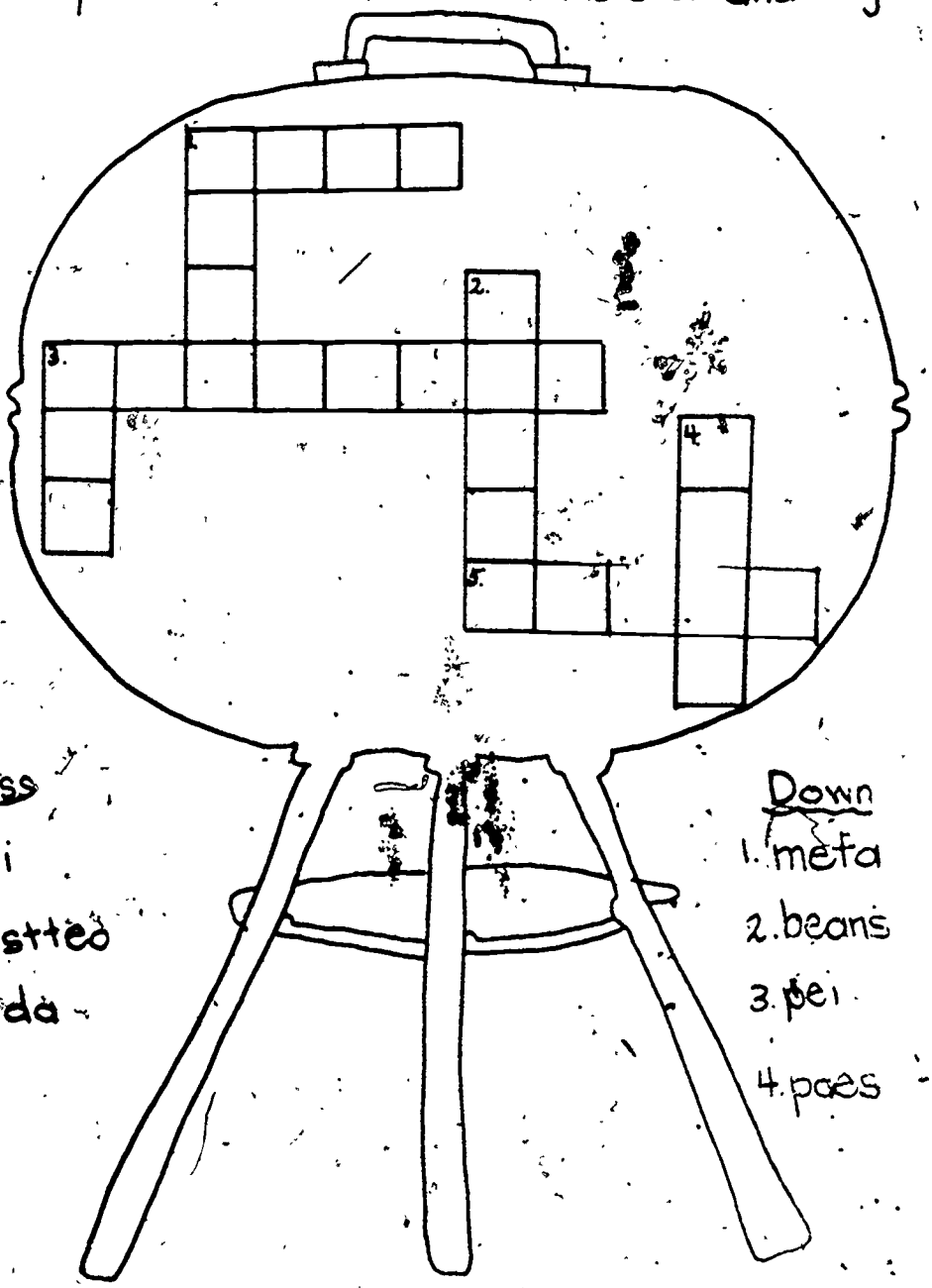
6. A chef <u>does not</u> need to have clean hands. _____

7. The ice cream machine in a Dairy Queen must be sanitary at all times. _____

8. A chef must measure things very carefully. _____

What's For Dinner

Unscramble the letters and you will know the answer. You may then color the picture of the "chef" and dog.



Across

1. mkli
3. poasttеo
5. salda

Down

1. meta
2. beans
3. pei
4. paes

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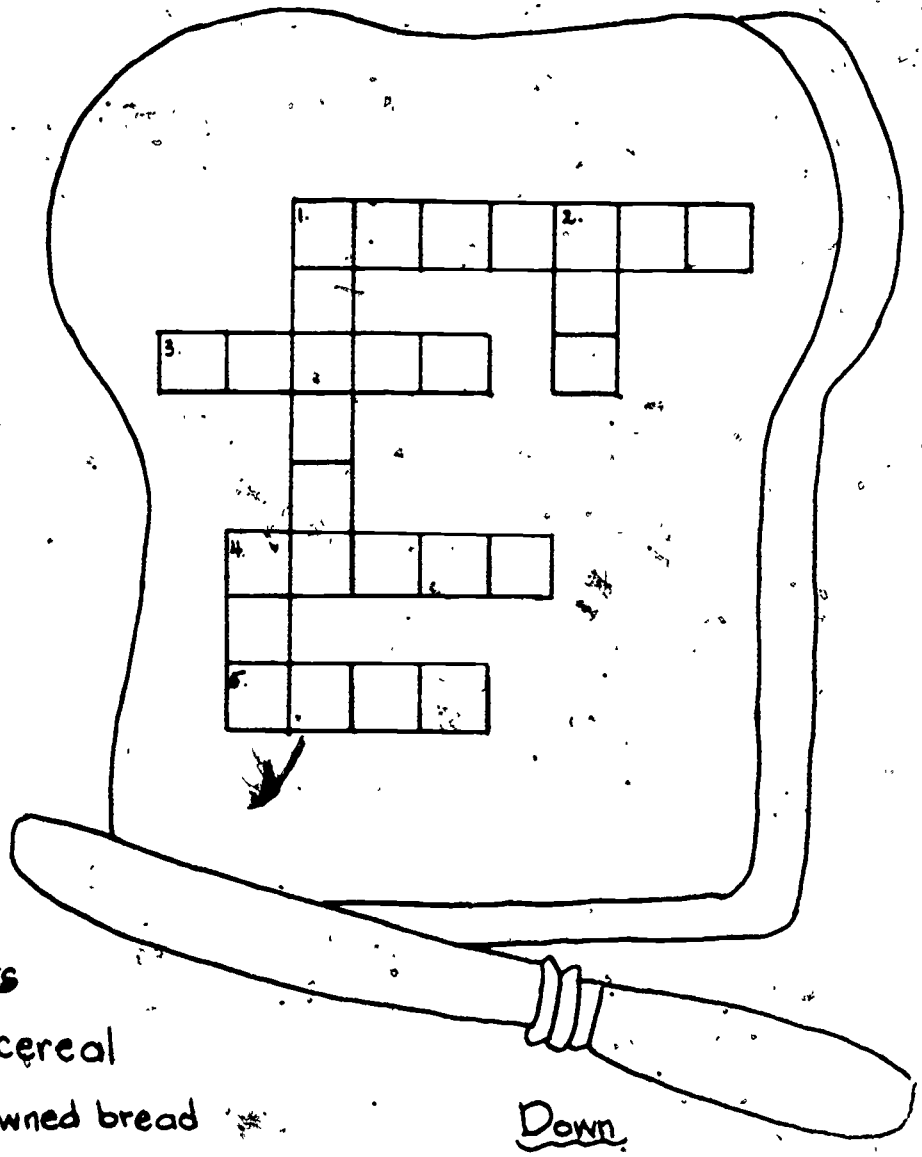
What's for Breakfast



Across

1. A cereal
3. Browned bread
4. This can be put on toast
5. Cows give us this

Down

1. A fruit
2. What a hen gives us
4. We put this on bread.

ACCESSION NUMBER: VT101423

PUBLICATION DATE: JUL74

TITLE: CAREERS IN HAWAII AND ALASKA, SECOND GRADE LEVEL.

PERSONAL AUTHOR: VANVLIET, JEANNE; KIKKE, KATHRYN

DESCRIPTOR: *CAREERS; *GRADE 2; LUMBER INDUSTRY; *ESKIMOS; AGRIBUSINESS

IDENTIFIER: OMAHA PUBLIC SCHOOLS

EDRS PRICE: MF AVAILABLE IN VT-ERIC SET.

DESCRIPTIVE NOTE: 32P.

ABSTRACT: THIS UNIT, FOR SECOND GRADERS, DEALS WITH LOCALLY SPECIALIZED JOBS IN HAWAII AND ALASKA. THE UNIT SHOULD BE USED IN CORRELATION WITH SOCIAL STUDIES UNITS. TYPES OF WORKERS, LEARNING ACTIVITIES, FILMS, FILMSTRIPS, AND RESOURCES ARE LISTED FOR EACH STATE. GAMES AND PUZZLES ARE ALSO PRESENTED. (KE)

CONTRACT NUMBER: OEG-0-71-4661(361)

INSTITUTION NAME: OMAHA PUBLIC SCHOOLS, NEBR. DEPT. OF VOCATIONAL EDUCATION.

SPONSORING AGENCY NAME: BUREAU OF OCCUPATIONAL AND ADULT EDUCATION (DHEW/OE), WASHINGTON, D.C.

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CAREERS IN HAWAII AND ALASKA
Second Grade Level

OMAHA PUBLIC SCHOOLS
DEPARTMENT OF VOCATIONAL EDUCATION
OMAHA, NEBRASKA

IN-SERVICE WORKSHOP
CAREER EDUCATION

The Exemplary Program - U. S. Commissioner of Education
Vocational Amendment of 1968
Part D

Expanded Vocational Education Program for Disadvantaged Youth

Occupational Guidance K-12

Comprehensive Center for Occupational Education

Vendor Number - 465668
Grant Number - OEG-0-71-4661 (361)

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CAREERS IN HAWAII AND ALASKA

To be used in correlation with Social Studies units in Grade 2.

I. Concept

To broaden second graders' outlook of Hawaii and Alaska by investigating roles of workers in our two newest states.

II. Objectives

1. Children realize that some jobs are the same regardless of community location.
2. Children realize that some jobs differ because of the location of communities.
3. Children learn interdependency of workers.
4. Children become familiar with specialized tools used by workers.
5. Children gain appreciation of the dignity and value of each job.

INTRODUCTION

Hawaii and Alaska provide many career opportunities similar to those found in other mainland states--teachers, doctors, nurses, lawyers, etc. However, because of the location of these two states some of their job offerings are different. This unit deals with these locally specialized jobs.

ALASKA

I. Workers

1. fur trapper
2. Salmon fisherman
3. salmon cannery worker
4. gold miner
5. Bush pilot
6. two-way radio operator
7. lumberjack
8. paper mill worker
9. pipe line worker
10. trading post owner
11. Eskimo

II. Learning Activities

1. Send for newspapers from major Alaskan cities. Explore want ads for variations in jobs.
2. Set up mock two-way radio system. Pretend communications between isolated Alaskan villages.
3. Construct igloo using 3" diameter styrofoam ball (halved), miniature marshmallows, and white glue.
4. Set up a classroom trading post. Bring items from home to trade.
5. Construct a mural depicting Alaskan careers.
6. Write individual creative stories--"If I lived in Alaska, I would work as a . . . ." Assemble the stories into a class booklet for display.
7. Career Game: box filled with various Alaskan jobs. The children draw a career and act out in pantomime for the rest of the class to guess.

Learning Activities--Continued

8. Speaker: Invite a two-way radio operator into your classroom to demonstrate to the children.

III. Films--available at IMC

1. "Eskimo Children"
2. "Food Cannery"
3. "How To Build an Igloo"

IV. Filmstrips--available at IMC

1. "Alaska: The People and Their Way of Life"

V. Resources

1. Second grade Social Studies text: Communities and Social Needs
2. Fideler Visual Teaching Pictures--Alaska (Available at IMC)

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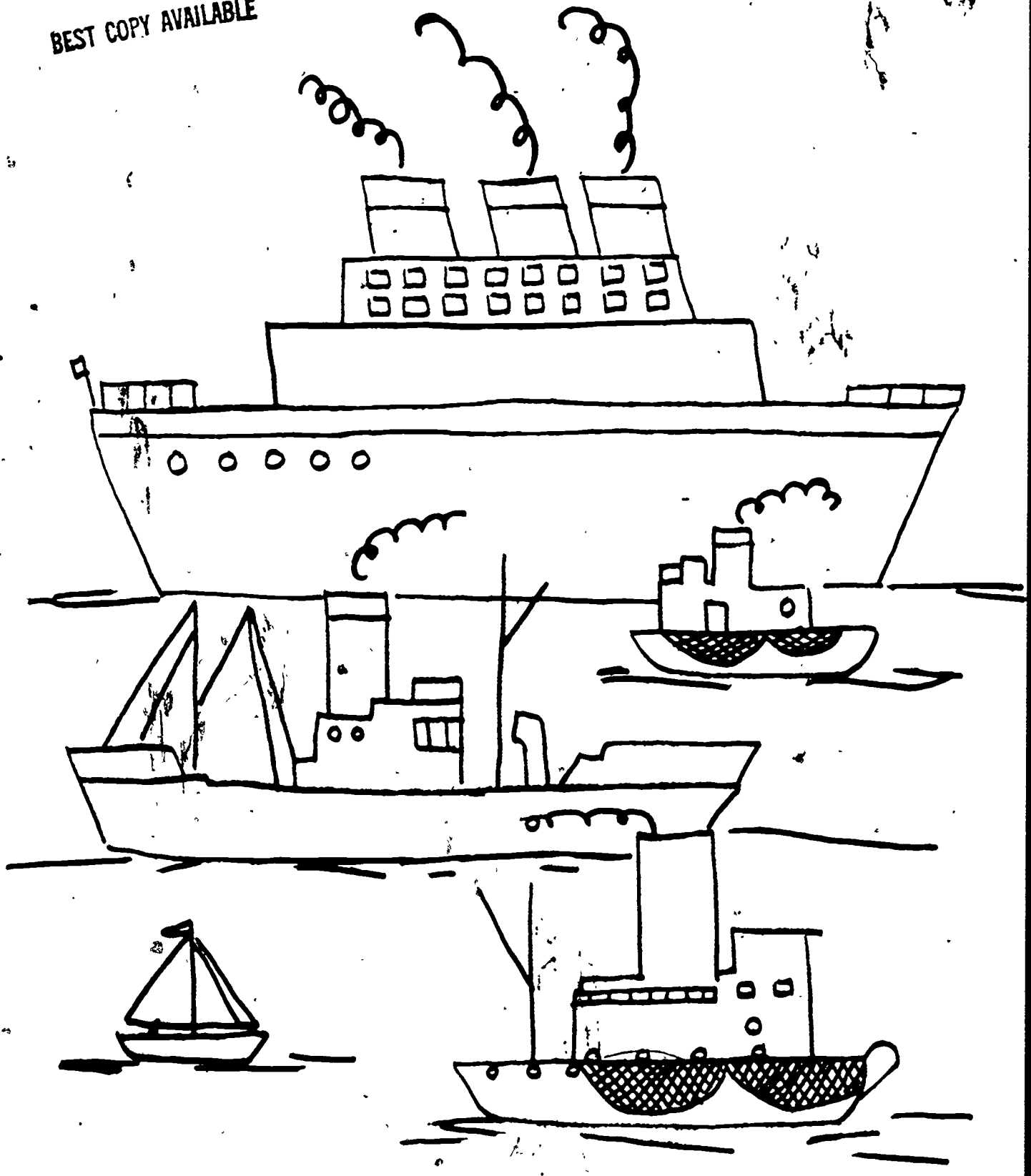
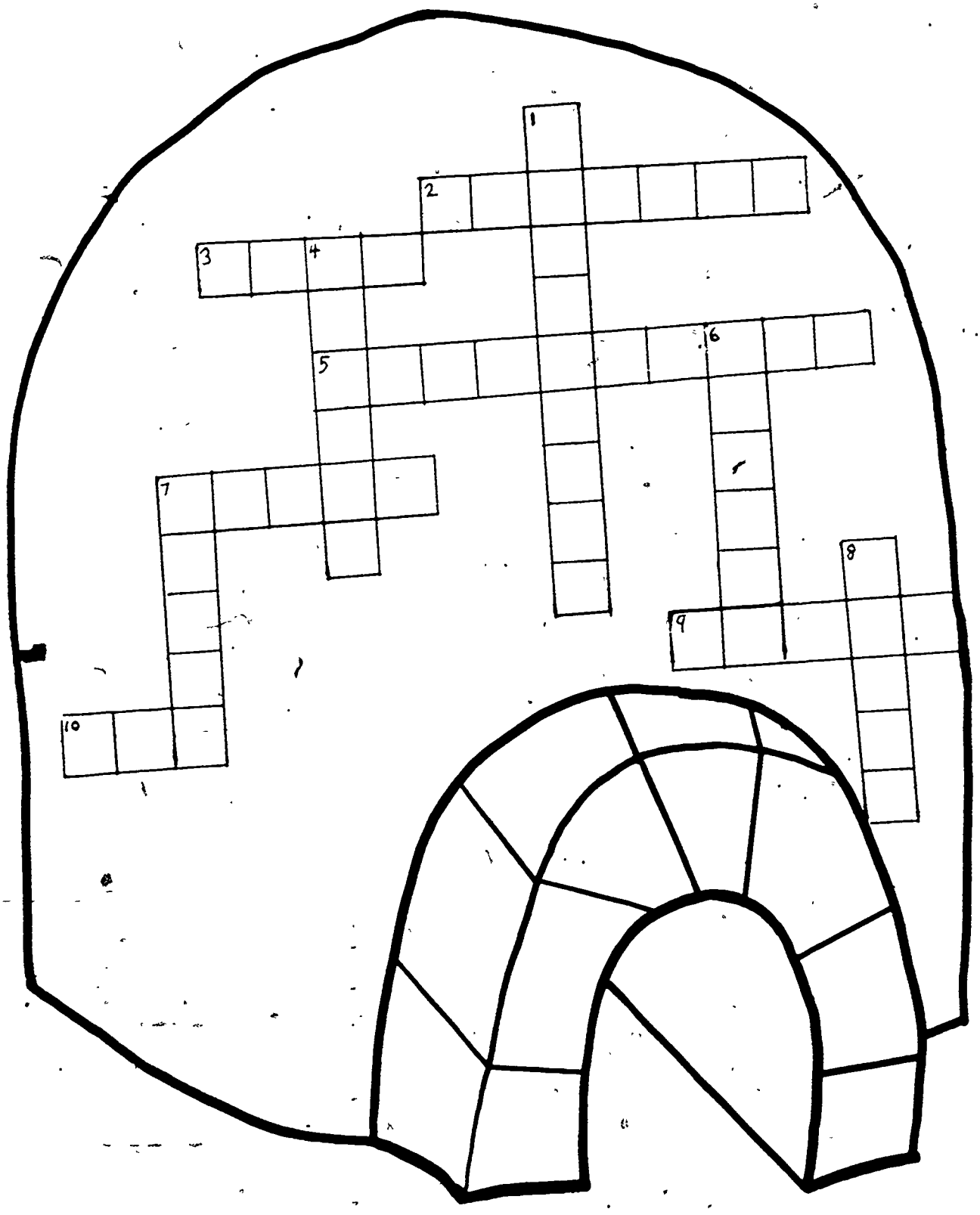


Color these boats. Put a red X on the boats that salmon fishermen would use.


1
2
3
4
5
6
7
8
9
10

IGLOO PUZZLE

Across

2. A person who hunts for wild animals in Alaska is a _____.
3. Eskimos get supplies in a trading _____.
5. A person who cuts down trees is a _____.
7. A bush _____ flies his plane to small villages.
9. Communication between small villages is done by a two-way _____.
10. Eskimos use animal _____ for clothing.

Down

1. Salmon is cooked and packed in _____.
4. _____ is the main fish of Alaska.
6. The country we're studying is _____.
7. Lumber is taken to pulp mills and made into _____.
8. Many Alaskans work in gold _____.

I am a _____. The person in Alaska who hunts me is called an _____. He uses me for _____ and _____.

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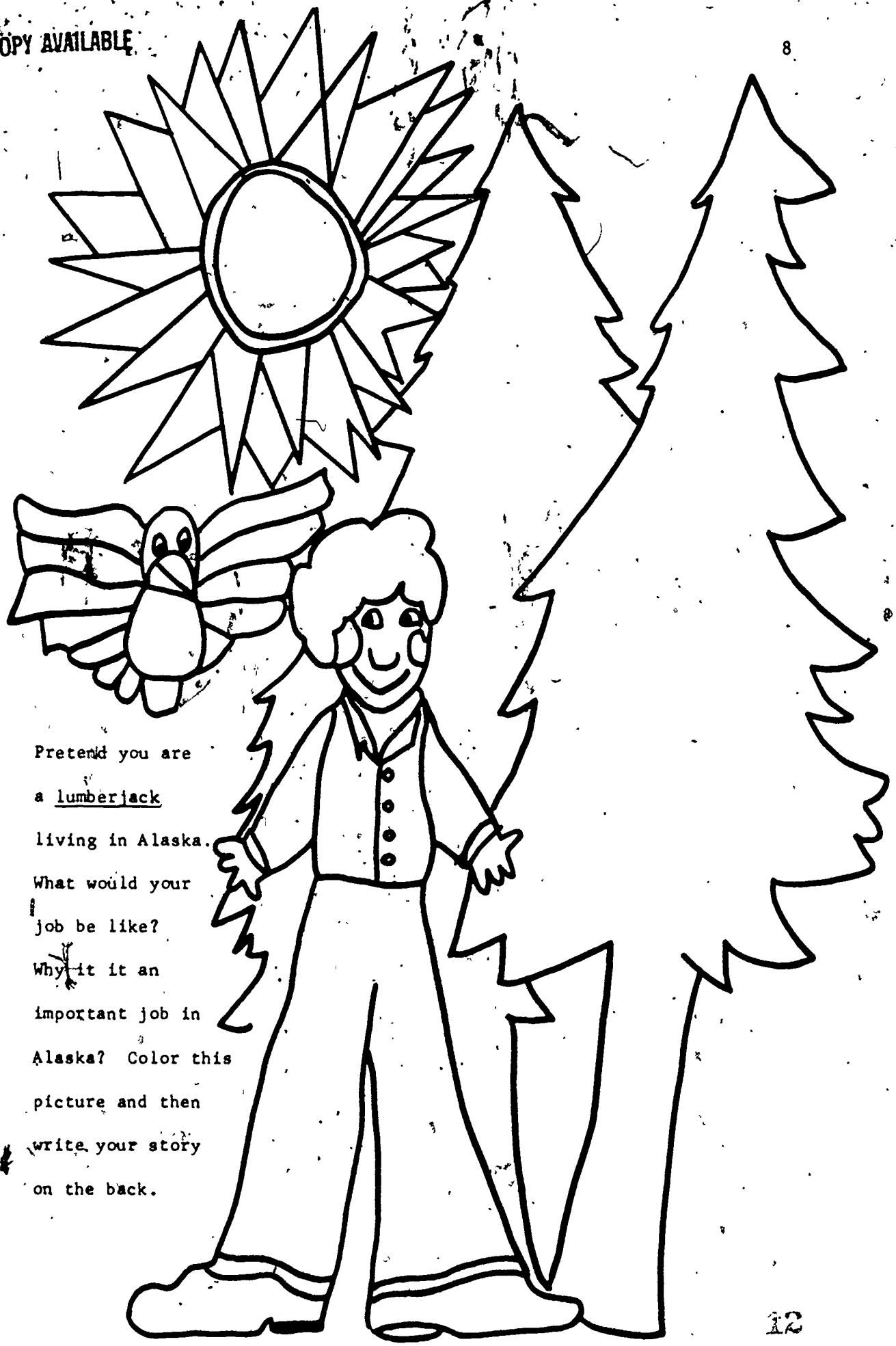

Pretend you are a lumberjack living in Alaska. What would your job be like? Why is it an important job in Alaska? Color this picture and then write your story on the back.

Alaska

Match the person to what he does on his job.

1. bush pilot _____
2. fisherman _____
3. two-way radio operator _____
4. lumberjack _____
5. trapper _____
6. gold mine worker _____
7. salmon cannery worker _____
8. paper mill worker _____

a. cleans and cuts up fish; puts it into cans.

b. makes paper from logs.

c. washes dirt to find gold.

d. keeps villages in touch with each other by radio.

e. his plane carries food and mail to the Alaskan people.

f. catches salmon.

g. cuts down trees into logs.

h. hunts wild animals to be used for food and clothing.

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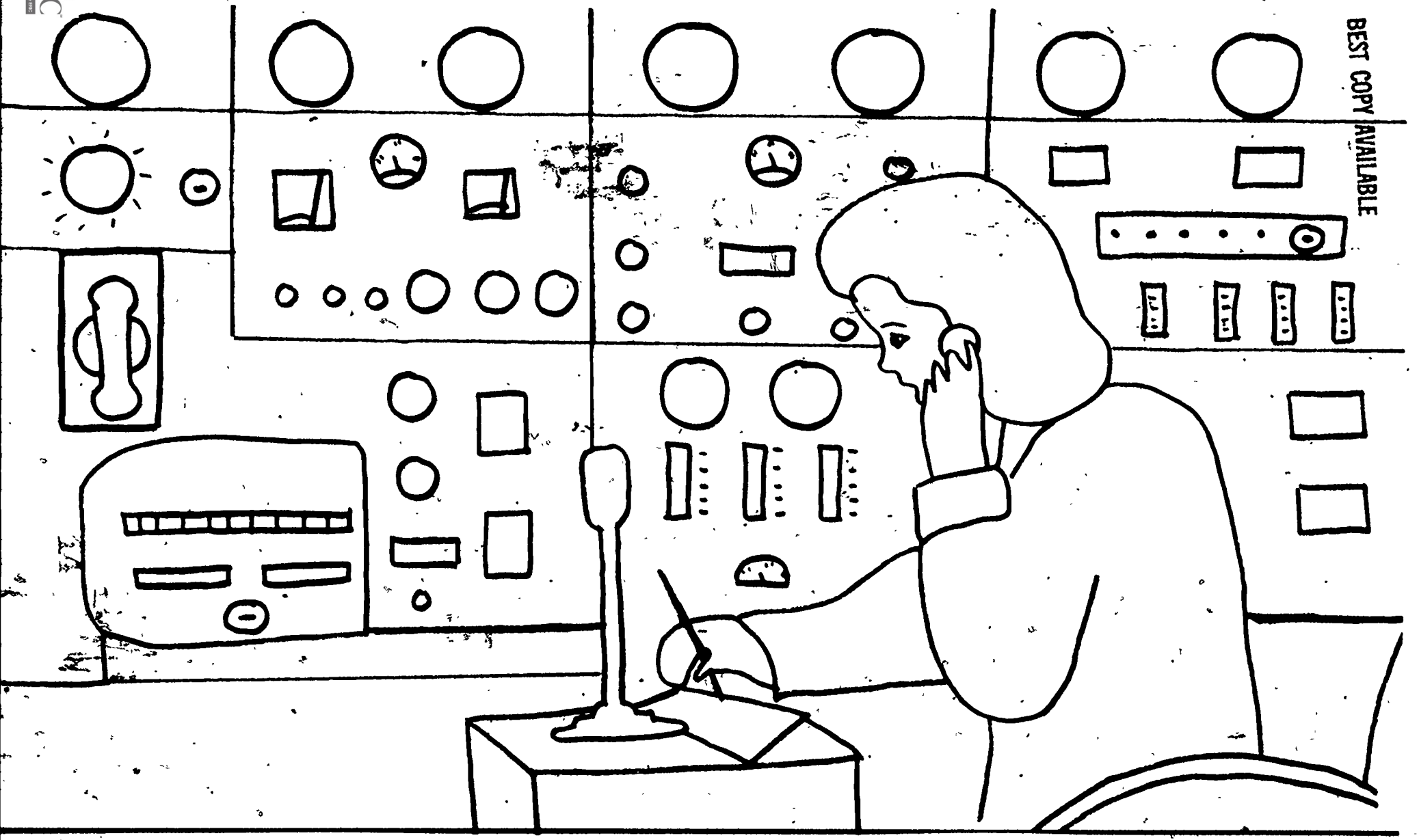
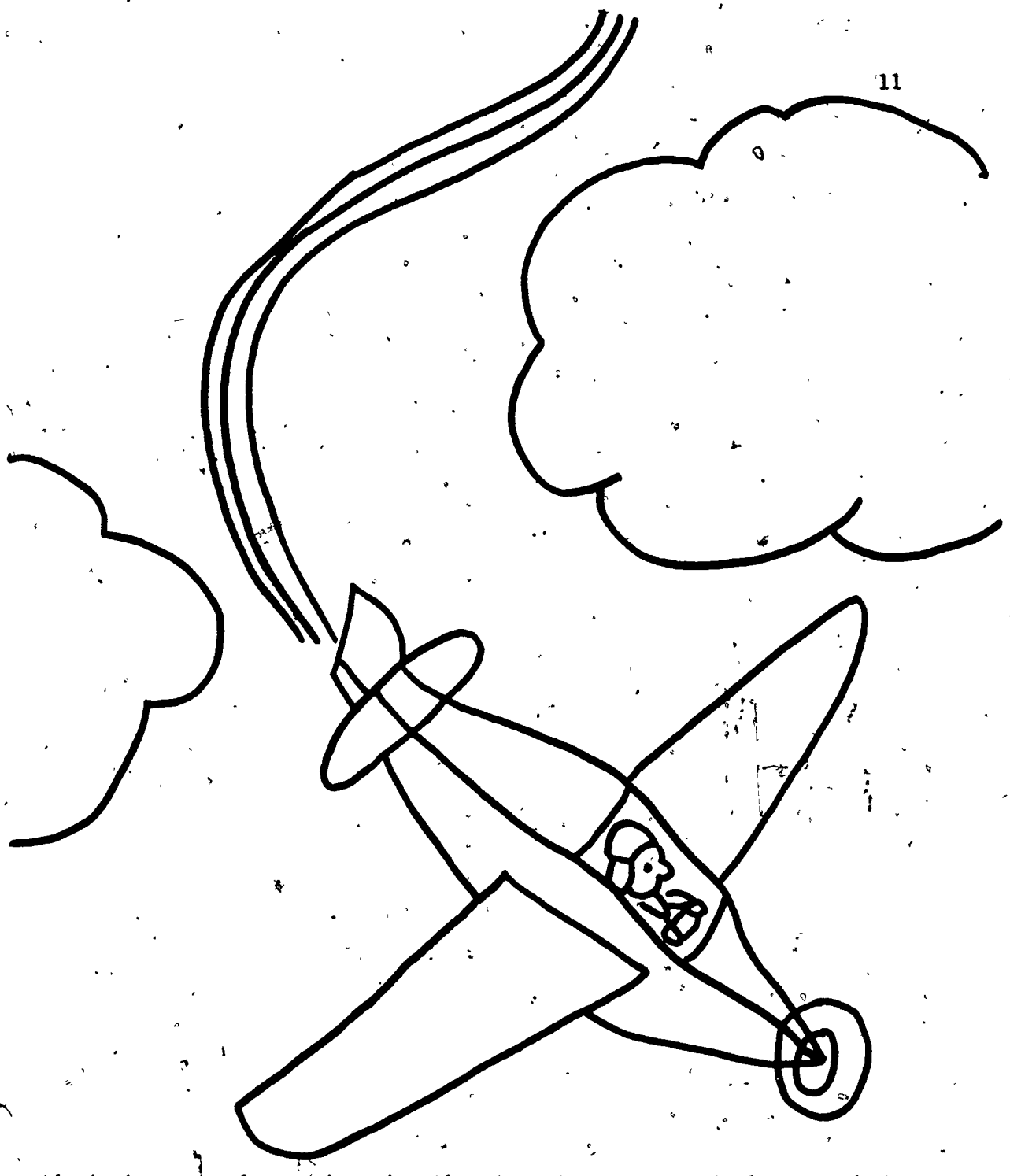


Small villages in Alaska don't have _____. When they need to talk with each other they use a two-way _____. When someone is sick, they call a _____ by using a _____ _____ radio.

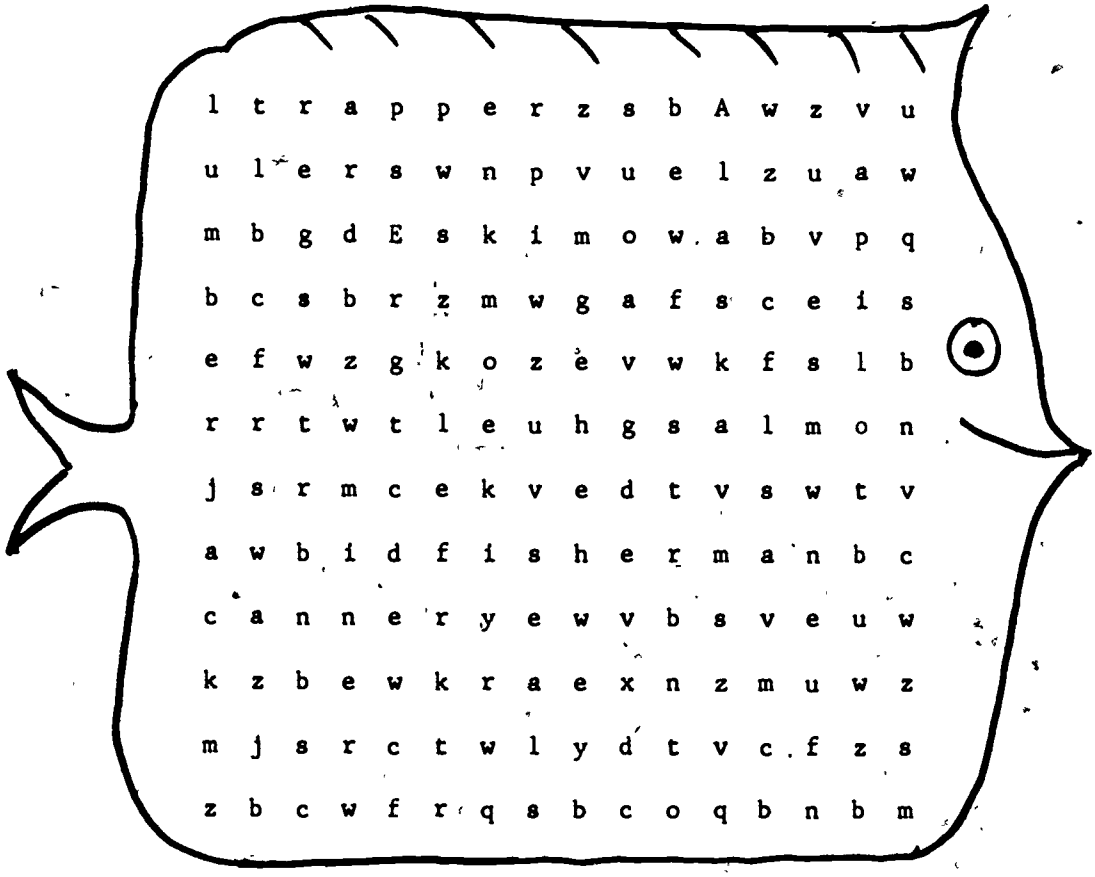


Alaska has very few roads and railroads. Eskimos use airplanes to bring the things they need. The pilot of these planes is called a bush pilot. He brings mail and food to the Eskimos. In the winter his plane has skis to land on snow. In the summer, he can land on water.

This is a picture of a _____ _____.

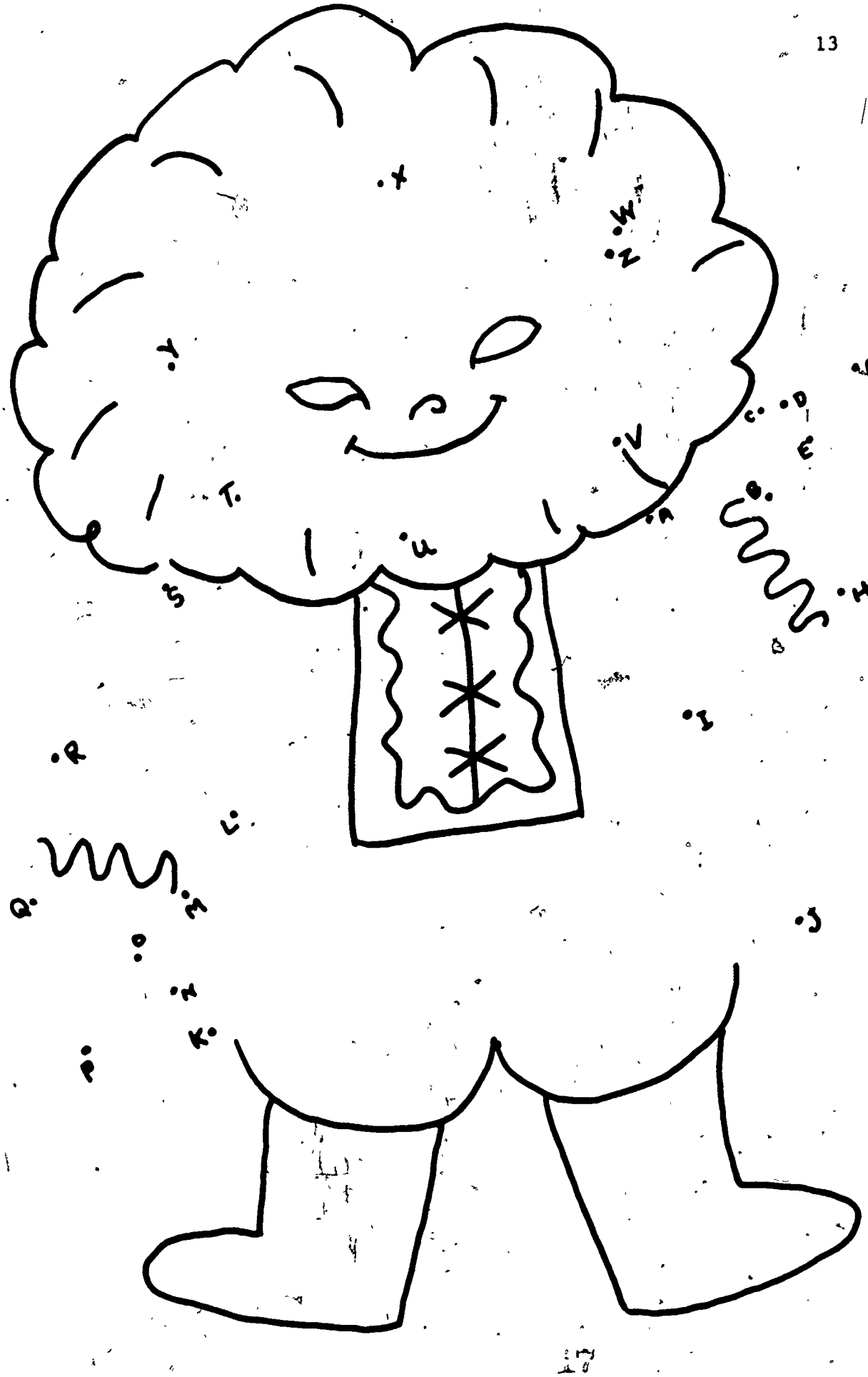
He brings _____ and _____ to the Eskimos. His job is very important. Why? _____

ALASKAN WORD HUNT



Find these words:

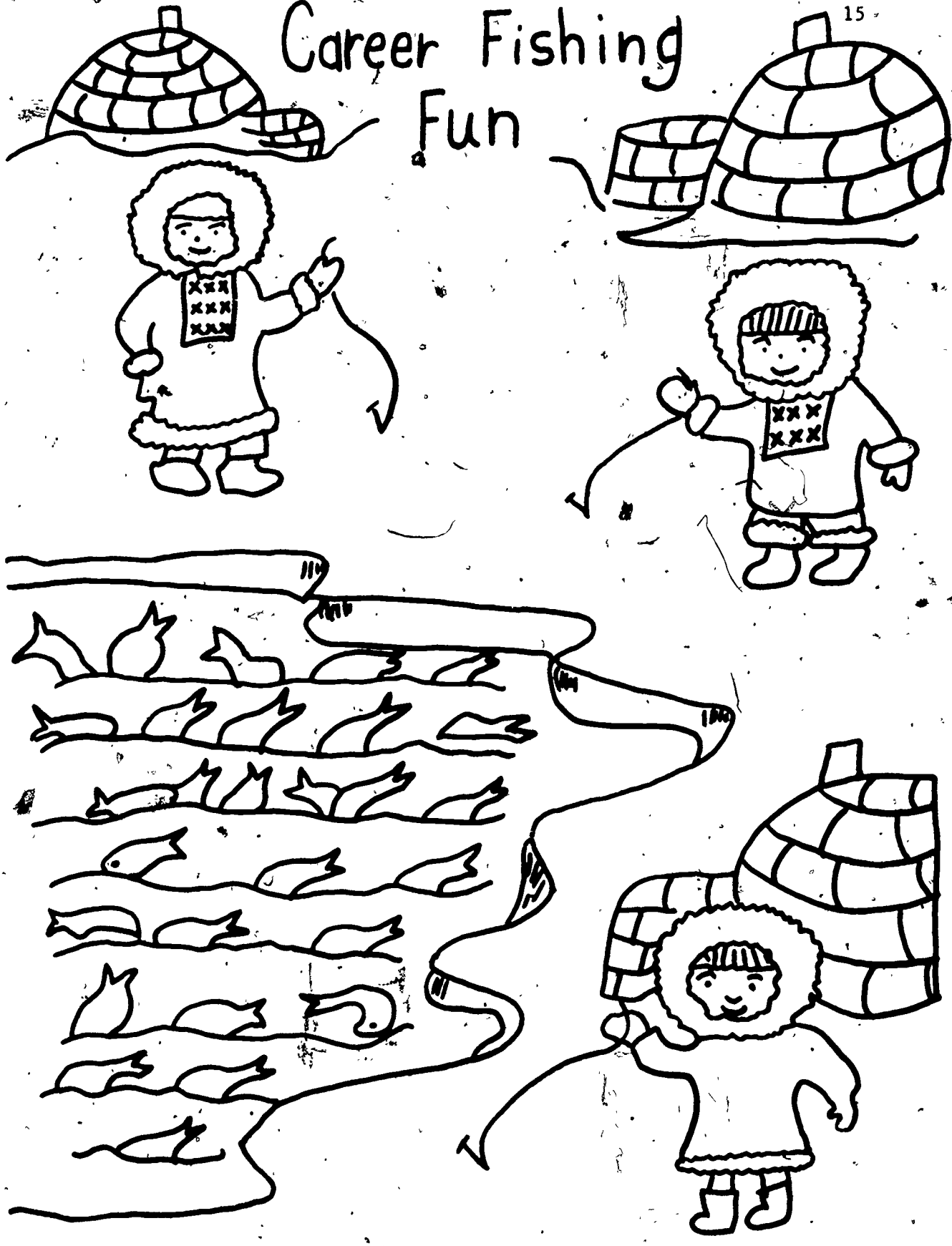
trapper	lumberjack	miner	pilot
Alaska	salmon	fisherman	Eskimo
cannery	seals		



What Alaskan worker is this? Join the dots to see.

1- short a red
2- long a yellow
3- short e blue
4- long e brown
5- short i green
6- long i orange
7- short o purple
8- long o black

Career Fishing Fun

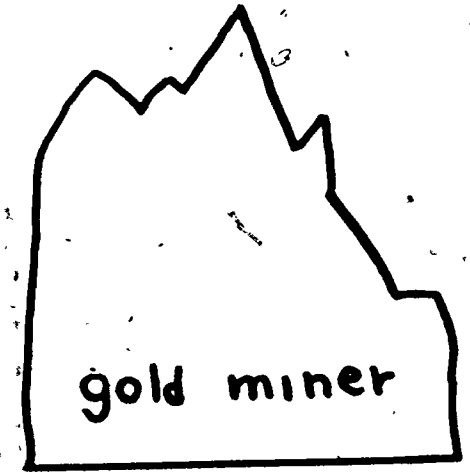


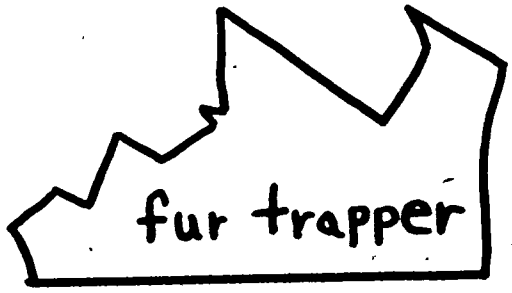
This bulletin board depicts careers from Alaska. Each fish contains an Alaskan career. Children choose a fish and write a riddle, a poem, or creative story.

ERIC

ICEBERG HOP

(Bulletin Board)





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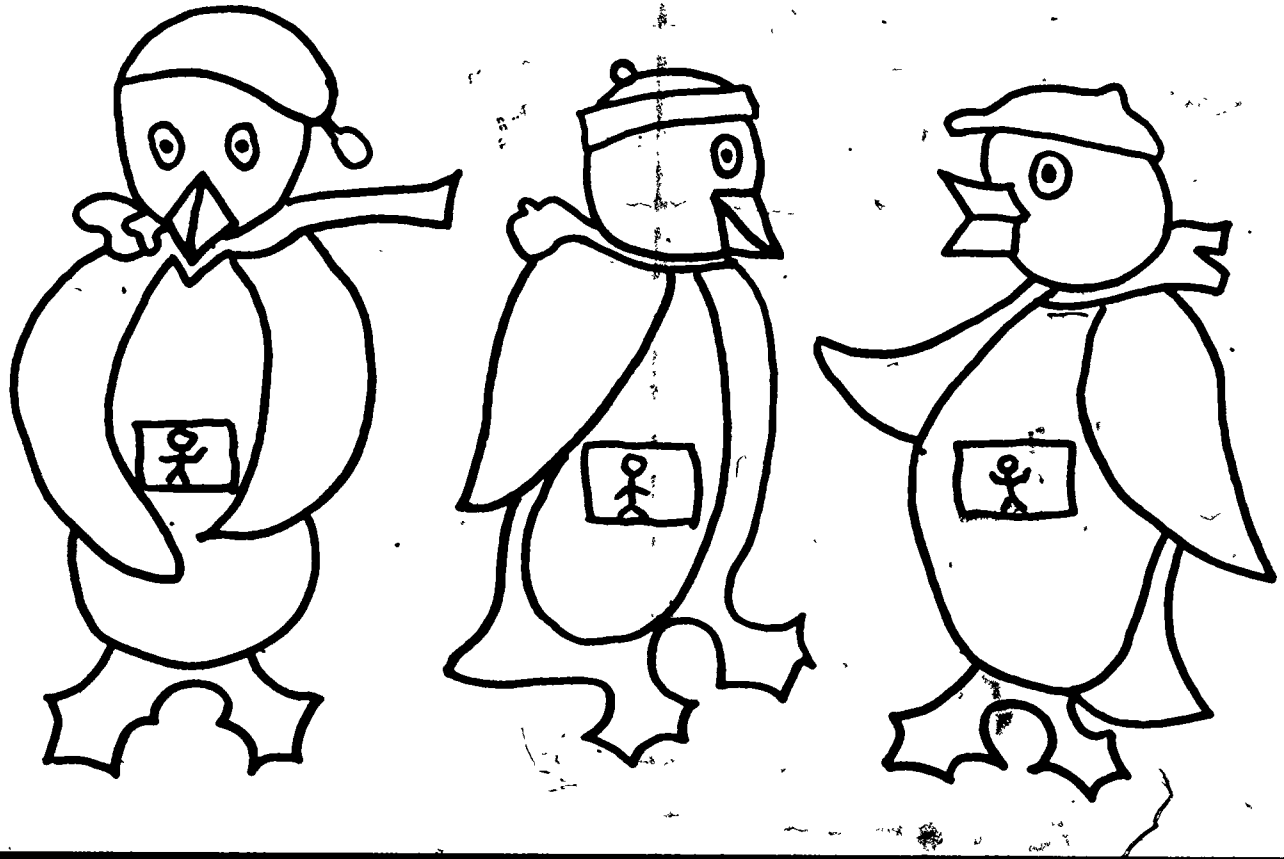


This is a matching bulletin board game the children can play. Children make penguins out of black and white construction paper and fabric for scarves and hats. Each penguin holds a picture of an Alaskan worker. If child can match picture of worker to the iceberg with job title correctly, then he can move on to the next penguin. If child matches incorrectly his penguin falls into icy water. Another child then takes his turn.

HAWAII

I. Workers

1. Tourist business-occupations dealing directly with tourists visiting the islands.
   a. tour guides
   b. hotel workers

managers	bellhops
desk clerks	waiters
maids	waitresses

   c. souvenir shop owners and workers
2. Agri-business-sugar cane, pineapple, flowers
   a. plantation owners
   b. plantation workers
3. Processing Plants
   a. pineapple cannery workers
   b. sugar cane factory workers
4. Small village fishermen
5. Small village farmers
   a. pigs
   b. taro

II. Learning Activities

1. Send for newspaper from Honolulu and explore want ads for variations of occupations.
2. Examine and taste fresh pineapple, coconut and sugar cane. Compare them with the processed product.
3. Construct mobiles depicting various Hawaiian careers.
4. Have each child make a mosaic picture of a Hawaiian career he found fascinating.

Learning Activities--Continued

5. To show interdependency of workers, have the children make leis in an assembly line manner. Use tissue paper squares, straws, and yarn.
6. Make grass skirts out of brown paper and yarn.
7. Construct shell necklaces out of playdough or clay and yarn.
8. Set up souvenir stand and use the above mentioned items to buy and sell with play money.
9. Make a mural for display showing the various Hawaiian careers.
10. Have the children write creatively, "If I lived in Hawaii I would work as a . . . . " Assemble these stories into a booklet for display.

III. Films--available at IMC

1. "Food Cannery"
2. "Child of Hawaii"

IV. Filmstrips--available at IMC

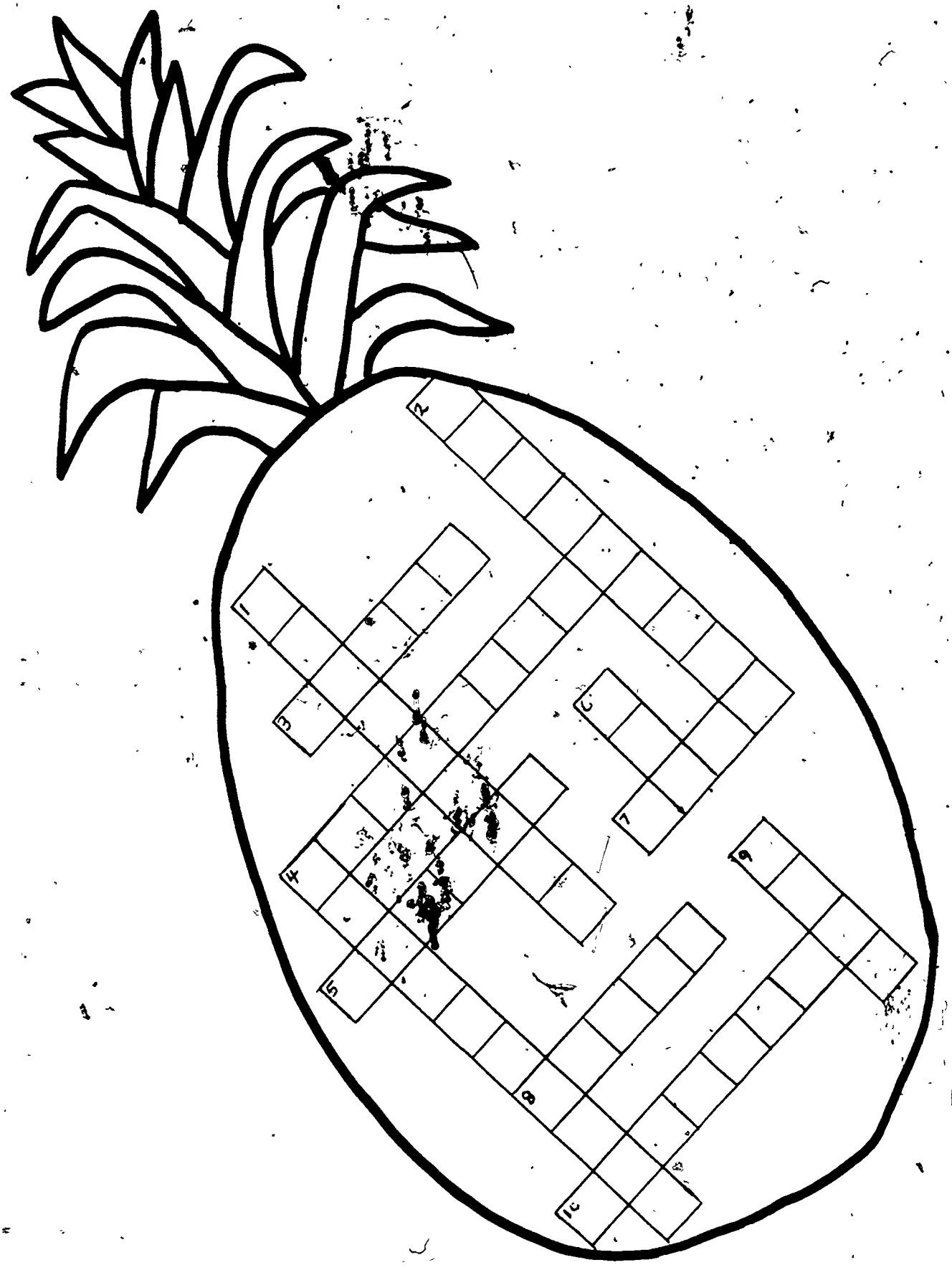
1. "Hawaii: The People and Their Way of Life"

V. Resources

1. Second grade Social Studies text: Communities and Social Needs
2. Fideler Visual Teaching Pictures--Hawaii (Available at IMC)

I am a _____. I work in a _____.

I like to serve people who visit Hawaii. They are called _____.


1
2
3
4
5
6
7
8
9
10

PINEAPPLE PUZZLE

Across

3. One product of Hawaiian plantations is _____ cane.
4. A fruit grown in Hawaii is _____.
5. The country we're studying is _____.
7. _____ are animals raised in Hawaii. They're roasted at luaus.
8. Guides take visitors around the Hawaiian islands on little trips called _____.
10. Visitors to other countries are called _____.

Down

1. Some Hawaiians sell gifts to tourists called _____.
2. Pineapple is cleaned, sliced, and put in containers in _____.
6. _____ is made from the roots of the taro plant.
9. _____ are caught in small Hawaiian villages by men using spears or large nets.

HAWAII

Match the person to what he does on his job.

1. tour guide _____
2. hotel keeper _____
3. sugar cane plantation worker _____
4. pineapple cannery worker _____
5. fisherman _____
6. small village farmer _____
7. waiter _____
8. hotel maid _____

a. raises taro and pigs

b. peels, slices, and cans pineapple

c. keeps hotel rooms clean

d. shows tourists the Hawaiian Islands

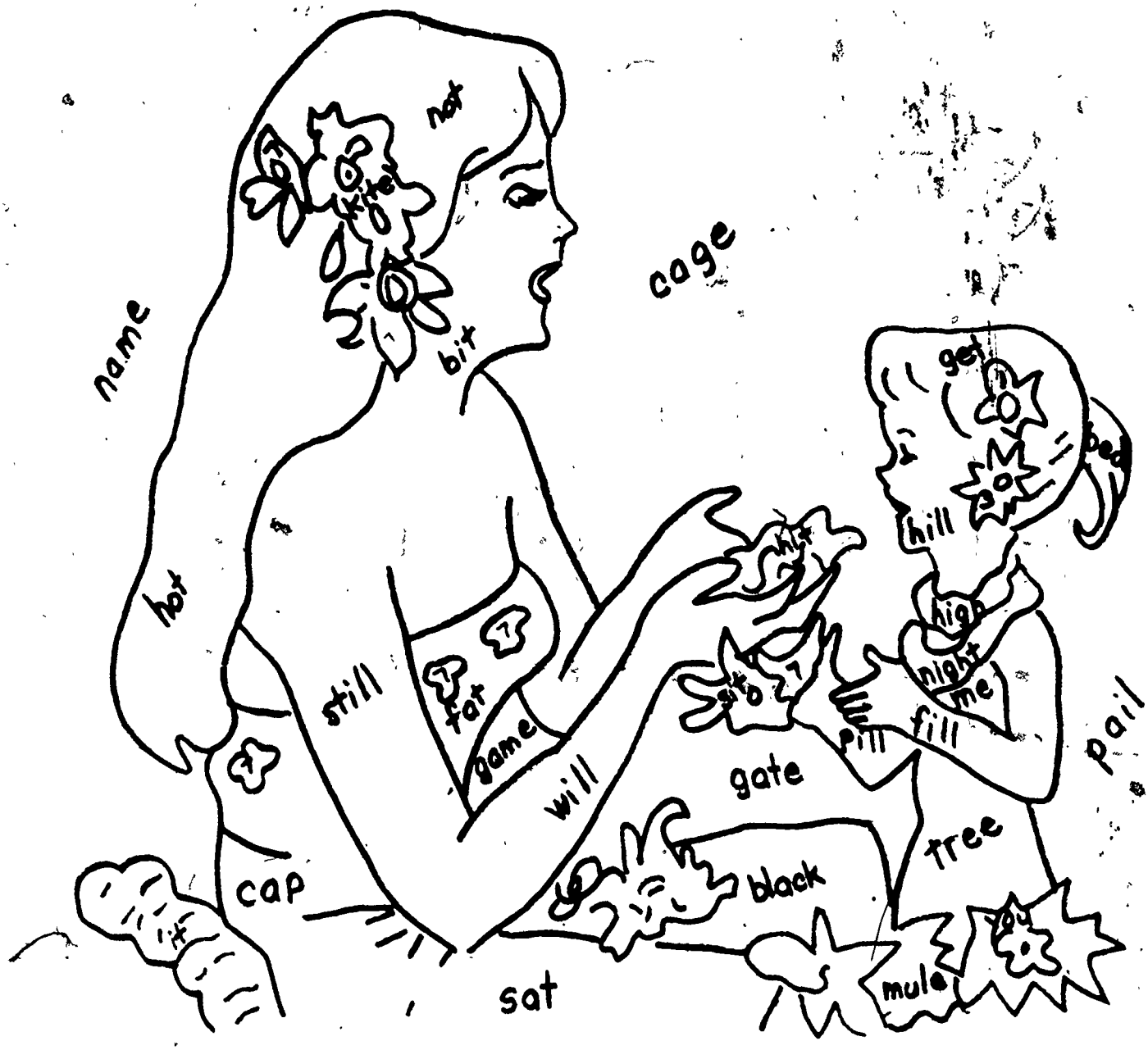
e. manager of a hotel

f. serves food in hotels and restaurants

g. plants and harvests sugar cane

H. uses a net or spear to catch fish

Hawaii



1. red- short a
2. yellow - long a
3. blue - long u
4. brown- short e
5. green- long e
6. orange - short i
7. purple- long i
8. black - short o

HAWAIIAN WORD HUNT

b w a s m q y a u c w e l x t a
e b k e w a i t e r b p j v i s
l z b s o u v e n i r s e o f u
l s c l a m k b x a b h v i w j
h e z f i s h e r m a n q h r x
o u y x z n w c v s d k n t u t
p l a n t a t i o n g s u c b g
s t y m o k i n m a i d s v t r
k c d l u o f s d g w h u g u h
n a y n r j p h e e g m g t q c
o n l k i l o o g r z r a s x s
v n z o s o e p m f y k r t d v
c e h a t i p k l q l e z d i j
s r m f t q b e j a l q g r k h
m y c d n e m e e s p d f m a e
u H a w a i i p i n e a p p l e
w o e f l m d e z t u w z y d f
z y q i n p o r b s m v l q x s

Find these words:

plantation
cannery
souvenirs
maids
waiter
tourist
fisherman
sugar
bellhop
pineapple
[redacted]ii
shopkeeper
manager

I am a Hawaiian boy. I sell _____ to people. People who come to Hawaii to visit are called _____.

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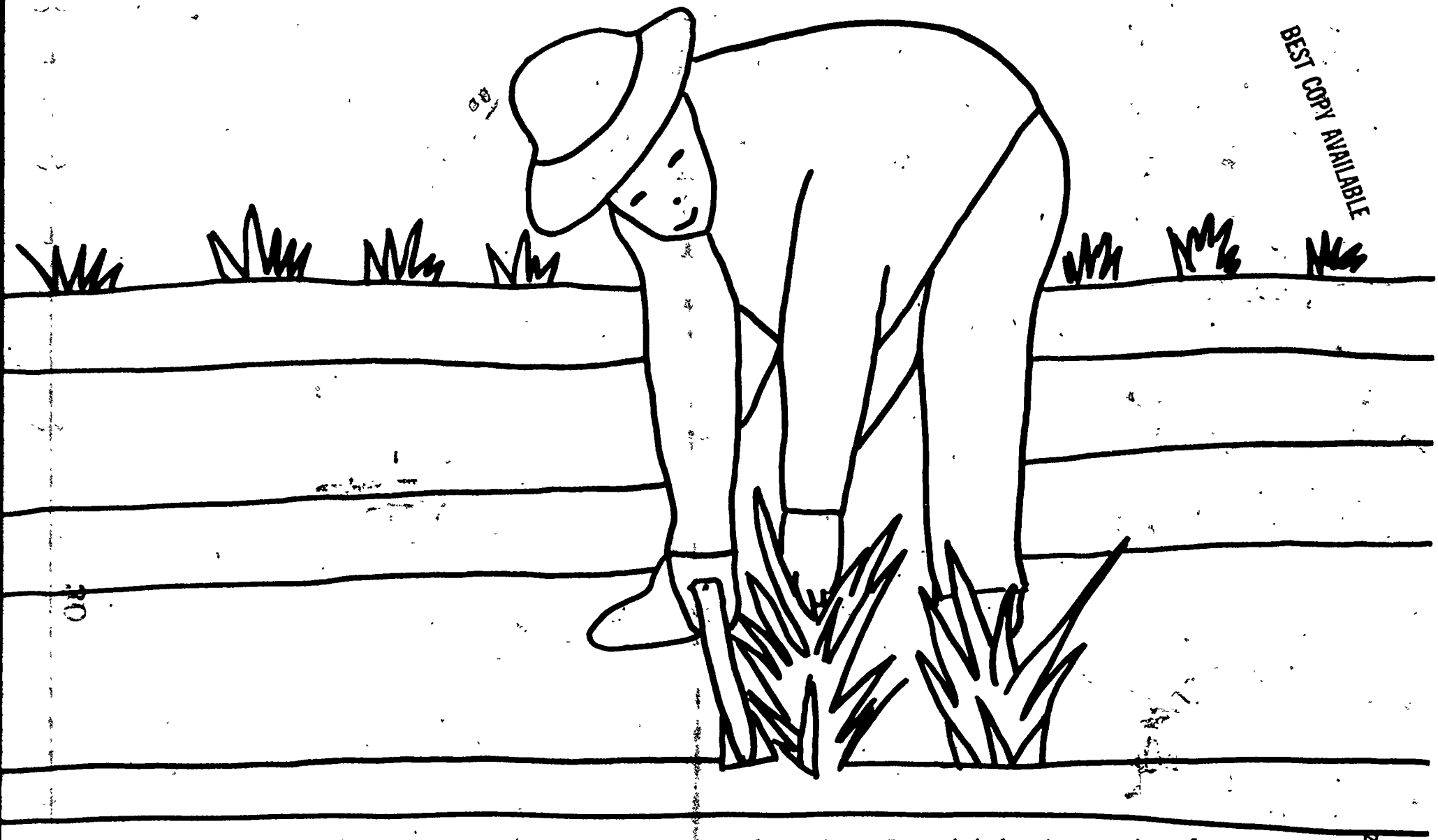
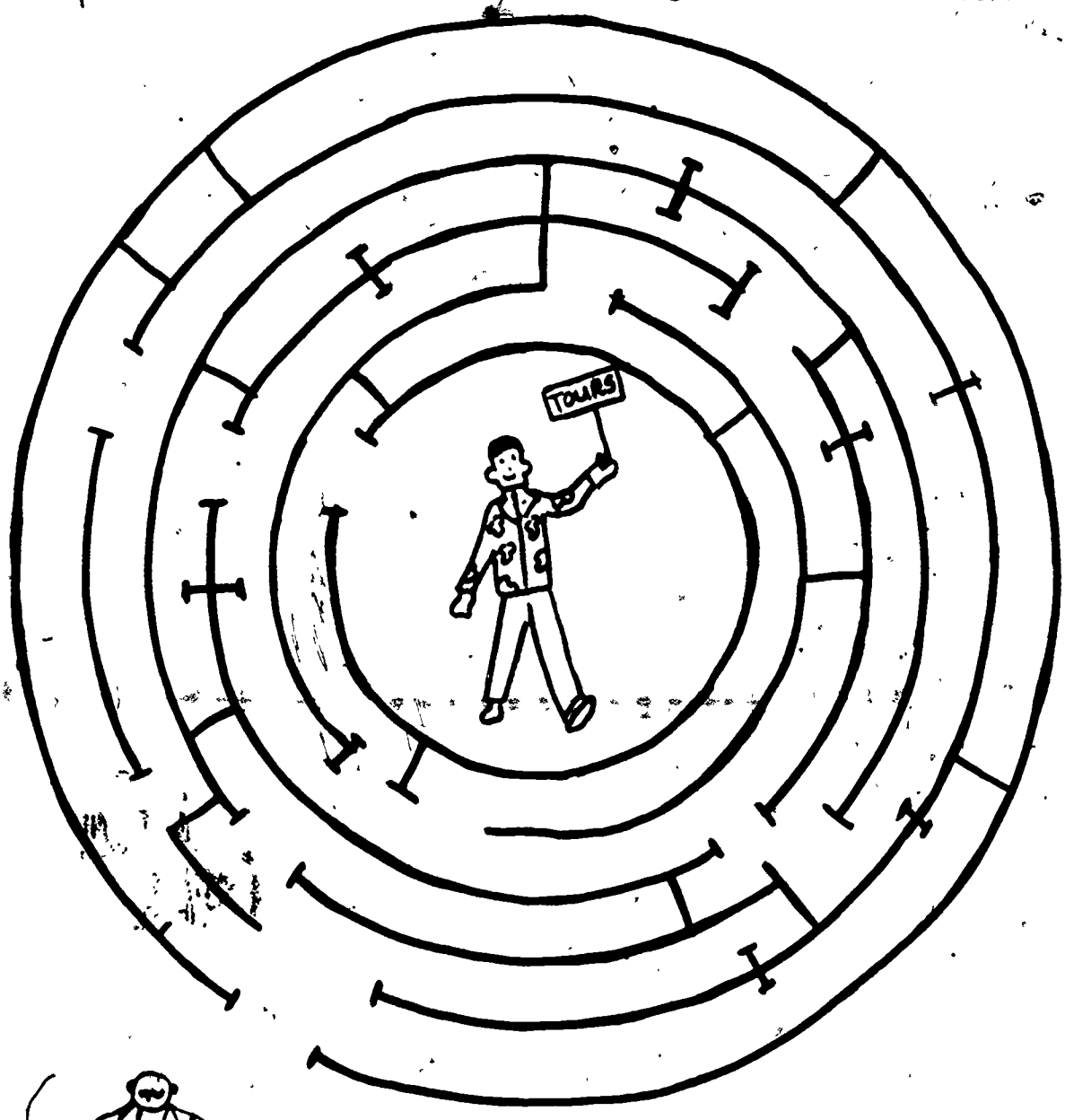
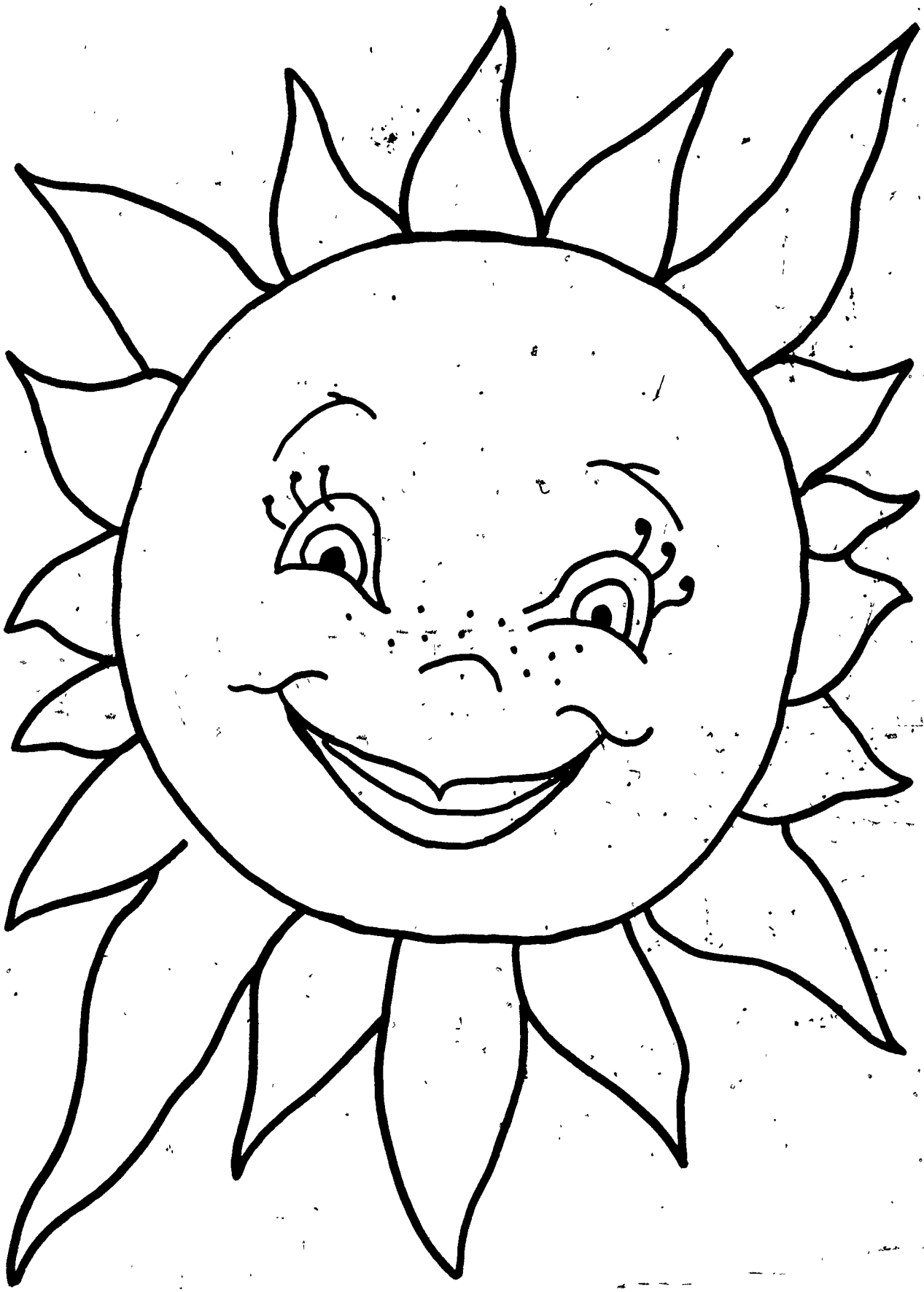


I am a worker on a _____ plantation. I punch holes into strips of paper on the fields. Then I plant special clumps of leaves from old pineapple plants through the holes into the soil.

Help the Tourists Find Their Tour Guide



Sunshine Careers from Hawaii



BULLETIN BOARD: Each sun ray contains a Hawaiian career.

ERIC

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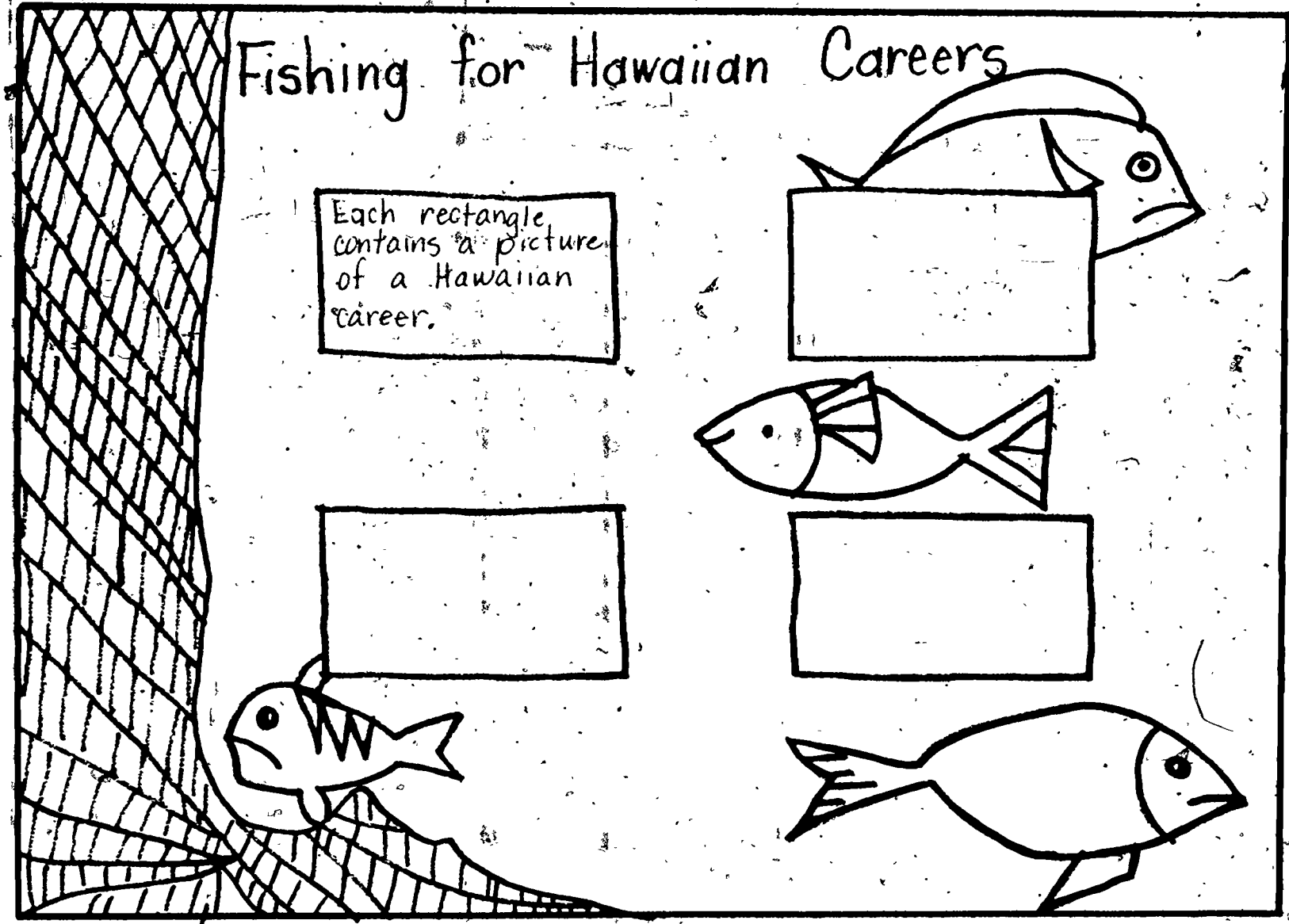

Bulletin Board

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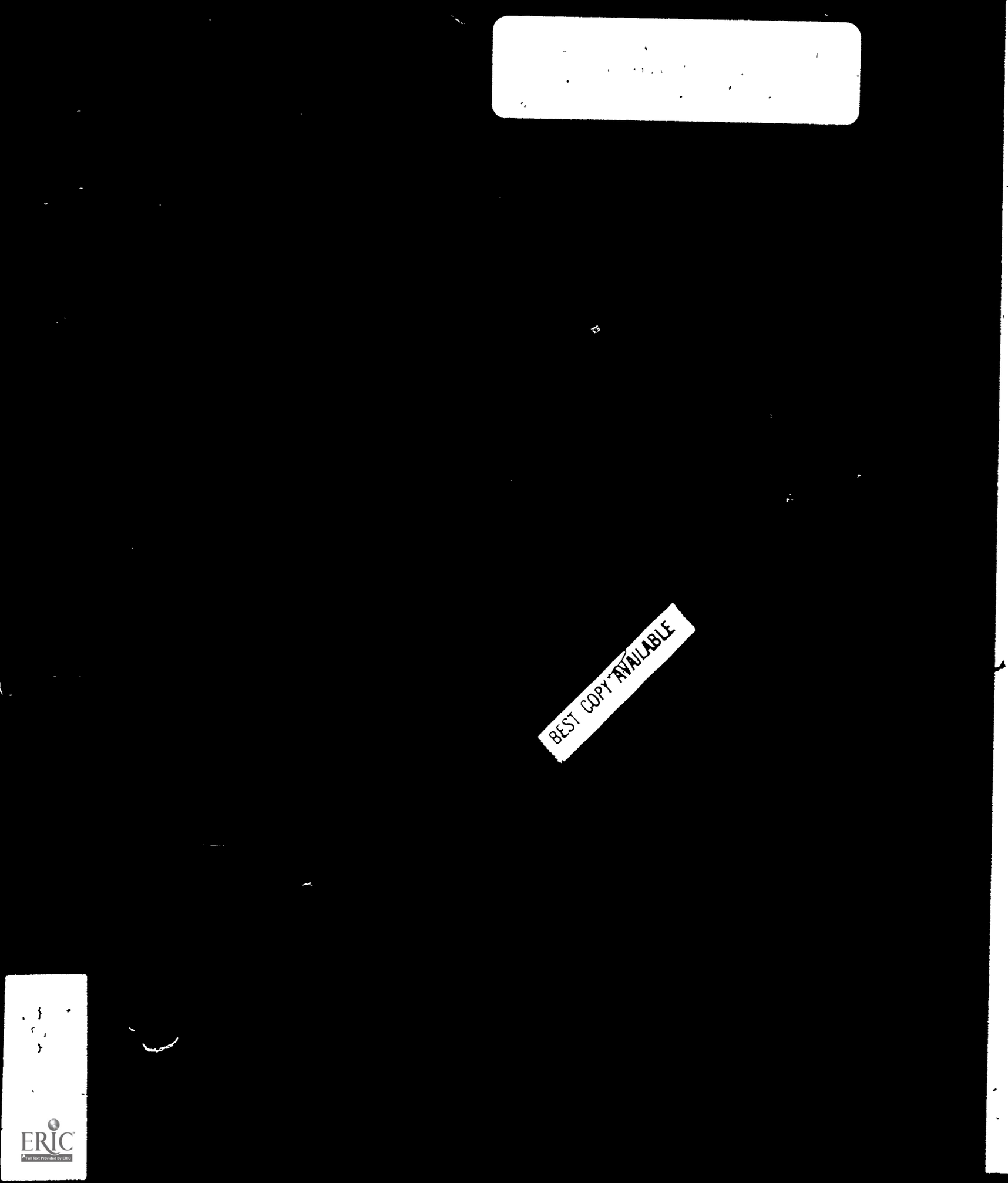
SPONSORING AGENCY NAME: BUREAU OF OCCUPATIONAL AND ADULT EDUCATION (DHEW/OE), WASHINGTON, D.C.

VT 101 424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LOOKING AHEAD TO A CAREER

OMAHA PUBLIC SCHOOLS
DEPARTMENT OF VOCATIONAL EDUCATION
OMAHA, NEBRASKA

IN-SERVICE WORKSHOP
CAREER EDUCATION

The Exemplary Program - U. S. Commissioner of Education
Vocational Amendment of 1968
Part D

Expanded Vocational Education Program for Disadvantaged Youth

Occupational Guidance K-12

Comprehensive Center for Occupational Education

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BACKGROUND INFORMATION FOR OCCUPATIONAL OUTLOOK HANDBOOK 1974-75 Edition (Bulletin 1785)

Occupations Covered

The more than 850 occupations discussed in the 325 separate sections of the Handbook generally are those of greatest interest to young people. In total, the occupations covered account for about 95 percent of all workers in professional and related occupations; about 97 percent of all workers in sales occupations; about two-thirds of all workers in skilled, clerical, and service occupations; and two-fifths of those in operative occupations.

Points to Bear in Mind in Using the Handbook Reprint Series

The information contained in the individual sections of each occupational statement follows a standard format under the headings:

1. Nature of Work
2. Places of Employment
3. Training, other Qualifications and Advancement
4. Employment Outlook
5. Earnings and Working Conditions
6. Sources of Additional Information

The Nature of the Work Section

This section of each Handbook Reprint Series describes the major job duties performed by a worker in the occupation. It is intended to show young people what a worker does and how he does it. Each job description is typical. In some occupations individual workers specialize in certain tasks. In others they perform the entire range of work in the occupation. Occupational skill requirements continually change along with changes in technology, industrial processes, and products. The nature of work section of each occupational statement is most valuable

when used with other information in the statement series. The description of the nature of work may lead one to other information that is important to job satisfaction. For example, the description of some construction jobs indicate that the work is done outdoors.

The Places of Employment

This section provides information on the number of workers in an occupation and on the proportions of women and part-time workers. Industries that are major employers are discussed and the geographic concentration of employment is noted. For example, the date in the places of employment section can indicate that because of the geographic distribution of employment it may be difficult to live near family and friends or in a particular climate and at the same time have good employment prospects. The need to fill job openings that result from persons leaving the labor force accounts for more than half of all openings.

Training, Other Qualifications and Advancement

It is designed to inform the reader about the type of training needed for entering an occupation and about the requirements for advancement to higher levels. It is important to be aware of the type of training required because it is often necessary early in high school to start planning courses toward that goal. When one decides on an occupation, the continuing education that will be required in order to reach the desired level in the occupation is as important a consideration as the initial education requirement.

The number of occupational characteristics that can be related to tangible personal characteristics are numerous. Listed below are some of the job characteristics described in the Handbook and the relevant

personal characteristics.

Responsible decisions required--Individuals should be able to make important decisions and to exercise good judgement.

1. Motivates others
2. Directs the activity of others
3. Work is closely supervised
4. Highly competitive
5. Works with ideas
6. Works with people
7. Works with objects
8. Works independently
9. Works as a part of a team
10. Opportunity for self-expression
11. Opportunity to see physical results
12. Works with detail
13. Generally is confined to a work area
14. Work is repetitious
15. Exposed to weather conditions
16. Helps people

The Employment Outlook

This part informs students of prospective job opportunities and is therefore one of the major aids that young people can use to evaluate the career potential of the occupations they find interesting. However, the prospect of relatively few job openings should not prevent someone from pursuing a particular career. Even in occupations with relatively poor prospects, jobs are available because of need to replace workers who leave the occupation. On the average, job openings resulting from

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replacement of workers leaving, account for more than half of all openings.

Outlook information can be very useful to someone who has great interest in a cluster of occupations requiring similar interests, abilities, and educational backgrounds.

Information about the future outlook in an occupation is very difficult to develop. No one can predict future labor market conditions with perfect accuracy. In every occupation and industry, the ratio between the number of job seekers and the number of job openings constantly changes. A rise or fall in the demand for a product or service affects the number of workers needed to produce it. New inventions and technological innovations create some jobs and eliminate others. Changes in the size or age distribution of the population, work attitudes, training opportunities, or retirement programs determine the number of workers available.

The Earnings and Working Conditions

There are many questions that young people ask when choosing a career, and this in part helps to determine the possible earnings. Some typical questions that young people ask are: "Will the income be high enough to justify the training costs? Will the income be high enough to maintain the desired standard of living? In which localities are the best paying jobs in the occupation? How much will a worker's earnings increase as he gains experience?"

In answer to the question what are the earnings, most people answer that it is money--a paycheck in the mailbox or cash in the pocket. Money, however, is only one kind of financial reward for work. Paid vacations, clean uniforms, and free lunches are also part of the total earnings package. There are three basic kinds of earnings: cash, fringe

benefits, and payment in kind. In 1972 more than 90 percent of all American workers received cash for their work in the form of a wage or salary. A wage or salary is usually a "flat rate"--a certain amount of money for a specific period of time at work. A wage is usually an hourly or daily rate, and a salary is a weekly, monthly, or yearly rate. Most craftsmen, factory workers, and laborers are wage earners, and most professional, technical, and clerical workers are salary earners. Salary worker usually knows how large his pay check will be each week or month, which makes budgeting easier. Wage worker's earnings may be different each week, depending on how many hours he works. Both wage and salary workers receive over-time pay, but this is more common for wage workers. Many employers are covered by the Fair Labor Standards Act, which requires over-time pay at 1½ times the hourly rate for more than 40 hours work a week.

Workers assigned to night shifts or other irregular hours often receive extra pay per hour, called a shift differential.

Earnings take a variety of forms besides the familiar rate plus over-time. Waiters and waitresses get most of their earnings in tips from customers. Salesmen may receive a commission--a percent of the amount of their sales. Factory workers are sometimes paid a piece rate, a certain payment for each item they produce.

In addition to cash, most American workers receive a variety of indirect payments, or fringe benefits, ranging from paid holidays to life insurance. In 1970 fringe benefits accounted for nearly one-fifth of the total earnings package in private industries.

Several fringe benefits received by a majority of workers are required by Federal and State law. They include Social Security

Workmen's Compensation, and unemployment insurance. These benefits provide payments to workers who are not employed because of old age, work-related injury or disability, or lack of suitable jobs.

Among the most common fringe benefits are paid time off for vacations, holidays and sick leave. Some workers also receive time off, usually without pay, for jury duty, military service, and maternity leave.

Some fringe benefits help protect the worker's income if he is injured, sick, unemployed, or retired. These include life, health, and accident insurance, retirement plans and severance pay. The cost of insurance and retirement are often shared by the worker and employer.

Payment in kind--In addition to cash and fringe benefits, some workers receive part of their earnings as goods or services, also called "kind." Example of this would be laundered uniforms, meals, company housing, business expense accounts, free airline tickets or cars. These items should be considered earnings because they are worth money and come with the job.

Earnings vary with the worker's experience, location, industry and type of work.

Beginning workers nearly always earn less than experienced workers. In most occupations, workers move up a "ladder" to high pay and generally do more responsible work as they gain experience. Some ladders, especially in unskilled jobs have only one or two steps. In other occupations, the ladders have many steps, and many offer a choice of several different kinds of work with different levels of pay. The beginning draftsman faces a typical ladder. The average salary for draftsman in 1970, for example, was $167.00 a week, but the beginner usually starts

out as a tracer at $103.00. As he gains experience, he will advance to be a junior draftsman at $126.00, senior draftsman at $158.00 and after many years a lead draftsman at $190.00. At each higher step in the ladder, the draftsman is expected to do more complicated work with less supervision. If the opportunity comes along he might move to a higher paying position as a supervisor or designer.

In most occupations a worker's earnings will vary with the location of his job. The highest earnings in the United States for draftsmen is in Detroit, where many draftsmen are concentrated in the automobile industry. The lowest earnings are in smaller cities in the South and West.

Working Conditions

The working conditions section provides information that can be most important to an individual's job satisfaction because preferences for working conditions vary considerably among individuals. Proper consideration of working conditions can contribute greatly to job satisfaction and success.

Young people planning their careers should consider how working conditions may change in an occupation as they progress up the career ladder. For example, a young person may enter a particular occupation because outdoor work is appealing, and be disappointed to learn that the next level of the career ladder are desk jobs.

Sources of Additional Information and Assistance

Suggestions as to sources of additional information are given in most of the occupational reports. In order to update the Bureau of Labor Statistics issues periodical the "Occupational Outlook Quarterly", to keep up to date between editions of the Handbook on developments affecting employment opportunities and on the findings of new occupational outlook research.

The Bureau has also developed a visual aid for counselors entitled Jobs for the 70's. It consists of a set of 40 color slides that show the changing occupational and industrial mix, and trends in manpower development, education and training. The slides, which have an accompanying narrative, are available directly from the Bureau of Labor Statistics Regional office: 911 Walnut St.

Kansas City, Mo. 64106

Other publications that can be purchased from the above address are:

1. Employment and Earnings (monthly), published by Monthly Labor Review. (Annual subscription $28.10)
2. Area Wage Surveys--a part of Directory of Area Wage Surveys (Free from the Bureau of Labor Statistics)
3. Union Wage Scales--Annual bulletin
4. Monthly Labor Review--Annual subscription $16.25. Publishes special articles by experts on subjects such as the impact of technological change on employment, occupational counseling, and manpower planning.

Additional assistance can be obtained from U.S. Office of Education who publishes the Directory of Post Secondary Schools with Occupational Programs, 1971, Public and Private. This volume contains a program index and lists schools that offer specific occupational training and is a valuable tool for counselors, teachers, and students.

State Employment Services are in a particularly good position to supply information about job opportunities, hiring standards, and wages. Four basic services are provided to workers by the Public Employment Service: 1. Job Information

2. Employment Counseling

3. Referral to Job Training

4. Job placement

The Employment Service maintains a year-round program of services to youth, including counseling, job development, placement, training, and referral to other agencies.

Disadvantaged job seekers who have special problems obtaining employment are provided employment services to help overcome barriers, and this may include referral for supportive services such as child care or health examinations, or referral to training which help develop the job seeker's employability.

Individuals with mental or physical disabilities which constitute vocational handicap are given special consideration by the Employment Service.

Private Personnel Agencies who usually charge a fee, can provide a great deal of information and assistance to job seekers. These agencies employ counselors to assist clients with career planning and placement. Private personnel agencies are often an excellent source of information about occupational opportunities in local areas.

In conclusion, between 1974 and 1985 employment in the United States will most likely increase by as much as 20 million jobs. Accompanying this increase, a significant shift from good-producing industries (agriculture, mining, construction, and manufacturing) toward service producing industries (transportation and utilities, trade, finance services and government) is expected. This expected shift is especially significant for educational and vocational planning. To assure that young people will have the necessary skills to meet future job re-

quirements will require flexibility in our educational system and necessitate a continuing appraisal of career opportunities in the years ahead.

APPENDIX A

LOOKING AHEAD TO A CAREER--1974-75 Series (slides)

This series shows graphically:

1. Current occupation and industry employment
2. Fields of work which are especially promising
3. The changing characteristics of the work force

A set of 35mm, 2x2 color slides that describes occupational composition of today's work force and the changes expected through 1985.

Can be ordered from:

U.S. Department of Labor
Bureau of Labor Statistics
911 Walnut Street
Kansas City, Mo. 64106

APPENDIX B

OCCUPATIONAL OUTLOOK REPRINT SERIES

See below according to areas

Bulletin No.		Cost
	COMMUNICATIONS	
1	TOMORROW'S JOBS	0.25
9	MOTION PICTURE PROJECTIONISTS	0.25
20	COMPUTER AND RELATED OCCUPATIONS	0.25
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109	ARCHITECTS	0.25
110	COMMERCIAL ARTISTS	0.25
113	INDUSTRIAL DESIGNERS	0.25
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	CONSTRUCTION	
49	ASBESTOS AND INSULATING WORKERS	0.25
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Bulletin No.		Cost
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133	LOGGING AND LUMBER MILLS	0.25
	MANUFACTURING	
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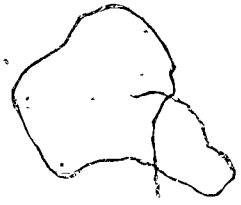

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Bulletin No.		Cost
130	FOUNDRIES, COREMEN, MOLDERS, PATTERNMAKER	0.25
131	INDUSTRIAL CHEMICAL	0.25
132	IRON & STEEL	0.25

POWER TECHNOLOGY

10	STATIONARY ENGINEERS, STATIONARY FIREMEN	0.25
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129	ELECTRONICS	0.25
138	CIVIL AVIATION	0.35
139	ELECTRIC POWER	0.25

ACCESSION NUMBER: VT101425

PUBLICATION DATE: JUL74

TITLE: GOOD-BYE TO MY TONSILS, A PRIMARY CAREER EDUCATION UNIT, FIRST GRADE LEVEL.

PERSONAL AUTHOR: FRISCHHOLZ, INA CLAIRE

DESCRIPTOR: *CAREERS; *PRIMARY GRADES; MEDICAL SERVICES; *SURGICAL TECHNICIANS; HEALTH OCCUPATIONS

IDENTIFIER: OMAHA PUBLIC SCHOOLS

EDRS PRICE: MF AVAILABLE IN VT-ERIC SET.

DESCRIPTIVE NOTE: 88P.

ABSTRACT: THIS UNIT IS INTENDED TO BE USED BY PRIMARY TEACHERS IN CONJUNCTION WITH THE HEALTH CURRICULUM. CHILDREN WILL LEARN OF THE MANY AND VARIED CAREERS AVAILABLE IN THE FIELD OF SURGERY. THIS UNIT WILL GIVE CHILDREN A CLEARER UNDERSTANDING OF WHAT IS REALLY DONE BEFORE, DURING, AND AFTER AN OPERATION. THE UNIT WILL ALSO HELP TO ALLEVIATE FEARS OF OPERATIONS ON THE STUDENTS THEMSELVES OR THEIR FAMILIES. UNDERSTANDINGS, ACTIVITIES AND RESOURCES ARE PRESENTED FOR VARIOUS TOPICS. (KE)

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GOOD-BYE TO MY TONSILS
A Primary Career Education Unit
First Grade Level

OMAHA PUBLIC SCHOOLS
DEPARTMENT OF VOCATIONAL EDUCATION
OMAHA, NEBRASKA

IN-SERVICE WORKSHOP
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The Exemplary Program - U. S. Commissioner of Education
Vocational Amendment of 1968
Part D

Expanded Vocational Education Program for Disadvantaged Youth

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Department of Vocational Education

Betty Barr
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MAIN CONCEPT TO BE DEVELOPED

Many skilled specialists do their special parts to make certain that we are assured of safe, careful surgery.

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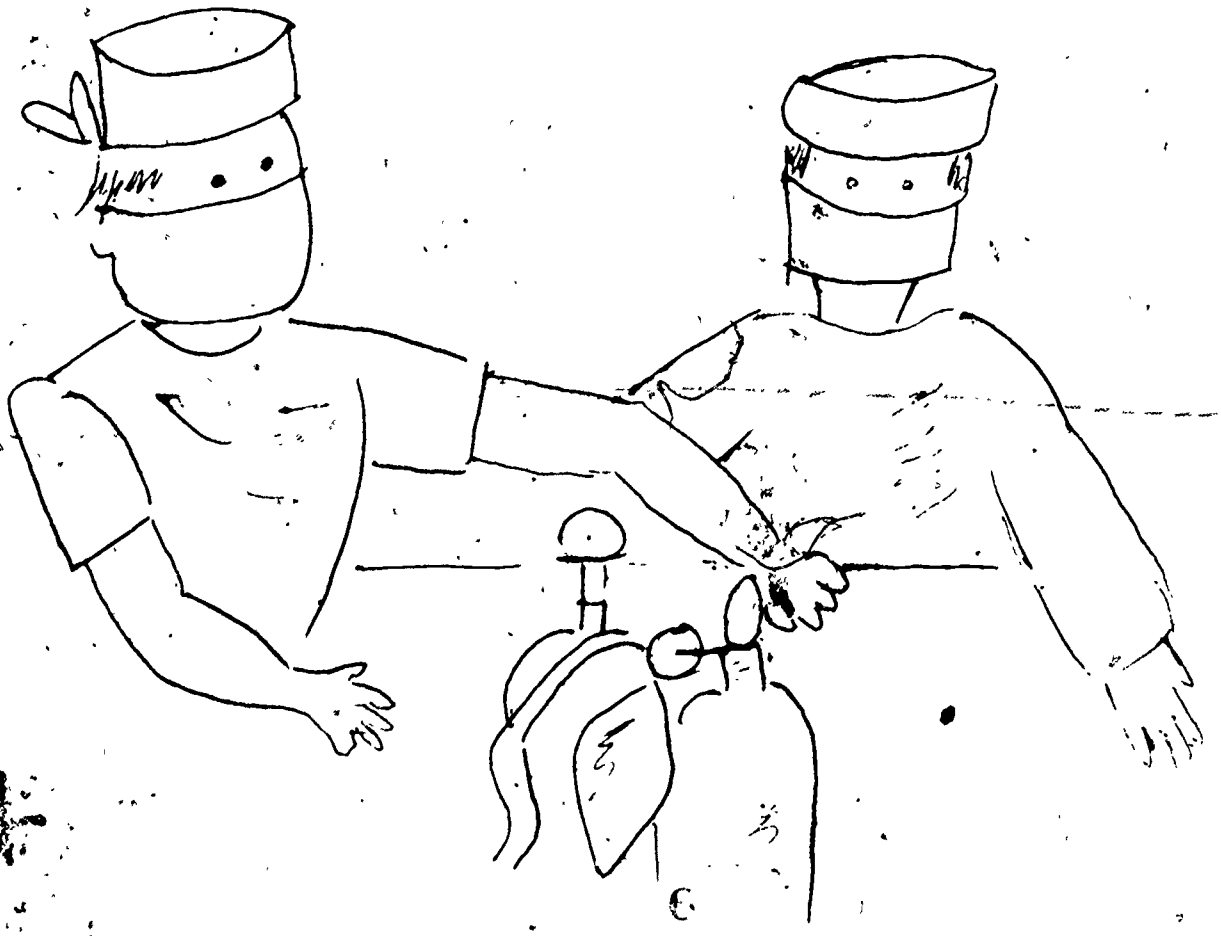
INTRODUCTION

This unit is intended to be used by primary teachers in conjunction with the health curriculum. Children will learn of the many and varied careers available in the field of surgery. Hopefully, it will give children a clearer understanding of what is really done before, during, and after an operation. Wise use of material in this unit should ease fears that children may have of approaching surgery on themselves or immediate relatives.



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OBJECTIVES

1. To acquaint children with the many producers of services needed to maintain the daily surgical procedure in a hospital.
2. To help children overcome fear of surgery done on any family member or themselves.
3. To familiarize children with the many types of jobs available in surgery dependent on varying amounts of education.
4. To acquaint children with the opportunities open for both men and women in the field.
5. To illustrate how division of labor helps to make the surgery, faster, safer, and easier.
6. To acquaint children with many of the tools and machines used in surgery.

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UNDERSTANDINGS

At some time a person may need to have an operation to remove a diseased portion of his body to stop pain, bleeding, and/or infection.

Children would be particularly aware of a tonsillectomy or an appendectomy.

ACTIVITIES

Perhaps a child in the class or a member of his family is anticipating an operation. This may cause concern and worry on the part of the child.

To help alleviate his worries, a class discussion could include the following questions.

Has anyone had an operation?

Could you tell us what you remember about it?

How did you feel after the operation?

(Be sure to emphasize that a person will not feel well immediately.)

If none of the children have had operations maybe someone in a child's family has and he can tell what he knows about it.

Read one of the books listed below.

RESOURCES

WE GO TO THE DOCTOR

Carl Memling

Nelson, Foster, Scott 1955

TOMMY VISITS THE DOCTOR

Jean H. Seligman,

Melton I. Levine, M. D.

Golden Press, 1962

UNDERSTANDINGS

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ACTIVITIES

Children should be made aware of the entrance procedure into the hospital.

At the admittance office someone puts a plastic wrist band on the patient. This band identifies the patient. Hospital personnel can readily identify the patient. Some hospitals also put the blood type in addition to the patient's name on this band.

Discuss:

Do any members of your family work in the hospital in the operating room. If so have the child tell what he knows about the job.

Children could do some role playing. Have an admission desk. One child can be the patient, and another the admission clerk. The clerk can ask the patient questions and pretend to fill out a form on him. Perhaps a plastic wrist name band can be obtained from the hospital for demonstration purposes.

Read any of the stories listed below.

RESOURCES

ADA-A Visit to the Hospital
Florence Michaelson
Whitman, 1966

A VISIT TO THE DOCTOR
Knute Berger, M. D.
Robert A. Tidwell, M. D.
Margaret Haseltine, M. N.
Wonder Books, 1960

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UNDERSTANDINGS	ACTIVITIES
From the admittance office, an orderly will escort you to your hospital room. This orderly may be either a man or a woman. In some hospitals they are called escort service.	Discuss by what means the orderly takes you to your room. If you are very ill, he may take you by wheelchair. Otherwise, you will walk and possibly take an elevator to your room.
Children should be aware of the difference between a hospital room and their rooms at home.	Talk about hospital beds. Ask how they are different from regular beds. Have a free discussion of any hospital stay a child may have had.
Many producers on the [illegible] hospital will make the patient's stay as [illegible] as it can be.	Talk briefly about registered nurses, practical nurses, nurse aids, ward clerks, and housekeeping crew.
	Read any of the stories listed.

RESOURCES

A VISIT TO THE HOSPITAL
Ernestine Chase
Wonder Books, 1960

I KNOW A NURSE
Marilyn Schima R. N.
and Polly Bolian
G. P. Putnam and Sons
1968

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UNDERSTANDINGS	ACTIVITIES
Some people may have to have x-rays to pinpoint what is exactly wrong with them before they have surgery. An x-ray shows pictures of the inside of a person's body. The orderly will take you to the x-ray room. An x-ray technician will take pictures of your body whie you are lying on a table. He/She has worked in an x-ray lab, two years following high school. A radiologist will read the x-ray. A radiologist is a doctor who is a specialist in reading x-rays.	Discuss x-rays. If no child in the class has ever had x-rays taken, perhaps they have been to the dentist and had an x-ray of their teeth. Have an exposed x-ray film to show children. Usually hospitals will have some which have been over-exposed, or under-exposed. They will probably be glad to save you one. Let children draw pictures of x-rays on black paper with white chalk. Teach poem, "X-Ray Technician" located in poetry section of this book.

RESOURCES

Study print of x-ray technician in Study Print Kit

HOSPITAL HELPERS

301.3 IMC

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UNDERSTANDINGS	ACTIVITIES
When you are ready for surgery, an orderly will take you to the pre-anesthesia room. You will have been dressed in an hospital gown prior to going. In the pre-anesthesia room, the patient will be prepared for surgery by receiving a shot to make him drowsy. The area on which he is to be operated will be shaved thoroughly. This is called, "the prep." In some hospitals, patients are prepared for surgery in their hospital rooms. Family members may accompany a patient to the pre-anesthesia room.	It would be nice to have a disposable syringe available. Let children fill the plunger. If a needle is available let children give a shot to an orange. You may have a child in your room who has to take insulin or allergy shots. They may discuss how and who gives them their medication. Be certain to point out that a person must be trained in giving shots so the needle and medication go in the right location. This is also a good time to point out that medicines are to make sick people well and should not be taken by well people.

RESOURCES - Books

DOCTORS AND NURSES:
WHAT DO THEY DO
I Can Read Book
Carla Greene
Harper Row - 1963

DOCTOR JOHN
Frances Thompson
Melmont Publishers, Inc.
1959

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UNDERSTANDINGS	ACTIVITIES
From the recovery room, the patient is taken into the operating room. No family members are allowed in this area because of sterile conditions. No one wants to get an infection from bacteria.	Discuss infections. Has any child gotten an infection? Did it hurt? How did you feel? What did you have to do to get rid of the infection? Talk about penicillin.
In the operating room, the area on which the person is to be operated is washed thoroughly.	
Those who are to be sterile [illegible] the operation scrub at a [illegible] in the scrub room. [illegible] not sudal to dis- [illegible] special surgical soap. [illegible] lover to [illegible]. The scrub [illegible].	Have children use brush which is used in hospitals to scrub hands and arms up to the elbows. Read book listed below and view films.

RESOURCES

JERRY AND DR. DAVE - Book

Marion Borden

Whitman, 1964

Films

PERSONAL CLEANLINESS

HOW BILLY KEEPS CLEAN

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UNDERSTANDINGS

In the operating room you will see people clothed in long surgery gowns, masks, caps, and rubber gloves. This is again to keep things as clean as possible.

A patient will meet someone who will see that you feel nothing during surgery. This will be the anesthetist or anesthesiologist. He/She will put you to sleep with a gas called an anesthetic.

An anesthetist must be a registered nurse with 18 months to two years training in the administering of anesthetic in a hospital under supervision.

ACTIVITIES -

Let children try on mask, cap, gown, and rubber gloves.

Discuss how gowns and instruments are sterilized in an autoclave--a steam sterilizer. All of the bacteria are supposedly killed from this sterilization.

At this point have an anesthetist come to speak to the children. Perhaps she can bring the mask and some other items used in putting children to sleep.

Write an experience story about her visit.

RESOURCES

Study prints

HOSPITAL

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Book

I WANT TO BE A NURSE

Carla Greene

Childrens Press

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UNDERSTANDINGS

An anesthesiologist is a doctor with special training in giving anesthetics.

The anesthetist operates the gas machine and keeps a constant check on pulse, blood pressure, and respiration.

Your surgeon will talk to you before you go to sleep. He is a medical doctor who is a specialist in doing operations. He may or may not be your family doctor. Some family doctors will perform minor surgeries.

ACTIVITIES

Have children help create poems about the producers, such as this one about the person who gives the anesthetic.

"Breathe deep! Go to sleep.
Over you my watch I'll keep.
You will wake up very soon.
You'll probably be back
in your room."

If at all possible it would be an excellent idea to have a surgeon come to visit the classroom, and discuss his work.

Write experience story.

Learn finger play about doctor found in the poetry section.

RESOURCES

I WANT TO BE A DOCTOR - Book
Carla Greene,
Childrens Press

WILLIE GOES TO THE HOSPITAL - Book
Pauline Vinson,
MacMillan Co., New York
1956

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UNDERSTANDINGS	ACTIVITIES
A surgeon earns his title from taking four years of residency. By this we mean that he works as a student with other surgeons in a hospital. He must then take a very difficult written test and pass it to be placed on the American Board of Surgeons. The scrub nurse and/or another doctor will assist him in surgery.	Draw pictures of a surgeon at work.
While you are asleep many other people help with your surgery. The circulator who wheeled you into the operating room is a registered nurse.	Have a surgery nurse come to speak to the children. Perhaps she can bring a sterile pack of instruments to show the children.

RESOURCES

CURIOUS GEORGE GOES TO THE HOSPITAL-Book
Margaret and H. A. Rey
Scholastic Book Services, 1966

GOOD-BYE TONSILS - Book
Anne Welsh Guy
Whitman Publishing Co.
1966

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UNDERSTANDINGS	ACTIVITIES
The circulator's job is to see that all the supplies are there, check to make sure conditions stay sterile, adjust the lights, and also supervise the technicians. She also counts the sponges along with the technician. The sponges are squares or balls of gauze used to wipe away blood. As a registered nurse, the circulator has had anywhere from two to five years of schooling beyond high school. She must pass a written exam to be registered in the state in which she works. The circulator is not scrubbed.	Show children what a sponge used in surgery might look like. Relate it to the gauze they might have had placed on a bleeding spot on their arm of leg. Read some more stories to children about operations.

RESOURCES

TOMMY'S TONSILLECTOMY - Pamphlet
Bennett Olshaker, M. D.
Marko Books
4435 35th St.
N. W. Washington, 8, D. C.

DANNY GOES TO THE HOSPITAL - Book
James Lincoln Collier
A. W. Norton Book
Grossett & Dunlap, Inc.
New York

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UNDERSTANDINGS	ACTIVITIES
The technician is also called the "scrub nurse." He/She lays out the instruments, hands the surgical instruments to the surgeon, counts the sponges, and helps clean up. The technician is trained by the hospital. Following each surgery a member of the housekeeping crew cleans up the surgery room. From surgery you are taken to the recovery room. Here nurses and doctors watch you until you are awake and the anesthetic wears off.	Discuss some of the instruments the technician hands to the surgeon. For tonsils some of them are: hemostat, tonsil snare, mouth gag, tongue depressor, and scissors. All of these instruments plus more and other surgery terminology are defined in the vocabulary glossary at the end of this unit. It may be possible to show some of these instruments to the children. The vocabulary is for the teacher's use. Discuss some of the things children think may be done for patients in the recovery room. Ask questions such as: What does the word recover mean?

RESOURCES

Film--GOOD HEALTH PRACTICES

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UNDERSTANDINGS	ACTIVITIES
You may not remember being in the recovery room. When you awake you will probably be in your own room with one of your relatives and a nurse with you. You may hurt for a while but you will be better, and you won't have to miss school because of tonsillitis or bad sideaches.	Have any child who has had an operation discuss how he felt after having an operation. What did people do for you? Teach poem, "Trained Nurse" Make up new words to the tunes of the songs listed below. Use terminology learned--names of the producers, rooms, and instruments.

RESOURCES

Song--Do You Know? p. 97
MUSIC THROUGH THE DAY

Song--I Want to be a Farmer, p. 58
MUSIC THROUGH THE DAY

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CULMINATING ACTIVITIES

Make a mural showing an operating room.

Have children draw pictures of different people in the operating room, and make a bulletin board similiar to the one shown in this unit.

Make a bulletin board entitled, "To Surgery and Back Again" similiar to the one shown in this unit.

Study the pictures and drawings found in this unit.

Make flashcards with the names of producers on them. Encourage children to recognize terminology.

Make a mobile showing people in the operating room.

Make a TV box using children's drawings.

Play a game of "Who Am I?" using riddles in this unit.

Have children write a creative story answering the question, "If I worked in surgery I would like to be a _____."

Make a story book about surgery using children's stories and pictures.

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TEACHER EVALUATION

1. Do children realize how many producers are involved in doing just one surgery?
2. Are children aware of the many different types of jobs available in an operating room, dependent on varying degrees of education?
3. Have many children overcome the basic fear of surgery and recognize it as an aid to good health rather than something to be feared?
4. Are children aware of the many jobs open to both men and women in this field?
5. Are children aware of the division of labor needed to do the work faster, safer, and easier?
6. Can children recognize the names of some of the basic tools used in an operating room?

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POEMS

HOSPITAL HELPERS

The friendly doctors
Dressed in white,
The nurses who share
Their smiles so bright,
And other persons
Are working each day
To give each patient
His good food tray.
All of these workers
Their skills do share.
They work in hospitals
Just everywhere.

--Lois Anne Williams

MY FRIEND

I have a friend
Who cares for me.
He is as kind
As he can be.

When I am sick
My friend can tell
What we should do
To make me well.

He is my doctor
And you see
He is a special
Friend to me.

--Lois Anne Williams

DOCTORS

Doctors lead such busy lives--
Giving shots and treating hives,
Setting bones and reading charts,
Easing fears and checking hearts.
The doctor's there
When a long life ends.
He's also there
When a new one begins.

--Eloise Culver

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THE NURSE

Here comes the nurse
With your chart. And your pill.
She's here to take care of you
While you are ill.

How cheerful she is
As she bustles about!
She can make up your bed
Without your getting out.

Your temperature taken,
Your pulse must be right.
Are you sure you are
Comfortable, now, for the night?

This nurse is devoted,
She's patient and wise,
And she knows what to do
Should a crisis arise.

She'll follow your
Doctor's advice to the letter,
And in no time at all
You'll be feeling much better.

--Mabel Watts

THE NURSE

With cap and uniform
crisp and white,
A nurse I'd like to be.
To care for people day
and night
Seems a useful job to me!

X-RAY TECHNICIAN

X is for X-Ray technician
her big machine
Shows twenty-four ribs
no eye could have seen.

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TRAINED NURSE

I'd like to be a trained nurse
In an uniform of white,
Working in a doctor's office
Or a hospital at night.

Looking after little children
Who are sick--with fever, too.
Helping them to feel much better
By the nice things I would do.

Bringing trays with bowls
of ice cream--
Rubbing aching little heads--
Seeing that the sheets are
smooth and cool
On tumbled little beds.

DOCTOR--A finger play

I'd like to be a doctor
(Point to self)
And help someone who's sick,
My case I'd open quickly
(Open imaginary case.)
And first take out a stick.
I'd look down the throat
carefully,
(Hold head firm with left
hand and manipulate stick
with right hand.)
And never cause a tear.
(Shake head.)

Then with a light I'd take
a peek.
(Pretend to look in ear.)
Into each ear.
Next with a stethoscope
I'd hear
(Pretend you have stethoscope.)
Just what went on inside.
A little pill, a day in bed
(Give out pill and close case.)
Is just what I prescibe.

--Thea Cannon

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My work is as careful as careful can be.
But you surely are not able to see.
While fast asleep upon the table you lie,
I take out the aching part! My! Oh, my!
Who am I? (surgeon)

My ears are sharp! I listen well!
For the doctor to me, his wants will tell!
My rubber gloves keep my hands clean!
As I hand each instrument to Doctor Keane.
Who am I? (scrub nurse or technician)

A magic wand I do not wave.
I certainly am not the sandman!
But in the midst of brightest day.
I can put you to sleep! I can! I can!
Who am I? (anesthetist or anesthesiologist)

Before you went into the operating room,
You may remember I helped relieve your gloom.
I talked with you and prepared you, too, so
That you would be ready for the surgeon, you know!
Who am I? (Pre-anesthesia nurse)

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MORE RIDDLES

My eyes are open so very wide.
I look up and down and from side to side.
My job is to keep surgery as sterile as can be.
I also help count the sponges! One! Two! Three!
Who am I? (circulator)

After surgery you're with me!
I watch over you, you see!
I check your pulse, give you pain shots, too.
Until the anesthetic "wears off" of you!
Who am I? (recovery room nurse)

My job is taking people places, you know!
I push carts and wheelchairs. With much care, I go!
From your room to surgery, I take you.
Then, back again from surgery to your room, too!
Who am I? (orderly)

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VOCABULARY GLOSSARY

adenoid tone--instrument used to take out adenoids

anesthetic--agent used to put people to sleep

anesthetist--nurse giving anesthetic

anesthesiologist--doctor giving anesthetic

appendectomy--operation to remove the appendix

bacteria--germs

blood pressure gauge--an instrument to check blood pressure

cart--a table with wheels

circulating nurse--person who gets supplies, not scrubbed for surgery

gloves--sterile tight fitting rubber gloves

gown--garment used to cover clothing in surgery

hemostat--instrument used to clamp bleeder

infection--presence of bacteria in a wound

knife dissector--instrument used for cutting apart

mask--a covering placed over mouth during surgery

mouth gag--instrument used to hold mouth open

needle holder--an instrument to hold needle with suture

pillar retractor--instrument used to expose tonsil

pulse--rate of heart beat per minute

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recovery room--room in which patient goes after surgery until the anesthetic wears off.

retractor--instrument used to hold things apart

respiration--rate of breathing

scalpel--a surgical knife

scissors--a cutting instrument

scrubbed--washed for surgery

sponges--folded squares or balls of gauze used to soak up blood

sterile--free of bacteria

suction--a machine used to suck up fluid during surgery

surgeon--a person who operates

syringe--container to hold medicine

technician--person who passes instruments to doctor during surgery

tongue depressor--instrument to hold down tongue

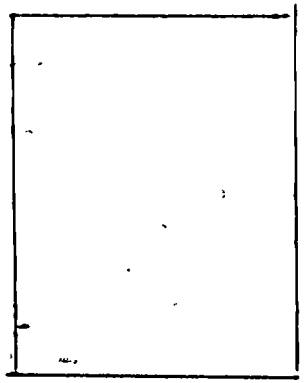
tonsil grasping forceps--instrument to pull tonsil out from back of throat

tonsil snare--instrument with wire used to cut tonsils

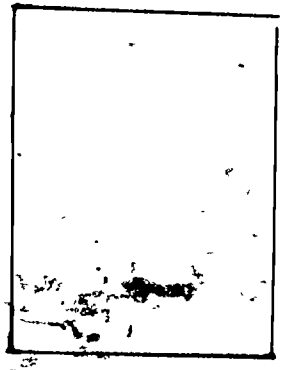
tonsillectomy--operation for the removal of tonsils

x-ray--picture of the inside of a body

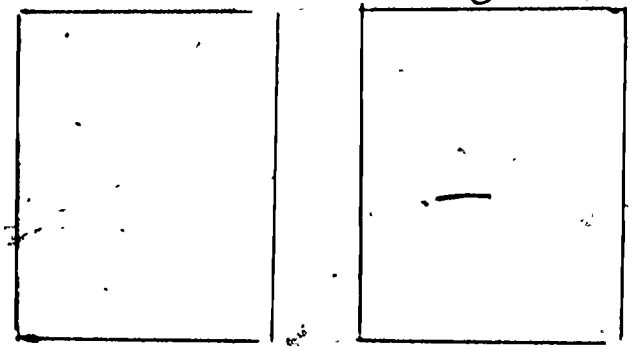
Producers
Divide the Labor for Surgery



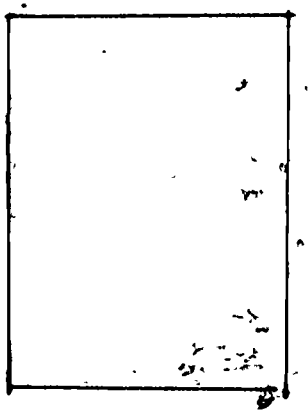
orderly



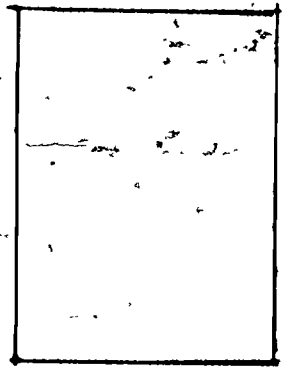
technician



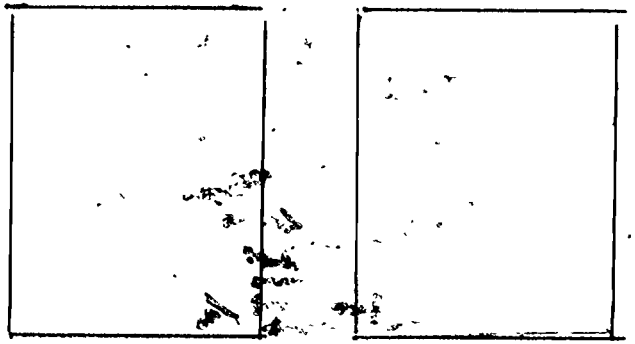
pre-op nurse circulator



anesthesiologist



nurse aid



recovery nurses floor nurse

(Children draw pictures)

(Bulletin Board)

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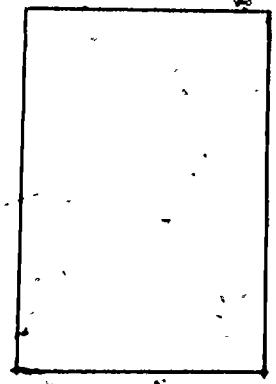
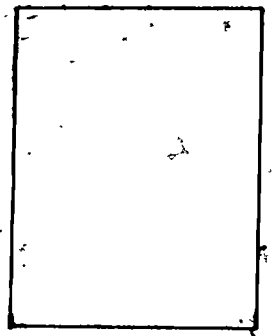
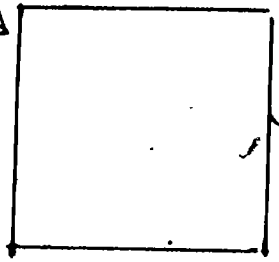
To Surgery and Back Again



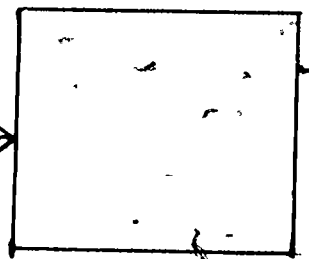
Hospital Room



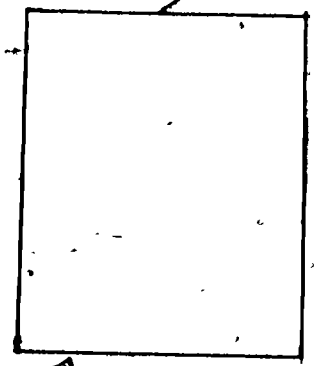
X-ray



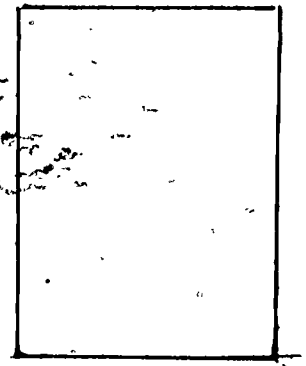
Pre-Anesthesia



Surgery



Recovery Room



Hospital Room

(Children draw pictures for this.)

(Bulletin Board)

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Anesthetist

For Tommy it was quite a treat
To use a mask that was so neat.
He breathed so very, very deep.
That he got tired and fell
asleep.

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The view the patient has as the gas mask is placed on his face

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The anesthetist places the mask on the patient.

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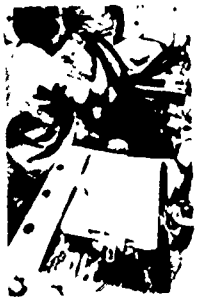
From the recovery room...

to surgery.



to sleep.

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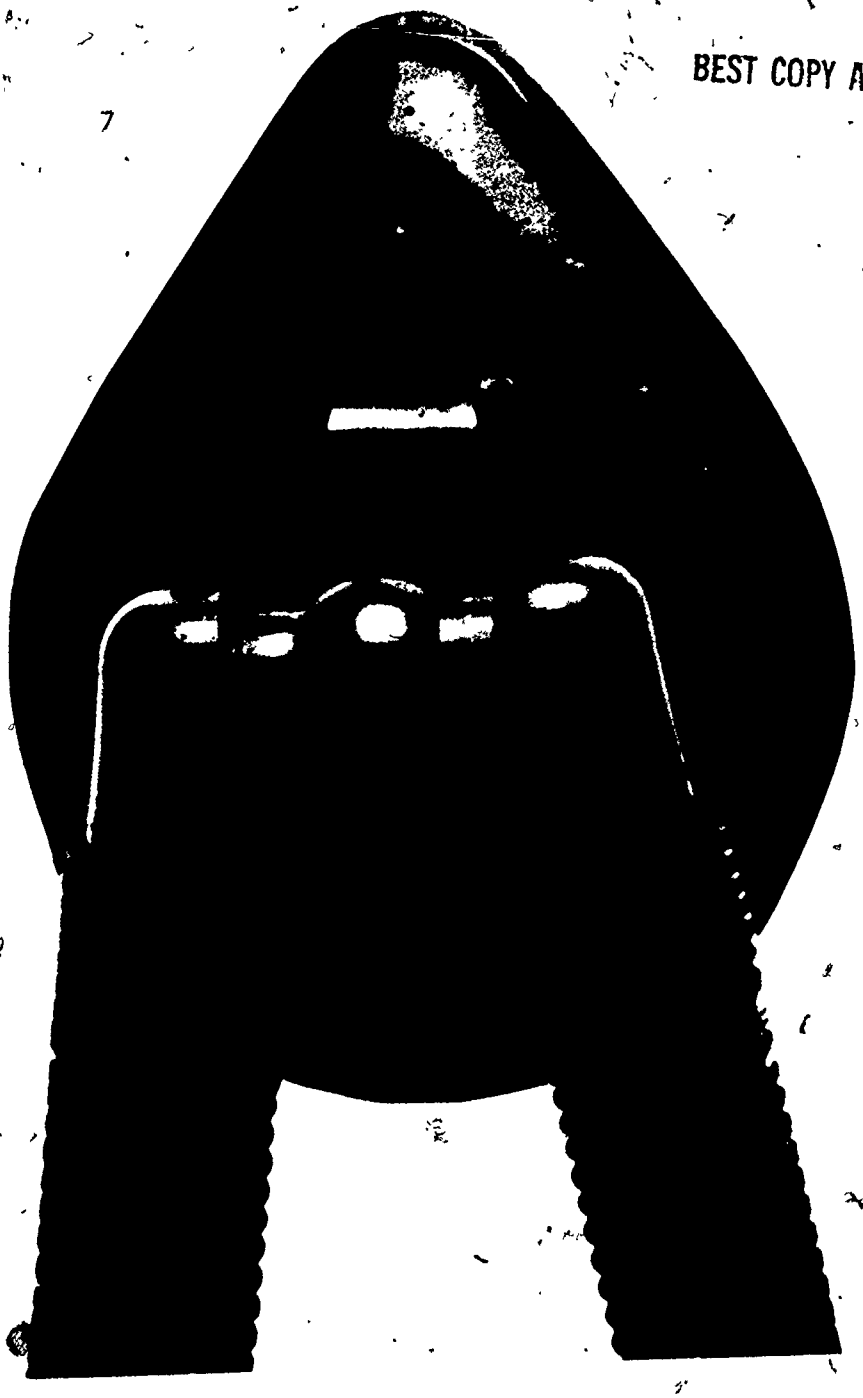

A gas mask

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An operating team at work

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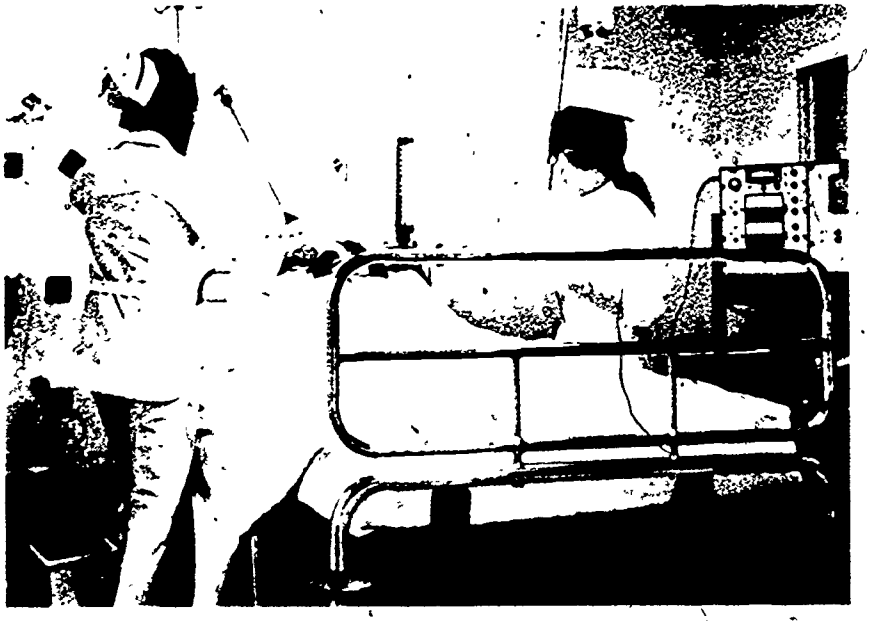

The recovery room nurses watch over a surgery patient.

ACCESSION NUMBER: VT101426

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TITLE: AWARENESS TO THE WORLD OF WORK THROUGH THE OCCUPATIONAL OUTLOOK HANDBOOK AND THE DICTIONARY OF OCCUPATIONAL TITLES.

PERSONAL AUTHOR: ANDERSON, HELEN M.; NOWACZYK, BOB

DESCRIPTOR: *CAREERS; *OCCUPATIONAL CLUSTERS; *OCCUPATIONAL INFORMATION; JOBS

IDENTIFIER: OMAHA PUBLIC SCHOOLS

EDRS PRICE: MF AVAILABLE IN VT-ERIC SET.

DESCRIPTIVE NOTE: 65P.

ABSTRACT: THIS UNIT IS DESIGNED TO ACQUAINT STUDENTS WHO ARE JUST BEGINNING TO STUDY CAREER EDUCATION WITH THE USE OF THE "OCCUPATIONAL OUTLOOK HANDBOOK" AND THE "DICTIONARY OF OCCUPATIONAL TITLES." BY LEARNING HOW TO USE THESE BOOKS STUDENTS WILL BECOME AWARE OF THE DIFFERENT ASPECTS OF WORK AND THE WORKERS INVOLVED. THE SUGGESTED OBJECTIVES, ACTIVITIES, AND RESOURCES CAN BE USED FOR REINFORCEMENT. AWARENESS TESTS, DESCRIPTIONS OF OCCUPATIONAL CLUSTERS, RESOURCE MATERIALS, AND AN EVALUATION ARE INCLUDED. (KB)

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VT 101 426

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AWARENESS TO THE WORLD OF WORK THROUGH THE OCCUPATIONAL OUTLOOK HANDBOOK AND THE DICTIONARY OF OCCUPATIONAL TITLES

OMAHA PUBLIC SCHOOLS
DEPARTMENT OF VOCATIONAL EDUCATION
OMAHA, NEBRASKA

IN-SERVICE WORKSHOP
CAREER EDUCATION

The Exemplary Program - U. S. Commissioner of Education
Vocational Amendment of 1968
Part D

Expanded Vocational Education Program for Disadvantaged Youth

Occupational Guidance K-12

Comprehensive Center for Occupational Education

Vendor Number - 465668
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FOREWORD

This unit is so designed as to acquaint students, who are just beginning to study Career Education, with the use of the Occupational Outlook Handbook and the Dictionary of Occupational Titles.

By learning how to use these two books, they will become more aware of the different aspects of work and the workers.

Awareness of each occupational cluster will be our goal.

The suggested objectives, activities, and resources can be used for enforcement.

OUTLINE

I. INTRODUCTION

II. OBJECTIVES

III. AWARENESS TESTS

IV. DESCRIPTION OF EACH THIRTEEN OCCUPATIONAL CLUSTERS AND THE OUTLOOK FOR INDUSTRIES

V. LEARNING ACTIVITIES

VI. RESOURCE MATERIALS

VII. EVALUATION

INTRODUCTION

I. How the Handbook Is Organized

A. Thirteen Career Cluster Groups
   1. Industrial Production and Related Occupations
   2. Office Occupations
   3. Service Occupations
   4. Educational and Related Occupations
   5. Sales Occupations
   6. Construction Occupations
   7. Occupations in Transportation Activities
   8. Scientific and Technical Occupations
   9. Mechanics and Repairmen
   10. Health Occupations
   11. Social Science Occupations
   12. Social Service Occupations
   13. Art, Design, and Communication Occupations
   14. The Outlook for Industries

B. The Dictionary of Occupational Titles (D.O.T.)
   1. Code Numbers
   2. Job classifications and definitions
   3. Physical demand, working conditions and training, time date for each job

C. Appendix
   1. Discusses the sources and methods used to analyze the occupational outlook in different fields of work.

II. Employment Outlook

A. Earnings
B. Cash
C. Fringe Benefits
D. Which Jobs Pay Most
E. Earning Variations
F. Location
G. Industry and Type of Work
H. Working Conditions
   1. Overtime work required
   2. Shift work
   3. Environment
   4. Outdoor work
   5. Hazardous
   6. Physical demands

INTRODUCTION (CONT.)

III. Sources of Additional Information

IV. Tomorrow's Jobs

A. Industrial Profile
B. Occupational Profile
C. Job Openings
D. Outlook and Education

OBJECTIVES

Students performance objectives for the seventh grade will be:

1. Students will understand social, economic, educational, and cultural forces that influence their development.
2. Students will understand that every career has human dignity if they perform socially with dignity.
3. Students will be aware that career education can be grouped into clusters or job families.
4. Students will be aware that supply and demand help determine career choice.
5. Students should be aware that some workers produce goods, others produce services, some produce both.
6. Student will describe his needs, fears, likes and dislikes as they relate to careers.
7. Students will be able to describe characteristics and maturing necessary for various careers.
8. Students will be able to identify social responsibilities or lack of responsibilities related to various careers.
9. Students will be aware of the contents of the Dictionary of Occupational Titles.
10. Students will know how to use the Occupational Outlook Handbook.

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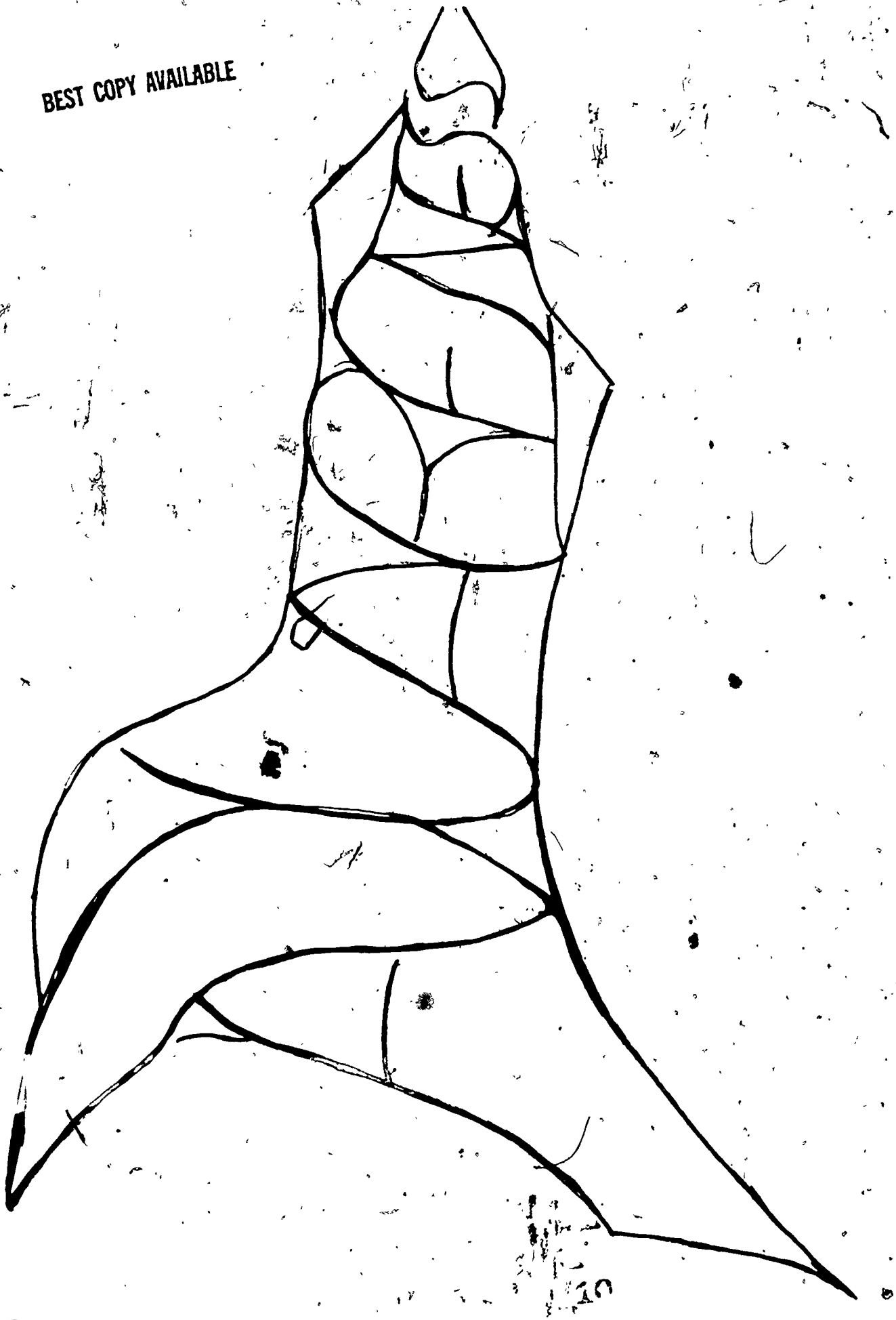

SELF-EVALUATION: MY APTITUDES -- HOW GOOD AM I AT:

Good	Fair	Don't Know	
			1. Forming mental pictures.
			2. Sizing up a situation quickly.
			3. Using figures and symbols.
			4. Speaking before groups.
			5. Reading and writing.
			6. Solving a problem by reasoning.
			7. Speed and accuracy in assembling.
			8. Drawing and painting.
			9. Serving people.
			10. Persuading people.
			11. Keeping records.
			12. Planning and organizing.
			13. Fixing and repairing.
			14. Well-liked by those who know me.
			15. Able to accept criticism and benefit by it.

SELF-EVALUATION: MY APTITUDES -- HOW GOOD AM IT AT: (cont.)

Good	Fair	Don't Know

16. Bothered by fears that I will not succeed.

17. Able to tackle tough problems and succeed.

18. One who treats others so their feelings are not hurt.

19. One who does things well and promptly, even if I do not like to do them.

20. Try to do the best I can in all my school subjects.

SELF-UNDERSTANDING TEST

Code: Usually = Usu Seldom = Sel Not Sure = N S

	Usu	Sel	N S
1. I am the type of person who follows instructions.			
2. I like doing a task exactly the same each time.			
3. I am exact in the things I do.			
4. I am accurate in my oral and written work.			
5. I state my ideas clearly.			
6. I enjoy writing.			
7. I enjoy speaking/talking to groups.			
8. I would rather work by myself than with others.			
9. I enjoy meeting new people.			
10. I enjoy working with my hands.			
11. I prefer working outdoors.			
12. I would rather do research than repair work.			
13. I am more concerned about what I think of myself than what others think of me.			

SUTOE ASSESSMENT TEST

In this test you will be asked questions about your vocational interests and educational plans. Each question is important. Read each question carefully and answer it the best you can.

You are to mark only one answer for each question. Mark an X in the column that most nearly represents your feelings and/or knowledge about each one.

Code: Usually = Usu Seldom = Sel Not Sure = N S

Part A - My Thoughts

	Usu	Sel	N S
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			

SUTOE ASSESSMENT TEST (cont.)

Usu	Sel	N S	
			11. My teachers think I could be a better student.
			12. My parents think I could be a better student.
			13. I could be a better student.
			14. A student with a good personality will do better in life than a student with high grades.
			15. Athletics in school are more helpful than academic subjects.
			16. Occupational education courses should be offered for all high school students.
			17. The tougher the job, the harder I work.
			18. Each new year of school has made me feel better about school than the year before.
			19. I am able to do things well.
			20. My friends do things better than I.

AWARENESS TEST

SELF-PICTURE CHECKLIST

Consider the words in this list and check how often you think they describe you as you are.

	Always	Usually	Sometimes	Never
1. Honest				
2. Happy				
3. Friendly				
4. Sad				
5. Serious				
6. Jealous				
7. Popular				
8. Shy				
9. Clumsy				
10. Show-off				
11. Afraid				
12. Kind				
13. Proud				
14. Lazy				
15. Neat				
16. Even-tempered				
17. Dependable				
18. Moody				
19. Unreasonable				
20. Demanding				
21. Angry				

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MY GOALS - DISCUSSION

WHAT DO I WANT TO DO WITH MY LIFE? WHAT SEEMS IMPORTANT TO ME? WHAT DO I WANT TO BE DOING TEN YEARS FROM NOW?

You may not have ready answers to these questions. In fact, you may not have given them much thought. You have been busy growing up, going to school, learning, playing, working, doing things with friends, and all the other activities that fill our daily lives.

However, whether you know it or not, your junior high years are important to your future occupation and way of life. A boy or girl your age can be aware of this and can begin the process of intelligently choosing an occupation and making educational plans, trying to think things out in order to make such good choices possible at the time.

Thoughtful choices now, and as you go along, will give you greater freedom of choice later when you may want to do certain things very much. Failure to make such choices can limit you to the things that you can do later.

Usually you can make better choices for yourself if you have enough of the right information. In making plans for your future education and work you might ask yourself these three questions to find out if you do have enough of the right information:

1. Do I know enough about the ways people make a living? What kinds of jobs exist now and will probably exist in the future that I might be able to choose from? What kinds of schools and other training exist that might prepare me for the job that I choose? What changes have been taking place in jobs and education and how do these changes affect me? (To answer this, I need information from many sources.)

2. Do I know myself? What are my interests, abilities, achievements, and values; what are my strengths and my weaknesses; what are my likes, my dislikes; what are the things I want most? (To answer this, I need accurate information about myself.)

3. Do I know what I really want to do? What are the goals I can define for myself? I may have several goals, and they will grow and change as I grow and change. (To answer this, I need accurate information about myself and about the World of Work, and I need to learn how to relate the two.)

WHICH JOBS ARE BEST FOR ME?

(Study the previous page carefully before completing this one.)

_____

would _____ _____ be a good field of work

for me.

_____

HOW WELL CAN I MEET THE REQUIREMENTS?

_____

Basic abilities

_____

Personality characteristics

_____

Necessary training

_____

Physical requirements

_____

Capital requirements

HOW WELL WOULD THE WORK SATISFY ME?

Duties involved _____

Amount of travel _____

Pay and other financial benefits _____

Opportunity for advancement _____

Opportunity for recognition _____

Opportunity for service _____

Security of employment _____

Working conditions _____

YOU AND YOUR VOCATION

There are various steps which you may consider in choosing a vocation. You will want to review the many vocations in the different major occupational clusters and in the different industries. You may do this by studying the job leaflets in your class, school library, or guidance offices, field visits, meeting people, career days, and films. Your librarian, group-guidance teacher or counselor can be of help.

On the previous pages, suggestions were made for learning about yourself, since one needs to understand himself if he is to choose his life work wisely.

Another step is to compare your qualifications with job requirements; and of your hopes, values and aspirations with what specific jobs have to offer. On the next page you will find a check list which may be useful to you in making such comparisons. Here is how a suggestion could be used:

1. After you have read or studied about the fields of work, select one that you believe might be appropriate for you and enter its name in the blank space at the top of the page.

2. On the basis of what is learned about the field of work by reading and from information you may have from your own experiences, from other people or from observation, fill out the first part of the check list to indicate how well you can meet the requirements of the vocation.

3. Similarly, fill out the second part so you may have an idea of how satisfying the work would be for you.

4. Repeat the process for other vocational fields, either by erasing what you have written or by copying the form on separate sheets of paper.

5. Discuss the finished check lists with your parents, your friends, your teachers or your guidance counselor. Then try to arrive at a conclusion regarding what field would seem best for you.

SELF APPRAISAL

Credits		Debits
	I. APPEARANCE	
_____	1. Are your eyes clear and bright?	_____
_____	2. Does your hair have some natural luster?	_____
_____	3. Do you maintain a good posture at all times?	_____
_____	4. Are your muscles firm, and your body free from excess fat?	_____
_____	5. Do you maintain the proper weight for your age and height?	_____
_____	6. Are you and your clothes always neat and clean?	_____
_____	7. Are your clothes in good taste?	_____
_____	8. Are you always well-groomed?	_____
_____	9. Are you cheerful most of the time?	_____
_____	10. Do you smile often?	_____
_____	11. Do you like to be admired?	_____
	II. AGREEABLENESS	
_____	1. Do you aim at cooperation in all things?	_____
_____	2. Do you avoid carrying tales and gossiping about others?	_____
_____	3. Do you try to see the other person's point of view?	_____
_____	4. Do you refrain from telling others?	_____
_____	5. Do you avoid arguments?	_____
_____	6. Do you avoid making fun of others?	_____
_____	7. Do you keep out of other people's business?	_____
_____	8. Do you avoid finding fault with everyday things?	_____
_____	9. Do you keep your personal troubles to yourself?	_____
_____	10. Do you take a genuine interest in others?	_____
	III. MANNERS	
_____	1. Are you always considerate of others?	_____
_____	2. Do you always think about the right of others before you think of your own?	_____
_____	3. Do you always show respect for everyone regardless of position?	_____
_____	4. Are you always appreciative of everything one does for you, and do you always remember to thank him?	_____

SELF APPRAISAL (CONT.)

Credits		Debits
_____	5. Do you think about others on special occasions, such as their birthdays and in sorrow and happiness, and do you send them some expression of your thoughts?	_____
_____	6. Do you congratulate your friends upon their achievements?	_____
_____	7. Do you often do some deed in which you can take justifiable pride?	_____
_____	8. Do you help persons less fortunate than yourself?	_____
_____	9. Do you learn, remember, and use the names of the people you meet?	_____
_____	10. Do you know the rules of etiquette and observe them?	_____

IV. INTERESTS

_____	1. Do you have a hobby?	_____
_____	2. Are you skilled in any game or sport?	_____
_____	3. Can you play some musical instrument?	_____
_____	4. Can you recognize the paintings of three or more well-known artists?	_____
_____	5. Do you "know" the leading radio personalities?	_____
_____	6. Do you subscribe to and read at least one magazine?	_____
_____	7. Do you belong to two or more organizations?	_____
_____	8. Do you read a newspaper each day?	_____
_____	9. Have you read at least twelve books during the past year?	_____
_____	10. Do you make an effort to meet new people and make new friends?	_____

V. TEMPERAMENT

_____	1. Do you control your temper?	_____
_____	2. Do you avoid worry?	_____
_____	3. Can you throw off discouragement?	_____
_____	4. Do you often feel enthusiastic about something you wish to do?	_____
_____	5. Are you able to make decisions about everyday things easily?	_____
_____	6. Are you able to interest yourself in details?	_____

SELF APPRAISAL (CONT.)

Credits		Debits
_____	7. Are you careful not to hold grudges against people?	_____
_____	8. Do you seek advice from others?	_____
_____	9. Do you usually look on the bright side of situations?	_____
_____	10. Are you able to work pleasantly with others?	_____

VI. INTELLIGENCE

_____	1. Do you have a good memory?	_____
_____	2. Are you free from superstitions?	_____
_____	3. Do you listen attentively to what people say without interrupting them?	_____
_____	4. Do you have a good vocabulary and pronounce the words you use correctly?	_____
_____	5. By reading and study, do you keep informed about current events, your work, and subjects of popular interest?	_____

VII. EXPRESSION

_____	1. Do you have a pleasant speaking voice?	_____
_____	2. Do you speak correct English?	_____
_____	3. Do you avoid the use of slang and profanity?	_____
_____	4. Do you have a good vocabulary and pronounce the words you use correctly?	_____
_____	5. Can you carry on an impersonal conversation dealing with the interests of those with whom you talk?	_____

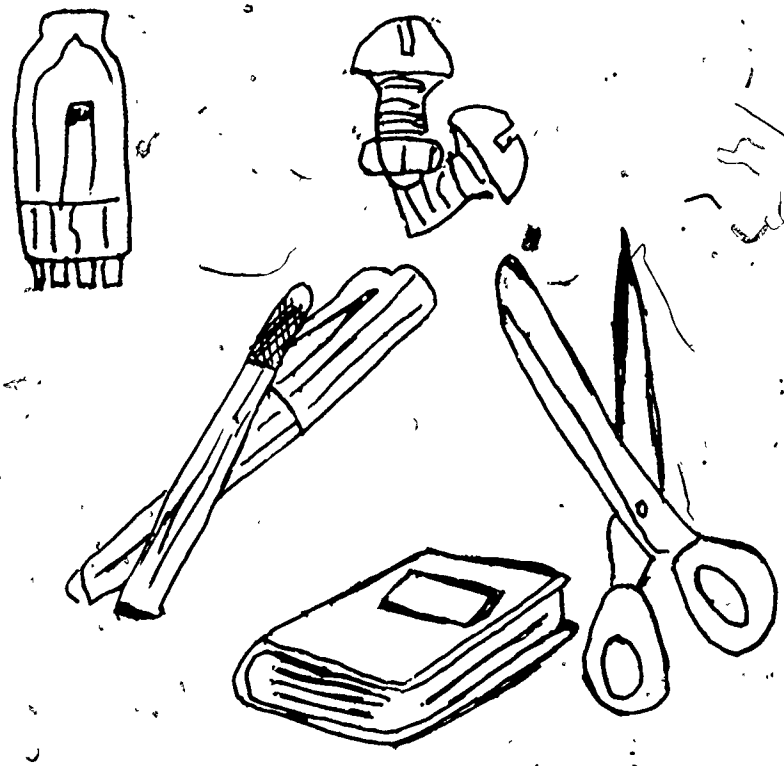
VIII. SELF-CONFIDENCE

_____	1. Do you have confidence in your own opinions?	_____
_____	2. Are you able to act natural under all circumstances?	_____
_____	3. Do you seek opportunities to meet those above you?	_____
_____	4. Do you avoid criticizing others?	_____
_____	5. Are you able to give credit to others for what they do, rather than seeking first to obtain credit for yourself?	_____

SELF APPRAISAL (CONT.)

Credits		Debits
	IX. DEPENDABILITY	
_____	1. Are you absolutely honest in all things?	_____
_____	2. Are you willing to accept responsibility?	_____
_____	3. Are you free from bad habits which will impede your progress?	_____
_____	4. Do you discharge your duties promptly and efficiently and with little or no supervision?	_____
_____	5. Do you finish the things you start?	_____
	X. LOYALTY	
_____	1. Do you take a personal interest in the welfare of your friends and associates?	_____
_____	2. Can you be depended upon to keep your promises?	_____
_____	3. Can you keep from telling the things you learn in confidence?	_____
_____	4. Do you make your interests those of your friends and associates?	_____
_____	5. Do you defend from unjust criticism the persons and things with which you are identified?	_____

Industrial



Productions

INDUSTRIAL PRODUCTION AND RELATED OCCUPATIONS

Foundry Occupations

- Patternmakers
- Molders
- Coremakers

Machining Occupations

- All-round machinists
- Instrument makers (mechanical)
- Machine tool operators
- Set-up men (machine tools)
- Tool and die makers

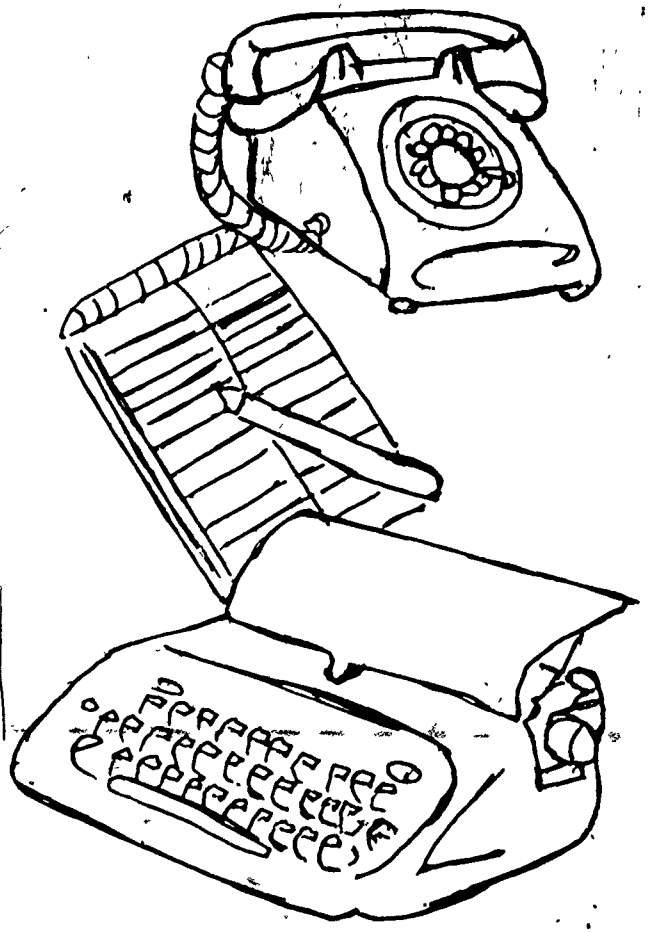
Printing Occupations

- Bookbinders and related workers
- Composing room occupations
- Electrotypers and stereotypers
- Lithographic occupations
- Photoengravers
- Printing pressmen and assistants

Other Industrial Production and Related Occupations

- Assemblers
- Automobile painters
- Automobile trimmers and installation men (automobile upholsterers)
- Blacksmiths
- Boilermaking occupations
- Electroplaters
- Foremen
- Forge shop occupations
- Furniture shop occupations
- Furniture upholsterers
- Inspectors (manufacturing)
- Millwrights
- Motion picture projectionists
- Photographic laboratory occupations
- Power truck operators
- Production painters
- Stationary engineers
- Stationary fireman (boiler)
- Waste water treatment plant operators
- Welders and flame cutters

Office



Occupations

OFFICE OCCUPATIONS

Clerical Occupations

- Bookkeeping workers
- Cashiers
- File clerks
- Hotel front office clerks
- Office machine operators
- Postal clerks
- Receptionists
- Shipping and receiving clerks
- Statistical clerks
- Stock clerks
- Stenographers and secretaries
- Typists

Computer and Related Occupations

- Electronic computer operating personnel
- Programmers
- Systems analysts

Banking Occupations

- Bank clerks
- Bank officers
- Bank tellers

Insurance Occupations

- Actuaries
- Claim adjusters
- Claim examiners
- Underwriters

Administrative and Related Occupations

- Accountants
- Advertising workers
- City managers
- College student personnel workers
- Credit officials
- Hotel managers and assistants
- Industrial traffic managers
- Lawyers
- Marketing research workers
- Personnel workers
- Public relations workers
- Purchasing agents

Service

SERVICE OCCUPATIONS

Cleaning and Related Occupations
- Building custodians
- Exterminators
- Hotel housekeepers and assistants

Food Service Occupations
- Bartenders
- Cooks and chefs
- Meatcutters
- Waiters and waitresses

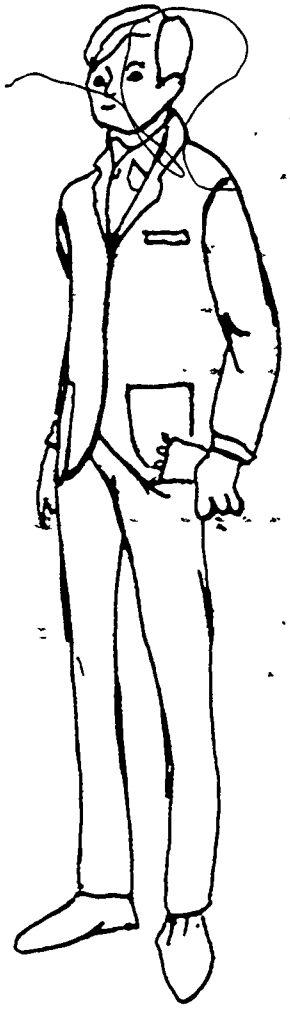
Personal Service Occupations
- Barbers
- Bellmen and bell captains
- Cosmetologists
- Funeral directors and embalmers

Private Household Service Occupations
- Private household workers

Protective and Related Service Occupations
- FBI special agents
- Firefighters
- Guards and watchmen
- Police officers
- State police officers
- Health and regulatory inspectors (Government)
- Construction inspectors (Government)
- Other service occupations

Other Service Occupations
- Mail carriers
- Telephone operators

Education and Related Areas



EDUCATION AND RELATED OCCUPATIONS

Teaching Occupations

- Kindergarten and elementary school teachers
- Secondary school teachers
- College and University teachers

Library Occupations

- Librarians
- Library technical assistants

Sales

Occupations

SALES OCCUPATIONS

Automobile parts countermen

Automobile salesworkers

Automobile service advisors

Gasoline service station attendants

Insurance agents and brokers

Models

Manufacturers salesworkers

Real estate salesworkers and brokers

Retail trade salesworkers

Routemen

Securities salesworkers

Construction

CONSTRUCTION OCCUPATIONS

Asbestos and insulation workers

Bricklayers

Carpenters

Cement masons (cement and concrete finishers)

Construction laborers

Electricians (construction)

Elevator constructors

Floor covering installers

Glaziers

Lathers

Marble setters, tile setters, and terrazzo workers

Operating engineers (construction machinery operators)

Painters and paperhangers

Plasterers

Plumbers and pipefitters

Roofers

Sheet-metal workers

Stone masons

Structural, ornamental, and reinforcing iron workers, riggers and machine movers

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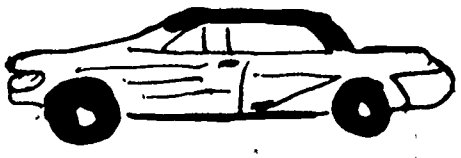
Transportation



Occupations

OCCUPATIONS IN TRANSPORTATION ACTIVITIES

Air Transportation Occupations

- Air traffic controllers
- Aircraft mechanics
- Airline dispatchers
- Flight attendants
- Flight engineers
- Ground radio operators and teletypists
- Pilots and co-pilots
- Traffic agents and clerks

Merchant Marine Occupations

- Merchant marine officers
- Merchant seamen

Railroad Occupations

- Brakeman
- Bridge and building workers
- Clerks
- Conductors
- Locomotive engineers
- Locomotive firemen
- Shop trades
- Signal department workers
- Station agents
- Telegraphers, telephoners, and towermen
- Track workers

Driving Occupations

- Intercity bus drivers
- Local transit bus drivers
- Local truck drivers
- Long distance truck drivers
- Parking attendants
- Taxi drivers

Scientific

and

Technical

SCIENTIFIC AND TECHNICAL OCCUPATIONS

Conservation Occupations
- Foresters
- Forestry aides and technicians
- Range managers
- Soil conservationists

Engineers
- Aerospace
- Agricultural
- Biomedical
- Ceramic
- Chemical
- Civil
- Electrical
- Industrial
- Mechanical
- Metallurgical
- Mining

Environmental Scientists
- Geologists
- Geophysicists
- Meteorologists
- Oceanographers

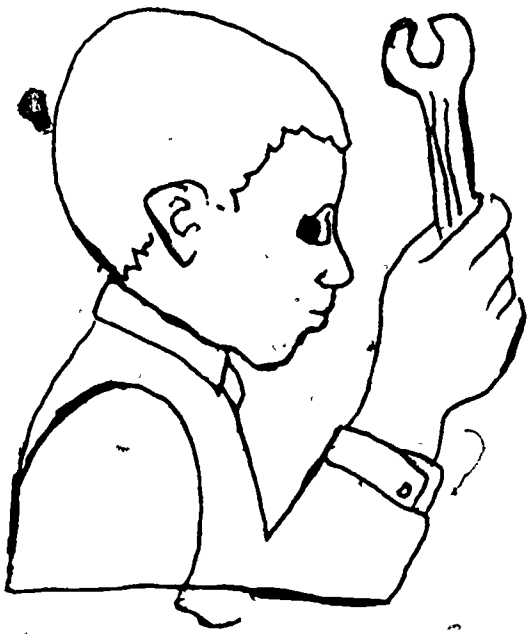
Life Science Occupations
- Biochemists
- Life scientists
- Soil scientists

Mathematical Occupations
- Mathematicians
- Statisticians

Physical Scientists
- Astronomers
- Chemists
- Food scientists
- Physicists

Technician Occupations
- Broadcast technicians
- Draftsmen
- Engineering and science technicians
- Food processing technicians
- Surveyors

Mechanics and



Repairmen Occupations

MECHANICS AND REPAIRMEN

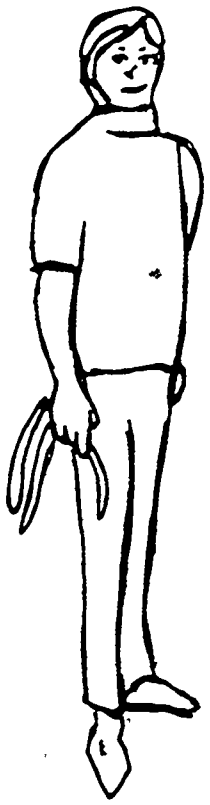
Telephone Craft Occupations

- Central office craft occupations
- Central office equipment installers
- Linemen and cable splicers
- Telephone servicemen

Other Mechanics and Repairmen

- Air-conditioning, refrigeration, and heating mechanics
- Appliance servicemen
- Automobile body repairmen
- Automobile mechanics
- Boat motor mechanics
- Bowling pin machine mechanics
- Business machine servicemen
- Computer service technicians
- Diesel mechanics
- Dispensing opticians and optical mechanics
- Electric sign servicemen
- Farm equipment mechanics
- Industrial machinery repairmen
- Instrument repairmen
- Jewelers
- Locksmiths
- Maintenance electricians
- Motorcycle mechanics
- Piano and organ servicemen
- Shoe repairmen
- Television and radio service technicians
- Truck mechanics and bus mechanics
- Vending machine mechanics
- Watch repairmen

Health



Occupations

HEALTH OCCUPATIONS

Dental Occupations
- Dentists
- Dentist assistants
- Dental hygienists
- Dental laboratory technicians

Medical Practitioners
- Chiropractors
- Optometrists
- Osteopathic physicians
- Physicians
- Podiatrists
- Veterinarians

Medical Technician, Technologist, and Assistant Occupations
- Electrocardiograph technicians
- Electroencephalographic technicians
- Medical assistants
- Medical laboratory workers
- Medical record technicians and clerks
- Operating room technicians
- Optometric assistants
- Radiologic (X-ray) technicians
- Respiratory therapists

Nursing Occupations
- Registered nurses
- Licensed practical nurses
- Nursing aides, orderlies, and attendants

Therapy and Rehabilitation Occupations
- Occupational therapists
- Occupational therapy assistants
- Physical therapists
- Physical therapist assistants and aides
- Speech pathologists and audiologists

Other Health Occupations
- Dietitians
- Hospital administrators
- Medical record administrators
- Pharmacists
- Sanitarians

Social Occupations

Scientist

SOCIAL SCIENTISTS

Anthropologist

Economists

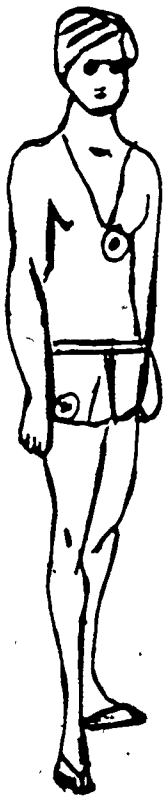
Geographers

Historians

Political scientists

Sociologists

Social Service Occupations



SOCIAL SERVICE OCCUPATIONS

Counseling Occupations
- School counselors
- Employment counselors
- Rehabilitation counselors
- College career planning and placement counselors

Clergymen
- Protestant ministers
- Rabbis
- Roman Catholic priests

Other Social Service Occupations
- Cooperative extension service workers
- Home economists
- Psychologists
- Recreation workers
- Social service aides
- Social workers

Art

Design

and

Communications

ART, DESIGN, AND COMMUNICATIONS RELATED OCCUPATIONS

Performing Artists
- Actors and actresses
- Dancers
- Musicians
- Singers

Design Occupations
- Architects
- Commercial artists
- Displaymen
- Floral designers
- Industrial designers
- Interior designers
- Landscape architects
- Photographers
- Urban planners

Communications-Related Occupations
- Interpreters
- Newspaper reporters
- Radio and television announcers
- Technical writers

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Outlook for Industries

THE OUTLOOK FOR INDUSTRIES

Agriculture
Different kind of farms
Agriculture-related professional workers
- Agricultural economists
- Agricultural engineers
- Agronomists
- Animal physiologists and animal husbandry men
- Veterinarians
- Geneticists
- Microbiologists
- Plant scientists
- Plant quarantine and plant pest control inspectors
- Entomologists
- Foresters
- Human nutritionists
- Ruralsociologists
- Vocational school teachers
- Farm managers

Mining and Petroleum Industry
- Coal mining
- Petroleum and natural gas production and processing

Construction
Manufacturing
- Aircraft, missile, and spacecraft
- Aluminum
- Apparel
- Atomic energy field
- Baking
- Drug
- Electronics
- Foundries
- Industrial chemical
- Iron and steel
- Logging and lumber mills
- Motor vehicle equipment
- Office machine and computer
- Paper and allied products
- Petroleum refining
- Printing and publishing

THE OUTLOOK FOR INDUSTRIES (CONT.)

Transportation, Communications, and Public Utilities
- Civil aviation
- Electric power
- Merchant marine
- Radio and TV broadcasting
- Railroads
- Telephone
- Trucking

Wholesale and Retail Trade
- Restaurants
- Retail food stores

Finance, Insurance, and Real Estate
- Banking
- Insurance

Service and Miscellaneous Industries
- Hotels
- Laundry and drycleaning

Government
- Federal civilian employment
- State and local government
- Armed forces

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Activities

OCCUPATION TEST

Briefly describe the type of work done by a person employed in the following occupations:

1. Back Washer _____
2. Frog Shaker _____
3. Banana Spotter _____
4. Car Whacker _____
5. Bank Boss _____
6. Kiss Setter _____
7. Jogger _____
8. Hand Shaker _____
9. Bead Builder _____
10. The Puller _____

Taken from Career Education Program, Vol. II by Glenn A. Satlman.

LOOKING AT MY GRADES

CHECK SHEET

To the Student: The purpose of this check sheet is to help you think about--

How much of your true effort your grades show.
What your grades show your strength will be.

1. The highest grades I received last year were in _____

_____

2. What do these grades tell you about how hard you tried in these classes?

_____

3. In which subject did you work the hardest? _____

_____

4. What do your grades tell you about your ability to memorize things?

_____

5. How did your grades measure your study habits? _____

_____

6. How did your reading skill affect your grades? _____

_____

7. In which subjects do you usually get the highest grades? _____

_____

8. In which subjects do you get the lowest grades? _____

_____

9. In which subjects do you have the highest interest? _____

_____

MY INTERESTS

ASSIGNMENT:

1. Make a list of your interests. _____

_____

_____

2. Out of the list you have just made, choose at least two that you feel are your main interests.

_____

3. Make a circle. In the center of the circle, write your main interest. Now divide the circle into as many specific and related areas as you can think of.

   Example: A main interest might be medicine. Some related areas could be Research, X-Ray Technology, Dentistry, Nurse's Aides, etc.
   BE SURE TO LABEL NEATLY AND SPELL CORRECTLY

4. Now, using magazines or newspaper, make a collage with pictures and articles based on one of your circles. (Of course, you may do both if you wish.) Preferably, use the circle pertaining to the area in which you are most interested.

WORKSHEET

Find the occupational jobs which go with the following codes:

007.187 _____

239.588 _____

913.363 _____

841.781 _____

824.281 _____

620.281 _____

600.280 _____

382 _____

110.118 _____

079.108 _____

075 _____

150.048 _____

237.368 _____

375.118 _____

021.088 _____

332.271 _____

612.281 _____

862.381 _____

WORKSHEET

Find the occupational codes which go with the following jobs:

1. Automobile Service Mechanic _____
2. Inspector _____
3. Detective _____
4. Deputy Sheriff _____
5. Nurse's Aide _____
6. Cosmetologist _____
7. Automobile Salesman _____
8. Barber _____
9. Telephone Operator _____
10. Stock Clerk _____
11. Airplane Pilot _____
12. Elementary School Teacher _____
13. Surgeon _____
14. TV Repairman _____
15. Bus Driver _____
16. Switchboard Operator _____
17. Painter _____
18. Cashier Checker _____

LEARNING ACTIVITIES

1. Have resource people come to the classroom and discuss their careers, and why they chose them.
2. Field trips.
3. Cut out pictures from magazines showing worker doing different jobs.
4. Make charts showing satisfaction and happiness in their occupational choice.
5. Plan and make a mural.
6. Role playing.
7. Show films, and slides of different jobs.
8. Read stories about different jobs.
9. Puppet show -- "Workers of the Day"
10. Creative drama - Children act out workers using various hats of the workers.
11. Write experience stories of different occupations.
12. Invite parents of different occupations to school in work uniforms to talk with the class.
13. Bulletin board pictures of different occupations.
14. Making introductions.
15. Interview various persons doing occupations found in the school building.
16. Reading "Want Ads."
17. Posters.
18. Discuss "luxuries", using magazine pictures. Make a chart "My Heart's Desire."
19. Play game, "What's My Line."
20. Make a work vocabulary dictionary.
21. Invite a "drop-out" to speak.
22. Have exhibits of work projects.
23. Riddle Game - Give equipment or job and have pupils guess what they are describing.
24. Make a classroom newspaper.
25. Use tape recorder to determine quality of voice.

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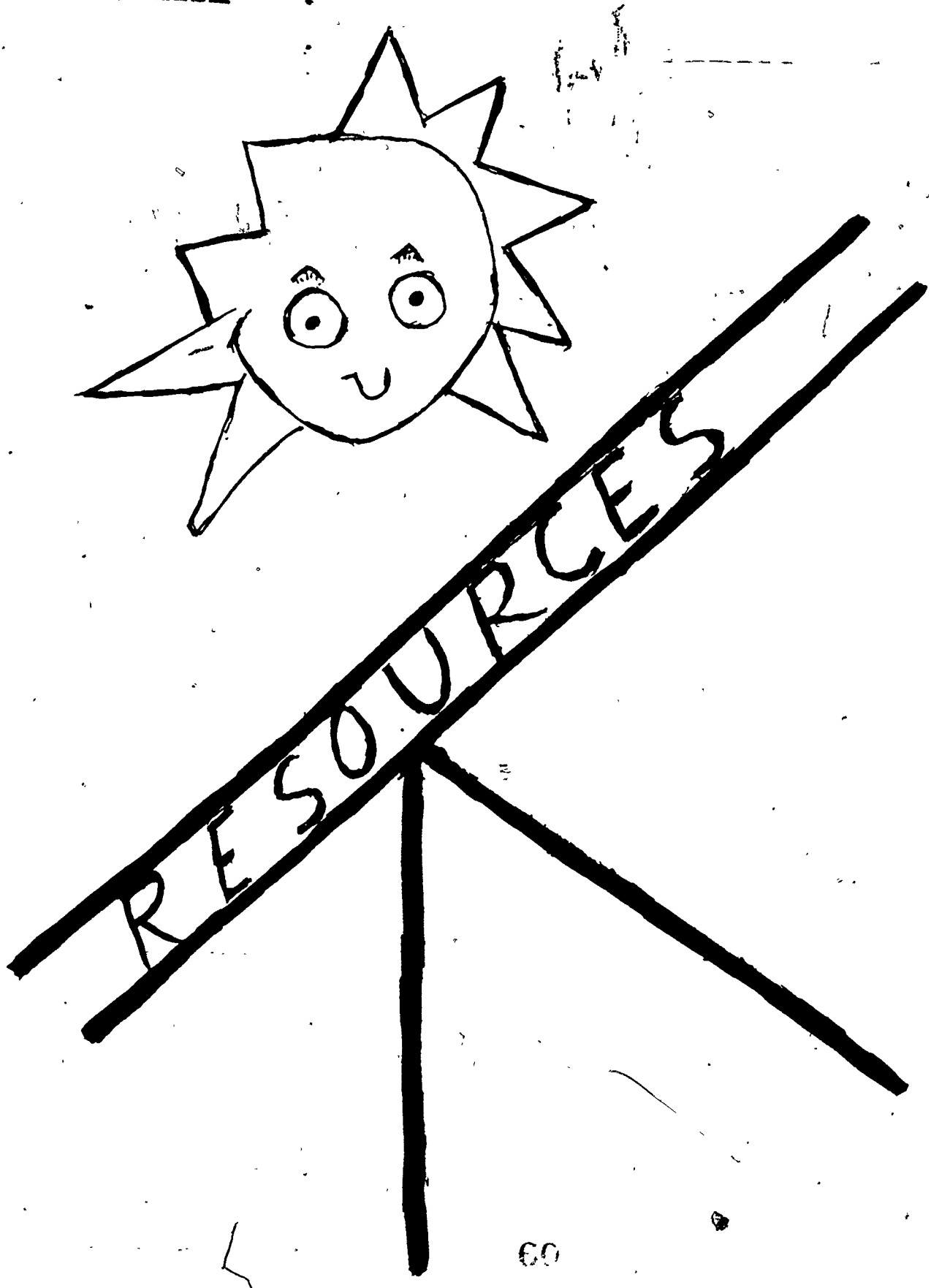

SOURCES OF ADDITIONAL INFORMATION OR ASSISTANCE

1. Publications from the U.S. Department of Labor

2. School Libraries

3. Public Libraries

4. State Employment Service

5. Business Establishments

6. Telephone Directories

7. Trade Unions

8. Employer's Associations

9. Professional Societies

10. Bureau of Labor Statistics issues a periodical, The Occupational Outlook Quarterly, on employment opportunities and findings of new occupational outlook research.

11. Bulletins in different fields of work.

12. Jobs for the 70's.

RESOURCES

Books:

Costello, Joan M. and Wolfson, Rita Parsons, Concise Handbook of Occupations (Chicago, Illinois; J. G. Ferguson Publishing Co., 1971)

Occupational Outlook Handbook, U.S. Department of Labor, Bureau of Labor, Governmental Printing Office, Washington, D. C.

Dictionary of Occupational Titles, U.S. Department of Labor, U.S. Government Printing Office, Washington, D.C. 20402.

LAKE SCHOOL RESOURCES

TAPES

S. V. E. Education Filmstrips

"What Do You Like To Do?"

"What Are Job Families?"

"What Good Is School?"

"What Is A Job ?"

FILMSTRIPS

S. V. E.

"An Introduction To Vocation"

"The World Of Work"

"Counseling In Vocational Decisions"

"Jobs For The New Generation"

"Foundation For Occupational Planning"

CASSETTES

G. 701 - V. G. 750 Special Individual Jobs

FILM LOOPS

Choosing a Job

Job Opportunity Series (different job activities)

RESOURCES

Magazines:

Personnel and Guidance Journal
American Vocational Journal
Vocational Guidance Quarterly
Occupational Outlook Handbook

Kits:

Lake School Resource Center
S.R.A. Career Information Kit 7-12 Grades
O.E.K. Occupational Exploration Kit 7-12 Grades
Work Widening Occupational Roles Kit 7-12 Grades
Service Skilled Kit

Other Kits:

Career Information Kit
Science Research Associates
259 East Erie Street
Chicago, Illinois

Job Experience Kit
(Same address as the above)

Cross References for Careers
Desk Top Kit
Careers Inc.
Largo, Florida 33540

Games:

Career Game

Western Publishing Co. Inc.
School and Library Dept.
850 Third Avenue
New York, N. Y. 10032

Chart:

Lake School Resource Center
Career Possibilities for Those Interested in Space
The World of Construction
Big Builder Game

MANUAL OF INSTRUCTIONAL MATERIAL RESOURCES

FILMS

1795 "Telling Your Story Of An Employment Application"
(9 min. color)

1897 "Getting A Promotion"
(14 min. color)

1564 "Getting A Job Is A Job"
(17 min. color)

1894 "Applying For A Job"
(12 min. color)

1688-91 Films on a variety of careers

F/S or F/S SET

1655 "What You Should Know Before You Go To Work"
F/S

1486 "What Will I Be"
F/S

1379 "Wages And Hours"
F/S

1651 "Preparing For Jobs Of The 70's"
F/S Set

1652 "New Horizons-Career In School Food Service"
F/S Set

1653 "New Look At Home Economics"
F/S Set

1658 "If You're Not Going To College"
F/S Set

1347 "Choosing Your Career"
F/S Set

1814-21 Various Careers
F/S Sets

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EVALUATION

It is not uncommon for the teacher to spend too much time in lecturing, so that not enough time remains for student investigations. INSURE THAT STUDENTS ARE GIVEN SUFFICIENT TIME IN CLASS TO USE RESOURCES IN ORDER TO PROMOTE THEIR INTEREST.

In the junior high school years, it is a period of explorations into careers in depth as adventures in experiencing occupational information.

Career Education provides a stimulating way of thinking about all education. It teaches about people and their occupations in the environmental setting of their World of Work.

It is our hope that Career Education should be taught at least one hour each week. To start the year, we recommend the following program.

First Week

Motivation. Put the students into groups and let them play "What's My Line."

Second Week

Have each student pick out one job out of the cluster group or groups which have been chosen for that month.

Third Week

The student brings back to the class what he or she has found out about the occupation he or she picked.

Fourth Week

Film strip, speaker, role playing, field trip, etc.

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PERSONAL AUTHOR: STROH, NANCY; AND OTHERS

DESCRIPTOR: *CAREERS; *HIGH SCHOOL STUDENTS; JUNIOR HIGH SCHOOL STUDENTS; *CONSUMER EDUCATION; PUBLICIZE; BANKING; BUSINESS; COMPUTERS; FINANCIAL SUPPORT; PUBLIC RELATIONS

IDENTIFIER: OMAHA PUBLIC SCHOOLS

EDRS PRICE: MF AVAILABLE IN VT-ERIC SET.

DESCRIPTIVE NOTE: 73P.

ABSTRACT: THE UNIT GUIDES IN THIS BOOKLET PRESENT EXAMPLES OF CAREER EDUCATION LESSONS THAT COULD BE INCORPORATED INTO A JUNIOR OR SENIOR HIGH SCHOOL CONSUMER EDUCATION PROGRAM. THE GUIDES COULD BE CONSOLIDATED AND PLACED IN THE CURRICULUM AS A "CAREER EDUCATION UNIT," OR THEY COULD BE INTEGRATED INDIVIDUALLY INTO THE CURRICULUM AT APPROPRIATE TIMES. THE FOLLOWING CAREERS ARE STUDIED: ADVERTISING, BANKING, BUSINESS EMPLOYEES, COMPUTERS, FINANCING, PUBLIC RELATIONS, PURCHASING, SALES, AND TAXES. CONCEPTS, OBJECTIVES, PRE-ACTIVITIES, ACTIVITIES, BULLETIN BOARD IDEAS, CLOSING ACTIVITIES AND EVALUATION, OCCUPATIONAL GUIDELINES, REFERENCES, AND FIELD TRIPS AND RESOURCE PERSONS ARE PRESENTED. (KE)

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VT 101 427

CONSUMER CURRICULUM GUIDE TO CAREERS
Junior and Senior High Grade Level

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101 427

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CONSUMER CURRICULUM GUIDE TO CAREERS
Junior and Senior High Grade Level

OMAHA PUBLIC SCHOOLS
DEPARTMENT OF VOCATIONAL EDUCATION
OMAHA, NEBRASKA

IN-SERVICE WORKSHOP
CAREER EDUCATION

The Exemplary Program - U. S. Commissioner of Education
Vocational Amendment of 1968
Part D

Expanded Vocational Education Program for Disadvantaged Youth

Occupational Guidance K-12

Comprehensive Center for Occupational Education

Vendor Number - 465668
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July, 1974

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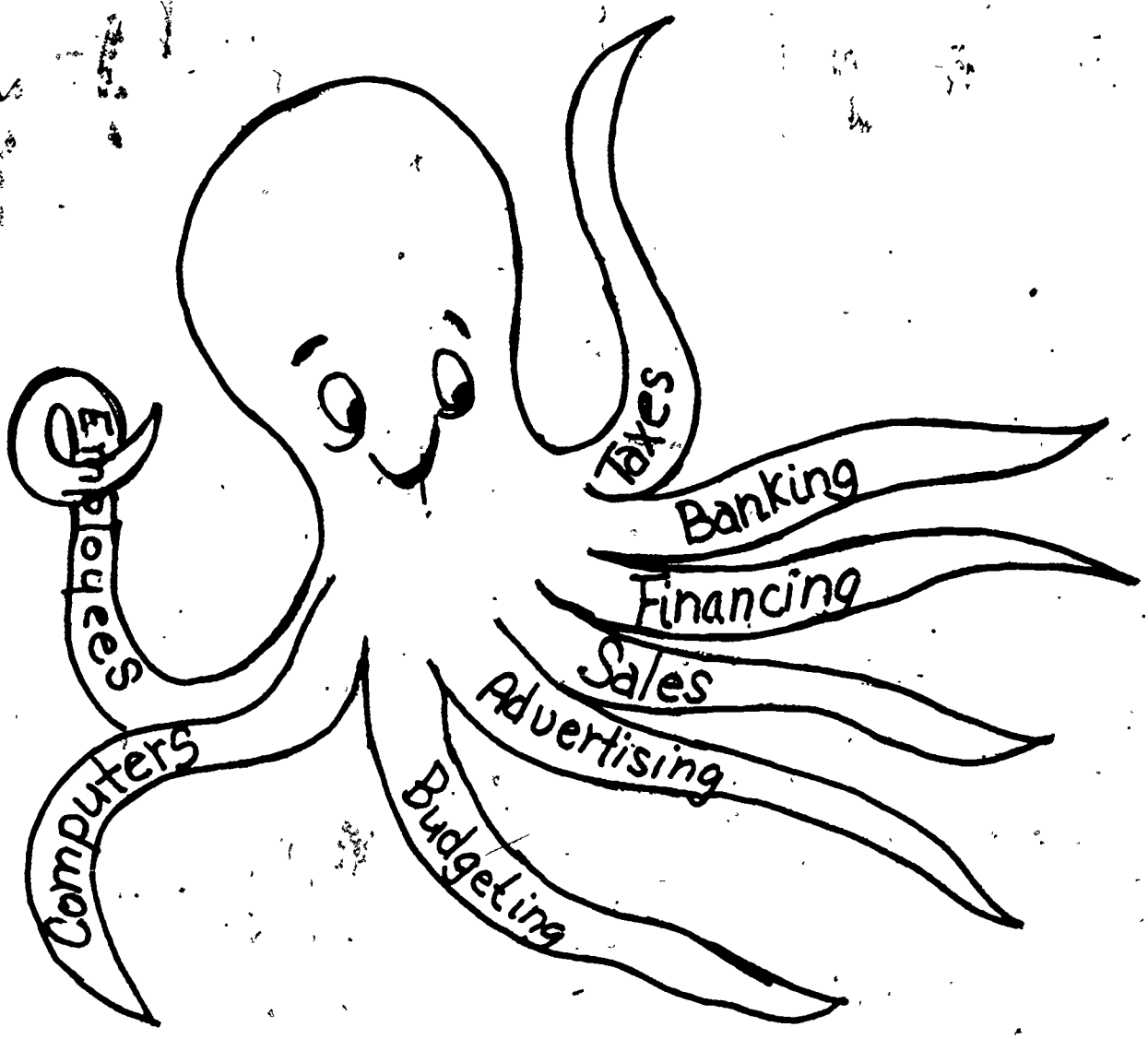
Consumerism



CONSUMER AND HOMEMAKING EDUCATION

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PREFACE

The unit guides that follow are presented as examples of career education lessons that could be incorporated into a junior and senior high school Consumer Education Program. The guides could be consolidated and placed in the curriculum as a "Career Education Unit", or they could be integrated individually into the curriculum at appropriate times during the year.

The job of being a "housewife" is not listed here as a specific career, but we are hopeful that the teacher of homemaking will continually emphasize this all important life-time career.

The purpose of this guide is not to tell the instructor what she must do, but rather, it simply offers examples of what she might do. It is our hope that these suggestions will encourage the teacher to incorporate elements of career education within the Consumer Education Curriculum.

CONCEPT AND OBJECTIVES

CONCEPT: To familiarize the student with occupational opportunities in the field of Consumer Education.

OBJECTIVES:

I. The student will become aware of the importance of work to fulfill his mental, physical, social and economic needs.

II. The student will become aware of careers in advertising, and the effects advertising has on everyday living.

III. The student will be introduced to the banking process and various job related opportunities.

IV. The student will be made aware of desirable characteristics of an employee.

V. The student will become familiar with the opportunities available in the field of computer science.

VI. The student will become aware of the process of getting and maintaining a credit rating.

VII. The student will research careers directly related to finance.

VIII. The student will become familiar with effective Public Relations in the working world.

IX. The student will research effective techniques involved in selecting a product which meets his needs and available resources.

X. The student will be introduced to the procedures and job opportunities in the field of sales.

XI. The student will become aware of the areas of taxation and the subsequent job opportunities in this field.

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CAREER OUTLINE

CONSUMER CURRICULUM GUIDE TO CAREERS

I. ADVERTISING

II. BANKING

III. BUSINESS EMPLOYEES

IV. COMPUTERS

V. FINANCING

VI. PUBLIC RELATIONS

VII. PURCHASING

VIII. SALES

IX. TAXES

PRE-ACTIVITIES

QUESTIONNAIRE

Answer the following with "always", "sometimes", or "never":

1. Is a housewife involved in consumerism?

2. Does a charge card cost you money?

3. Do you buy on the installment plan?

4. Do you read guarantees?

5. Do you pay any attention to advertising?

6. Are you influenced by body language?

7. Do TV commercials influence your buying?

8. Do you buy on a lay-away plan?

9. Are you an impulse buyer?

10. Do you keep a budget of your income?

11. Do you keep a record of how you spend your money?

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QUESTIONNAIRE

Answer the following with "yes" or "no":

1. Do you have a social security card?

2. Have you ever applied for a job?

3. Do you have your own checking account?

4. Have you ever made a bad buy?

5. Have you ever written a resumé?

6. Have you ever filled out a money order form?

7. Have you ever talked to a lawyer?

8. Have you ever filed an income tax form?

9. Have you ever bought from a door-to-door salesman?

10. Do you have your own savings account? If so, do you have a plan for your savings?

WHAT'S IMPORTANT TO YOU?

An individual's attitudes often have a great effect on the satisfaction he gets from his life or his job. No two people are alike; they are mainly different from the standpoint of what they regard to be important for their own satisfaction.

On the following pages you will find an attitude survey. It is not a test--there are no right or wrong answers. It is designed to be used only by you to assess and reflect on your attitudes towards work.

Before completing the survey, state your career choice below:

This is the way I want to earn my living:

I want to be or do:

_____

With this career choice in mind, give your work preferences on the following pages.

_____ 1A I would like to work at a job which can be done out-of-doors (weather permitting).

_____ 1B I would like to work at a job which will be done primarily inside.

_____ 2A I would enjoy a job which required a great deal of traveling.

_____ 2B I would not want a job which required a great deal of traveling.

_____ 3A The community or area in which I want to live is more important than the type of work I want to do.

_____ 3B The type of work I want to do is more important than the community in which I live.

_____ 4A I prefer to be paid on a regular salary either on an hourly, weekly, monthly or yearly basis.

_____ 4B I am willing to be paid on the basis of how much value I contribute to the company-either piecework, commission or productivity.

_____ 5A I prefer a job which I can perform primarily with my hands.

_____ 5B I prefer a job which requires me to use my mind a great deal of the time.

_____ 6A I would prefer to be self-employed.

_____ 6B I would prefer to work for someone else.

_____ 7A I would like to be in a supervisory position.

_____ 7B I am not interested in the responsibilities of being a supervisor.

_____ 8A I would like to work for a large company (over 200 employees).

_____ 8B I would like to work in a small company (under 200 employees).

_____ 9A My main interest in working is to make a great deal of money.

_____ 9B My main interests in working are to provide for my basic needs and to let me enjoy my leisure time pursuits.

_____10A I would like to plan a career in which I could always take care of my own or my family's needs.

_____10B I consider my plans to work only in terms of providing immediate income and not in the sense of developing a life-long career.

_____11A I am willing to commit myself to an educational program beyond high school to prepare me for my career choice.

_____11B I plan to enter work directly out of high school.

_____12A I would like to work in a situation where there is a lot of interaction among the workers.

_____12B I would like to work at a job where there is little interaction among the workers.

_____13A I enjoy working at a job where I have to meet with and help the public.

_____13B I prefer working in a situation where I do not have to work with customers and I associate primarily with my co-workers.

_____14A I would like a job where I am told exactly what is expected of me, and there are definite procedures to follow to do my work.

_____14B I would like a job where I am expected to develop my own solutions to those problems given me, or I am expected to devise my own procedures for performing my work.

_____15A I would enjoy a job where my work can be completed during regular working hours and I can use my leisure time for other activities.

_____15B I would enjoy a job where I would be expected to make my work a total life pattern both during and after regular working hours.

Decisions for Living. Watertown, South Dakota: Career Development Project, 1973, pp. 21-23.

Tabulate results of survey. Use in conjunction with student's career autobiography.

CONSUMERISM PRE-TEST

To the Students:

The following activities are not a test, but an inquiry into how familiar you are with aspects of consumerism. This will be used to determine which areas of study will benefit you most.

Define the following terms:

Better Business Bureau
Budget
Charge account
Co-signer
Credit rating
Payroll deductions
Down payment
Employment agency
Guarantee
Interest rate
Mass media
Occupation
Passbook
Pension
Receipt
References
Resumé
Safe deposit box
Sales tax
Tax assessor
Warranty

*The teacher may select items relevant to the group.

Where would you go to find out about:

Auto license
Marriage license
Voter registration
Building permit
Selective service

You have worked 40 hours this week at the rate of $2.50 an hour. Deductions are as follows:

Insurance:	$2.00
Pension:	.95
F.I.C.A.:	8.00
Dues:	1.00

Compute your: Gross income _____

Net income _____ (High School)

Your customer has purchased one bar of soap at a cost of 5 bars for $1.00. What do you charge her for the one bar?

(Junior High)

You have made a loan of $1,000, and the interest rate for one year is 8%. What will be the amount of interest you will pay at the end of 2 years?

(Junior or Senior High)

A customer purchased a skirt for $7.60. She gave you a $20 bill. What change will you return to her? Give amount to be returned.

(Junior High)

ACTIVITIES

ACTIVITIES

1. Write a brief autobiography and relate it to your career goal.

2. List favorite school subjects and relate each to possible careers.

3. Obtain Social Security forms. Students will complete and obtain Social Security cards.

4. Make arrangements for students to aid a store in taking inventory.

5. a. Investigate ads in magazines or newspapers; what senses do they play upon? How do they affect you? How do they make you feel?

   b. Students will make up television commercials for a product and video tape. Upon playing of video tape, class evaluates physiological factors affected.

6. Introduce students to advertising "gimmicks." Students observe 5 television commercials and 5 ads and analyze each as to propaganda techniques used.

7. a. Discuss what characteristics constitute an effective ad. Students invent a product and write an effective ad.

   b. Case study on budgeting and money management. (Writing checks and balancing checkbook.)

8. a. Prepare a budget for two weeks. Consider fixed and flexible expenses.

   b. Students complete applications for a charge account at department store. As a follow-up activity, have resource person from this store explain investigation of and acceptance or rejection of the card.

9. Mock interview. Students conduct mock interviews with one student role playing the part of the interviewer, and job applicant. This could be done in groups.

10. Personnel director to discuss what characteristics constitute a desirable employee.

11. Students role play problem situation which may occur within their job and demonstrate how they would handle this problem.

12. Assign student a particular product to study and compare for price, quality, brand, guarantee, etc.

13. Select one product. Research product through "Consumer Report," company that supplies product through Better Business Bureau. Report findings to class.

14. Students research what standards are expected of a product to obtain Good Housekeeping Seal of Approval, Underwriter's Laboratory, etc.

15. Students write a resume listing their qualifications for a selected job.

16. Students write a resume for an assigned job. Assign several students as personnel directors to critique them.

17. Select an item to buy on time payments. Visit a store and research payment plans available, contract involved, guarantee, and insurance.

18. Better Business Bureau resource person to discuss advantages and disadvantages of credit.

19. Role play situations illustrating good and bad public relations. Discuss each and evaluate as to its effectiveness or ineffectiveness.

20. Construct list of "emotions." Students draw for an emotion and pantomime using facial and hand movements to illustrate how others see you.

21. Patricia Stevens Business College resource person, to discuss importance and techniques of good public relations in contact with public.

22. View Northwestern Bell film on "Hello, Mr. Bell." (Public relations using the phone).

23. Students do worksheet on what constitutes a good buy.

TERMS

These terms can be used in conjunction with the Career Education Unit. They would be useful in pre-testing and post-testing, crossword puzzles, or in word games.

Advertising

Appraise

Budget

Budget Plan

Business School

Charge Account

Commercial Bank

Commission

Compensation

Co-Signer

Consumer Finance Company

Corporation

Credit

Credit Bureau

Credit Card

Credit Rating

Creditor

Credit Union

Deductions (payroll)

Department Store

Depreciation

Discount

Discount Store

Down Payment

Employ

Employability

Employee

Employer

Employment Agency

Express Money Order

Federal Savings & Loan Corp.

Finance Charge

Franchise

Fraud

Fringe Benefits

Guarantee

Income

Income Tax

Income Tax Return

Inflation

Installment Buying

Installment Contract

Installment Credit

Installment Loan

Interest

Interest Rate

Inventory

Invest

Investment

Investor

Invoice

Itemize

Job

Job Cluster

Junior College

Labor Force

Letterhead

Liabilities

Mail Order House

Mass Media

Middleman

Money Management

National Bank

Needs

Occupation

Open Charge Account

Parcel Post

Passbook

Pension

Personal Loan

Position

Productivity

Products

Profits

Promissory Note

Public Service Advertising

Receipt

Redeem

References

Refinance

Registered Mail

Repossess

Retailer

Resumé

Return

Revenue

Revolving Charge Account

Safe Deposit Box

Sales Credit

Sales Tax

Savings Account

Savings & Loan Association

Savings Banks

Service Charge

Signature Card

Social Security

Social Security Card

Social Security Number

Stop-Payment Order

Surtax

Take Home Pay

Tax

Tax Assessor

Tax Exemption

Tax Rate

Taxable Income

Technical Institute

Teller

Thrift

Trademark

Travelers Checks

Trust Company

Union

Value

Wages

Want Ad

Wants

Warranty

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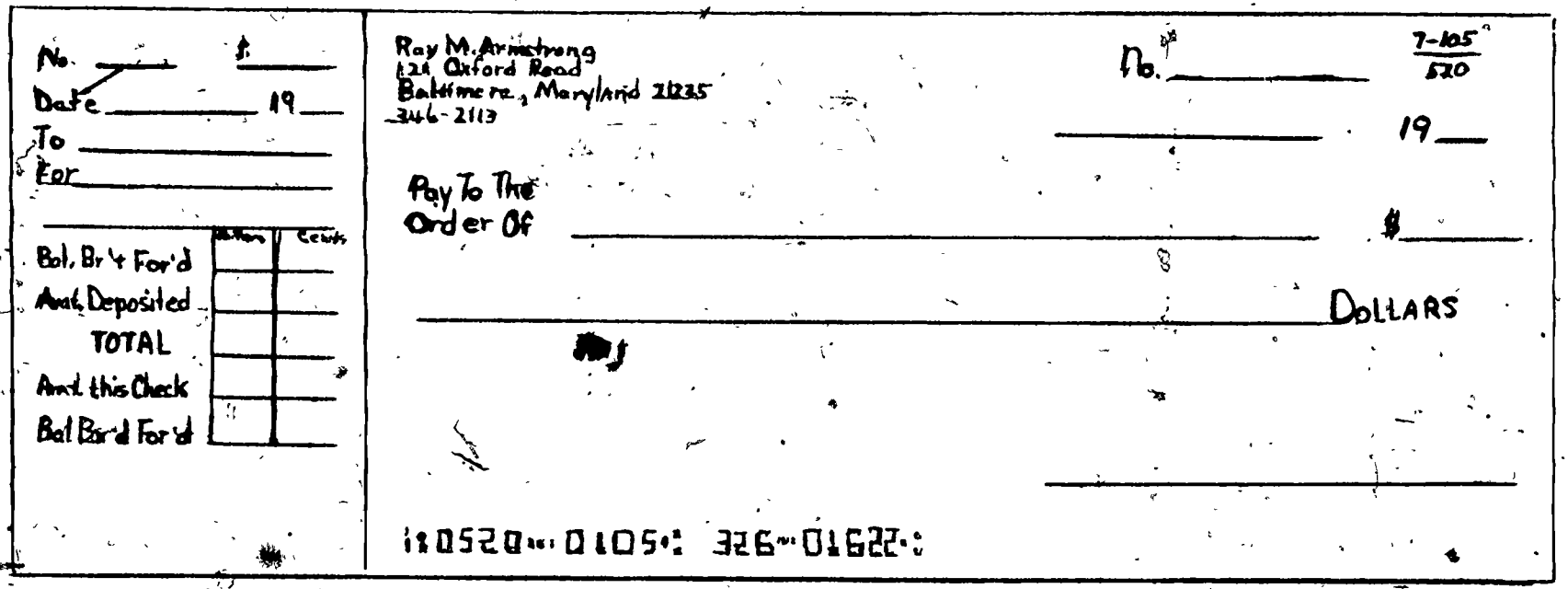


As of April 10, you have $246.32 in your checking account. Since Friday was pay day, you received your salary check, which was $86.25. Now with Easter coming, you want to get your new outfit at Kings Department Store off lay away and that will cost you $24.00.

Make out your check stub and check accordingly.

WORKSHEET ON TAKE-HOME PAY

Take-home pay is the actual amount of your pay check after all deductions have been made. Deductions (for example, taxes, insurance, dues, and retirement) result in the net, or take-home pay.

Take-home pay can be determined by this chart:

Gross Salary. . . . . $____.____
(Use wage/hour times number of hours in average work week; weekly wage; bi-weekly wage; or monthly wage.)

Federal Income tax. . . . . $____.____
(Rates available from employer)

State Income tax. . . . . $____.____
(Rates available from employer)

F.I.C.A. (Social Security). . . . . $____.____
(Rates available from employer)

Your share of group insurance . . . . $____.____
(Rates available from employer)

Union or other dues . . . . . $____.____
(Rates available from employer)

Company retirement. . . . . $____.____
(Rates available from employer)

Other . . . . . $____.____
(Depending on company)

Total Withheld . . . . . $____.____

Net Take-Home Pay. . . . . $____.____

2 THE SEARCH FOR A JOB

Leads for jobs can come from a variety of sources. In searching for a job, one must get organized in order to take advantage of available resources. There are 9 basic sources of job leads that are helpful in the search for a job.

1. Family, Friends, and Neighbors
2. School Placement Officers
3. State Employment Service
4. Civil Service Employment Offices
5. Commercial Employment Agencies
6. Help-Wanted Ads
7. Situation Wanted Ads
8. Direct Contacts
9. Union Hiring Halls

BASIC OUTLINE FOR STUDY OF AN OCCUPATION

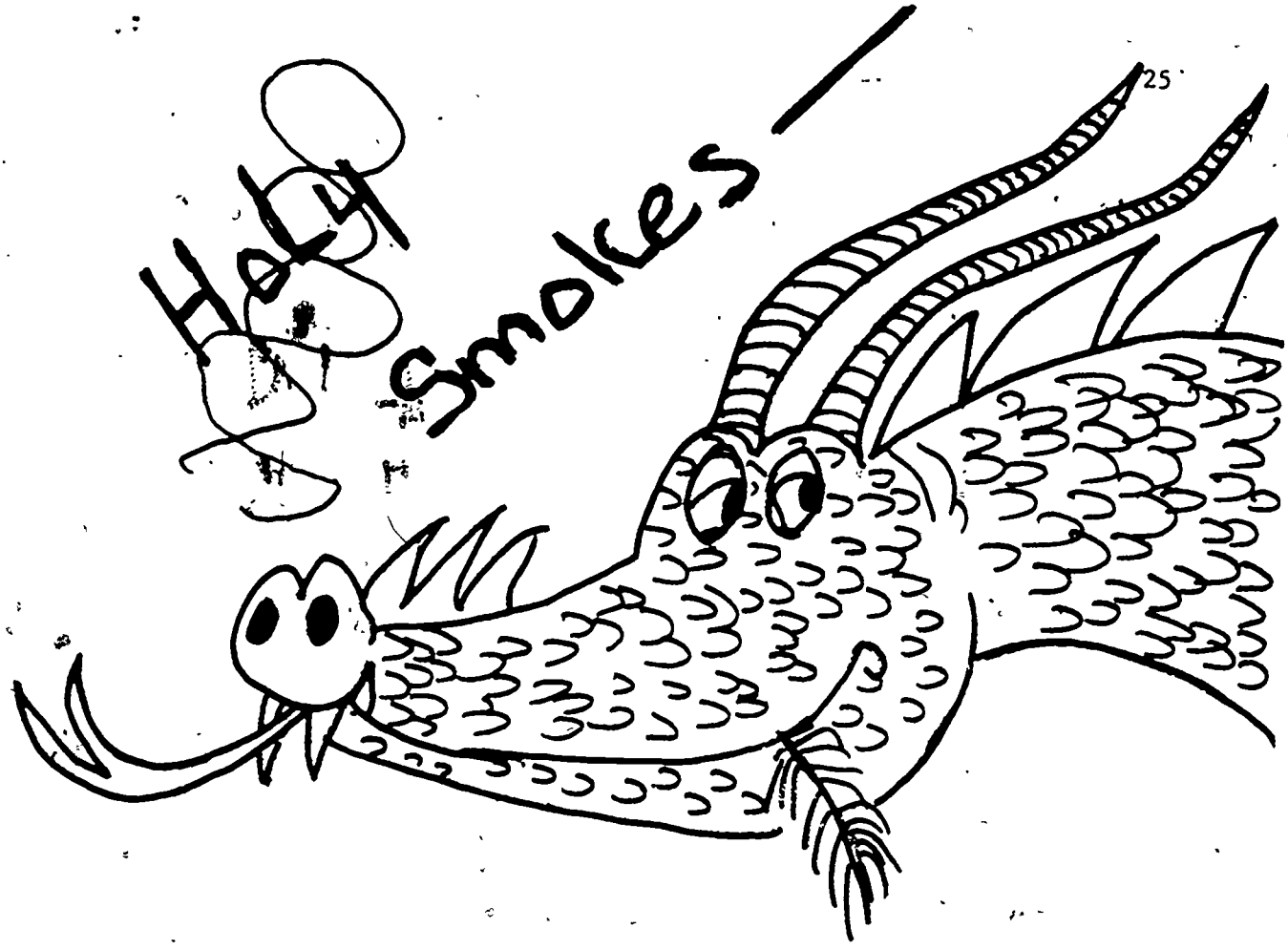
1. Definition of the occupation and nature of the work.
2. Number and distribution of workers.
3. Qualifications and preparation.
4. Methods of entering.
5. Career advancement.
6. Employment outlook.
7. Earnings.
8. Working conditions.
9. Social and psychological factors.
10. Sources of additional information.

WHERE YOU CAN CONTINUE YOUR EDUCATION FOR EMPLOYMENT AFTER HIGH SCHOOL

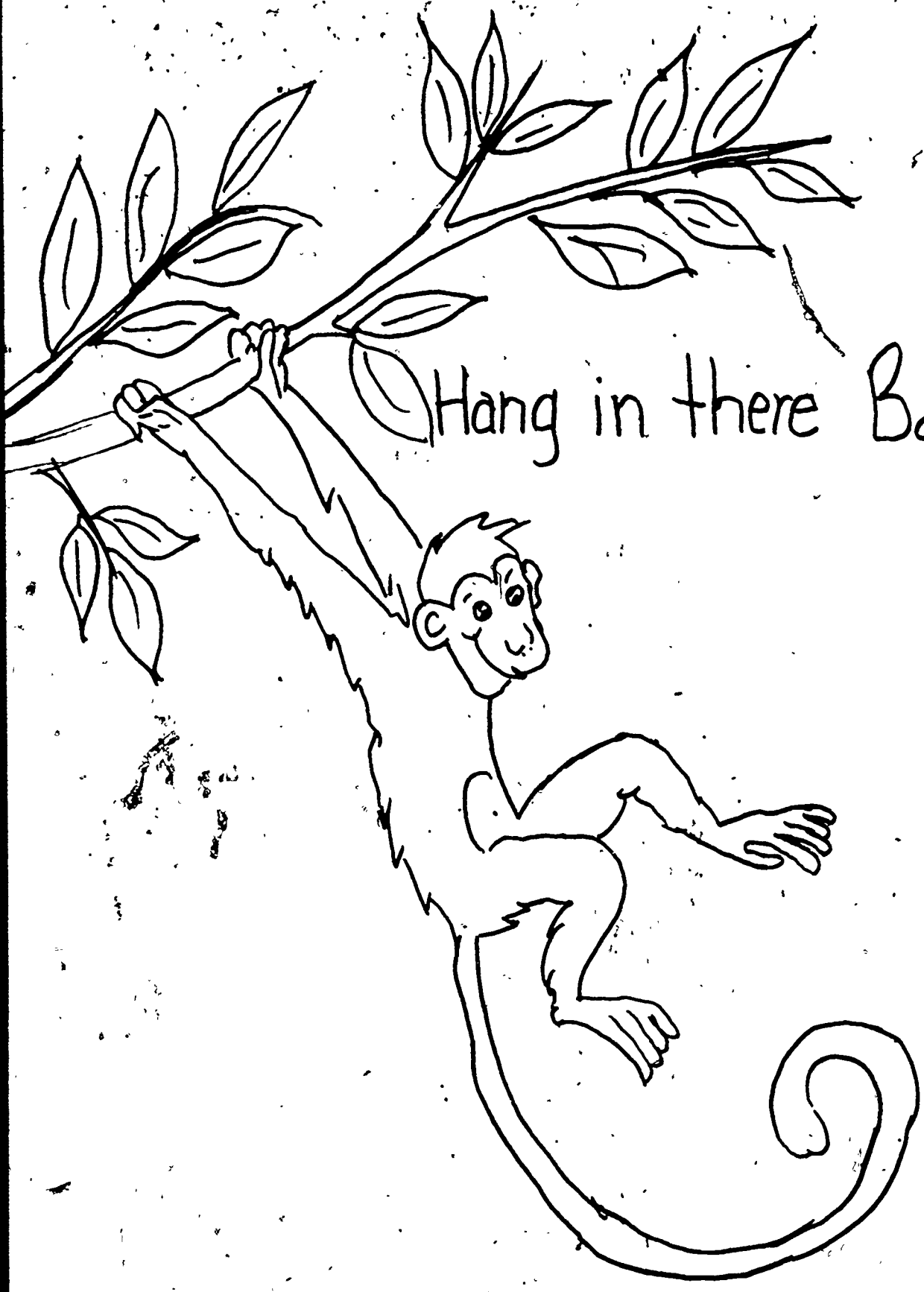
Type of School	Length of Courses of Study	Occupational Study Areas Usually Offered
1. 4-Year College or University	4 years; some have 2-year curricula; also evening school	Professional curricula such as business administration, engineering, nursing, and agriculture
2. Junior or Community College (Public or Private	1-year and 2-year curricula (full time)	Engineering, health occupations, secretarial administration, marketing, accounting, data processing, agricultural technician
3. Private Business or Trade School	Few months to 2 years (full time or part time)	Secretarial-clerical, accounting, sales, skilled industrial trades or technician training
4. Vocational/Technical Institute	Few months to 2 years (full time)	Secretarial/clerical, bookkeeping, industrial trades, commercial art, distributive education
5. Adult Study Center	Individual courses each semester, often 1 or 2 evenings a week	Apprenticeship, business, industrial, supervisory and management training, small business operation, home economics, health occupations
6. Employer or Union School	Short duration such as few weeks	Specialized job training for job skills and supervisory abilities
7. Correspondence Study Schools	Each course varies according to student's study habits	Specialized courses in various vocational areas

Debrum, S. Joseph. General Business, p. 624.

BULLETIN BOARDS



The Future is Now!



Prepare for the future

IT'S A WHIR-R-RLWIND...
WITHOUT A CAREER
[College of Occupations]

Pocket Your Savings

Don't Be ROBBED!

Salary

Fringe Benefits

Hours

Responsibilities

KNOW your Job

Be Consumer Wise!

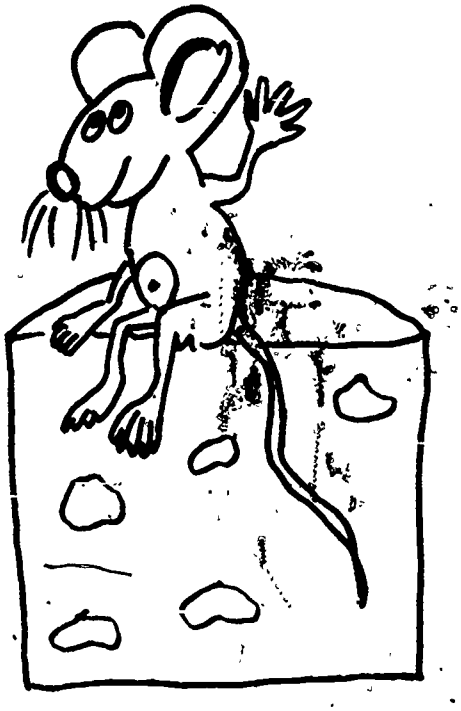
SALES

GUARANTEE

CHARGE FORM

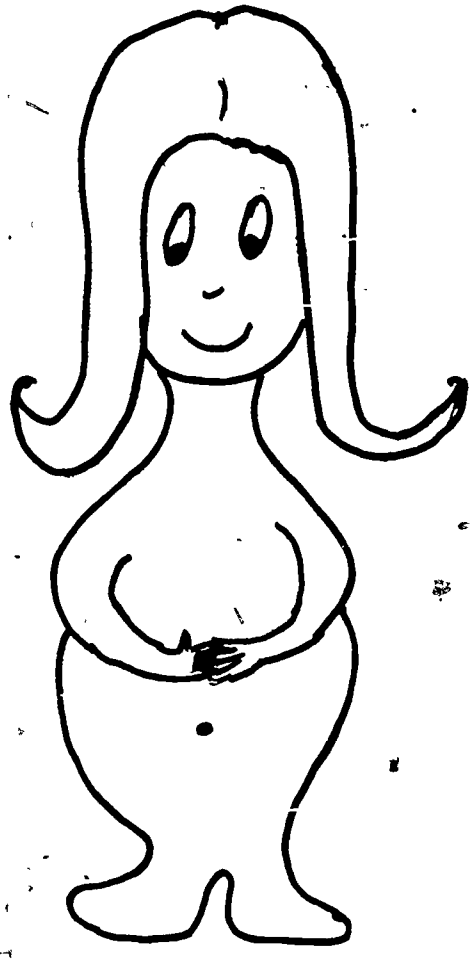
CONTRACT

PLAN Ahead for the future...



Choose A Career

LOVE IS...



Being Happy In your Career!

POST ACTIVITIES AND EVALUATION

POST ACTIVITY FROM FIELD TRIP

TO COURT HOUSE

WHERE DO YOU GO TO FIND OUT ABOUT -

Abstracts-

Automobile Licenses-

Automobile Title-

Birth Certificates-

Building Permits-

Civil Court Actions-

Death Certificates-

Deeds-

Divorce Court Records-

Drivers Licenses-

Employment Services-

Marriage Licenses-

Mobile Home Registration-

Personal Property Assessments-

Selective Service Registration-

Small Claims Court-

Taxes, Income Tax Information-

Voter Registration-

Welfare Services-

EVALUATION

Our means of evaluation of the junior and senior high is based on the same idea. That idea being: we plan to culminate all areas of this unit by having students select a product that they will manufacture and sell to other students. They must organize departments within the following areas:

Personnel director - Organize and set up work schedules

Advertising - To promote their product through media such as flyers, school paper, other newspapers, posters, intercom, radio and TV

Manufacturing - Involve the students with processing and assembling the product

Packaging - Select eye-catching packaging that is most suitable for the product

Storage - Determine area for storage before and after production, and supervise the process (includes inventory)

Banking and Financing - Students will establish a financial department that entails getting change, keeping accurate records of expenditures and income. This will include check writing, issuing receipts, and balancing books.

Sales and Public Relations - A sales manager will be in charge of sales personnel and will help to project a good company image.

Custodial - A crew responsible for clean-up of manufacturing, sales, warehouse and assembly

Broker - Responsible for selling and informing the public of company stock

The evaluation is intended for use with advanced senior high. It is similar to the Junior Achievement approach in business. Depending on the class level, the individual teacher can adapt this approach to meet her group needs. The junior high teacher may select the phases she feels appropriate at that level.

A suggested project for senior high to illustrate this idea could be the manufacture and production of candles. The students must follow through in all areas of organization listed above in order to achieve the total effect of this activity. Junior high groups might select only the manufacturing, selling, and bookkeeping areas for emphasis and evaluation.

OCCUPATIONS GUIDE

CONSUMER OCCUPATIONAL GUIDELINES

In our society, a person's occupation is not only a way of making a living, but a way of life. A choice of career is probably the most important decision for one's future.

Assisting young people in making a career choice is difficult and crucial. Information that is concise, accurate and up-to-date gives the "career consultant" the background knowledge he needs to assist his clients.

We have provided the following occupational study guidelines, taken in part from the Handbook of Job Facts, to serve as a primary reference source to that consultant.

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OCCUPATION	ACCOUNTANTS	ADVERTISING ACCOUNT EXECUTIVES
DUTIES	Compile, analyze, audit business records; prepare financial records and reports. May specialize in cost accounting, tax work, budgeting, auditing, systems and procedures.	Handle relations between agency and its clients. Study each client's market, sales, and advertising problems; develop plan to meet client's needs; seek approval of proposed program. May write copy, develop artwork, or supervise others in doing so. May handle one large account or a number of small ones.
WHERE EMPLOYED	Accounting firms, business and industry, government, teaching, independent practice. Throughout U.S., with some concentration in cities.	In 4500 advertising agencies throughout U.S. Most are located in fairly large cities, with New York and Chicago having the largest numbers.
EDUCATION AND TRAINING	College degree in accounting preferred. Junior colleges, business schools offer 2-year courses.	College education with liberal arts foundation plus advertising and marketing courses. Training will come automatically on the job as beginner moves up through other jobs to account executive.
SPECIAL QUALIFICATIONS	High numerical ability, accuracy in detail work. Business and financial interests. Most states require 2 years experience to take exam for C.P.A. certificate.	Exacting; a sense of the dramatic, understanding of what motivates people, some writing ability, vision to see total effect of ideas, ability to communicate with others, maturity, experience, friendly and outgoing personality.
WAYS TO ENTER FIELD	Campus interviews, college placement services; want ads, civil service exams, direct application to accounting or other companies.	Apply direct to advertising agencies. Watch ads in *Advertising Age*, *Printers' Ink*, and daily newspapers. College placement service can be helpful; campus interviews. Try local advertising club. Most beginners start as copywriters, a few as junior contact men.
EARNINGS	Start: $7000–$8000. Experienced: $9000–$14,000. Chief accountants: $10,000–$16,000. Top: $25,000 or more.	$8000–$25,000 or more, depending on size of agency, experience of account executive, talent, number of accounts he handles.

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OCCUPATION DUTIES	BANK OFFICERS	BOOKKEEPERS
	Write headlines, text, and slogans for newspaper and magazine ads, radio and TV commercials, car cards, posters. May write advertising letters, brochures, pamphlets. May help choose artwork for ads.	Deliver mail and records; keep files dle checks, deposits, and withdra maintain accounts and other records letters and reports, operate calcul bookkeeping and other busines chines.
WHERE EMPLOYED	Advertising agencies, retail stores, manufacturing companies, and other organizations with large volume of advertising. Most jobs are in big cities, especially New York and Chicago.	Commercial banks, mutual savings b the 12 Federal Reserve banks, and s financial institutions. In towns and of all sizes.
EDUCATION AND TRAINING	College degree in liberal arts or business with some advertising and marketing courses as preferred but not always demanded	High school diploma required. On-h training may last a week to 5 months. courses helpful for advancement.
SPECIAL QUALIFICATIONS	Flair for writing, imagination, salesmanship, understanding of people and motivation. Must be able to work under pressure to meet deadlines.	Accuracy, honesty, dependability. P ness and attractive personality req for employees dealing with public. Cl aptitude necessary to acquire speed,
WAYS TO ENTER FIELD	Apply direct to ad agencies, stores, businesses. Some employment agencies specialize in placing advertising personnel. Want ads, personal contacts may also be effective.	Want ads, employment agencies d application to banks. May start as a senger, file clerk, transit or bookke clerk, trainee machine operator.
EARNINGS	Start: $3800–$10,000. Experienced: to $16,000. Copy chiefs: $15,000 or more. Pay higher in agencies, lower in retail stores.	Beginning clerks get $2600–$4000 Experienced tellers may get $3000- over 5 years service, $7500. Men a more than women.

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OCCUPATION	BANK OFFICERS	BOOKKEEPERS
DUTIES	Administer banking services such as loans, trust funds, safety deposit services, investment counseling, checking and savings accounts. Officers include president, vice-presidents, cashiers, treasurer, junior officers.	Keep business records; make accounts payable, accounts receivable, profit and loss entries. Prepare reports and balance sheets. May prepare payroll and statements, handle bank deposits and withdrawals. May operate bookkeeping machines.
WHERE EMPLOYED	Commercial banks, mutual savings banks, other financial institutions.	In almost every sizable business, government, and professional organization. General bookkeepers usually work in small organizations; machine operators in large ones such as banks, insurance companies, department stores.
EDUCATION AND TRAINING	College degree in business or liberal arts required. Many banks have formal executive training programs.	High school diploma usually required. Business school training or junior college preferred. On-the-job training often given.
SPECIAL QUALIFICATIONS	Dependability, honesty, integrity, tact, prudence, good judgment, respectability. Logical mind and mathematical ability desirable.	Accuracy, liking for detail work, honesty, ability to work under pressure, good powers of concentration. Manual dexterity, good eye-hand coordination required for machine operation.
WAYS TO ENTER FIELD	Apply to personnel office of a bank. Most start as trainees in clerical positions such as teller, and are rotated among the departments as they gain experience.	Placement office of business school, want ads, state and commercial employment agencies, direct application to employers.
EARNINGS	Executive trainees: $5000–$6000. Junior officers: $7000–$15,000. Senior officers: to $50,000 or more. City banks usually pay more than those in small towns.	Beginners: $3600–$4500. Experienced: $4500–$6000 or more. Men usually earn more than women for the same work.

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OCCUPATION	BUYERS	CASHIERS
DUTIES	Purchase goods to be resold later at a price to cover expenses and provide a specified minimum profit. Select merchandise, develop sales techniques, keep records, maintain well-balanced stock of goods. May travel to market shows and exhibits.	Take money, make change; keep records of receipts, expenditures, checks; prepare bank deposits. May pay small bills, keep and balance books, cash checks, and the like. Use cash register and, often, changemaking machine.
WHERE EMPLOYED	Department stores, specialty shops, mail-order houses, large retail chains. May be resident buyer, who remains permanently in the buying center, probably New York, studying the market and assisting visiting buyers.	Restaurants, cafeterias, grocery stores, drugstores, theaters, hotels, department and variety stores, insurance companies, loan companies, public utilities, and a variety of other businesses.
EDUCATION AND TRAINING	High school education adequate, but college gives beginner an advantage. Work-study programs provide experience. College liberal arts, marketing, merchandising, retailing are helpful.	High school diploma preferred but not always required
SPECIAL QUALIFICATIONS	Maturity, poise, good judgment, originality, creativity, curiosity, enthusiasm.	Knowledge of basic arithmetic, ability to make change rapidly, accuracy, honesty, dependability, finger dexterity, neat appearance, pleasant personality.
WAYS TO ENTER FIELD	Some start in salesclerk jobs. Some, college graduates particularly, start as buyer trainees. Direct application to stores is best entry route. Newspaper want ads and state employment service can be helpful.	Watch newspaper ads. Apply to restaurants, theaters, stores, and other employers.
EARNINGS	Executive trainees usually make under $5000 a year. Experienced buyers often earn $10,000, and salaries go up to $30,000 a year.	$1–$2.27 an hour. May get free meals, discounts, other benefits.

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OCCUPATION	CLERKS, CORRESPONDENCE	CLERKS, FILE
DUTIES	Answer routine letters and telephone calls, such as inquiries, complaints, orders, adjustments. Gather information, compose letter or choose form letter. May type letters, dictate to stenographer, use dictating machine.	File records, correspondence, memos, other material alphabetically, numerically, chronologically, or by other convenient system. Maintain file drawers, look up information, keep files up to date.
WHERE EMPLOYED	Organizations having large volume of mail such as mail-order houses, department stores, government agencies, wholesale supply houses.	Offices of every sizable business, company, organization, institution, and government agency throughout the U.S.
EDUCATION AND TRAINING	High school diploma required; some college training preferred. A week to 3 months of on-the-job training usually given.	High school recommended. Short period of on-the-job training usually given.
SPECIAL QUALIFICATIONS	Writing and clerical ability, initiative, good judgment and memory, tact, courtesy.	Patience, neatness, attention to details, good memory, reliability, liking for routine.
WAYS TO ENTER FIELD	Newspaper want ads, state and private employment agencies, civil service offices, direct application. May start as secretary, typist, or junior correspondent.	Want ads, state or private employment agencies, civil service office, or direct application to employers. Summer jobs might provide a good start.
EARNINGS	Junior correspondents: $4000–$5400. Experienced: to $7000 or more.	$3200–$4200 a year, depending largely on locality. Head file clerk averages about $6000.

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OCCUPATION	CLERKS, SHIPPING AND RECEIVING	CLERKS, STOCK
DUTIES	Prepare merchandise for shipping. May pack, wrap, weigh, label, route packages; open, unpack, inspect, store, or route incoming merchandise; load and unload shipments in trucks or freight cars; use hand or power trucks. Keep records of shipments. May specialize in one or more of these duties.	Arrange and store stock according to a set system, fill orders and requisitions, keep records, take inventory. May type lists and reports, do simple bookkeeping. May specialize in one or more of these duties.
WHERE EMPLOYED	Manufacturing companies, distributors, wholesale and mail-order houses, warehouses, retail stores, and the like throughout U.S., but mostly in large cities and industrial areas.	Wherever stocks of material or merchandise are stored. Companies, stores, warehouses, wholesale houses, hospitals, hotels, government agencies, and the like.
EDUCATION AND TRAINING	High school diploma preferred but not usually required. Some on-the-job training usually given.	High school diploma desirable but not usually required. On-the-job training is usual.
SPECIAL QUALIFICATIONS	Physical strength and stamina often necessary. Legible handwriting, ability to understand and follow instructions, knowledge of arithmetic. May have to be bonded.	Knowledge of arithmetic and spelling, legible handwriting. Orderliness, reliability, good memory helpful. Physical strength and stamina needed for some positions.
WAYS TO ENTER FIELD	Apply direct to employer, watch want ads in newspapers, visit local office of state employment agency.	Newspaper want ads, direct application to employers, state employment agencies are the best ways to find job openings. Take civil service exam for government jobs.
EARNINGS	Start: $1.20–$1.65 an hour. Experienced: $2–$2.75. Supervisors and managers can make more.	Start: $1.50–$1.75 an hour. Experienced: $2.50–$3.50. Supervisors make more.

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OCCUPATION	COMMERCIAL ARTISTS	CREDIT COLLECTORS
DUTIES	Draw or select, letter, lay out, design, and paste up illustrations for publications, displays, advertisements. May create, develop, and sketch ideas for advertisements or designs. May teach, do free-lance work.	By letters, telephone calls, personal visits attempt to collect overdue bills from debtors. May compose own letters or use form letters; contact elusive debtor's neighbors, coworkers, family in attempt to locate him. If debtor is traced to another town, arrange for assistance of collection agency there. Keep records; may report progress, collections to client.
WHERE EMPLOYED	Advertising agencies, commercial art studios, publishing and printing companies, mail order houses, department stores, greeting-card companies, government agencies, schools. Many are self-employed.	In credit collection agencies that service retail stores, banks, utility companies, travel agencies, professional people, other clients; credit or accounts-receivable departments of retail, wholesale, manufacturing firms.
EDUCATION AND TRAINING	...gh school plus 2 or 3 years in art school, junior college, or college training in commercial art or fine arts.	High school diploma. Business experience and college-level studies are essential for collectors who wish to advance in the field. On-the-job training usually provided.
SPECIAL QUALIFICATIONS	Artistic ability, good taste, imagination, perseverance, eye for small details, adaptability, ability to work under pressure.	Aggressiveness, persistence, persuasiveness, imagination, tact, patience, perception, good judge of people, ability to get along well with others.
WAYS TO ENTER FIELD	Prepare a portfolio of drawings, then apply direct to employers. School placement service, want ads helpful. May start as staff artist, free-lance after gaining experience.	Credit department of large retail store is ideal entry. Apply direct to stores, wholesale and manufacturing companies, credit collection agencies. Help-wanted ads and state employment service often list credit collector jobs.
EARNINGS	Start: $4500–$5000. Experienced: $5000–$10,000. Top: $15,000 or more. Free-lancers: $25–$1000 or more for each drawing.	Usually commission, or salary plus commission. Beginners: $3000–$4000. Very capable collectors: $5200–$10,000. Agency managers: $15,000 or more.

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OCCUPATION	DATA-PROCESSING MACHINE OPERATORS	DISPLAY WORKERS
DUTIES	Operate computers or auxiliary data-processing machines: set machine to perform operation desired, feed in punched cards or tapes, watch for errors, pass data to next machine in the system. May wire simple plugboards	Conceive, design and create eye-catching and sales-stimulating displays for store windows, counters, walls. May make detailed sketches, make or obtain props, design and coordinate carpentry, electrical and mechanical work, artistic efforts. May coordinate displays and decorations throughout store for special events
WHERE EMPLOYED	Organizations that have data-processing installations, such as government agencies, insurance companies, banks, manufacturing companies, large retail stores, public utilities, data-processing centers	Retail stores, especially large department stores, employ greatest number. Others work for display-building companies, manufacturers who mass-produce displays for their customers, manufacturers of display fixtures and props.
EDUCATION AND TRAINING	High school diploma essential. Some college or business school training preferred. On-the-job training takes 1–6 months	High school graduation. Some college training usually preferred; preparation may be in art school. Informal on-the-job training lasts 3-5 years.
SPECIAL QUALIFICATIONS	Clerical and mathematical ability, manual dexterity, some mechanical ability, alertness, accuracy, ability to work under pressure.	Interest and talent in design and arts; resourcefulness, imagination, creative ability. Must be practical enough to meet deadlines and stay within budgets.
WAYS TO ENTER FIELD	Apply to company with a data-processing installation. Newspaper want ads, school placement services, employment agencies helpful. Take civil service exam for government jobs.	Apply to stores, display builders. College or art school placement services offer leads. Newspaper ads and state employment service can be helpful.
EARNINGS	Beginners: $5000–$7000. Experienced to $12,000, Supervisory: to $15,000.	Helpers without college training: $4000–$1500. Designers in training: $4500–$[illegible]. Experienced: $7800 and up. Directs: $10,000 and up.

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OCCUPATION	ECONOMISTS	EXECUTIVE HOUSEKEEPERS
DUTIES	Study conditions affecting production, distribution consumption of goods and services. May specialize in fiscal, labor, agricultural, industrial, social economics. Compile and analyze data, teach, do research, serve as consultants	Supervise housekeeping staff. May hire and train new employees. Order supplies, take inventories, keep records, prepare budgets, report needed repairs, suggest improvements, draw up work schedules, inspect rooms. May be in charge of interior decoration
WHERE EMPLOYED	Colleges and universities; government agencies; banks and insurance companies; business, trade, and industrial organizations; research associations. A few are self-employed as consultants.	Hospitals, retirement homes, hotels and motels, school dormitories, department stores, industrial plants, medical and office buildings
EDUCATION AND TRAINING	Bachelor's degree in economics the minimum; graduate degree required for teaching and research, top jobs in all fields.	High school education plus business experience or college work recommended. College degree becoming more important.
SPECIAL QUALIFICATIONS	Aptitude for math, abstract reasoning ability, high level of intelligence, accuracy, ability to concentrate, persistence	Ability to organize their own and others' activities, analyze and possibly improve procedures, make decisions, get along well with people, supervise others.
WAYS TO ENTER FIELD	Recommendation of college professor. College placement service, notices in professional journals. Direct application to employers, civil service offices	May start on housekeeping staff and work up. With adequate training, can start as executive assistant. Apply direct to hotel, hospital, or other employer.
EARNINGS	Teaching: average $10,000. Business: average $15,000. Government: $5000–$16,000. May also earn royalties, consulting fees.	$4500–$10,000, varying with experience and size of establishment. May get free meals and laundry.

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OCCUPATION	GUARDS AND WATCHMEN	HOME ECONOMISTS
DUTIES	Patrol grounds and buildings, check doors and windows, observe loading of merchandise to prevent theft. Protect displays give information, keep order Accompany messengers who transport money and other valuables.	Give information and advice about home products and activities. May specialize in food, dietetics, clothing, child care, home appliances, household management. May teach, do research, plan menus, do public relations or welfare work.
WHERE EMPLOYED	Factories, office buildings, government or protective agencies, museums, banks. Throughout U.S., but more jobs available in cities and industrial areas	Schools, colleges, universities, hospitals, hotels, restaurants, agricultural extension agencies, public utilities, food companies, home appliance manufacturers, mass media outlets, welfare agencies, testing laboratories.
EDUCATION AND TRAINING	High school education is sometimes required but usually only the ability to read and write reports is necessary.	College degree in home economics necessary. Graduate degree usually required for research directors, nutritionists, college teachers
SPECIAL QUALIFICATIONS	Good powers of observation, reasonably good health, good hearing and eyesight ability to make decisions and to move quickly in case of emergency, honesty, dependability, good judgment.	Scientific aptitude, interest in homemaking, initiative, efficiency, pleasing personality, patience, ability to work well with people, good grooming habits.
WAYS TO ENTER FIELD	Apply to personnel departments. Watch want ads, visit state or private employment agencies, civil service commissions.	College placement bureaus, civil service offices, newspaper want ads, direct application to employers.
EARNINGS	Start: industry, $2 an hour; protective agencies, $1.40 an hour; government, $3800 a year.	Secondary schools: $4800–$8600. Colleges and universities, business: $5000–$15,000. Government: $6000–$15,000.

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OCCUPATION	INDUSTRIAL AND LABOR RELATIONS WORKERS	KEYPUNCH OPERATORS
DUTIES	Industrial relations workers formulate personnel policy, recruit and train employees, keep records, administer wages and benefits, for a company or agency. Labor relations workers represent government, labor, or management in collective bargaining and contract administration, interpret union contracts, see that labor laws are observed, settle grievances.	Use machine similar in action to typewriter to punch holes in cards in such position that each hole can be identified as representing a specific item of information. (Cards are used with electronic computers and with tabulating machines.) Select information to be punched, press appropriate keys to record information, verify accuracy of work
WHERE EMPLOYED	Private companies, labor unions, government agencies, colleges and universities throughout U.S., especially in industrial areas	Business establishments of every description where large volumes of records and other paperwork are handled; all areas of government.
EDUCATION AND TRAINING	Bachelor's degree in industrial relations, personnel or business administration. Graduate or law degree usually required for top positions.	High school graduates preferred. Several weeks of on-the-job training, either informally or in special training classes of employer or equipment manufacturer.
SPECIAL QUALIFICATIONS	Capacity for independent thinking, ability to analyze what makes a worker enthusiastic and able to do his job well, tact, sincerity, responsibility	Ability to type, finger dexterity, eye-hand coordination, good eyesight. Strong power of concentration, accuracy. Adaptability to repetitive, sedentary work.
WAYS TO ENTER FIELD	Start as employment interviewer, job analyst, personnel assistant, or trainee in any of these fields. Summer jobs in production provide good experience. Representatives of organized labor may be union officials or business agents.	Apply to large companies. Get leads from newspaper want ads, state employment agencies. Take civil service test for government jobs.
EARNINGS	$8000–$25,000, depending on employer and experience. Government jobs usually pay slightly less.	$3900–$8000 a year, depending on experience, ability, geographical location, type of business.

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OCCUPATION	INSURANCE AGENTS	INTERNAL REVENUE AGENTS
DUTIES	Find prospects, make appointments with them; discover policy best suited to their needs and ability to pay, sell the policy. Arrange for loans on policies. May file claims; help arrange finances in emergencies; collect premiums.	Examine and audit taxpayers' tax returns; scrutinize accounts, records. May investigate further to determine tax liability, uncover errors or fraud. Give technical advice, determine adequacy of accounting methods.
WHERE EMPLOYED	Throughout U.S., especially where population is expanding and in industrial centers. Life agents usually represent only one company. Those selling casualty and property insurance may represent many.	Internal Revenue Service of U.S. Treasury Department. About 25% in Washington; the rest in offices throughout U.S.
EDUCATION AND TRAINING	Most agents hired in recent years have had some college training. Beginning agents usually receive training courses.	College degree with major in accounting or related field. 6-month internship after acceptance into IRS.
SPECIAL QUALIFICATIONS	Sales ability, friendliness, tact, sincerity, self-confidence. Ability to plan one's own time and be self-motivating. Meet requirements for state license.	Interest in and aptitude for math; ability to express ideas both orally and in writing, work well with others. Aptitude for abstract and logical thinking, accuracy, persistence.
WAYS TO ENTER FIELD	Apply to insurance companies or to local agencies. Possibly begin by selling part time until you have enough contacts to support yourself full time.	Visit district office of IRS or write college recruitment coordinator at that office, including a résumé.
EARNINGS	Guaranteed income during training; thereafter, commissions only. Beginners, $5000–$7000. Experienced: $7500–$10,000; most successful agents, to $50,000.	$7300–$8218 to start. 55% of all agents earn $9200–$12,800; 25% earn $12,900–$25,800.

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OCCUPATION	LAWYERS	LIBRARIANS, TAPE
DUTIES	Give legal counsel and advice to individuals corporations, officials; represent them in court negotiate settlements out of court, draw up legal documents, act as guardians trustees, executors. May specialize in one branch of law.	Classify, catalog, file, and charge out thousands of reels of magnetic tape used to store information in electronic data-processing installations May devise storage system. Keep records, check tapes for damage, purge tapes to be discarded.
WHERE EMPLOYED	About 75% are in private practice or partnership The rest are salaried, working in government, insurance, banking, real estate industry, unions, or teaching in law schools	Manufacturing companies, financial organizations, public utilities, department stores, data-processing service centers. In and near cities and towns.
EDUCATION AND TRAINING	Varies from the minimum of 5 years (2 of prelaw plus 3 of law school) to more desirable 7 years (4 years college plus 3 of law school)	High school diploma the minimum; some college preferred. Courses in data processing helpful. On-the-job training.
SPECIAL QUALIFICATIONS	Must pass bar exam to get state license. Logical, self-confident, persuasive, able to get along with people Speaking and writing ability helpful.	Clerical ability, accuracy, liking for detail, ability to work systematically, tolerance of routine.
WAYS TO ENTER FIELD	Begin as associate or assistant in established law office. Possibly work for local or federal government. Apply direct to prospective employers or to civil service office	See newspaper ads, state employment service. Apply direct to organization having data-processing installation. May start as coding clerk, file clerk, messenger, machine operator.
EARNINGS	In salaried employment: start, $7200; with experience, $8500 or more Junior partners, about $12,000. Senior partners average $15 000.	Wide range of earnings: $3600–$7000 a year. Nationwide average about $4700.

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OCCUPATION	MANAGERS, OFFICE	OFFICE BOYS AND GIRLS, MESSENGERS, PAGES
DUTIES	Supervise clerical employees, plan and schedule office work, order equipment and supplies. Responsible for efficiency of work procedures, economy personnel selection, morale, training, liaison with management	Pick up and deliver messages, mail, parcels, or supplies between departments or buildings within an organization, or between employer and related organizations. May answer telephone, guide visitors, operate simple office machines such as postage meter and envelope sealer, perform variety of clerical duties
WHERE EMPLOYED	Almost every kind of organization that employs a number of clerical workers has one or more office managers. In towns and cities throughout U.S.	Banks, insurance companies, manufacturing plants, newspaper and other publishing houses, government agencies; also commercial messenger and delivery services and telegraph offices in large cities.
EDUCATION AND TRAINING	College degree in business administration or accounting preferred but those with high school diploma plus business school and experience may qualify	High school graduates preferred, especially for office boys and girls and pages, because jobs are usually training post for future promotion. On-the-job training provided.
SPECIAL QUALIFICATIONS	Organizational and administrative abilities, analytical mind, even temper, tact, initiative, fairness, ability to get along well with and supervise people	Adaptability, reliability, promptness, neat appearance, ability to do considerable walking. Pages, office boys and girls usually between ages 16 and 20. Outside messengers sometimes semiretired men. Messengers must know city well.
WAYS TO ENTER FIELD	Apply to private and state employment services or direct to employers. College graduates may start as management trainees, others start as clerks and work up.	Newspaper help-wanted ads and state employment service provide leads. Apply directly to large organizations. Take civil service tests for government jobs.
EARNINGS	In small offices: $5000–$8000. Average: $7000–$10,000. Top: $15,000 or more.	$2500–$4200 a year, depending on business, geographical area. Commercial messengers usually paid for each package delivered.

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OCCUPATION	OFFICE MACHINE OPERATORS	PERSONNEL WORKERS
DUTIES	Operate office machines used for calculating, recording, writing, billing, addressing mailing, duplicating, coding, sorting, and the like. Usually operate one kind of machine, such as keypunch, autotype, billing	Recruit, screen, hire new employees. May administer or develop training programs; evaluate for promotions, pay raises; deal with job problems; establish policies. Develop job classifications, pay scales, benefits. Keep records.
WHERE EMPLOYED	Government agencies, manufacturing companies, banks, insurance companies, wholesale and retail businesses, other organizations throughout U.S.	Almost every sizable industrial, business, government, and nonprofit organization has one or more personnel workers. More than half are in industry.
EDUCATION AND TRAINING	High school diploma usually required. Business school training helpful. A few days to several weeks on-the-job training given.	College degree often minimum. Master's or doctor's degree may be required for top jobs. In-service training common.
SPECIAL QUALIFICATIONS	Finger dexterity, good eye-hand coordination, accuracy, good vision. Mechanical ability helpful for those who operate larger machines. Skill on several machines desirable.	Should be objective, patient, emotionally stable, personable, good judge of character, tactful, discreet. Sound judgment, leadership qualities, common sense are important.
WAYS TO ENTER FIELD	Apply to prospective employers. Watch want ads; try state, private employment agencies. Civil service offices, business school placement services list openings.	School placement services, state or private employment agencies, want ads; direct application to companies, civil service offices. May start as trainee, assistant.
EARNINGS	Average $3700–$6300 a year, depending on machine and experience. Men usually earn more than women.	Starting salaries, with bachelor's degree, average $6000. Experienced: $10,000–$15,000. Top: $20,000.

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OCCUPATION	PROGRAMMERS	PUBLIC RELATIONS WORKERS
DUTIES	Write programs or detailed coded instructions for processing information w electronic computers Determine data required and sequence of operations, write code routines make instruction sheets, test and debug programs	Plan and prepare activities and communications to promote public opinion favorable to employer or client: write and edit articles, speeches, reports, pamphlets; do research; make contacts; arrange special events.
WHERE EMPLOYED	Large business organizations such as banks insurance companies, department stores government agencies, industrial companies, universities and research laboratories data-processing service centers	Business and industrial companies; about 1500 public relations firms; trade, labor, and professional associations; colleges and universities; government agencies. Some are self-employed. Most work in sizable cities.
EDUCATION AND TRAINING	Most employers require college degree About 1 year of on-the-job training	College degree usually required. Suggested major: public relations, journalism, liberal arts, business.
SPECIAL QUALIFICATIONS	...cal and spatial ability, reasoning ability, clarity of thought and expression accuracy, ingenuity, reliability, patience	Writing ability, outgoing personality, imagination, drive, persuasive ability, initiative, fluency in conversation, persistence.
WAYS TO ENTER FIELD	Watch want ads in newspapers, listings in technical journals Apply direct to organizations having computer system. Civil service offices list government openings.	Interview through college placement service, watch want ads, contact employment agencies, apply directly to employers. Many start as journalists, switch to public relations after gaining experience.
EARNINGS	$6000 a year Experienced: $8500– Top: $12,000 or more	Start: $5000–$7000. Experienced: $8000–$12,000. Top: $25,000 or more.

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OCCUPATION	PURCHASING AGENTS	RECEPTIONISTS AND SWITCHBOARD OPERATORS
DUTIES	Buy materials, equipment, supplies, and services. Contact suppliers, get bids or cost estimates, place orders, follow up to ensure prompt delivery. May meet with salesmen, visit suppliers' plants	Usually stationed near entrance to building or office. Greet visitors, obtain names and purposes, give information and directions. Operate PBX switchboard to handle incoming, outgoing calls. May do typing, record keeping, other work.
WHERE EMPLOYED	Manufacturing companies, wholesale and retail establishments, government agencies, hospitals, schools, other institutions—just about every sizable organization.	Almost all large and medium-sized offices, businesses, industrial plants, hospitals, public buildings have jobs for receptionists and switchboard operators.
EDUCATION AND TRAINING	College degree desirable, required for most high-level positions. On-the-job training may last several weeks to a year.	High school graduation preferred. Business courses are assets. A few days of on-the-job training usually given.
SPECIAL QUALIFICATIONS	Integrity, business sense, good judgment, dependability, responsibility, skill in human relations, eye for detail.	Manual dexterity, neat and attractive appearance, pleasant voice, tact, courtesy, good memory, poise, even temper.
WAYS TO ENTER FIELD	Without college degree, may start as clerk and become buyer only after much experience. With degree, may start as purchasing agent trainee, become junior buyer.	Watch newspaper want ads, listings of employment agencies and civil service offices. Apply direct to organization employing receptionists.
EARNINGS	Trainees: $5000–$7000. Experienced purchasing agents: $8500–$12,000. Top: $25,000 or more.	Start: $3000–$3700. Experienced operator-receptionists: $4000–$4800. Some receptionists make $5000 or more, especially if they operate switchboard.

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OCCUPATION	SALESMEN, RADIO-TV TIME	INSURANCE ADJUSTERS
DUTIES	Sell radio and TV broadcasting time to sponsors, advertising agencies, other clients. Visit clients, explain station's programs, coverage, rates; try to sell programs or spot announcements. May help plan advertising	Make sure policy covers claim; arrange for any necessary emergency measures; secure written evidence of loss; examine every detail regarding cause and extent of loss, determine with the insured, the amount owed to him
WHERE EMPLOYED	At 5600 radio and 700 TV broadcasting stations throughout U.S. in cities over 10,000	Insurance companies, adjustment bureaus, independent adjustment organizations throughout U.S., particularly in heavily populated areas.
EDUCATION AND TRAINING	College training highly recommended. Some on-the-job training given	High school is required; sometimes college or even law training. In-service training programs are also given
SPECIAL QUALIFICATIONS	Sales ability, intelligence, broad range of knowledge and interests, imagination, attractive appearance and personality, liking for people, ambition, initiative	Tact, sympathy, courtesy, patience, knowledge of human nature, ability to inspire confidence, sound judgment, keen observation, resourcefulness, alertness.
WAYS TO ENTER FIELD	Apply to sales managers of stations. Experience in broadcasting, sales, advertising, or journalism usually required to start as a time salesman.	Minor adjusting jobs open to college graduates. Without college or experience, begin as a clerk. After 2 or 3 years experience, may qualify as trainee in claims work.
EARNINGS	Usually get 10%–25% commission plus small salary. In TV, average $10,000 a year. In radio: $7700. Top: $15,000 or more.	Start: about $4800 a year. With few years experience: $7000–$8000. With legal training: $10,000.

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OCCUPATIONS	SALESPEOPLE, RETAIL STORE	SCRIPTWRITERS
DUTIES	Determine customer's needs and preferences, show merchandise, answer questions, sell. Take payment and make change, fill out charge or sales slip, wrap purchases. May check and order stock, handle exchanges, keep merchandise neatly arranged	Write scripts for motion picture, TV, radio productions. For movies, write screenplay based on book or Broadway play; may rewrite screenplay someone else has prepared. For others, writer may submit ideas in outline or condensed form, then write complete script such as documentary, TV special, newscast, talk program, commercials, business film, and others.
WHERE EMPLOYED	Retail stores of all kinds and sizes throughout U.S. Department stores employ largest numbers.	Packaging companies (TV shows); production companies (industrial, training films); advertising agencies (radio, TV commercials); radio, TV stations and networks; movie studios. Most jobs in New York, Hollywood, Chicago.
EDUCATION AND TRAINING	High school graduates preferred in most stores. A few days of on-the-job training usually given.	College degree, probably in liberal arts or literature.
SPECIAL QUALIFICATIONS	Sales ability, knowledge of product, pleasant personality, liking for people, physical stamina, neat appearance, courtesy, tact.	Genuine talent for writing, ability to meet deadlines; broad, general knowledge, understanding of human nature; perseverance in job hunting, and qualifications to earn a living while breaking into scriptwriting.
WAYS TO ENTER FIELD	High school distributive education program helpful, as is a part-time or summer job in a retail store. Apply to personnel office of store.	Vacation or part-time work as newspaper copy boy or girl, reporter; messenger or other work with TV or radio station, film producers. Apply personally to small ad agencies, local radio and TV stations. For larger producers and studios, engage literary agent.
EARNINGS	Start $1.25 or more an hour. Experienced people may get $2 or more an hour. Some stores pay salary plus commission.	Depend on medium and on writer's talent and productivity. Scriptwriters, especially beginners, usually supplement income with other work.

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OCCUPATION	SECRETARIES	STENOGRAPHERS
DUTIES	Take notes and dictation, transcribe, type letters and reports, greet callers, answer telephone, schedule appointments, meetings, trips; read and sort mail; file; keep records. May specialize as legal or medical secretary, shorthand reporter.	Type, perform general clerical duties. May take dictation in shorthand or by Stenotype machine and transcribe, or transcribe from dictating machine. May specialize in technical field such as law, medicine, police work.
WHERE EMPLOYED	Every kind of business, industry, government agency, and nonprofit organization.	In every kind of business, industry, government agency, nonprofit organization. Some are self-employed as public stenographers.
EDUCATION AND TRAINING	At least high school. Training in business school, junior college, or college helpful.	High school diploma usually required. Business school, other training helpful, especially for advancement.
SPECIAL QUALIFICATIONS	Friendly personality, liking for people, tact, discretion, dependability, accuracy, courtesy, good memory, neat appearance. Knowledge of grammar, spelling.	Clerical ability, speed, accuracy, good hearing, alertness, good memory, knowledge of grammar and spelling.
WAYS TO ENTER FIELD	Watch want ads, civil service announcements. Employment agencies and school placement services helpful. Direct application to employers. May start as clerk typist, stenographer.	Business school placement service may furnish job leads. State and private employment agencies, civil service offices. Direct application to employers.
EARNINGS	Start: $3500–$5000. Experienced: $5500–$7500. Executive secretaries and those with supervisory experience may earn more.	Start: $3500–$4500. Experienced: $4500–$5000; average about $4600. Public stenographers, court reporters can earn more.

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OCCUPATION	SYSTEMS ANALYSTS	TECHNICIANS, RADIO-TV BROADCAST
DUTIES	Plan and control work to attain maximum efficiency. Analyze organization, systems and procedures, layout, forms and reports. Make surveys, prepare flowcharts, data sheets, work plans. May specialize in electronic data processing	Set up, operate, monitor, repair, and maintain technical equipment used in radio-TV broadcasting. May specialize in maintenance, transmission, audio or video control, lighting, recording, field operations
WHERE EMPLOYED	Manufacturing companies, banks, insurance organizations, government agencies, department stores, other organizations. Mostly in or near industrial cities.	With 5600 radio and 700 TV broadcasting stations throughout U.S.
EDUCATION AND TRAINING	College degree with courses in business, math, engineering, science. Several years business experience, especially in computer work, often required.	High school, plus electronics courses in trade or technical school or junior college. On-the-job training often provided
SPECIAL QUALIFICATIONS	Intelligence, analytical ability, logical mind, initiative, business sense, human relations skills, knowledge of data processing, ability to communicate effectively.	Must pass exams to get Federal Communications Commission license. Mechanical interests and aptitude, manual dexterity, mental alertness, ability to cooperate and work as member of a team
WAYS TO ENTER FIELD	Apply direct to employers. Want ads, civil service offices. May start in accounting, production, sales, programming.	Get FCC license, then apply to radio or TV stations. Small stations are best starting places. Placement services of junior colleges and technical schools help in locating openings
EARNINGS	Beginners: $6000–$8000. Experienced: $15,000 or more.	Start: $3200–$4500. Experienced: radio technicians, $4500–$9600; TV, $5700–$11,000. Supervisors: to $13,000.

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OCCUPATION	TELETYPISTS	TYPISTS
DUTIES	Send and receive messages on high-speed electronic machines similar to electric typewriters. May also do general typing and clerical work	Type letters, envelopes, reports, lists, stencils, and the like. May use dictating machine to type transcription. May have general clerical duties such as filing, answering telephone, keeping records, operating business machines
WHERE EMPLOYED	Western Union, armed forces, government agencies (particularly Federal Aviation Administration), airlines, railways, news agencies, weather stations, brokerage firms, telephone companies, some large business and industrial companies	Business, industry, government agencies, and sizable nonprofit organizations throughout U.S.
EDUCATION AND TRAINING	High school graduates, skilled in typing and qualified to do routine clerical work. Some employers provide on-the-job training; others require operators to take special training in communications school.	High school diploma usually required. Business school training helpful. Type 40–50 words a minute
SPECIAL QUALIFICATION	Accuracy, dependability, ability to work under pressure. Some employers require typing and clerical aptitude tests before hiring.	Finger dexterity, hand-eye coordination, accuracy, clerical ability, dependability, ability to follow instructions, knowledge of spelling and punctuation.
WAYS TO ENTER FIELD	Apply direct to telephone, telegraph, and other firms that use Teletype equipment. Check with state employment service and U.S. Civil Service Commission; watch newspaper ads.	School placement service, employment agencies, want ads. Apply direct to organizations. Try federal, state, local civil service offices
EARNINGS	Salary depends on ability, experience, and employer. Beginners may earn about $3600 a year; experienced, $4200–$5500.	Start: $2800–$4000. Experienced: $3200–$5000.

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West Maple I.M.C.

Filmstrips:

Profit, Money and Banking
What is Profit?
Why We Use Money
Andy Lends His Money to the Bank
What the Bank Does with Andy's Money
Role of the Commercial Banking System
Evolution of Money and Banking
Bank Services
Banking and the Economy
Succeeding in Your Career
Business and Government
Proper Handling of Checks
Getting a Job and Keeping It
The Role of the Consumers

Consumer Studies - by Guidance Associates: (has records)
1. The Price of Credit
2. Money Well Spent
3. Buyer Beware!
4. Making Ends Meet (Budgeting)

The School Times
Consumer Education
by the New York Times

Modern Consumer Education (has cassettes):
Module I- Food, Clothing and Shelter
Module II- Cars, Furniture and Appliances
Module III- Protecting Family, Health and Security
Module IV- You and the Law
Module V- Ways to Handle Money

Programmed Text:
Household Budget
Wise Buyer

Modern Talking Pictures, Inc.
Cedar Rapids, Iowa

Film:

The Owl Who Gave a Hoot

University of Nebraska - Lincoln
Instructional Media Center
University of Nebraska
Lincoln, Nebraska 68508
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Films:

Accounting: Basic Procedures
Bookkeeping: Occupations and Opportunities
Industrial Purchasing
The Computer Revolution
Computers at Work
You and the Computer
Are You Earning the Right to Manage Others?
Getting the Decision
What is a Contract?
Alice in Numberland
Borrowing Money - Where and Why
The Buy Line
Buying on Open Charge
Buying on Revolving Credit
Consumer Education: Budgeting
Consumer Education: Installment Buying
Consumer Education: Retail Credit Buying
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Credit Facts About You
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Read Before You Write
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FIELD TRIPS AND RESOURCES

FIELD TRIPS

Better Business Bureau

Barbara Lammers Personnel Service

Career Clinic

Blair Business College

Patricia Stevens Business School

Department Stores

Grocery Stores

Douglas County Court House (Small Claims Court, Tax Office)

Merrill, Lynch, Pierce, Fenner & Smith, Inc.

Technical Community College (Key Punch, Computer)

E.C.P.I.

Data Processing Company

Mutual of Omaha

Local Bank

Commercial Federal Savings and Loan

Small Business Administration

Penney's Advertising Department

World Herald Advertising Department

Grocery Supply Wholesale Company

Omaha Candy Company (Manufacturing process)

Butternut Bakery (Manufacturing process)

Boys Town (Trade School)

Hilton Hotel

School Cafeteria

Custodial Rooms

RESOURCE PERSONS

Better Business Bureau

Lawyer (Creighton Law School) Contracts and Guarantees

Commercial Artist (Advertising)

Personnel Director

Legal Aid Society

Internal Revenue Service

Social Security Official

Collection Agency

Buyer-Department Store

Business Department of your school

School Secretary, Counselor

Computer Dating Service

Accountant

Insurance Agent

Bank Employer

Students who have part-time jobs

Patricia Stevens Business College

Custodial Staff in your building

Instructional Media Center (Advertising)

ACCESSION NUMBER: VT101428

PUBLICATION DATE: JUL74

TITLE: FROM COTTON TO CLOTHES.

PERSONAL AUTHOR: SYKES, THERESA

DESCRIPTOR: *CAREERS; *GRADE 5; MARKETING; MERCHANDISING; SALESMANSHIP; ASSEMBLY (MANUFACTURING); *CLOTHING

IDENTIFIER: OMAHA PUBLIC SCHOOLS

EDRS PRICE: MF AVAILABLE IN VT-ERIC SET.

DESCRIPTIVE NOTE: 14P.

ABSTRACT: THIS MINI-UNIT TAKES A RAW MATERIAL, COTTON, AND FOLLOWS IT THROUGH ITS PROCESSES UNTIL IT BECOMES A GARMENT SOLD ON THE PACIFIC COAST OF THE UNITED STATES. THE STEPS TAKEN COINCIDE WITH THE REGIONS STUDIED IN THE FIFTH GRADE SOCIAL STUDIES BOOK, "EXPLORING REGIONS OF THE UNITED STATES." THE LENGTH OF THE UNIT IS APPROXIMATELY THREE WEEKS. OBJECTIVES, LEARNING ACTIVITIES, AND RESOURCES ARE PRESENTED. TOPICS COVERED INCLUDE: PRODUCT INSPECTION, PERSONNEL AND LABOR RELATIONS, FASHION DESIGNING, ASSEMBLY LINES, TRUCK DRIVING, WHOLESALE BUYING, PRODUCT PROMOTION, AND STORE CLERK. (KE)

CONTRACT NUMBER: OEG-0-71-4661(361)

INSTITUTION NAME: OMAHA PUBLIC SCHOOLS, NEBR. DEPT. OF VOCATIONAL EDUCATION.

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VT 101 428

FROM COTTON TO CLOTHES

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351-P227-74

FROM COTTON TO CLOTHES

OMAHA PUBLIC SCHOOLS
DEPARTMENT OF VOCATIONAL EDUCATION
OMAHA, NEBRASKA

IN-SERVICE WORKSHOP
CAREER EDUCATION

The Exemplary Program - U. S. Commissioner of Education
Vocational Amendment of 1968
Part D

Expanded Vocational Education Program for Disadvantaged Youth

Occupational Guidance K-12

Comprehensive Center for Occupational Education

Vendor Number - 465668
Grant Number - OEG-0-71-4661 (361)

July, 1974

Prepared by:

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Acting Director
Department of Vocational Education

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Project Director

How to Start Out This Unit

Students will need to be introduced to the cluster idea in Career Education. Inform the students that the textile industry will be studied. Let them speculate as to just what the major steps are. List them on the board as they give the ideas orally. When done with this, fill in the steps that they have left out. By using a United States map, be sure to point out the geographical locations as you are discussing.

It is recommended that a wall graph be put up with the six major divisions of the manufacturing cluster, and slightly review each day as a constant reminder that the textile industry falls into all these categories. A lengthy discussion will be necessary the first few times, but later, the students will become well acquainted with them.

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From Cotton To Clothes

This mini-unit takes a raw material, cotton, and follows it through its processes, till it becomes a garment sold on the Pacific Coast of the United States. The steps taken do coincide with the regions studied in the Fifth Grade Social Studies book, "Exploring Regions of the United States." However, it is suggested that this mini-unit be taught in the way that it will best adapt itself to the particular classroom. It can be taught as a career per region which would cover the entire year. Or it can be taught as an introduction to studying the United States. Another thought would be to teach this career mini-unit after studying the United States, taking approximately three weeks to complete it.

The following points are the steps in tracing the cotton:

1) The fiber is grown in the South Eastern States. The occupation studied here is Product Inspection. 2) The product is sent to the New England States to a textile factory where it is made into cloth. The occupation studied here is work in Personnel and Labor Relations. 3) Next the yardage is sent to New York (Middle Atlantic States) for cutting, dyeing, and designing. The career studied here is Fashion Designing. 4) The material is made into garments here also. Another career studied with this would be Assembly Line Occupations. 5) The clothes are transported to Chicago (North Central States), to the Merchandising Mart. Transportation, (truck driving), is the career studied here. Wholesalers buy here, thus 6) The Wholesale Business can be explored as a career. 7) The garments are advertised in the South Central States. Product Promotion is the career studied here. 8) Retailers in the Rocky Mountain States and Pacific States purchase the garments to sell in stores. The career studied here is that of being a store clerk.

The following outline includes the concept studied, objectives, learning activities, resources and teacher evaluation. Any teacher should include any ideas of his/her own. The goal of the activities is to make children aware of the various jobs connected with one single industry.

I. Concept: The student will become familiar with the fact that the field of manufacturing textiles, with its six major subdivisions, provide many and various jobs.

II. Objectives

A. Broad Objectives

1. The student will become familiar with and identify the skills and abilities needed for the careers studied related to the textile manufacturing industry.
2. The student will realize the interdependence and complexity of producing a manufactured product and getting it into the hands of the consumer.

B. Behavioral Objectives

1. The student will be able to list the six major subdivisions of the Manufacturing Cluster, and briefly describe each.
2. The student will be able to accurately fill out a simple application form.
3. The student will be able to list five different careers that can be found in the textile manufacturing industry and distribution of produced goods.
4. The student will be able to give an accurate definition

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of the following terms, which are needed to fully understand this unit:

a. Consumer

b. Manufacture

c. Raw Material

d. Designer

e. Assembly Line

f. Merchandise

g. Wholesale

h. Product Promotion

i. Retail (Retailer)

j. Strike

k. Negotiations

l. Personnel

m. Application

n. Personal Hygiene

III. Learning Activities and Resources

A. Product Inspection

1. Activities:

a. Have the class think of consumer goods which are called back because inspection detected deficiencies. Examples are cars, tuna, medicine, etc.

b. Examine puzzles where hidden pictures or words can be found if inspected closely. Puzzles can be used where two pictures are different in X number of ways.

c. Examine dry goods with flaws.

d. Do reports on what cotton inspectors do. Letters could be written for information from the South Eastern States.

2. Resources

a. From the Manual of Instructional Materials of the Omaha Public Schools, O.P.S. Resource Center:

1) "The Cotton Farmer", Film

2) "Cotton Picking and Ginning", Film

3) "Cotton Planting", Film

b. From the West Maple Instructional Materials Center,

1) "The Story of Cotton", Filmstrip

2) Imperial, 687
Cot
Filmstrip

a) "Cotton Clothing: From Field to You"

b) "Cotton Growing and Ginning"

c) "Cotton Spinning and Weaving"

d) "Designing Cloth for Clothes"

e) "Silkscreen Printing"

f) "Garment Factory"

g) "Retail Store"

h) Filmstrips listed here could be used in other segments of this unit.

B. Personnel and Labor Relations

1. Activities

a. Collect newspaper articles about contemporary strikes.

b. Have a local labor union leader speak to the class about labor relations.

c. Find out why workers strike. Have group discussions on the right and wrong ways to bargain in labor relations.

d. Role playing.

2. Resources

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a. From Career Education Materials, Tech High

1) "We Visit a Clothing Factory", Filmstrip

2) "We Learn How Things Are Made", Filmstrip

3) "Public Relations", Cassettes

4) "Personnel Workers", Film, 4503

5) "Public Relations Workers", Film, 4504

6) "Clothing Factory", Encyclopedia Britannica,

646
c
Filmstrip

7) Modern Learning Aids 973.9
Ame.
America Matures, Series One Filmstrip

"The Birth of Unions"

8) New York Times, 331.892
R
Kit

"Right to Strike"

C. Fashion Designing

1. Activities

a. Purchase material enough to make a floor length skirt for a female teacher, and enough material for a shirt for a male teacher. Divide the material into sections, giving each child a few sections. Use permanent magic markers and let students draw his own design in his box. Then make the material into a garment for the teacher to wear.

b. A Batik art lesson could be used to show how all designs need first to be drawn by someone.

c. Girls may enjoy creating new fashions. Many boys also would enjoy creating men's fashions.

d. Tie-dyeing could be a project with old shirts.

2. Resources

a. From Career Education Materials, Tech High:

1) "Your Future as a Fashion Designer", Film

2) "Commercial Artist", Cassette

3) "Careers in Fashion Designing", Filmstrip with record

b. From West Maple Instructional Materials Center, "How We Get our Clothing", Filmstrip

D. Assembly Lines

1. Activities

a. Field trip to Guy's Food. Assembly Line work is shown here.

b. Make table mats as a classroom activity, using assembly line workers. The only materials needed are rulers, burlap, needles, thread, and scissors. Factory positions are listed. Materials planned. Job descriptions of each worker are given to the class. The students fill out application forms for the job they have selected. The students are selected. The jobs are designers (draw styles and make patterns), the spreaders (spread pattern out on burlap using two or three layers of burlap), the cutters (cut out pieces, using electric scissors), the edgers (ravel the edges, so many threads thick), and the machinist (sews around the edges with yarn to prevent further raveling).

2. Resources: From the West Maple Instructional Materials Center; "Assembly Lines and Merchandising", Modern Learning Aids, America Matures: Series Three, 973.9 Ame., Filmstrip

E. Truck Driving

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1. Activities

a. Have a truck driver come and discuss some rules of the road, qualifications of truck drivers, and kinds of goods transported on trucks. Also a discussion on all available jobs in the trucking companies would be good. Include data processors, administrators, keypunch operators, mechanics, dispatchers, accountants, freight handlers, sales people, claims adjusters, rate clerks, billing clerks, etc...

b. List the advantages and disadvantages of truck driving.

c. In Math class, using 14 cents per mile, wages can be figured according to certain trips taken by the truck driver.

2. Resources

a. From the Career Education Materials located at Tech High

1) "The Auto Mechanic", Filmstrips with Cassettes

2) "The Long Haul Truck Driver", Filmstrip and records

3) "Aim for a Job in Truck Industry", Book

4) "Local Truck Driver", Cassette

5) "The Truck Driver", Film

6) "Over the Road Truck Driver", Film Loop

F. Wholesale Buying

1. Activities

a. Use catalogues and have girls pick ten fashions they would purchase if they were wholesale buyers. Boys could do the same with men's fashions.

b. Groups working together can invent a type of store.

They can pretend they are wholesale buyers, and out of a catalogue, they can select what they would put in their store.

c. A wholesale distributor could speak to the class on just what wholesale and retail buying is.

2. Resources: From the Career Education Materials, Tech High, "Careers in Store Merchandising", Book

G. Product Promotion

1. Activities

a. Students can invent a new product and work up an advertising campaign to go along with it. Students could try to "sell" their product inventions to groups in the classroom.

b. Students could analyze television commercials as to what their selling points are.

c. Role play certain commercials on television.

2. Resources

a. From the Career Education Materials, Tech High

1) "Careers in Printing", Book

2) "Advertising", Cassettes

3) 4502, "Advertising Workers", Tape

H. Store Clerk

1. Activities

a. Practice in counting change would be valuable here.

b. As a final activity for the entire unit, a large long piece of roll paper can be used and divided into sections.

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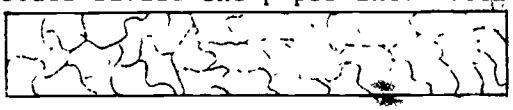
The students could divide the paper into sections as such:



Each student could depict any step in the textile industry studied here. This would make a good bulletin board display.

c. List characteristics a store clerk should have in order for you to want their assistance.

2. Resources

a. From the Career Education Materials, Tech High

1) "The Job Interview", Filmstrips and cassettes

2) "Would You Like to Sell", Filmstrips

3) "We Run a Store", Filmstrips

4) "Job Opportunities in a Department Store", Filmstrips and record

5) "Would You Like to be a Cashier", Filmstrips

6) "Careers in a Department Store", Book

7) "Salesmen and Saleswomen in Retail Stores", Film Loops

b. From the West Maple Instructional Materials Center

1) 613.4 SVE P Kit — "Personal Cleanliness" / "Washing Your Hands and Face" / "Brushing Your Teeth" / "Washing Your Hair" / "Trimming Your Nails"

2) 371.42 Kit, "Your Job Interview"

3) 641.72 C Transp. — "Fundamentals of Grooming"

4) 646.7 McGraw

B Better You

Filmstrip "You Want to Make a Good Impression"

"Yours For the Best"

"Yes, Politeness is for You"

"Your Boss is Proud of You"

IV. Teacher Evaluation

Many methods of evaluation could be utilized. Each teacher should consider her students, possibly evaluating them in several ways.

A. Students could work in groups making time lines showing the steps from cotton (raw materials) to manufactured goods on the shelves.

B. Students could break into small groups and make up questions of their own. Student participation would come in when they ask each other their own questions.

C. Written Test. Questions can be made such as:

1. Name the six major steps in any manufacturing industry.
2. List five available jobs in the textile manufacturing industry.
3. Explain the difference between wholesale and retail buying.

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ACCESSION NUMBER: VT101429

PUBLICATION DATE: JUL74

TITLE: AGRICULTURAL BUSINESS UNIT, FIFTH GRADE LEVEL.

PERSONAL AUTHOR: REICHSTADT, KATHRYN

DESCRIPTOR: *CAREERS; *GRADE 5; *AGRIBUSINESS; AGRICULTURAL OCCUPATIONS; OFF FARM AGRICULTURAL OCCUPATIONS

IDENTIFIER: OMAHA PUBLIC SCHOOLS

EDRS PRICE: MF AVAILABLE IN VT-ERIC S:I.

DESCRIPTIVE NOTE: 15P.

ABSTRACT: THIS IS A UNIT OF STUDY INVOLVING OCCUPATIONS IN AGRICULTURAL BUSINESS (SERVICE SUPPLY, CROP PRODUCTION, AND ANIMAL PRODUCTION) TO BE INTEGRATED WITH THE FIFTH GRADE CURRICULUM. EACH SUBSECTION OF THE UNIT CONTAINS A LIST OF OCCUPATIONS IN THE AREA, OBJECTIVES, LEARNING ACTIVITIES, AND A WORKSHEET. A PRE-TEST, POST-TEST, A TEACHER EVALUATION, AND A RESOURCE MATERIALS LIST ARE INCLUDED. (KB)

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VT 101 429

AGRICULTURAL BUSINESS UNIT
Fifth Grade Level

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AGRICULTURAL BUSINESS UNIT
Fifth Grade Level

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DEPARTMENT OF VOCATIONAL EDUCATION
OMAHA, NEBRASKA

IN-SERVICE WORKSHOP
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The Exemplary Program - U. S. Commissioner of Education
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AGRICULTURAL BUSINESS

This is a unit study, involving occupations in Agricultural Business Service Supply, Crop Production, and Animal Production, to be integrated within the fifth grade curriculum.

INTRODUCTION

In the beginning of our country farming was simply a way of life. Today, however, it has become "Big Business." Rapid development in technology over the past few decades has enormously increased the level of productivity and has transformed farming from an elementary way of making a living into a science. For this reason, the entire business is titled Agricultural Business (Agri-Business).

Agriculture, today, consists not only of production and cultivation, but also scientific research, the processing of raw materials, and distribution. It is a highly complex and interrelated industry.

CONCEPT

The field of Productive Agricultural Business provides many and various jobs.

LONG RANGE OBJECTIVE

The student will become familiar with various occupational areas connected with Agri-Business.

PRE-TEST

Answer the following questions:

1. What is Agri-Business?

2. Why is Agri-Business necessary?

3. Complete the following chart; be as brief as possible.

Occupations in Agri-Business	Work Involved
1.	
2.	
3.	
4.	
5.	

True-False

1. A Feed Store Operator is not an Agri-Business Occupation.

2. A Farm Magazine Reporter, Farm Magazine Editor and Radio Farm Director are important to the farmer.

3. The Veterinarian is connected with Agri-Business.

4. A Poultry Technician is responsible for vaccinating poultry for diseases.

5. Examples of salesmen in Agri-Business are: Feed Salesmen, Seed Salesmen, Fertilizer Salesmen, Insecticide Salesmen, Nursery Salesmen, and Flower Salesmen.

6. The Farm Crop Production Technician is not involved in planning, planting, cultivating, caring for, harvesting and marketing field crops.

7. Raising animals is an important occupation in Productive Agriculture.

8. A Tree Surgeon is an Agri-Business Occupation.

9. A Power Farm Machinery Operator operates large types of farm tractors and the more complex types of agricultural machinery.

10. A Nurseryman and Nursery Worker are not occupations in Agri-Business.

AGRI-BUSINESS

Supply Service Occupations

- Machinery
- Seed
- Feed
- Chemicals
- Veterinary

Occupations in this area involve providing consumable supplies, equipment, services, technical assistance, and other services which are peculiar to the production phase of agriculture. Specific job classifications are:

- Veterinarian
- Poultryman
- Hatchery Manager
- Egg Room Foreman
- Poultry Technician
- Poultry Vaccinator
- Feed Mixer
- Dairy Tester
- Breed Associations Representative
- Salesman
- Farm Machine Set-Up Man
- Farm Equipment Mechanic
- Tractor Mechanic
- Seed Grower-Agriculture
- Seed Production Field Supervisor
- Veterinary Lab. Technician
- Seed-Cleaner Operator
- Contract Farmer
- Scout
- Orchard Fumigator
- Agriculture Airplane Pilot
- Weed Inspector
- Feed Store Operator
- Water-Well Driller
- Fertilizer Plant Owner-Operator
- Landscape Architect
- Soils Tester
- Farm Magazine Editor
- Farm Magazine Reporter
- Radio Farm Director

Suggested Vocabulary

- crop
- truck farm
- money crop
- irrigation
- plowing
- crop rotation
- contour farming
- soil conservation
- machinery
- seed
- feed
- chemicals
- equipment
- technical assistance
- farmer
- farm crop production technician
- Agri-Business

Objectives:

1. The student will become aware of the various occupations associated with the Supply Service Cluster in Agri-Business.
2. The student will identify with at least ten of these occupations and what they involve.
3. The student will learn terms and definitions associated with Supply Service Occupations.

4. The student will discover the responsibilities of the occupations associated with the Supply Service Cluster.

Learning Activities

1. Cut out pictures from magazines of equipment which farmers use. Arrange in a booklet.

2. Make a collage of pictures connected with Agri-Business.

3. Visit a feed store in Omaha. Make a list of the products he sells. Suggested Feed Stores include:

Benson Feed Mills Inc. 5900 S. 77, Ralston	Northwest Grain and Feed 8625 Military
Kenwood Feed Store 4801 N. 30	Cinek Inc. 4301 Q

4. Make a chart listing farm machinery, a description of its function, and (if possible) include a drawing or picture.

5. Choose one of the occupations found in the Supply Service Cluster. Find out:
   what the occupation involves;
   how much training is needed;
   how much money one is paid; and
   what the working hours are.

6. Using an encyclopedia, library resources, etc. answer the questions on the worksheet provided.

7. Make a collection of newspaper items which concern at least three of the occupations connected with Supply Service. Arrange these in a booklet.

8. Make a collection of newspaper and magazine advertisements of farm equipment. Arrange in a booklet.

AGRI-BUSINESS
SUPPLY SERVICE OCCUPATIONS
WORKSHEET

What is Agri-Business?

What do occupations in the Supply Service area involve?

How does the veterinarian help the farmer?

What does a seed production Field Supervisor do?

How does a Farm Magazine Editor and Reporter obtain information for his writing or reporting?

Why is a Water-Well Driller important to Agri-Business?

What is the job of a Soil Tester?

Fill in this chart:

	OCCUPATION	WORK INVOLVED
1.		
2.		
3.		
4.		
5.		

AGRI-BUSINESS

Productive Agriculture Occupations

Crops
- Planting
- Cultivating
- Harvesting

Animals
- Breeding
- Raising
- Feeding
- Management

Occupations in this area involve producing food and fiber for man's use. It also includes the production of trees, shrubs, and flowers for his aesthetic value. This broad area basically includes farmers, ranchers, vegetable growers, fruit growers, nurserymen, their managers, supervisors and workers. Specific job classifications are:

- Poultrymen
- Poultry Breeder
- Meat Poultry Farmer
- Turkey Raiser
- Dairyman
- Orchardist
- Orchard Picker
- Farmer
- Animal Farmer
- Cash Grain Farmer
- Crop Specialty Farmer
- Cattle Rancher
- Meat Production Cattle Farmer
- Beekeeper
- Sheep Farmer
- Horse Breeder
- Farm Manager
- Tree Surgeon
- Nursery Man
- Irrigator
- Animal Caretaker
- Farm Couple
- General Farmhand
- Power Farm Machinery Operator

Suggested Vocabulary

- planting
- cultivating
- harvesting
- animals
- breeding
- raising
- feeding
- elevator
- produce
- management
- orchard
- farmer
- rancher
- shepherd
- foreman
- nursery
- cattle
- wheat
- corn
- shrubs
- vegetable
- fruit
- oats
- barley
- soybeans
- silo
- surplus
- thresh
- grain bin

Objectives

1. The student will become aware of the various occupations associated with Productive Agriculture Occupations.

2. The student will identify with at least ten of these occupations and what they involve.

3. The student will learn terms and definitions associated with Productive Agriculture occupations.

4. The student will discover the responsibilities of the occupations associated with Productive Agriculture.

Learning Activities

1. Collect pictures of different types of farms; explain what is grown on each, and arrange in a booklet.

2. Make a map of the United States. Show the farming regions and/or the farm animals raised in the different regions.

3. Write a report on corn or wheat. Include these main topics:
   I History
   II How it is Grown
   III Uses

4. Interview a farmer. Ask him about hybrid corn, commercial fertilizers and the machinery he uses to plant and harvest his crop.

5. Make a graph comparing production of wheat, corn, barley, oats, and soybeans in the United States.

6. Find out how each of these men contributed to the Productive Agriculture of the United States: Cyrus McCormick, Eli Whitney, and John Deere. Be prepared to report your findings to the class.

7. Draw a diagram of a wheat combine. Show how the wheat is threshed as it goes through the machine, how stalks are thrown out, and how grain comes out of the machine.

8. Using encyclopedia, library resources, etc. answer the questions on the worksheet provided.

AGRI-BUSINESS
PRODUCTIVE AGRICULTURE OCCUPATIONS
WORKSHEET

What do occupations in Productive Agriculture involve?

How does a Farm Foreman, Farm Manager, and General Farmhand work together?

Why is the job of the irrigator important to any farmer?

What is the job of the Crop Specialty Farmer?

How does the Poultryman, Poultry Breeder, and Meat Poultry Farmer work together?

Fill in this chart:

	OCCUPATION	WORK INVOLVED
1.		
2.		
3.		
4.		
5.		

POST TEST
TEACHER EVALUATION

Answer the following questions:

1. What is Agri-Business?

2. Complete this chart on the Supply Service Occupations in Agri-Business.

	OCCUPATIONS	WORK INVOLVED
1.		
2.		
3.		
4.		
5.		

3. Complete this chart on the Productive Agriculture Occupations in Agri-Business.

	OCCUPATIONS	WORK INVOLVED
1.		
2.		
3.		
4.		
5.		

True-False

1. The Veterinarian's occupation is connected with Agri-Business.

2. A Feed Store Operator is not an Agri-Business Occupation.

3. Examples of salesmen in Agri-Business are: Feed Salesmen, Seed Salesmen, Fertilizer Salesmen, Insecticide Salesmen, Nursery Salesmen, and Flower Salesmen.

4. A Farm Magazine Reporter, Farm Magazine Editor and Radio Farm Director are important to the farmer.

5. A Poultry Technician is responsible for vaccinating poultry for diseases.

6. A Nurseryman and Nursery Worker are not occupations in Agri-Business.

7. An Animal Caretaker attends to animals such as mice and rats used in experimental research.

8. A Power Farm Machinery Operator operates large types of farm tractors and the more complex types of agricultural machinery.

9. A Farm Couple is two farmers joining their farms to form one large production unit.

10. The Farm Crop Production Technician is not involved in planning, planting, cultivating, caring for, harvesting, and marketing field crops.

11. Raising animals is an important occupation in Productive Agriculture.

12. A Tree Surgeon is an Agri-Business occupation.

ANSWER KEY

Pre-Test	Post Test
1. False	1. True
2. True	2. False
3. True	3. True
4. False	4. True
5. True	5. False
6. False	6. False
7. True	7. True
8. True	8. True
9. True	9. False
10. False	10. False
	11. True
	12. True

SUPPLY SERVICE OCCUPATIONS AVAILABLE RESOURCE MATERIALS

Films available at Lake School Resource Center:
1. COUNTRY VETERINARIAN
2. FARM EQUIPMENT MECHANIC #458

Films available through OPS computer mail service:
1. EGGS TO MARKET #09046
2. MACHINES THAT HELP THE FARMER #0495
3. AIRPLANES AND HOW THEY WORK FOR US #0009
4. CAREERS: AGRI-BUSINESS #1687

Materials available at the West Maple IMC:
1. FARMING--MCCORMICK'S REAPER, HAY RAKE, HAY BALER, COMBINE #631.35F (transparency)
2. FARM QUESTION #338.1A (kit)

PRODUCTIVE AGRICULTURE OCCUPATIONS AVAILABLE RESOURCE MATERIALS

Films available at Lake School Resource Center:
1. THE FARM COMMUNITY

Films available through OPS computer mail service:
1. FARMERS MAKE HAY #0262
2. MEAT FROM RANGE TO MARKET #0514
3. POULTRY ON THE FARM #0648
4. SHEEP AND SHEPHERDS #0725
5. WHERE DOES OUR MEAT COME FROM #0898
6. WOOL #0911
7. TRUCK FARM #0818
8. COTTON FARMER #0167
9. WHEAT FARMER #0896

Materials available at West Maple IMC:
1. DAIRYING #637W (filmstrip)
2. LIFE ON A DAIRY FARM #637Lif. (kit)
3. DAIRY FARM PANORAMA #637Dai (kit)
4. FARMER, RANCHER, AND COWBOY #630.1L (filmstrip)
5. LIFE ON THE FARM #630.1L (filmstrip)
6. IRRIGATION FARMING #631.587I (loop)

AGRI-BUSINESS IN OMAHA
POSSIBLE FIELD TRIPS

Robert's Dairy
2901 Cuming
344-4321
Contact: Betty Hoffman
Tour length: 30 minutes

Cooper Farm
8705 Mormon Road
453-0656
Tour length: 45 minutes

Alamito Dairy
2601 Leavenworth
342-2585
Contact: Mr. Grobeck
Tour length: 30 minutes

Union Stockyards
920 Livestock Exchange Bldg.
731-4980
Contact: Charles O'Rouke
Tour length: 1 hour

Minne Lusa Florist
3105 Forest Lawn
453-2321
Contact: Mr. Navity
Tour length: According to how well accepted

Oliver Farm Equipment
7002 F Street
331-4550
Contact: Leon Ferguson
Tour length: 30 minutes

AGRI-BUSINESS
Sources to write for charts, brochures, and additional information:

U. S. Department of Agriculture
Washington, D. C. 20250

American Society of Range Management
2120 South Birch Street
Denver, Colorado 80222

Bureau of Land Management
Denver Service Center
Federal Center Bldg. 50
Denver, Colorado 80225

American Veterinary Medical Association
600 South Michigan Avenue
Chicago, Illinois 60605

Pioneer Seed Company
1208 Mulberry Street
Des Moines, Iowa 50308

ACCESSION NUMBER: VT101430

PUBLICATION DATE: JUL74

TITLE: MINI-UNIT - COMMUNITY AND CAREERS, SOCIOLOGY, NINTH-TWELFTH GRADE LEVEL.

PERSONAL AUTHOR: HADDELL, FRANCES; LYNCH, TIMOTHY P.

DESCRIPTOR: *CAREERS; *HIGH SCHOOL STUDENTS; *SOCIOLOGY; OCCUPATIONAL CLUSTERS

IDENTIFIER: OMAHA PUBLIC SCHOOLS

EDRS PRICE: MF AVAILABLE IN VT-ERIC SET.

DESCRIPTIVE NOTE: 14P.

ABSTRACT: THIS SOCIOLOGY UNIT FOR HIGH SCHOOL STUDENTS WAS DESIGNED TO SHOW THAT IT TAKES MANY OCCUPATIONS TO HELP THE COMMUNITY RUN SMOOTHLY. IT ALSO INCLUDES THE IDENTIFICATION OF POSSIBLE CAREERS WITHIN THE COMMUNITY. THE OBJECTIVES OF THE UNIT ARE: (1) TO INVESTIGATE THE DIFFERENT CAREERS WHICH MAKE THE COMMUNITY RUN SMOOTHLY, (2) TO BRING THE STUDENT AWARENESS OF HIS OWN COMMUNITY, AND (3) TO BRING THE STUDENT AWARENESS OF POSSIBLE FUTURE EMPLOYMENT IN HIS COMMUNITY. LEARNING ACTIVITIES, RESOURCES, AND A TEACHER-EVALUATION ARE INCLUDED. (KB)

CONTRACT NUMBER: OEG-0-71-4601(361)

INSTITUTION NAME: OMAHA PUBLIC SCHOOLS, NEBR. DEPT. OF VOCATIONAL EDUCATION.

SPONSORING AGENCY NAME: BUREAU OF OCCUPATIONAL AND ADULT EDUCATION (DHEW/OE), WASHINGTON, D.C.

VT 101 430

MINI UNIT - COMMUNITY AND CAREERS
Sociology
Ninth-Twelfth Grade Level

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351-P227-74

MINI UNIT - COMMUNITY AND CAREERS
Sociology
Ninth-Twelfth Grade Level

OMAHA PUBLIC SCHOOLS
DEPARTMENT OF VOCATIONAL EDUCATION
OMAHA, NEBRASKA

IN-SERVICE WORKSHOP
CAREER EDUCATION

The Exemplary Program - U. S. Commissioner of Education
Vocational Amendment of 1968
Part D

Expanded Vocational Education Program for Disadvantaged Youth

Occupational Guidance K-12

Comprehensive Center for Occupational Education

Vendor Number - 465668
Grant Number - OEG-0-71-4661 (361)

July, 1974

Prepared by:

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Approved by:

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Acting Director
Department of Vocational Education

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Project Director

Community and Careers

Introduction:

This sociology unit was designed to show that it takes many occupations to help the community run smoothly. It also includes the identification of possible careers within the community.

Unit Concept:

A properly functioning community needs many people working in many different occupations.

Unit Objectives:

1. Students will investigate the different careers which make the community run smoothly.
2. To bring the student to an awareness of his own community.
3. To bring the student to an awareness of possible future employment in his community.

Learning Activities

1. Do worksheet A on occupational groups. (See Appendix A.)
2. Interview three workers. (See Appendix B.)
3. Draw an occupational map of the community. (See Appendix C.)
4. Discuss television and radio programs in relation to careers within the community.
5. Invite a guest speaker from an employment agency to talk about jobs in the community.
6. Have a bulletin board display of careers found in the community.
7. Discuss various careers listed in the want ads as to their importance in the community.
8. Invite a speaker from the trade unions to discuss the prospects of employment in the area.
9. Write a short paper on "My Community--What Makes it Tick."
10. Take a door-to-door survey in the community to find out where people work. (See Appendix D.)
11. Take field trips to some of the following, if they are found in the community.
    a. bank
    b. department store
    c. police department
    d. library
    e. hospital
    f. fire department
    g. factory
12. Invite speakers from some of the places listed in activity 11.
13. Invite a speaker from the Chamber of Commerce.
14. Have students make a mural depicting occupations found in the community.
15. Invite some workers from the community to tell about their jobs.
16. Make a list of all the essential careers in the community.
17. Visit a hospital.

Resources:

1. Occupational Outlook Handbook
2. Interviews
3. The City as a Community by Gerald Leinwand
4. Encyclopedia
5. Radio and television programs
6. Newspaper
7. Occupations and Careers by Feingold and Swerdloff

Teacher Evaluation:

1. Oral test
2. Worksheets
3. Written report on the career in which the student is most interested. (See Appendix E.)

APPENDIX

Appendix A

Identification of Occupational Groups

1. Professional and Technical Occupations

This occupational group offers opportunities for interesting and responsible workers which lead to relatively high earnings. It requires either college graduation or experience and the desire to perfect oneself.

2. Administrative and Managerial Occupations

Workers in this occupational group are those executives who carry on many responsibilities in determining the needs and functions of a business program.

3. Clerical Occupations

Workers in this occupational group take care of the record keeping and paper work needed in any business.

4. Service Occupations

Workers in this occupational group provide services that add to people's comfort and enjoyment. Some also protect lives and property.

5. Agricultural Occupations

Workers in this occupational group help produce and manage needed products to service the whole country.

6. Skilled Trades

Workers in this occupational group usually have mechanical aptitude and like to work with their hands as well as their brain. Most are not interested in going to college and investigate their opportunities in the skilled trades.

7. Operatives and Laborers Occupations

Workers in this occupational group work in factory jobs such as assembling goods operating machines. They do not invest a long period of time in learning their job which can be learned in a day and mastered in a few weeks.

8. Sales Occupations

Workers in this occupational group sell for manufacturers, service firms, wholesalers and retailers. There are many different types of sales careers ranging from the girl selling candy in the department store to the sales engineer selling electronic computers to a large business organization.

Appendix A (cont.)

Suggested Areas of Occupational Groups

1. Professional and Technical Occupations

   A. Teachers
   B. Lawyer
   C. Physical Therapist

2. Administrative and Managerial Occupations

   A. City Manager
   B. Hotel-Motel Apartment Manager
   C. Advertising Manager

3. Clerical Occupations

   A. Typist
   B. File-Clerk
   C. Bookkeeper

4. Sales Occupations

   A. Real Estate Salesman
   B. Auctioneer
   C. Manufacturer Salesman

5. Service Occupations

   A. Private Housewife
   B. Policeman
   C. Waitress

6. Operative and Laborer Occupations

   A. Taxi Driver
   B. Truck Driver
   C. Factory Assembler

7. Agricultural Occupations

   A. Farmer
   B. Soil Conservationist
   C. Greenskeeper

8. Skilled Trade Occupations

   A. Bricklayer
   B. Carpenter
   C. Plumber

Appendix A (cont.)

Worksheet

You are to list four (4) occupations not listed on the previous page.

A. Professional and Technical Occupations
   1.
   2.
   3.
   4.

B. Administrative and Managerial Occupations
   1.
   2.
   3.
   4.

C. Clerical Occupations
   1.
   2.
   3.
   4.

D. Sales Occupations
   1.
   2.
   3.
   4.

E. Service Occupations: Personal-Private or Protective Services
   1.
   2.
   3.
   4.

F. Agricultural Occupations
   1.
   2.
   3.
   4.

G. Operative and Laborer Occupations
   1.
   2.
   3.
   4.

H. Skilled Trade Occupations
   1.
   2.
   3.
   4.

Reference: Occupations and Careers by Feingold and Swerdloff

Appendix B

Interview three (3) workers of different occupations within your community. Write a brief report of the interviews. Include the following in the report:

1. Occupational group.
2. Qualifications for position.
3. Where is the person employed?
4. Contributions to the community.
5. What does the person find most interesting about his job?
6. Does the person feel his job is satisfying to himself?
7. Is the occupation necessary for the community to function properly? Why, or why not?

Appendix C

Occupational Map

Draw a map and indicate business and services within six (6) blocks south of the school, six (6) blocks north of the school, six (6) blocks east of the school, and six (6) blocks west of the school. Walk the area to see what exists there. Mark in red with a felt tip pen those businesses which you feel are necessary for the community to function properly. (On your map please!) Mark the other businesses and services with a black pen. On another piece of paper, answer the following:

1. What criteria did you use in choosing those businesses you felt were necessary for the community to function?

2. List those services which you feel are necessary. These may or may not be found in your community.

3. If you could plan a community, which businesses and services would you include? Why?

Appendix D

Survey

Interviewee's Name: _____ Occupation _____

1. How far do you live from where you work?
   _____ A. less than one mile
   _____ B. 1 mile to 2 miles
   _____ C. 2 to 5 miles
   _____ D. more than 5 miles

2. Is there an opportunity for employment in your occupation within your community?
   _____ A. yes
   _____ B. no
   _____ C. don't know

3. Are there enough jobs in your community?
   _____ A. yes
   _____ B. no
   _____ C. don't know

4. How can a person find out about available jobs in your community?
   _____ A. newspaper
   _____ B. employment agency
   _____ C. radio or television
   _____ D. word of mouth
   _____ E. others

5. Would you prefer to work closer to your home?
   _____ A. yes
   _____ B. no
   _____ C. don't care

Appendix E

Upon completion of this unit, you are to write a paper on the career in which you are most interested. Use the Occupational Outlook Handbook, encyclopedia or any other occupational reference you may find. Include the following:

1. Qualifications for the occupation.
2. Brief description of job activities.
3. Outlook for future employment.
4. Does this occupation help the community run smoothly? Why, or why not?
5. Is this occupation necessary for the community to exist? Why, or why not?

Also include the following personal opinions:

1. What interests you the most about the career you have chosen to write about?
2. How can you prepare now for future employment in the career you have chosen?
3. Do you know any person now working in that occupation? If so, how can he be of help to you in getting started in your chosen career?

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PUBLICATION DATE: JUL74

TITLE: AGRI-BUSINESS AND NATURAL RESOURCES JOBS RELATED TO THE MINING/QUARRYING INDUSTRY, FIFTH GRADE LEVEL.

PERSONAL AUTHOR: LAHLGREN, NANCY.

DESCRIPTOR: *CAREERS; *GRADE 5; *AGRIBUSINESS; *NATURAL RESOURCES

IDENTIFIER: OMAHA PUBLIC SCHOOLS

EDRS PRICE: MF AVAILABLE IN VT-ERIC SLT.

DESCRIPTIVE NOTE: 15P.

ABSTRACT: THE PURPOSE OF THIS UNIT IS TO ACQUAINT FIFTH GRADE STUDENTS WITH JOBS RELATING TO THE ACTUAL MINING AND QUARRYING PROCESS. THE TYPES OF MINING, TRAINING, QUALIFICATIONS, EARNINGS, AND WORKING CONDITIONS RELATED TO MINING AND QUARRYING ARE DISCUSSED. OBJECTIVES, LEARNING ACTIVITIES, PRE- AND POST-TEST, STUDY SHEET, AND RESOURCES ARE PRESENTED. (KB)

CONTRACT NUMBER: OEG-0-71-4661(361)

INSTITUTION NAME: OMAHA PUBLIC SCHOOLS, NEBR. DEPT. OF VOCATIONAL EDUCATION.

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VT 101 431

AGRI-BUSINESS AND NATURAL RESOURCES
Jobs Related to the Mining/
Quarrying Industry
Fifth Grade Level

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AGRI-BUSINESS AND NATURAL RESOURCES
Jobs Related to the Mining/Quarrying Industry
Fifth Grade Level

OMAHA PUBLIC SCHOOLS
DEPARTMENT OF VOCATIONAL EDUCATION
OMAHA, NEBRASKA

IN-SERVICE WORKSHOP
CAREER EDUCATION

The Exemplary Program - U. S. Commissioner of Education
Vocational Amendment of 1968
Part D

Expanded Vocational Education Program for Disadvantaged Youth

Occupational Guidance K-12

Comprehensive Center for Occupational Education

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Prepared by:

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Betty Barr
Project Director

Agri-Business and Natural Resources

Social Studies - Jobs Related to the Mining/ Quarrying Industry

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Grade Five

The purpose of this unit is to acquaint the students more thoroughly with jobs relating to the actual mining and quarrying process, since this industry is considerably emphasized in the social studies curriculum for Grade Five.

I. Concept

The mining and quarrying industry provides a variety of job opportunities.

II. Objectives

1. To help acquaint children with many operations in the mining and quarrying industry and make them aware of the job opportunities in the industry.
2. To help children discover the responsibilities of the occupations associated with the production end of mining and quarrying.
3. To have the children identify with a number of these occupations and what they entail.
4. To make children aware of the academic and non-academic requirements for a job in mining and quarrying industry.
5. To help children discover the regional relationship between mineral resources and mining and quarrying production in the United States, as specified in the fifth grade social studies text Exploring Regions of the United States.

III. Learning Activities

1. Pre-post test. See following pages.
2. Collect rocks and label them according to size, shape, color, hardness, etc.
3. Make a cutaway model of a mine.
4. Make a chart showing different rocks and their uses.
5. Make a chart showing different minerals and their uses.
6. Draw a map of the United States, including Alaska, showing the important mining regions of one or more of the following:

6. a. gold
   b. iron ore
   c. limestone
   d. granite
   e. marble
   f. copper
   g. slate
   h. aluminum
   i. phosphate
   j. clay

7. Write a special report on the production of one of the following; (illustrations may be used)

   a. uranium
   b. copper
   c. sand & gravel
   d. sandstone
   e. lead
   f. limestone
   g. gold
   h. gypsum
   i. charcoal
   j. cement
   k. zinc
   l. taconite

8. Draw a map of the United States coal fields. Show both hard and soft coal. Find out how coal is made.

9. Find out all the different products that are made from coal, its gas and coal tar.

10. Find out how iron is made into steel.

11. Make an outline from these main topics:

    I History of Mining
    II How Products Are Mined (Steel, Coal, etc.)
    III Uses of Minerals

12. Complete the following chart:

STATE	MINERAL RESOURCES	MAIN PRODUCTS	MAKING A LIVING

13. Pretend you are a miner in one of the mines located in the United States. Keep a diary for one week. Be sure to include information on your job, your pay, how you qualified for the job, and why you like it or dislike it.

14. Pretend that you were a prospector during the California Gold Rush. Write a letter to a friend describing the gold rush.

15. Make a collection of objects containing copper, lead, zinc or any other mineral. Label each with the mineral it contains.

16. Pretend you are a manufactured product from a mineral or rock found in the United States. Write a story of your life from the raw material to the finished product. Make sure to include what different workers to you and why.

17. Make a bar graph comparing mineral production of a mineral of

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17. cont.
your choice from state to state. Use the World Almanac.

18. Draw a cross section diagram of a coal mine or a marble quarry. Include transportation for the coal or marble to factories or homes where it is used.

19. Classroom Activity
Help develop a bulletin board by collecting pictures of minerals, rocks and their manufactured products. Perhaps you wish to show which states mine and manufacture these. Life story reports of these given products should be included.

20. Classroom Activity
Mural--of a mining or quarrying scene.

PRE-POST TEST

1. Mining is _____.

2. Quarrying is _____.

Is there any difference between them? _____.

3. Mining is necessary because _____.

4. Name three minerals that are mined:

a.
b.
c.

5. Name two rocks that are quarried.

a.
b.

6. List at least four important products we get from minerals or rocks:

a.
b.
c.
d.

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Pre-Post Test cont.

MATCH the following mining/quarrying worker with the job he performs:

a. Mining Engineer
b. Coal Inspector
c. Fire Boss
d. Miner
e. Quarryman
f. Cobber
g. Lampman
h. Coal Washer
i. Shaftman
j. Mine Machinery Mechanic

___1. I operate the equipment to wash and size coal.

___2. I crush asbestos-bearing rock using a hammer. I also remove fibers from rock and place them in trays according to length.

___3. I separate blocks of stone from the pit, using a jackhammer and wedges. I also may set off explosives.

___4. I repair lamps and hand out lamps to miners used underground. I test batteries and charge batteries, too.

___5. I plan how minerals are taken out of the earth and where the mines will be located.

___6. I repair and adjust mining machinery such as stripping and loading shovels and drilling and cutting machines.

___7. I inspect underground mines for fire hazards and poisonous gas. I also conduct safety fire drills and help in rescue operations.

___8. I inspect coal brought up from the mine, or in trucks, railroad cards or at plants for quality standards.

___9. I inspect, repair and replace shaft parts, such as timbers, cage guides, guard rails and cables.

___10. I mine ore, coal or rock in underground mines. I cut channels, use hand tools, such as picks and shovels, and even may set off explosives to get the ore or coal.

1. Choose the career which interests you the most in the mining/quarrying industry._____

2. Did you find any opportunities for women?_____

If so, what were they?_____

Pre-Post Test cont.

3. List any other careers you feel could be possible for women in the mining/quarrying industry._____

****** Answers to matching:

1. h	4. g	7. c	10. d
2. f	5. a	8. b	
3. e	6. j	9. i	

STUDY SHEET

Use these questions to do your research. The answer may be found in one or any of the following: your Social Studies text, Occupational Outlook Handbook, various library books or the encyclopedia.

1. What is mining? What is quarrying?
2. Why is mining and quarrying necessary?
3. What are some minerals that are mined? List at least five.
4. What are some uses of these minerals? List at least five.
5. What are some rocks that are quarried? List at least five.
6. What are some uses of these rocks? List at least five.
7. Name one United States region where coal is mined. Place a symbol for it on the attached map.
8. Name one United States region where iron ore is mined. Place a symbol for it on the map.
9. Name one United States region where clay is quarried. Place a symbol for it on the map.

10. Name one United States region where marble is quarried. Place a symbol for it on the map.

11. Complete this list of some mining careers:

a. Mining Engineer
b.
c.
d.
e.
f.
g.
h.

12. List the general requirements for each position listed above in # 11. and the experiences needed or other information.

CAREERS	EDUCATION	EXPERIENCES OR OTHER INFORMATION

13. Explain some of the working conditions having to do with a job in mining.

14. Are they good conditions? Why or why not?

15. What type of job in mining/quarrying interests you?

FUN SHEET- FIND A WORD

Find the hidden words listed below by circling them. Words may be found in all directions.

cobber	clay	cement	concrete
smelt	pick	stone	iron ore
shovel	dish	bake	insulators
granite	miner	fireboss	bottles
engineer	gravel	blast	glass
pottery	pipe	limestone	phosphate
marble	quarry	shaftman	lampman
sand	bauxite	tombstone	

j o k a c f i n b o t t l e s x o u s k i n i c h

q a s q k r p g a m n a l h s m e l t o e p t q u

d e w m o v t u k e e n p s a x l p o t t e r y d

g h d e d h s b e o m c x i l a s a n d m b e o r

n i x s h n d j l d e b l d g i e b e p i p f e r

w u h r c o s k w l c o n c r e t e y c r o i g b

v i c o k r h p x i o n p r a x p q e e o t r r a

m p r t o s a t o m b s t o n e n o u t n b e a e

z s t a r t f y z e x a n p i c k s l i o t b v l

e w y l j x t a x s b y z c t c a e p x r q o e b

y o p u d r m a k t s h o v e l o r t u e p s l r

p h o s p h a t e o e c f a l a m p m a n e s i a

l s t n o e n g i n e e r a e y e l d b l a s t m

u r n i p a d e r e n i m y a q b a s t e n u m e

IV. Resources

A. Suggested Field Trips:

1. Omaha Public Power District
   North Omaha Plant
   Length of tour- approx. 45 minutes

2. Ideal Concrete Prod.
   3124 Spaulding
   Contact Roger Catts, 451-0456
   Length of tour- one hour

B. Resources Available at Instructional Materials Center, Maple Street:

1. Filmstrips:

   553 R "Rocks, Minerals and Mining", Encyclopedia Britannica.

   553 S "Story of Coal, Oil and Uranium".

2. Kit-

   333.72 "Squandered Resources"

3. Prints-

   553.1 Roc "Rocks and Minerals"

   574 B "Basic Science Series"

4. Slides-

   549.11 Roc "Rocks and Their Minerals"

5. Transparencies-

   549 R "Rocks and Minerals"

C. Films Available through Omaha Public Schools Film Department:

   #0432 "Iron Ore Mining"- Academy

   #0433 "Iron - Product of the Blast Furnace"- Academy

   #0530 "Mining Iron Ore"- Univ. of Minnesota

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IV. Resources cont.

C. Films:

#0685 "Rocks That Form on the Earth's Surface", EBEC

#0686 "Rocks That Originate Underground", EBEC

#0687 "Rocks: Where They Come From", Coronet

* #0164 "Copper: Mining and Smelting", EBEC

* film is on the junior high- senior high level

D. Sources to Write for Additional Information

Aluminum Association
420 Lexington Avenue
New York 10017 New York

American Geological Institute
2201 "M" Street, N.W.
Washington, D. C. 20250

American Iron and Steel Institute
150 East 42nd Street
New York, New York 10017

American Petroleum Institute
1271 Avenue of the Americas
New York, New York 10020

Bituminous Coal Operator's Association
918 Sixteenth Street, N.W.
Washington, D. C. 20006

Society of Exploration Geo.
Post Office Box 3098
Tulsa, Oklahoma 74101

Society of Mining Engineers
345 East 47th Street
New York, New York 10017

United Mine Workers of America
900 Fifteenth Street, N. W.
Washington, D. C. 20005

D. Resources cont. -- Additional Information

United Steelworkers of America
Commonwealtn Building
Pittsburgh, Pennsylvania 15222

V. Teacher Evaluation

Teacher evaluation of tne success of the study of mining and quarrying and the jobs they provide may be based on the pre-post test, references to the study sheet, pages five and six, or a quiz of your choice, using your own resources or any of the following notes gathered from the Occupational Outlook Handbook- 1974-75.

******* NOTES FOR INSTRUCTIONAL USE

Mining

There are three groups in the mining category: 1) energy minerals, 2) nonmetallic minerals, 3) metallic minerals.

The first group, energy minerals, is comprised of fossil fuels, such as coal. The second group, nonmetallic minerals, concerns itself with phosphate rock and limestone rock, sand and gravel. Metallic minerals, the third group, consist of iron ores, copper ores, and bauxite.

The minerals receiving the largest amount of mining are coal, iron, nonferrous metals and construction materials, such as gravel.

Five divisions of occupations in the mining industry are given:

1. research and development
2. design and construction

Notes cont.

3. operations and maintenance
4. sales
5. management

There are generally three types ot mines, open pit, placer and strip mines. Open pit mines develop a ring pattern of terraces as rocks and core are excavated. Work is done by drilling, blasting, loading and hauling. Placer mines emphasize dredging and hydraulicking. They are used for platinum, tin, phosphate, diamond and gold. Here, the valuable mineral is in small quantity. Strip mines are used when the mineral is close to the surface. Gigantic shovels are used. Strip mining is used especially in coal mining.

Training

Training in the mining/quarrying industry ranges from a college education in engineering to mechanical skills ot a truck driver or bulldozer operator. On-the-job training is important and required, especially in activities such as drilling and blasting. Beginners may join construction teams as a helper or laborer, and then move to a better-paying, advanced job.

Qualifications

Qualifications for the mining industry include: 18 year age requirement, plus to be in good physical condition. A high school diploma is not needed for some jobs. Miners should be able to work in close areas and have quick reflexes, in case ot emergencies.

Notes cont.

Earnings

Union wages range from $4.80 to $5.75 an hour, according to Occupational Outlook Handbook 1974-1975. Workers in underground mines earn more than those in surface mines.

Working Conditions

Working conditions are harsh. Underground mines are damp, dark, noisy and cold. Sometimes water may be on the floors.

Many mines operate 24 hours a day, so miners may have the night shift, earning higher wages.

Workers in mines with very low roofs have to work on their knees, back or stomach in cramped areas. Miners must be on guard for hazards. There is a risk of developing "black lung" from coal and rock dust.

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PERSONAL AUTHOR: ENGELHART, JIM, AND OTHERS

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ABSTRACT: IT IS THE PURPOSE OF THIS JUNIOR HIGH SCHOOL UNIT TO PROVIDE IDEAS AND EXAMPLES OF WHAT CAN BE DONE IN INDIVIDUAL CLASSROOMS FOR EMOTIONALLY OR MENTALLY HANDICAPPED (EMH) STUDENTS IN THE AREA OF JOB OPPORTUNITIES. GENERAL INFORMATION ABOUT TYPE OF WORK AVAILABLE, SOCIAL SKILLS NEEDED TO FIND AND HOLD A JOB, AND PLACES TO LOOK, BOTH PUBLIC AND PRIVATE ARE EXPLORED. THE UNIT IS MADE UP OF 12 LESSONS EACH CONTAINING THE PURPOSE, MATERIALS NEEDED AND PROCEDURES. (KE)

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VT 101 432

FINDING AND KEEPING JOBS
SPECIAL EDITION
Seventh-Ninth Grade Level

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ED 101 432

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FINDING AND KEEPING JOBS
SPECIAL EDUCATION
Seventh-Ninth Grade Level

OMAHA PUBLIC SCHOOLS
DEPARTMENT OF VOCATIONAL EDUCATION
OMAHA, NEBRASKA

IN-SERVICE WORKSHOP
CAREER EDUCATION

The Exemplary Program - U.S. Commissioner of Education
Vocational Amendment of 1968
Part D

Expanded Vocational Education Program for Disadvantaged Youth

Occupational Guidance K-12

Comprehensive Center for Occupational Education

Vendor Number - 465668
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July, 1974

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THIS IS THE

TIME

AND THE

PLACE

TO

PREPARE

FOR THE

YOU ARE THE

I. Concept for Career Education of EMH 7-9

The concept of Career Education has been highly touted. The role of Career Education will be to provide information on job opportunities and build basic subject areas. Also, to provide an awareness of available opportunities in the semi-skilled and service related jobs available.

It is with good reason that EMH or lower achieving students often times perceive the world about them as alien, offering only limited opportunities. Also, EMH students are generally being served by educational programs not related to current or realistic occupational demands.

It should be the task of all EMH classes to provide information and awareness of job opportunities. General information about type of work available, social skills needed to find and hold a job, and places to look, both public and private, should be explored in individual classrooms. The area of Career Education for EMH and lower achievers is extremely lacking. Very little is done in the junior high setting to prepare or provide awareness about immediate or future job opportunities. It is the purpose of this unit to provide ideas and examples of what can be done in individual classrooms, to help fill the gap in the preparations of these kinds of students. Students who must take their place as useful and productive members of their communities and society.

II. Objectives

1. The student will be able to identify the newspaper want ads as a source of jobs available.
2. The student will be able to read the want ads up and down,

instead of left to right.

3. The student will be able to identify and explain vocabulary words needed to read and understand the want ads.
4. The student will be able to differentiate category headings in the want ads (private and public).
5. The student will be able to locate both public and private employment agencies and be able to identify obligations in obtaining their services.
6. The student will be able to identify and practice good hygiene, a) hair, b) teeth, c) body, d)clothing.
7. The student will be able to identify the proper job conduct for any situation, a) proper language, b) getting along with others, c) respect for company procedures, d) respect for company property, e) promptness, f) dependability, g) responsibility, h) honesty.
8. The student will be able to identify competencies needed for job opportunities, a) educational, b) physical, c) personal.
9. The student will be able to locate and acquire a social security card and health card.
10. The student will become proficient in writing out an application form and be able to identify application terminology.
11. The student will be able to use and identify general interview skills, a) language, b) dress, c) attitude, d) general knowledge of job sought, e) importance of first impression, f) inquiries about prospective job.
12. The student will be able to locate five jobs from the general want ads and two jobs from the private agencies and prepare

a job analysis.

III. Individual Lesson Plans

Lesson 1
Purpose:

The student will be able to identify the newspaper want ads as a source of jobs available.

Materials:

Newspaper Classified Section

Procedures:

1. Start by asking the class to state different places they can find information about jobs.
2. List their responses on the board. If the newspaper is not given, make sure you include it in your list.
3. Explain that the want ad section in the newspaper is the place to look.
4. Give each student a want ad section from the newspaper; it should all be the same section.
   a. Explain the difference in headings in the ads and what can be found under each.
   b. Explain procedures to use in reading the want ads.
      1. You read them up and down (not across)
      2. You must read them slowly and carefully.
   c. Explain and point out that there are two general types of ads.
      1. Employment agencies (cost money)
      2. General want ads (free)
   d. Start by explaining what can be found in individual ads.

1. Jobs available
2. Skills needed
3. Wages
4. Where to go to find out more
5. Hours you would work

e. Have the students look at two or three ads (picked out prior to lesson) and discuss the contents and information in each.

5. This first lesson is to give the students a general idea of the newspaper and what will be taught in more detail in later lessons.
6. In this first lesson try to ask as many questions as possible so that the student will reach conclusions from an inquiry method.
7. Use job awareness inventory on next page to finalize discussion of the World of Work.

JOB AWARENESS INVENTORY

1. Why do people work?

2. If you ever worked, why did you?

3. What kind of attitude should a person have for work?

4. Where would you go to find a job?

5. What would you look for in a job?

6. Why do some people fail to get jobs?

7. What is a good record?

8. What is a school record?

9. Do you know how to fill out an application blank?

10. What are the responsibilities of an employer?

11. What is an employee's responsibility?

12. What are good work habits?

13. What are bad work habits?

14. How does good health and good manners help an employee on the job?

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Lesson 2
Purpose:

The student will be able to read the want ads up and down, instead of left to right.

Materials:

Newspaper Want Ads

Procedures:

1. Explain that the ads should be read up and down, not across.
    a. Practice by orally reading the ads as a group.
    b. Assign students information to find in predetermined ads, give them the general heading and what the ad wants. Have them find five more.
2. Have the students find information in predetermined ads from employment agencies. Give them five to do.
3. Give the students a complete ad from the paper and the general heading that it is listed under, and have them find the ad that follows it and list its pertinent information. Give them five to find.

Objective #3: The student will be able to identify and explain vocabulary words needed to read the newspaper want ads.

Materials: Vocabulary list

1. Want ads
2. Classified section
3. Full-time
4. Part-time
5. Professional
6. Employment
7. Employee
8. Employer
9. Private
10. Public
11. Hygiene
12. Conduct
13. Agency
14. Respect
15. Procedure
16. Competency
17. Dependable
18. Responsibility
19. Honesty
20. Social Security
21. Health card
22. Application
23. Interview
24. Domestic
25. Administrative
26. Clerical
27. Office
28. Technical
29. Trade
30. General
31. Restaurants and clubs
32. Sales
33. Commission
34. Salary

Materials: Optional vocabulary word games.

1. Password (emphasize word definition)

2. Concentration (emphasize word recognition)

3. Find the word puzzle (emphasize word recognition)

Procedures:

1. Give each student an individual list and have them write a short definition from the dictionary.

2. Or divide the class into groups and give a few words to each group. They are then responsible for finding the definitions of their words.

3. Bring the class together and go over orally the meaning of each word; be sure to ask students how these words relate to careers and job success.

Lesson #3:

Want Ads Word Puzzle

C W A N T A D A S C O M M I S S I O N

C L E R I C A L U U A B I B I L I T Y

B T A G E N C I E S I N T E R V I E W

A C P S A L E S G H O N E S T Y B X Y

H B R E S P E C T D O M E S T I C E Z

E J O P R I V A T E V E E W U V Q W V

A Z C K R T F U L L T I M E I X H I P

L R E F L A B I C W V Q Y P U B L I C

T E K C H Y G I E N E H S A L A R Y W

H S U S T G M C M D G Y E Z D O P F U

C P R S C P M D P H S U J S M K Y G J

A O E D D X V Y L X T E I F R O L E T

R S N A N E Z G O F F I C E L N Q K R

D I M D B I F W Y Q H S J T G O A T A

P B Q K U N R P E P A R T T I M E O D

M I D L J C Y G E N E R A L K O L H E

E L R F N I T P R O F E S S I O N A L

N T E C H N I C A L S E C U R I T Y X

O Y R E S T A U R A N T S O C I A L Z

WANT AD WORD LIST FOR WORD PUZZLE

1. Want Ad
2. Classified Section
3. Full Time
4. Part Time
5. Professional
6. Employer
7. Employee
8. Private
9. Public
10. Hygiene
11. Conduct
12. Respect
13. Procedure
14. Responsibility
15. Honesty
16. Social Security
17. Health Card
18. Interview
19. Domestic
20. Clerical
21. Office
22. Technical
23. Trade
24. General
25. Restaurants
26. Agencies
27. Sales
28. Commission
29. Salary

Lesson 4

Purpose:

The student will be able to differentiate category headings in the want ads, both public and private.

Materials:

Want ad section for each student (could be laminated for durability).

Transparency listing the eight basic headings.

Procedures:

1. Give each student a copy of the want ad section from the paper, have them follow along while you explain the different headings. Use the transparency here.
2. The basic headings in the want ads are:
   a. domestic help
   b. administrative
   c. professional
   d. clerical and office
   e. technical - trade
   f. general help
   g. sales help
   h. part-time

   It is very important to explain the meaning of the terms used, for example; what does the term mean and what kind of jobs would be involved.
3. Stress the difference between public and private ads; the obligation of going through a private agency could be costly.
4. The following sheet can be used to make a transparency for classroom use.

ORDER OF LISTINGS

IN

WANT ADS

1. Domestic Help
2. Employment Agencies
   - Administrative
3. Employment Agencies
   - Professional
4. Employment Agencies
   - Clerical and Office
5. Employment Agencies
   - Technical Trades
6. Employment Agencies
   - General Help
7. Help Wanted
   - Administrative
   - Professional
   - Clerical and Office
   - Clubs and Restaurants
   - Technical and Trades
   - General (general job list alphabetized)
8. Part Time Help (not alphabetized)
9. Sales Help
   - Employment Agencies
10. Sales Help
    - Explain commission
11. Teachers Wanted

Lesson #5
Purpose:

The student will be able to locate both public and private employment agencies and be able to identify obligations in obtaining their services.

Materials:

1. Newspaper - a copy for each student.
2. Transparencies of public and private agencies

Procedure:

1. Review vocabulary words: public, private, employment, agency.
2. First emphasize the differences between public and private agencies by placing an example of each on a transparency. Stress the fact that private agencies require a certain fee for their services in helping the employee.
3. Equip each student with a copy of the want ads and discuss the arrangement of ads under public and private agency headings.
4. Reinforce the discussion of the ad placement by giving different ads orally to the students and letting them locate the ads in their papers. Points may be given to the first student who discovers the ad.
5. Cut job articles from the paper and let students arrange them under the proper public and private headings.
6. Divide students into two groups to debate the issue of employing a private agency or public agency.
7. The class may use the News Lab from the West Maple Instructional Media Center.

PERSONAL

APPEARANCE

HEALTH

AND

GROOMING

Lesson #6
Purpose:

The student will be able to identify and practice good hygiene

1. Hair
2. Teeth
3. Body
4. Clothing

Materials:

1. Slides of personal appearances
2. Human Relationships pamphlets from the Nebraska Division of Employment
3. Magazines for collages or student booklets
4. Worksheet involving practices of hygiene
5. Resource speaker - nurse

Procedure:

1. Introduce the lesson with slides of the appearances of people. Let students pick out the good and bad qualities of each subject concerning hygiene, and which qualities are appealing to an employer.
2. Involve students in a general discussion to decide what points they consider to be important in good hygiene. Write these on an experience chart and add necessary details which may be found in the Human Relationships pamphlets from the Nebraska Division of Employment, or from other outside sources.
3. Let students make a booklet or collage with magazine pictures stressing good hygiene.
4. Take time each day to talk about the progress of the students

in following good hygiene at school and at home.

5. Use the school nurse as a resource speaker to explain good hygiene to the students and to answer questions as to where students could go with problems with their bodies or teeth.

6. Present students with a worksheet containing a variety of situations dealing with the practice of good and bad hygiene. Let the students work individually to evaluate their ideas concerning good hygiene. Let the students complete the worksheet on their own hygiene habits. These two sheets can be effective at the beginning or end of this lesson.

CAREER EDUCATION
PERSONAL FACT SHEET

Personal Habits Checklist	Yes	Often	No
Place a check under the right answer for you.			
Do you . . .			
1. Comb your hair in public?	___	___	___
2. Chew gum in public?	___	___	___
3. Forget to say "Please" and "Thank You"?	___	___	___
4. Use foul language?	___	___	___
5. Often come late to activities--school too?	___	___	___
6. Neglect your personal hygiene, so that you offend others?	___	___	___
7. Interrupt others when they are speaking?	___	___	___

Personal Grooming Checklist			
1. Is your hair clean?	___	___	___
2. Does the style look neat?	___	___	___
3. Do you always clean your face before going to bed?	___	___	___
4. Do you brush your teeth after each meal when possible?	___	___	___
5. Are your fingernails clipped and clean?	___	___	___
6. Do you bathe daily?	___	___	___
7. Do you use deodorant daily?	___	___	___
8. Do you wear just a little perfume or lotion?	___	___	___
9. Are your clothes clean and pressed?	___	___	___
10. Are your undergarments clean?	___	___	___

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PREPARING YOURSELF

X - good practice 0 - bad practice

1. _____ Wash your hair every third Monday

_____ Wash your hair when it needs it

2. _____ Take a bath

_____ Use perfume or cologne to cover body odor

3. _____ Brush teeth only before bedtime

_____ Brush teeth after every meal

4. _____ Iron your shirt

_____ Wear your shirt and let the wrinkles fall out during the day

5. _____ Bite your fingernail if one tears

_____ Cut your fingernail if it tears

6. _____ Wear a new outfit three days straight

_____ Wear an older outfit which is clean

7. _____ Shine your shoes

_____ Wear longer pants so your shoes will not be noticed

8. _____ Splash water on your face to wake up

_____ Wash your face well with soap and water

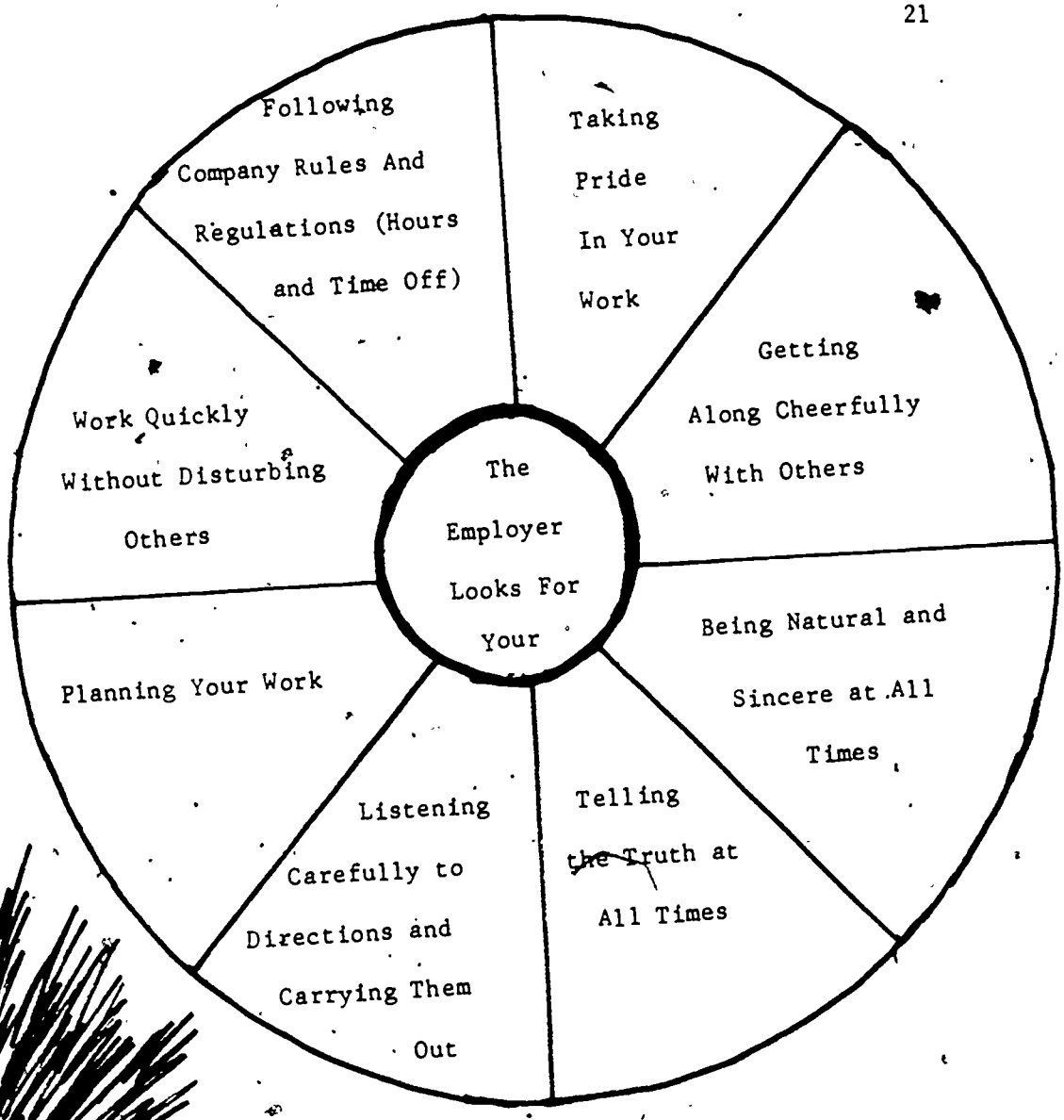
9. _____ Cover up a bad complexion with extra make-up

_____ Use a blemish medicine to clear up skin problems

10. _____ Wear a style of clothing which is suitable for you

_____ Wear the latest fashions of clothing

WORK ATTITUDES



You The Employee

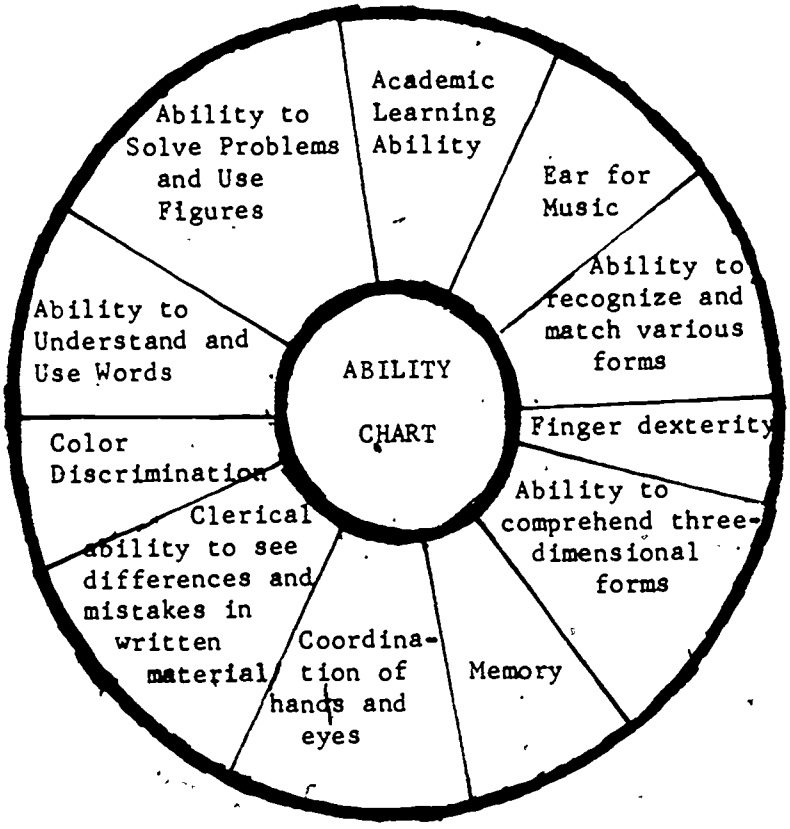
Above and Beyond the Call of Duty

Thinking Attitudes

The Man..... Woman..... Inside

The Man.... Woman...Wanted by Employer

ABILITIES AND APTITUDES



Lesson #7

Purpose:

The student will be able to identify and practice the proper conduct for any job situation.

Materials:

1. Career Decisions, Finding, Getting and Keeping a Job Kit listed in bibliography section
2. Ditto and transparency of job behaviors to be discussed:
   a. language
   b. getting along with others
   c. respect for company procedures
   d. respect for company property
   e. promptness
   f. dependability
   g. responsibility
   g. honesty
3. Jobs Ahead, listed in bibliography
4. Tape recorder
5. Worksheet on proper job behavior

Procedures:

1. Show "Who's You" filmstrip from Career Decisions and have students answer worksheet questions. (Worksheets included in kit.)
2. Hand out ditto of proper work behaviors, take one behavior at a time, discuss together, decide on a good definition, write the definition on the transparency, and have students write the definition on their ditto. As doing this exercise, be sure to ask the students why each of these behaviors are so important to job success.
3. Use the transparencies from Career Decisions on Job Responsibilities and have the students discuss each, then ask for

volunteers to role play each situation.

4. Look at the book Jobs Ahead and decide yourself what part you you would like the class to read. This book has several good stories related to job behavior and job success.
5. Use a tape recorder to record the students role playing appropriate and non-appropriate language and tone of voice for the everyday job person. The teacher will have to design role playing situations. For example, a service station attendant with a grumpy customer.
6. Role play honesty on the job. For example, temptation to steal company property.
7. Role play getting along with others on the job. For example, conflict with two workers.
8. Give the students the worksheet on proper job behavior and they must choose the right answer to different job situations that will insure job success. These situations in this worksheet can be used in the role playing part of this lesson.

PROPER JOB BEHAVIOR

Directions: Circle the correct response that you think Charles should make.

1. Employer: "Charles, will you please take care of that customer?"

   Charles: a. "Just wait a minute!"

   b. "I've got better things to do!"

   c. "Sure, boss, right away."

2. Dick: "Watch it Charles, you almost bumped into me. Man, you're a clumsy ox."

   Charles: a. "Who do you think you're calling an ox. I'll take care of you!"

   b. "Cool down, Dick, I'm sorry, but lay off the names."

   c. "Takes one to know one."

3. Employer: "Charles you're late, we can't have anymore of that."

   Charles: a. "Sorry, boss, I'll make sure it doesn't happen again."

   b. "Man, you're always picking on me. Lay off!"

   c. "You can't tell me what to do."

4. Joe: "Charles the company says you can't smoke in the warehouse, you must go into the lounge."

   Charles: a. "I'll smoke wherever I want; who's going to catch me?"

   b. "Thanks, Joe, I'll have to wait till break."

   c. "I'll hide behind here, no one will see me."

5. Linda: "Charles, you didn't punch in. What time did you get here yesterday? I need it for your pay check."

Charles: a. "At 8:00 o'clock, like usual."

b. "What do you think, lady, same time!"

c. "Paycheck! You call that a paycheck!"

6. Employer: "Charles, you're going to have to get your hair cut if you want to work with the customers."

Charles: a. "It took me too long to get it this long."

b. "Oh no, I don't want to be skinned."

c. "Well, boss, if I have to I will, but I'd rather not."

7. Dick: "Hey, Charles, look at that tool box--put it in your trunk."

Charles: a. "No, Dick, that belongs to the company."

b. "Yea; is anybody looking?"

c. "If we get caught, we'll lose our jobs, but who cares."

8. Employer: "Charles, you're going to have to take an earlier bus, you get here too late."

Charles: a. "It's not me, it's the bus driver's fault."

b. "Why do I have to be here early for anyway?"

c. "OK, I'll have to call the transit company."

9. Employer: "Charles take this money to the bank. You must hurry before the deposit window closes and then come right back."

Charles: a. "Sure," and Charles does what is asked of him.

b. "Sure," and Charles stops for coffee and a donut.

c. "Sure," and he takes some money from the deposit.

10. Dick: "Charles, let's call in sick and go fishing."

Charles: a. "No, I have things to do, besides I need the money."

b. "OK."

c. "Why not, the boss is out of town."

Lesson #8

Purpose:

The student will be able to identify competencies needed for job opportunity:

1. Educational
2. Physical
3. Personal

Materials:

1. Kit - "Job Hunting: Where to Begin"
2. Resource speakers:
   a. Guidance counselor
   b. Construction worker
   c. Business department head
   d. Beauty operator
   e. Custodian from the school
   f. School secretary
   g. Bus driver
   h. Store worker
   i. Waitress or food service personnel
   j. Mechanic
3. Social security forms

Procedure:

1. Involve students with the kit, "Job Hunting: Where to Begin". Show the filmstrips and discuss them.
2. Invite [redacted]kers to explain the requirements, educational and physical, for their respective jobs.
3. Record comments made by individual speakers on an experience

chart.

4. Review the importance of obtaining a social security card before applying for a job.

SOCIAL SECURITY

Where do I get it?
What does it do?
Why do I need it?
When do I get it?
How do I get it?

Lesson #9
Purpose:

The student will be able to locate and acquire a Social Security card and Health card.

Materials:

1. Social Security packets (available from the Social Security Office, Federal Building.) There is no charge.
2. Transparency of a Social Security card for explanation.

Procedure:

1. Using the Social Security packets available from the Social Security office (Federal Building), go through the information contained in the packet. This explains:
    a. What Social Security is.
    b. What it can do for you.
    c. What is a Social Security number and what does it mean.
    d. How to get a card.
2. Mailing forms in the packets should be filled out in class and explained to the students. Forms should be mailed in and the students will receive his or her Social Security card.

Lesson #10:
Purpose:

The student will be able to fill out an application form and will be able to understand terms used in filling out a form.

Materials:

1. A copy of an application form for each student.
2. Application form word list for each student.
3. Application word puzzle for each student.
4. Personal fact sheet to be used by each student to help in filling out forms. (These will be made by each student.)

Procedure:

I. Introduce the application form word list to the class. Go over the list of words with the students and explain the meanings of the words and how they are used in the application.

II. Prepare a personal fact sheet or card (each student will do this). On these fact sheets, each student will list information needed to fill out an application form.

To include:

1. References
2. Dates (birth, work, education)
3. Addresses and telephone numbers
4. Basic word definitions
5. Family information
6. Work record

III. Give each student a copy of an application form. (These are available in kit form at the I.M.C., Kit #311.702 card kit

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Career Decisions), or you may use your own. Go over the form with the class explaining the reasons for them and how to fill them out. Also make a special point to explain terms used in application forms.

IV. For the final lesson, each student would be expected to fill out an application form using the personal fact sheets they have made.

Lesson #10

APPLICATION FORM WORD LIST

1. Application
2. Resident
3. Form
4. Nationality
5. Race
6. Marital Status
7. Temporary
8. Substitute
9. Physical Defect
10. Dependents
11. Military Service
12. Organization
13. Civic
14. Father
15. Discharged
16. Position
17. Reference
18. Administration
19. Mother
20. Date
21. Sex
22. School
23. Age
24. Male
25. Female
26. Year

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Lesson #10

Application Form Word Puzzle

P O M A R I T A L S T A T U S D P O

R M A D P S R N G I X G O Q U I O R

O O C M O P C E D E T H Y U B S S G

F T M I A H L H F A T H E R S C I A

E H I N V L N I O E T J V P T H T N

S E P I B I E J C O R E S W I A I I

S R R S W L C G K A L E K R T R O Z

I N A T I O N A L I T Y N D U G N A

O Y C R E S I D E N T I C C T E R I

N E E A U F F E M A L E O L E D E I

A A V T E M P O R A R Y D N S Z C O

L R M I L I T A R Y S E R V I C E N

S E X V E M T A Q M P H Y S I C A L

D E P E N D E N T S D E F E C T B F

---

1. Application
2. Resident
3. Form
4. Nationality
5. Race
6. Marital Status
7. Temporary
8. Substitute
9. Physical Defect
10. Dependents
11. Military Service
12. Organization
13. Civic
14. Discharged
15. Position
16. Reference
17. Administration
18. Mother
19. Date
20. Sex
21. School
22. Age
23. Male
24. Female
25. Year

PERSONAL FACT SHEET

Address: Zip Code:

City: State:

Place of Birth: Date of Birth:

Nationality:

Race: C N O

Physical Defects:

Marital Status:

Social Security No.:

Names of Parents:

Where Employed (parents):

Education Information

School	Dates Attended	Compl. Grade Level	Yr. Grad.
Elementary			
Jr. High			
High School			
Voc. School			
College or Univ.			

Person in case of emergency:

Name Address

Work Experience

Name	Address	Type of Work	Dates

References:

Name: Title and Address:

Lesson #11

Purpose:

The student will be able to use and identify general interview skills:

1. Language
2. Dress
3. Attitude
4. General knowledge of job sought
5. Importance of first impression

Materials:

1. Filmstrip kit, "Preparing for an Interview"
2. Booklet - "Prepare Yourself for Job Interviews"
3. Tape of an interview
4. Book - "Getting Jobs"

Procedure:

1. Use the filmstrip kit, "Preparing for an Interview."
2. Read the booklet, "Prepare Yourself for Job Interviews,"
3. Prepare a tape of an interview to use as an example for the class.
4. Role playing could be used in setting up examples of both good and bad interviews. Let students play the roles of both employer and person seeking employment.
5. Use the book, "Getting Jobs", available from the career resource center.
    a. Introduction
    b. Part I - "Playing the Game"
    c. "Employment Agency"
    d. Harvey Palmer (p. 35)

Use these readings to stress and explain interview procedures. Follow discussion questions at the end of each article.

Lesson #12
Purpose:

The student will be able to locate five jobs from the general want ads and two from the private agencies and prepare a job analysis.

Materials:

1. Want ad section from the newspaper
2. Job analysis sheet

Procedure:

1. Assign each student five job analysis sheets to be completed from the general want ads. (You may assign specific ones or let each student pick out his own.) Have the students complete one job analysis sheet for each of the five general want ads.
2. Next assign each student two job analysis sheets to be completed from the private employment agencies ads. (You may assign specific ads or let each student pick out his own ad.)

JOB ANALYSIS

JOB TITLE _____

REQUIREMENT _____

DUTIES _____

HOURS _____

PAY _____

PLACES OF WORK _____

TRAINING _____

ADDITIONAL INFORMATION _____

Lesson #12

JOB ANALYSIS SHEET

(Private Want Ads)

1. Name or kind of job: _____

_____

2. Special skills needed (if any): _____

_____

_____

3. Education needed: _____

_____

4. Pay (if given): _____

5. Hours (if given): _____

6. Where to apply (address or phone): _____

_____

_____

7. Fee: _____

Lesson #12

JOB ANALYSIS SHEET

(General Want Ads)

1. Name or kind of job: _____

_____

2. Special skills needed (if any): _____

_____

_____

3. Education needed: _____

_____

4. Pay (if given): _____

5. Hours (if given): _____

6. Where to apply (address or phone): _____

_____

_____

IV. Evaluation

Our final evaluation will be measured by two situations. The students will first take the job awareness inventory again. The answers will be compared to their original answers in the tests which were given at the beginning of the unit. The class will correct the inventory together and discuss points which may still seem ambiguous.

The second step in the evaluation will entail a mock interview with a counselor of the school. Each student will have an individual interview, in which he must fill out an application, remembering to bring any necessary material which might help him such as his personal reference card. He will then have a taped interview with the counselor for a certain position. The class members will go over the tape together so that each student might receive constructive criticism.

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III. Packets

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ACCESSION NUMBER: VT101433

PUBLICATION DATE: JUL74

TITLE: THE WORLD'S TO EXPLORE TRY A PROP BOX.

PERSONAL AUTHOR: DONAHOO, LINDA

DESCRIPTOR: *CAREERS; *ELEMENTARY SCHOOL STUDENTS; CARPENTERS; MAIDS; NURSES; GROUNDS KEEPERS

IDENTIFIER: OMAHA PUBLIC SCHOOLS

EDRS PRICE: MF AVAILABLE IN VT-ERIC SET.

DESCRIPTIVE NOTE: 26P.

ABSTRACT: ONE METHOD OF ACHIEVING AWARENESS OF THE VARIETY OF A CAREER OPPORTUNITIES IS THROUGH "SELF-DISCOVERY." A PROP BOX LENDS ITSELF TO THIS SITUATION AT THE ELEMENTARY SCHOOL LEVEL. A PROP BOX IS A BOX OF REAL THINGS FROM THE WORLD, THE CONTENTS OF WHICH ARE RELATED TO A SPECIFIC JOB OR CAREER. IN THIS BOOKLET ONE OBJECTIVE OF ONE PROP BOX HAS BEEN SHOWN IN DETAIL AS AN EXAMPLE; THE OBJECTIVE, CONCERNING SETTING A TABLE, IS ONLY ONE OF THE MANY THAT COULD BE DEVELOPED FROM THE WAITER/WAITRESS PROP BOX. OTHERS SUCH AS APPEARANCE, MEETING PEOPLE, AND MANNERS COULD EASILY BE DEVELOPED INTO LESSONS. OTHER SUGGESTIONS FOR PROP BOXES AND LEARNING ACTIVITIES ARE INCLUDED. THE MAIN OBJECTIVE WOULD BE FOR THE STUDENT TO BE INTRODUCED TO THE MATERIALS IN THE PROP BOX; THEIR PURPOSE AND SAFE USAGE. THE STUDENTS SHOULD BE ALLOWED TO EXPERIMENT AND EXPERIENCE THE PROP BOX AND ITS CONTENTS. (KB)

CONTRACT NUMBER: OEG-0-71-4661(361)

INSTITUTION NAME: OMAHA PUBLIC SCHOOLS, NEBR. DEPT. OF VOCATIONAL EDUCATION.

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THE WORLD'S TO EXPLORE
TRY A PROP BOX

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351-P227-74

THE WORLD'S TO EXPLORE
TRY A PROP BOX

OMAHA PUBLIC SCHOOLS
DEPARTMENT OF VOCATIONAL EDUCATION
OMAHA, NEBRASKA

IN-SERVICE WORKSHOP
CAREER EDUCATION

The Exemplary Program - U. S. Commissioner of Education
Vocational Amendment of 1968
Part D

Expanded Vocational Education Program for Disadvantaged Youth

Occupational Guidance K-12

Comprehensive Center for Occupational Education

Vendor Number - 465668
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July, 1974

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INTRODUCTION OF CONCEPT

During the elementary years, students should become aware of a variety of career opportunities. One method of achieving this goal is through "self-discovery". The use of Prop Boxes is one possibility.

A Prop Box is simply a box of real things from the real world. The contents of each box are related to a specific job or career. Basically, the children are allowed to proceed with the Prop Box as they wish--to experiment and experience. Their work with the Prop Boxes will be much more than just play. It will be play with a purpose; it will continue and it will stretch children's interests and imaginations.

This concept can be used with a variety of levels and ages. The students using the Prop Box will dictate the contents, objectives, and activities employed.

Any child, particularly the EMH or TMR child, must discover <u>on his own</u> what jobs he is or is not suited for and/or capable of attaining. He must <u>not</u> be told, "You cannot do that!" His own self-discovery will lead to better acceptance and a much more positive attitude and self-concept. If a student shows extreme interest in, for example, the "Doctor" Prop Box but is obviously incapable of attaining that as a career, the teacher can steer him toward the idea of a medical orderly or nurse's aide.

Prop Boxes can be employed with equal validity at virtually any level. Pre-school and primary children also need the self-discovery and experience connected with Prop Boxes. Intermediate students can go more into detail using the Prop Box as a take-off point.

RECIPE FOR A PROP BOX

Start with any box or basket, preferrably one which can be handled by your children with ease.

Add as many objects pertaining to a specific job or career as possible. Use your imagination and resources at hand, not money! Many items can be obtained by searching basements, garages, junk piles, and people. Use parents as resources as well as community resources. Items that are no longer functional for one reason or another are worth gold to curious children.

Label the Prop Box and its contents.

Allow the children to experiment and experience as they will while you observe and learn from them. Follow their interests.

A Prop Box can then become the focal point for the study of a specific job. From it can stem such activities as: guest speakers, films and filmstrips, field trips, as well as academic related activities.

On the following pages, one objective of one Prop Box has been shown in detail as an example. That objective, concerning setting a table, is only one of many that could be developed from the Waiter/Waitress Prop Box. Others such as appearance, meeting people, and manners could easily be developed into lessons.

TRY A PROP BOX

WAITER/WAITRESS PROP BOX

I. Concept: The Prop Box for Waiter/Waitress will lead not only toward skills for those occupations but also toward desirable and necessary skills for everyday life.

A. Contents of Prop Box

Tray	Pitcher
Place mats	Aprons (boy and girl)
Table cloth	Hair nets
Napkins	Hats (boy and girl)
Ash tray	Menus
Vase and flowers	Order pad
Silverware	Pencil
Dinner plates	Play money
Bread plates	Sponge
Bowls	Salt and pepper
Glasses	Sugar
Cups and saucers	Table and chairs

II. Objective: Given the materials listed below, the student will be able to name each, state its use or purpose, and place each properly at a place setting.

Place mat	Knife
Napkin	Dinner plate
Dinner fork	Salad bowl
Salad fork	Glass
Teaspoon	Cup and saucer
Iced tea spoon	Menu

III. Methods and Learning Activities

A. Begin with an introduction to the materials used in a place setting.

1. Give each student the following materials: one piece of 12" x 24" construction paper or paper place mat, one piece of 9" x 12" typing paper or a pre-folded napkin, a paper plate, and ditto sheet of table ware.

2. Have the students cut out the knife, fork, spoon, cup and saucer, and glass.

3. Demonstrate how to fold the typing paper into a napkin. Have the students follow the example.

4. Have each student place his materials on the place mat as he thinks it should be.

5. Discuss the positioning of the materials and be certain each child has his "place" set correctly.

6. Have the students glue the place setting to the place mat. (The place mats might first be decorated.)

B. Introduce the real materials to the students. Allow them to examine each article and discuss its use.

1. Place mat or table cloth: use to protect the table from spills, to advertise the restaurant, to keep things from sliding on the table, they are easy to change and keep nice, and they give a neat appearance to the table.

2. Napkin: for the customers use.

3. Fork: to spear the food.

a. Dinner fork

b. Salad fork

4. Knife: to cut food, butter bread or roll.

5. Spoon: to stir beverages, eat certain foods.

   a. Teaspoon

   b. Soup spoon

   c. Iced tea spoon

6. Menu: To inform the customer what foods are available and the prices of them.

7. Glass: for water or other beverage.

8. Cup and saucer: for hot beverages.

9. Plate: to hold the main course or a part of the meal.

   a. Dinner plate

   b. Bread plate

10. Salad bowl: to hold the salad.

11. Miscellaneous: soup bowl, dessert plate, salt and pepper shakers, sugar bowl, water pitcher.

C. Discuss the positioning of the items as you "set the table" with the class.

1. Place mat: in front of where the person is to be seated.

2. Napkin: to the left edge of the place mat.

3. Fork: next to the napkin, to the right.

   a. Salad fork: to the left of the dinner fork or bring when needed.

4. Knife: to the right of the center of the place mat, keep sharp edge of the blade toward the center of the place mat.

5. Spoon: to the right of the knife.

   a. Soup spoon: bring when needed.

   b. Iced tea spoon: bring when needed.

6. Menu: in center of place mat.

7. Glass: upper tip of knife.

8. Cup and saucer: above spoon, to right of knife.

9. Plate: center of place mat.

   a. Bread plate: to upper left of the fork.

10. Salad bowl: center of dinner plate or to the left of the fork.

11. Miscellaneous: most table accessories should be placed in the center of the table where they can be reached easily by all those seated at the table.

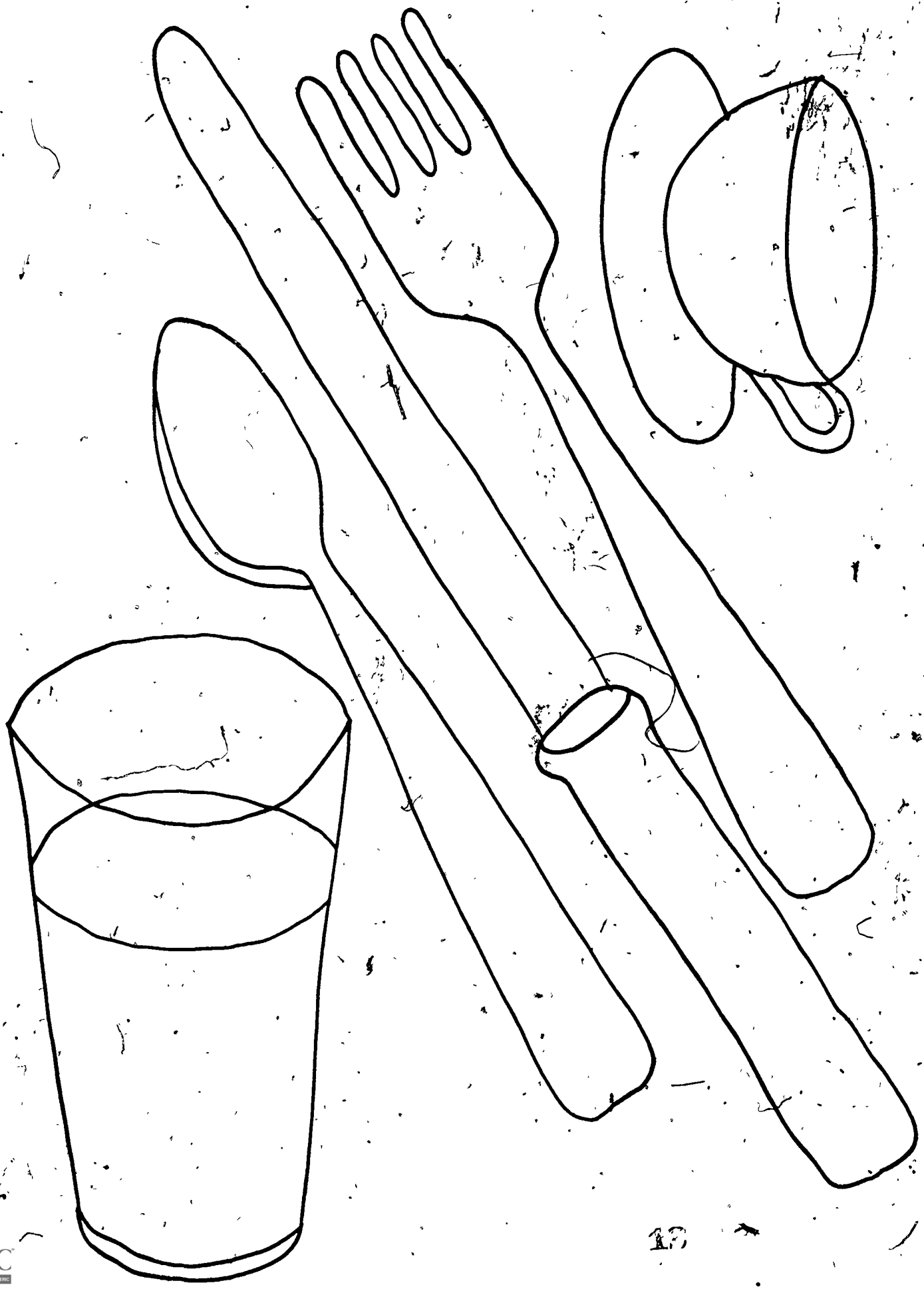
IV. Resources

A. Contents of Prop Box.

B. Ditto sheet of tableware.

C. Books or magazines with pictures or illustrations of different table settings.

V. Evaluation: Given the materials listed in the objective, the student will be able to name each, state its purpose, and place each properly at a place setting.



FURTHER PROP BOX EXAMPLES

In each of the following examples of Prop Boxes, the main objective would be for the student to be introduced to the materials in the Prop Box; their purpose and safe usage. Again, the children should be allowed to experiment and experience with the Prop Box and its contents. Follow the student's cues for further lessons and activities.

CARPENTER PROP BOX

I. Concept: This Prop Box is for use with pre-school and primary children. The tools introduced are quite basic and learning activities can be implemented with the tools. This is an excellent Prop Box for working with coordination activities.

II. Contents:

Saw	Nuts and Bolts
Hammers	Nuts and Bolts Learning Tool
Pliers	Sandpaper
Screwdriver	Various pieces of lumber
Wrench	Ruler
Nails	Pencil
Screws (wood)	Patterns

III. Activities:

A. Nuts and Bolts Learning Tool: This can be purchased or made. It is a piece of wood with a series of graduated holes drilled in it with a nut and bolt to fit each hole. The child must match each bolt to the hole it fits and then place the correct nut on it. This is an excellent eye-hand coordination activity.

B. Hammer nails into a piece of wood. First, a set of nails can be started by the teacher for the child to finish hammering.

C. Nail 2 pieces of wood together.

D. Hammer nails into wood in a pattern, such as to form a letter or number or shape.

E. Finish screwing several screws into a piece of wood. Then the student can try starting the screws on his own.

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F. Saw pieces of wood.

G. Sand wood smooth.

H. Copy a pattern onto a piece of wood, saw it and sand it smooth.

NURSE PROP BOX

I. Concept: The main objective of this Prop Box would be for the students to become familiar with the Prop Box contents and the purpose of the items included. This would give them an idea of the jobs of a nurse.

II. Contents:

Thermometer	Uniforms
Syringes	Mattress or bed
Stethoscope	Sheets
First Aid Kit	Scales
Bandages	Bed pan
Basin and cloths	Assorted pill containers

III. Activities

A. Have the students weigh and measure each other and make a record to be kept throughout the year.

B. Teach the students to read a thermometer and allow them to practice. Stress the importance of sterilizing the thermometer between uses.

C. Learn the correct way to care for injuries. A First Aid course could be carried out at different levels.

D. With the use of a Snellen Eye Chart, the students could learn to check each others eyes.

E. The school nurse would be an excellent resource person to utilize throughout the year.

HOUSEKEEPER PROP BOX

I. Concept: The use of this Prop Box would hopefully develop good work habits in the students, stressing the housekeeping skills and habits necessary. These are habits and skills which the students need to be taught. They can easily be incorporated into the housekeeping activities which must be performed in the classroom.

II. Contents:

Aprons	Iron
Brooms	Ironing Board
Mops (wet and dry)	Washer and Dryer (access to)
Dust pan	Sink or basin
Cleaning products	Sponges
Vacuum cleaner	Rags

III. Activities

A. Teach the children the correct or best way to use the items in the Prop Box.

B. Set up a chart of the various duties in the classroom which must be performed.

C. Assign duties in the classroom to individuals or groups. Assigning duties to groups will help children learn to work cooperatively together.

GREEN HOUSE ATTENDANT/

GARDENER PROP BOX

I. Concept: This would be more of an on-going activity that would teach children the importance of working steadily. If a job is neglected, the results can be disastrous.

II. Contents:

Live plants (a variety)

A variety of seeds and containers

Garden plot if possible

Hoe

Rake

Shovel

Weeder

Hand garden tools

Hose

Watering can

Work gloves and shirts

III. Activities:

A. Look in reference books to find the names of plants and how to care for them; how often to water, how much sunlight, what to feed them, etc.

B. Make a chart for the care of the various plants.

C. Visit a green house, observe the different kinds of plants and their care; temperature of the environment, water, feed and fertilizer.

D. If possible, plant a vegetable garden, harvest the vegetables, and have a tasting party. Perhaps even have a vegetable stand. If an outside vegetable garden plot is impossible, try to find an old bathtub which can be filled with dirt to become your inside garden plot.

LEARNING ACTIVITIES

LEARNING ACTIVITIES

The following are suggestions for learning activities related to selected academic subject areas. These methods could be used with either a special education or regular class. They can be used as academic lesson plans or incorporated into career education activities.

Students require a variety of learning activities either for all their lessons or just as a change from the ordinary. The teacher must remain open to try new methods and the following are some examples.

CREATIVE SPELLING LESSON

Procedure:

1. Find the words you are interested in using--these could be spelling words or vocabulary enrichment words from another source such as career education.
2. List the words on the board; have students do this if possible.
3. Have students find words they already know something about from the list.
4. Ask them to tell about the word.
5. Have everyone imagine that they can see the word on a make-believe TV screen ("mind's eye").
6. Have everyone double-check to see if they have the word correctly spelled on their TV screen. If they made an error, have them close their eyes, mentally erase the error, and see the word as it should be.
7. Now they are ready to show the word through actions and feeling. No talking allowed! Just pantomime drama!
8. Other students try to recognize the word and tell why they recognize it.
9. Don't fail to praise those children who have used actions which are clear and definable. Also praise the reactions.
10. Now it is time for everyone to write the word on paper. If someone is a poor speller, give him a chance to spell the word using flannel letters on the flannel board or other three-dimensional letters. This gives him a chance to touch the words, too.

11. Have everyone listen for the child contributing the checking of the spelling.

From:

Random Activities for Career Education

by: Helen K. Dickson

Elementary Education Career Guide

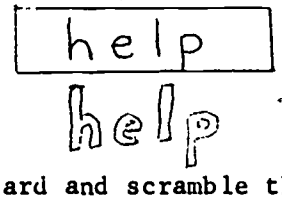
Volume 3: Economic Awareness

TACTILE APPROACH TO TEACHING SPELLING

This method of teaching spelling and word recognition is useful for children who need a tactile approach to learning; those who have difficulty imagining things and need concrete materials.

Procedure:

1. Choose words to be used--spelling words or vocabulary enrichment words from another source.
2. Print each word on a card approximately 3" x 4".
3. Be sure the child is familiar with each word.
4. Have the child spell the word using small lowercase plastic letters under the card. (Playskool plastic magnetized letters are good) Encourage the child to use vocal cues as he spells the words.



5. Cover the word card and scramble the letters in the word while the child's eyes are covered.
6. The child opens his eyes and puts the letters back in what he thinks is the correct order.
7. Have the child spell the word out loud and give him a chance to change the order of the letters.
8. Turn the word card over and check to see if it is correct. If so, go on to the next word. If not, correct the spelling and do the exercise again.

ACTIVITIES REQUIRING ARITHMETIC

Following are some activities in which slow learning children, as well as regular classes, may recognize the real need for arithmetic and learn to apply it to their everyday lives.

1. Making records of ages and birthdates of pupils; keeping attendance records; keeping a record of the temperature; recording height and weight of themselves and of the class.
2. Telling time by using and making calendars noting the time schedules used in school: discussing their own time schedules as they apply to going to bed at night, getting up, listening to radio programs, etc.
3. Noting the use of numbers in addresses, phone numbers, car licenses, pages in books, prices in advertisements, keeping score in games, values of coins and currency.
4. Computation of costs of school lunches, home grocery orders, home furnishings, utility bills, carfare, clothing, trips, recreation, medical or health expenses.
5. Learning and applying simple measurement in the telling of time; linear, square, dry, and liquid measures, weight and measures of quantity; temperature; and use of graphs.
6. Family expense accounts and family budgets showing sources of income and expenses to be met.
7. School shop arithmetic needed in clothing rooms, food laboratories, wood and metal shop projects, etc.

Following are some special activities requiring the knowledge and use of arithmetic skills.

1. Give each child a section of the weekly grocery ads from the newspaper and a set amount of money to spend. Have him work out a weekly menu and the grocery list with costs of what he will need to purchase.
2. Give each child a catalog and a set amount of money with which to do all of his Christmas shopping. Specific family members may be designated so each child will be purchasing the same number of gifts or they may be assigned to purchase for their own family.
3. Figure out what it would cost for a family of four to live for one month. Include in the figures: rent, food, clothes, utility bills, recreation, and so forth. The children might be assigned to check with their parents on their family budgets.

READING ACTIVITIES

One of the most difficult problems to solve in working with students with low reading levels is finding subject matter which is acceptable and interesting to them. The daily newspaper is one excellent source. Pick out articles of interest to the students: "Dear Abby" columns, sports stories, human interest stories. If the students cannot read them to themselves, read to them or have one student read aloud. These articles can then become excellent takeoff-points for class discussions: how could an accident have been avoided, what if the other team had won, what if you had this problem or had to write the answer? These activities not only give good reading practice but help the students to face reality and think as well as get in the habit of reading the newspaper.

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PERSONAL AUTHOR: RAMIGE, JOYCE

DESCRIPTOR: *CAREERS; *PRACTICAL MATHEMATICS; FOOD STORES; *MANUFACTURING

IDENTIFIER: OMAHA PUBLIC SCHOOLS

EDRS PRICE: MF AVAILABLE IN VT-ERIC SET.

DESCRIPTIVE NOTE: 29P.

ABSTRACT: THE ACTIVITIES IN THIS GUIDE ARE DESIGNED TO ASSOCIATE CAREERS WITH GENERAL MATHEMATICS TOPICS COVERED DURING THE YEAR. THE TOPICS COVERED INCLUDE: DECIMALS/SUPERMARKET, PERCENTS/SPORTSWRITER, FRACTIONS/BAKERY, WHOLE NUMBERS/BOWLING, AND GEOMETRY/MANUFACTURING. EACH TOPIC INCLUDES OBJECTIVES AND ACTIVITIES WHICH ARE FOLLOWED BY CAREERS IN THAT AREA. (KE)

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GENERAL MATH TOPICS
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RELATED CAREERS

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and
RELATED CAREERS

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Introduction

These activities are designed to associate careers with General Math topics covered during the year.

Whole Numbers/Bowling

Objectives

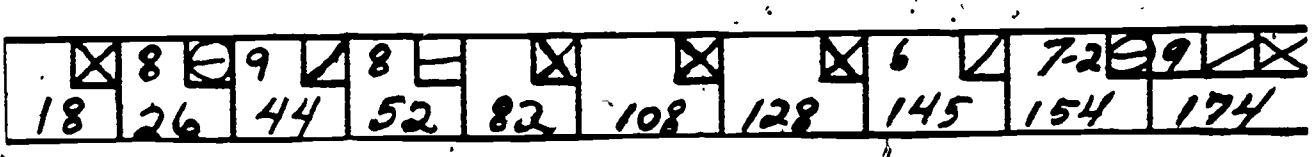
To give the student more practice adding whole numbers.

To make students aware of the workers at the bowling alley.

To make students aware of math as it relates to bowling.

Activity

Using official score sheets teach the students how to score a line of bowling. Simulate the play by drawing cards with prepared frames on them. Be sure to have a separate box of cards numbered from one to ten to choose from in case of a tenth frame spare.



STRIKE---10 Plus the next 2 balls

SPARE-----10 Plus the next ball

Fig. 1 Official Score Sheet

Possible Prepared Frames

7, gutter	8 split, 1	6 split, 2
6, 2	4, spare	7, spare
8, spare	5, 3	strike
strike	7, 2	6, spare
6, 3	5, spare	3, spare
7, spare	strike	gutter, 8
2, 6	9, spare	7, 1

Bowling Floor Deskman - Assigns bowling alleys to patrons and collects fees. He also reserves alleys for bowling leagues or individuals, issues score sheets, observes players to determine misuse of alleys or other equipment, records number of games played and receipts collected, and rents bowling shoes to patrons.

Manager - Supervises and coordinates activities of workers in the bowling alley. He may advertise the business, purchase supplies, and pay bills.

Bookkeeper - Keeps a set of financial records, prepares payroll, and may handle some correspondence.

Maintenance Man - Keeps the bowling alley in clean and orderly condition. He may sweep, mop, empty garbage containers, perform routine painting, plumbing, electrical wiring, and other related activities. He may also mow lawns, trim shrubbery, clean snow and debris from sidewalks and notify management concerning need for major building repairs.

Counterman - Serves food and beverages to patrons. He accepts payment and may perform other duties such as cleaning counters, washing dishes, and selling cigars and cigarettes.

Fractions/Bakery

Objectives

To reinforce students' conception of fractional parts.

To introduce the student to the different bakery workers.

To illustrate the possible fraction manipulation in a recipe.

Activity

The students are to make sandwiches in class and complete the guide sheet. Allow the students to choose from four or more different fillings. To defray the cost, it may be possible to ask students to bring items and/or work in pairs.

Name_____

Date_____

Guide Sheet

1. Cut your sandwich into nine equal parts. What fractional part is each piece? _____
2. Sketch the sandwich below. Besure to show the cuts that you made.

3. Eat one-half of one piece. What fractional part did you eat? _____ Eat the other half of that piece.
4. What fractional part of the sandwich is left? _____
5. Eat one-fourth of what you now have left. How much did you eat? _____
6. How much of the original sandwich is left? _____ Can you reduce this fraction? _____ If so, what is the fraction in lowest terms? _____
7. Eat one-third of the remaining sandwich. What fractional part of the original sandwich remains? _____
8. Finally, eat four-ninths of the original sandwich. You should be ALL DONE!
9. What portion of the sandwich did you eat? _____
10. What fractional part of your class ate balogna sandwiches? _____ Cheese? _____ Peanut Butter? _____

11. What fractional part of your class did not make cheese sandwiches?

_____

12. What fractional part of your class used whole wheat bread? _____

Name _____

Date _____

I. Directions: Double this recipe for pumpkin pie.

Pumpkin Pie	Pumpkin Pie
1 1/2 cups canned pumpkin 3/4 cup sugar 1/2 teaspoon salt 1/2 teaspoon ginger 1 1/4 teaspoon cinnamon 1/4 teaspoon nutmeg 1/3 teaspoon cloves 3 slightly beaten eggs 1 1/4 cups milk 2/3 cup evaporated milk 1 9-inch pastry shell	

II. Directions: Re-write this recipe to make 6 dozen cookies.

Chocolate Chip Cookies	Chocolate Chip Cookies
2 1/4 cups brown sugar 2 cups white sugar 1 1/2 cups shortening 6 eggs beaten 3 tablespoons hot water 9 cups flour 1 teaspoon soda 3 6-oz. pkg. chocolate chips 3/4 cup nuts (makes 18 dozen)	

Baker - Mixes and bakes ingredients according to recipe to produce breads, pastries, and other baked goods. After the baking process is completed, he applies glaze, icing, or other topping to baked goods using spatula or brush. He may specialize in baking one type of product such as bread, rolls, pizza, pies or cakes and may be designated as such.

Manager - Manages business; hires, trains, discharges employees; plans work schedule; supervises pricing, sales promotions, and sales.

Maintenance Man - Keeps the bakery in clean and orderly condition.

Supply Clerk - Is responsible for procedures and policies for receiving, handling, and dispensing of bakery supplies, and for maintenance of inventory.

Bookkeeper - Keeps a set of financial records.

Decimals/Supermarket

Objectives

To give the student experience in adding and subtracting decimals.

To help the student recognize the different supermarket workers.

Activity

Each student is given a newspaper containing the local grocery store ads. He is to find prices (preferably the best buy) for each item. The amounts are then to be totaled. The teacher should prepare a grocery list in advance according to the ads.

Fig. 2 Grocery Ads

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Name _____

Date _____

Item	No. of Items	Price For One	Total Price

Name_____

Date_____

MATH

You have $5.00 to spend at the grocery store. Choose from the list below six items you plan to buy. Add up the total amount of the six items. Then subtract that amount from your $5.00 to see how much change you will have. REMEMBER - you only have $5.00 to spend.

Make 8 problems from this list.

Milk	.55	Ice Cream	$1.05
Orange Juice	.85	Steak	$1.85
Bread	.35	Candy	.50
10 lbs. Potatoes	.65	Potato Chips	.59
Popcorn	.39	Sugar	.69
Grapes	.68	Butter	.89
Shrimp	$2.48	Flour	.75
Salt	.15	Cabbage	.40
Pepper	.57	(Fresh) Corn	.39
		Greens	.67

Meat Cutters - Prepare meat, fish and poultry for sale in supermarkets or wholesale food outlets. Their primary duty is to divide animal carcasses--from which the hide, head and entrails have been removed--into steaks, roasts, chops, and other serving sized portions. They also prepare meat products such as sausage, corned beef, and meat loaf. Meat cutters who work in retail food stores may set up attractive counter displays and wait on customers.

Meat cutters acquire their skills either through apprenticeship programs or by means of on-the-job experience. Under the guidance of skilled journeymen meat cutters, trainees learn the identity of various cuts and grades of fresh meats and cold cuts and the proper use of tools and equipment. They learn to use the equipment to make counter displays, slice luncheon meats and cheese, wrap meat and wait on customers. They learn to dress fish and poultry, roll and tie roast, grind hamburger, prepare sausage, cure and corn meat, and may learn to use the vacuum and tenderizer machines. They may learn marketing operations such as inventory control, meat buying and grading, and record keeping.

They usually have two or three years of supervised on-the-job training which may be supplemented by some classroom work. Meat cutters may progress from journeyman to first cutter, and then to meat department manager of a retail store. Some become buyers and some store managers.

Cashiers - Receive the payments made by customers for goods and services. In the supermarket they are called check-out clerks or grocery clerks.

Most cashiers accept money paid by customers and clients, make change when necessary, and give some kind of receipt for the payment. They also keep records of the amount of money involved in each transaction so that cash accounts can be balanced at the end of the day. Some prepare cash and checks for deposit at the bank, pay out cash or write company checks to cover expenses for supplies and equipment. Some prepare pay envelopes or paychecks, make out sales tax reports and do related work.

Some of the machines they use are the cash registers and change dispensing machines. In supermarkets and other self-service stores cashiers often wrap or bag each customer's purchases and during slack periods, restock shelves, mark prices on articles, and perform other work.

Cashiers are usually trained on the job.

Checker - Must be familiar with the prices of most items sold in the store. Each morning a checker is given a basic amount of change to start the day. She is responsible for all the money in her cash register. If more than one person uses the register, the cash drawers are changed so that each checker keeps track of her own money. The money drawer is periodically counted; it should match the total on a roll of paper tape which shows every amount that was charged (or rung up) on the cash register.

Several times during the day the cash and checks in each drawer are counted and turned over to the bookkeeper, a manager, or a head checker. Because the store hours are long, and the regular employees work only eight hours a day, part-time checkers are also needed. These may be high school girls or boys who work after school, or women who do not want to work full time. Usually the checkers wear uniforms supplied by the store.

Dairy Manager - Supervises the department that sells dairy products. Not all of the products in his department are made from milk. In this department are eggs, oleomargarine, lard, fresh orange juice, gelatin salads, and other foods which need refrigeration. He and his helpers must see that the shelves of products are neat, clean, and refilled when necessary.

The dairy manager must know how much is sold daily so he can reorder when stocks are low. Because this type of merchandise is not usually stored in the supermarket's warehouse, as canned goods are, he often orders directly from a dairy or other supplier. Companies from which he buys sometimes develop new products as well as improve old ones, so he must keep up with all the changes. He often talks with a salesman from these companies. Besides discussing new products he learns different ways to display the products. He also gets help on special promotions or sales. Sometimes the dairy company will supply customer "give-aways", such as recipe folders. When the company sponsors a contest, the manager may use some of his store space to announce it. Both the company and the manager work closely together in order to sell more products.

Often the dairy manager is in charge of the delicatessen department. This is where foods which have been prepared are sold (ready-to-eat).

It is important for the dairy manager to follow certain health rules in his department. Shelves must be washed often. Certain temperatures must be kept in dairy cases. Merchandise which has not been sold after a certain length of time must be removed from the shelves.

Stock Boy - Puts products on shelves so customers can buy them. Some work part-time after school and on Saturdays.

In a small store he may work in all parts of the store, with all products. In a large store where many stock boys work, the manager may want him to work in only one aisle and handle only a few kinds of products. He may be in charge of canned vegetables and soups. Another boy may work with fresh vegetables and fruits.

One main duty is to put groceries in paper bags or boxes. When all of a customer's groceries are packed, he puts the bags and boxes on a special handcart and wheels them out to the customer's car, places them in the car, takes the cart back into the store and helps another customer. When the store is not busy, his boss may ask him to do other jobs in the store. He may sweep the floor, clean up things that were spilled, or find things for customers when they need help. He may also carry empty boxes and cartons to a special burner outside and burn them.

A stock boy does not need special training. His boss tells him how and which shelves to stock. He must finish school before he can get a full-time job as a supermarket stock boy.

Produce Workers - Are trained to know how to handle each type of fruit and vegetable. They may work much of the day in a room kept cool for the benefit of the produce. Since they must stand most of the day, they are strong as well as efficient. The room where they work is kept as clean as possible. While at work the men wear white coats and aprons.

When the produce is delivered, the boxes are usually stored in a cool room. Workers will unpack, prepare, and often package this produce. Some fruits and vegetables must be washed and trimmed. When produce is packaged, helpers arrange the items in shallow trays. They wrap the trays in transparent film to keep it clean and allow the customers to see the produce in each package. These trays are sealed tight with a hot metal iron called a sealer. They then weigh the package and mark the price on it.

Produce Manager - Makes displays to look attractive and appetizing so that customers will want to buy. He also makes sure the food is kept fresh and good to eat. To save time and eliminate waste, much of the produce is wrapped and priced before putting it on display. This packaging is done in a special produce room in the store. Since customers may want to have their own selection weighed, or ask a question about an item, the produce manager or one of his helpers is always on duty in the produce department.

The produce manager has to decide how much produce his store can use. He must know a great deal about fruits and vegetables. He must know when each food is ripe, how to keep food fresh, what prices to charge, and how much of each item he can probably sell.

Warehouse Helper - Unloads goods from the train or truck that brings them to the warehouse. He may then carry them to the storage bins or shelves where they are to be kept. When someone needs them, he takes them from the storage bins or shelves to the trucks that deliver them to the stores. Some have to see that the right tickets are on the items loaded and unloaded.

A warehouse helper must be able to lift and carry heavy things. He must be able to stock things on shelves or pile them in storage bins. He must be strong and healthy. He must be able to read tags and labels so he can be sure he is carrying the right thing. In warehouses where trucks or machinery are used, the helpers should know how to drive a truck or run a machine.

Percents/Sports

Objectives

To teach the student to locate sport statistics in the newspaper.

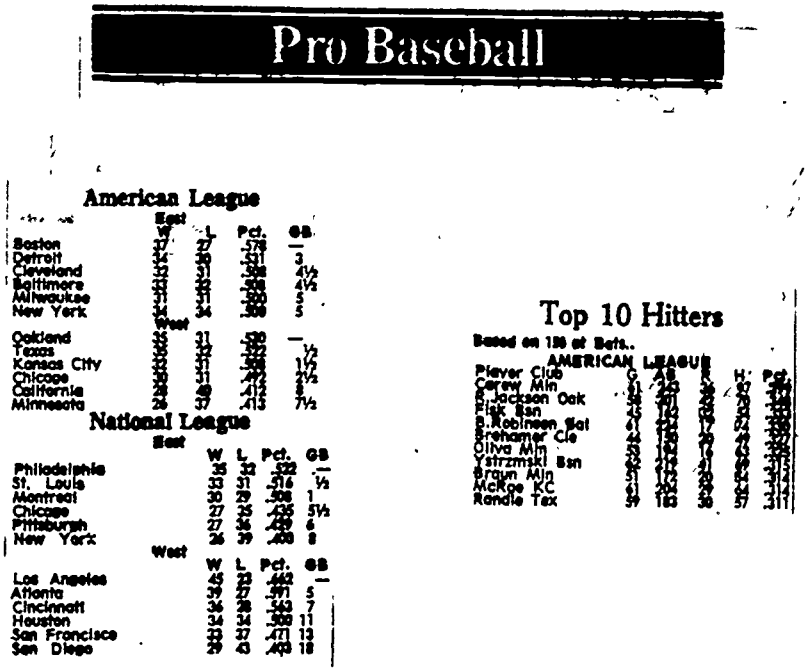
To give the student practice with percents.

To make the student aware of the math involved in reporting sports.

To identify workers responsible for the sports section of a newspaper.

Activity

The sports section of the newspaper is to be identified for the students. Using a copy of their own, the students are to locate and verify percent listings of assigned teams and/or players.



Pro Baseball

American League

East	W	L	Pct.	GB
Boston	42	27	.609	—
Detroit	41	30	.577	3
Cleveland	37	31	.544	4½
Baltimore	37	33	.529	4½
Milwaukee	37	34	.521	5
New York	34	34	.500	5
West				
Oakland	35	31	.530	—
Texas	35	32	.522	½
Kansas City	33	31	.516	1½
Chicago	33	31	.516	2½
California	28	40	.412	8
Minnesota	28	37	.431	7½

National League

East	W	L	Pct.	GB
Philadelphia	35	32	.522	—
St. Louis	33	31	.516	½
Montreal	30	29	.508	1
Chicago	27	35	.435	5½
Pittsburgh	27	36	.429	6
New York	26	39	.400	8
West				
Los Angeles	45	23	.662	—
Atlanta	38	27	.591	5
Cincinnati	36	28	.563	7
Houston	34	34	.500	11
San Francisco	33	37	.471	13
San Diego	29	43	.403	18

Top 10 Hitters

Based on 130 at Bats.

AMERICAN LEAGUE

Player Club	G	AB	R	H	Pct.
Carew Min	51	210	36	67	.319
R.Jackson Oak	54	201	36	62	.308
Fisk Bsn	45	162	20	50	.309
B.Robinson Stl	41	144	17	47	.326
Brohamer Cle	44	158	20	48	.304
Oliva Min	35	124	16	43	.347
Yastrzmski Bsn	42	174	21	58	.333
Braun Min	31	102	20	34	.333
McRae KC	41	164	28	51	.311
Randle Tex	39	183	30	57	.311

Fig. 3 Pro Baseball Statistics

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Example:

	W	L	PCT	GB
Boston	37	27	.578	--

Total Games Played -- 64) 37.000 --Games Won .578 Percentage

32 0
5 00
4 48
520
512
8

Now the students individually or as a group should gather data on their own school team and/or players and compute percentages. They might possibly decide on a format and have the results published in the school newspaper.

Sports Editor - Coordinates activities of publication's sports news and supervises reporters engaged in gathering, writing, and publishing the sports.

Reporter - Collects and analyzes facts about newsworthy sports events by interview, investigation, or observation, and writes stories to prescribed editorial techniques and format. He applies statistical methods to certain sports data.

Geometry/Manufacturing

Objectives

To give the student experience in organizing a company, manufacturing a product, and selling that product.

To acquaint the student with the workers involved in manufacturing a product.

To give the student an opportunity to work with geometric figures.

Activity

Given the prototype of the product the students are to organize a company, manufacture the product and sell it.

Steps:
1. Sell stock to raise capital
2. Elect board of directors
3. Hire a plant manager
4. Write job applications
5. Hire workers
6. Purchase raw materials
7. Organize work crews
8. Manufacture product
9. Prepare to sell
10. Sell
11. Distribute profits to stockholders

Value of Ten Cents a Share

VALUE OF

No. _____
Shares_____

MCMILLAN CORPORATION

This certifies that _____ *is the owner of* _____ *shares of stock of the McMillan Corporation.*

MC DESIGNERS

In witness, whereof, the said corporation has its certificates by the duly authorized officer and to be sealed with the seal of the corporation.

Secretary *President*

G.R. Brown

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Application

Name _____ Job _____

Age _____

Social Security No. _____ Experience _____

_____

_____

_____

_____

Jobs

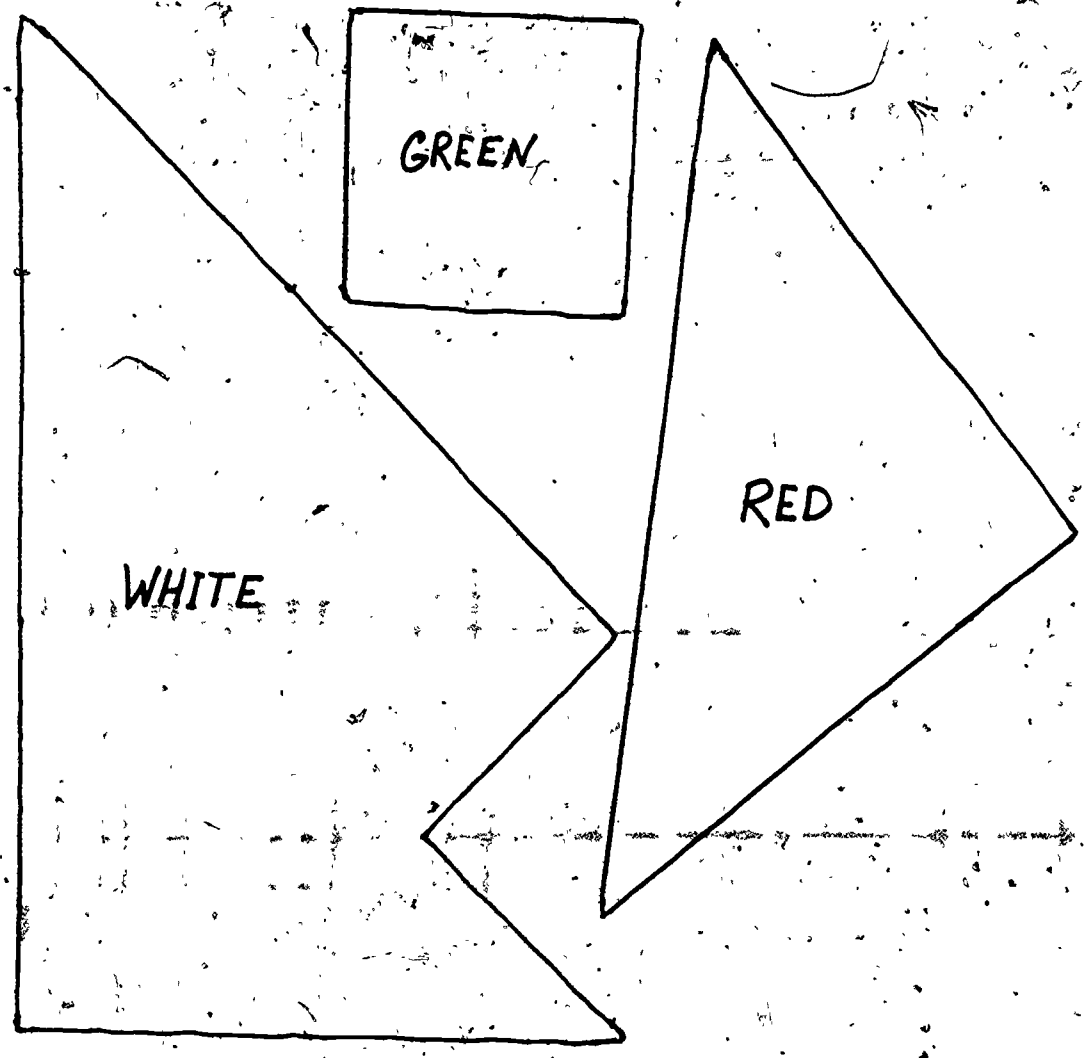
5 Tracers

10 Cutters

2 Packers

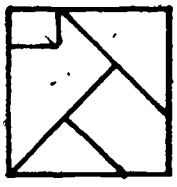
Prototype

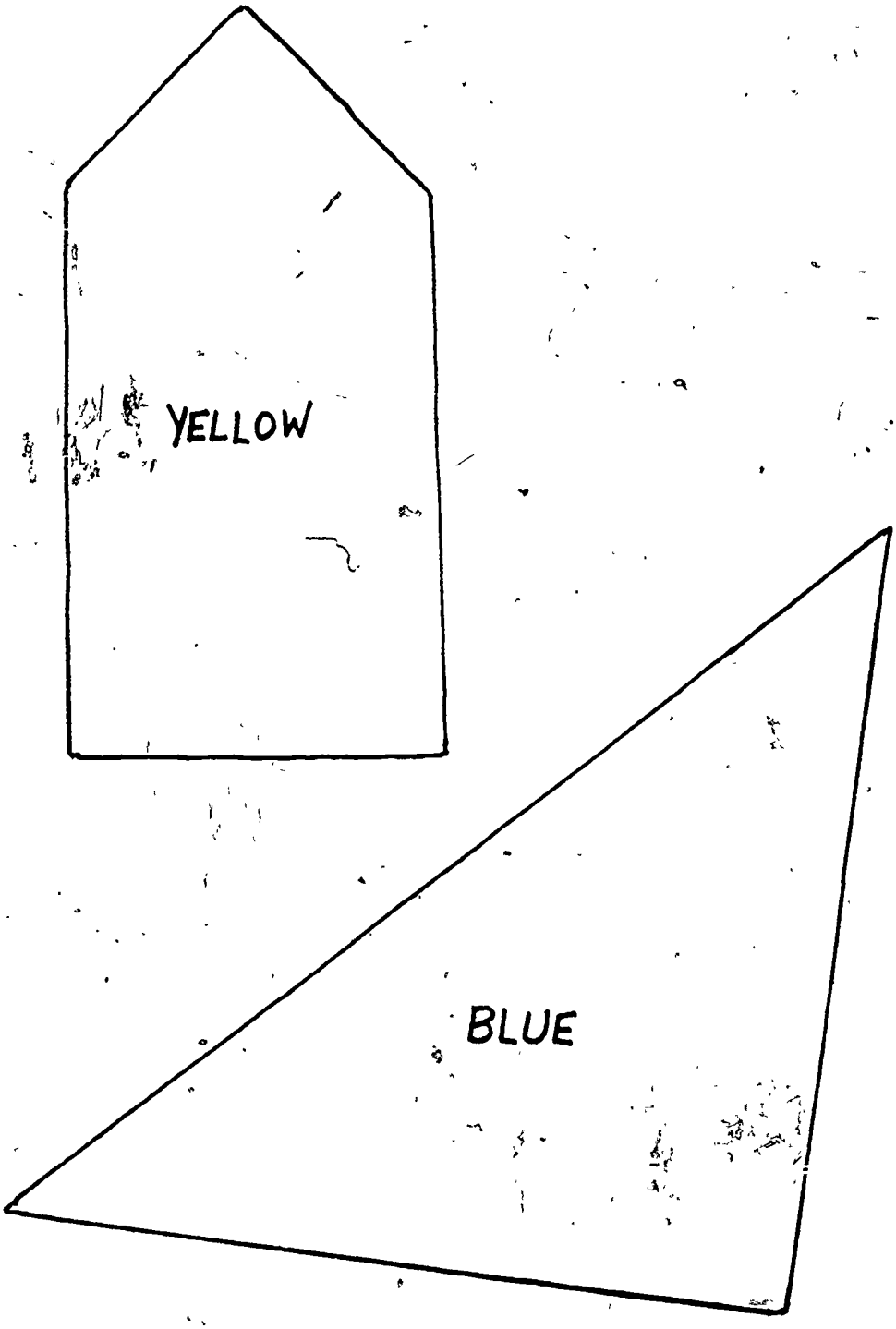
Suggested materials: heavy tagboard, floor tiles, plywood.



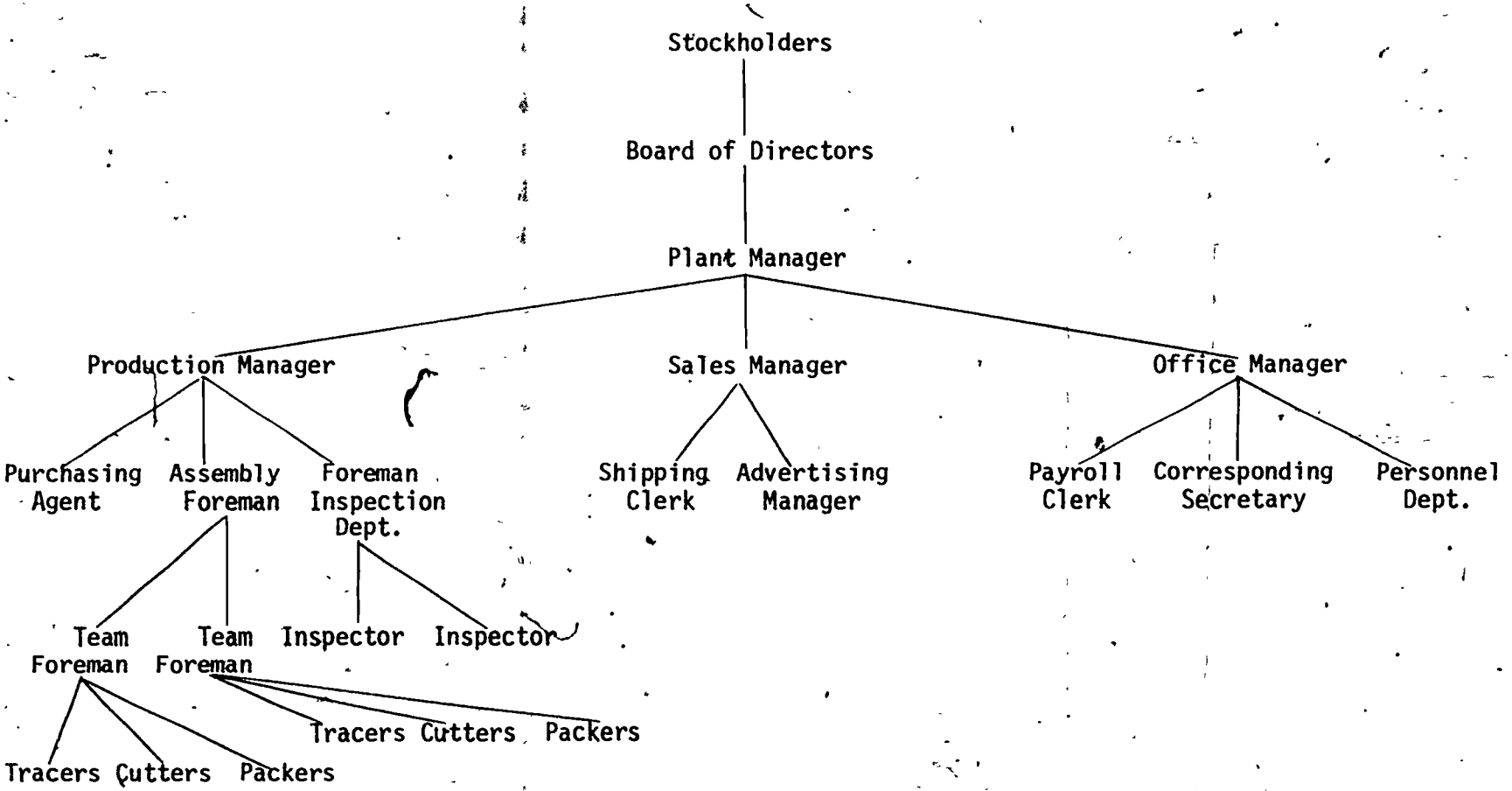
Directions:· Make a square using <u>all</u> 5 pieces.

Answer:




YELLOW
BLUE

ORGANIZATION OF FACTORY



Management - Is responsible for day-to-day operations of the physical facilities as well as providing plans for future development. It is the responsibility of management to see that all processes are orderly and profitable. Those involved are responsible to their own employees, to the consumer, to the public, and to the federal, local and state governments. They must satisfy the stockholders and see that a proper company image is projected.

Assembler - Assembles part or the whole product. It involves both skilled and unskilled laborers.

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ABSTRACT: THIS GUIDE IS INTENDED FOR COORDINATION WITH A LANGUAGE ARTS PROGRAM IN AN EIGHTH GRADE CORE PROGRAM. IT CAN BE USED IN PART OR IN WHOLE IN THE INTEREST OF ANY CAREER PURSUED BY THE STUDENT. THE GUIDE CONTAINS VARIOUS ACTIVITIES TO ACQUAINT THE STUDENT WITH THE VALUE OF LANGUAGE ARTS IN RELATIONSHIP TO HIS SELECTED CAREER. THE MAJOR SUBDIVISIONS OF THE UNIT INCLUDE: SPELLING, ENGLISH, READING, AND CAREER GAMES RELATED TO LANGUAGE ARTS. (KE)

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VT 101 435

LANGUAGE ARTS:
LESSONS IN CAREERS FOR CORE
Eighth Grade Level

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OMAHA PUBLIC SCHOOLS
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IN-SERVICE WORKSHOP
CAREER EDUCATION

The Exemplary Program - U. S. Commissioner of Education
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Part D

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INTRODUCTION

This guide is intended to be co-ordinated with the Language Arts program in 8th grade Core. It can be used in part or in whole in the interest of any career pursued by the student.

It contains various activities to acquaint the student with the value of language arts in relationship to his selected career.

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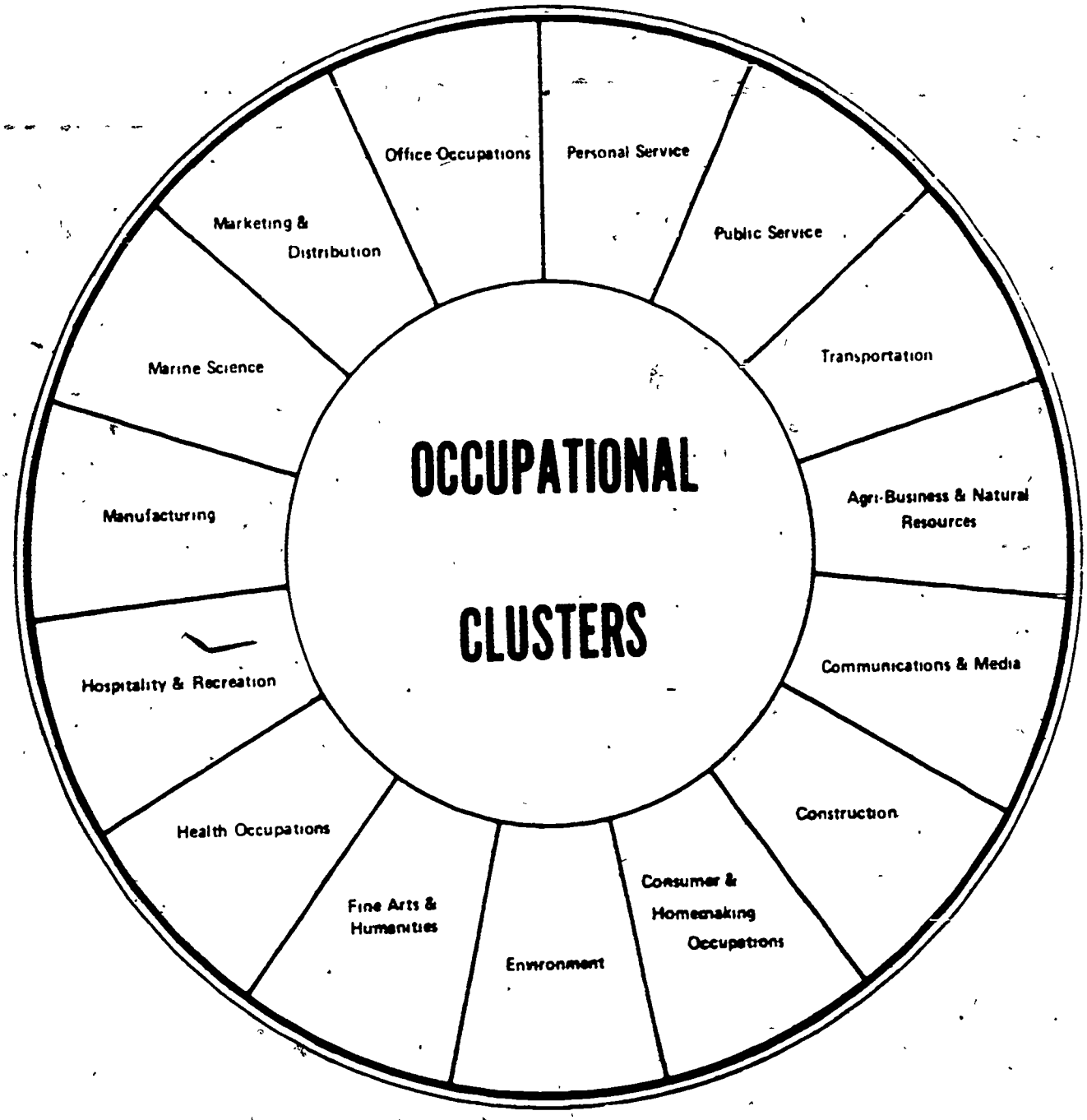
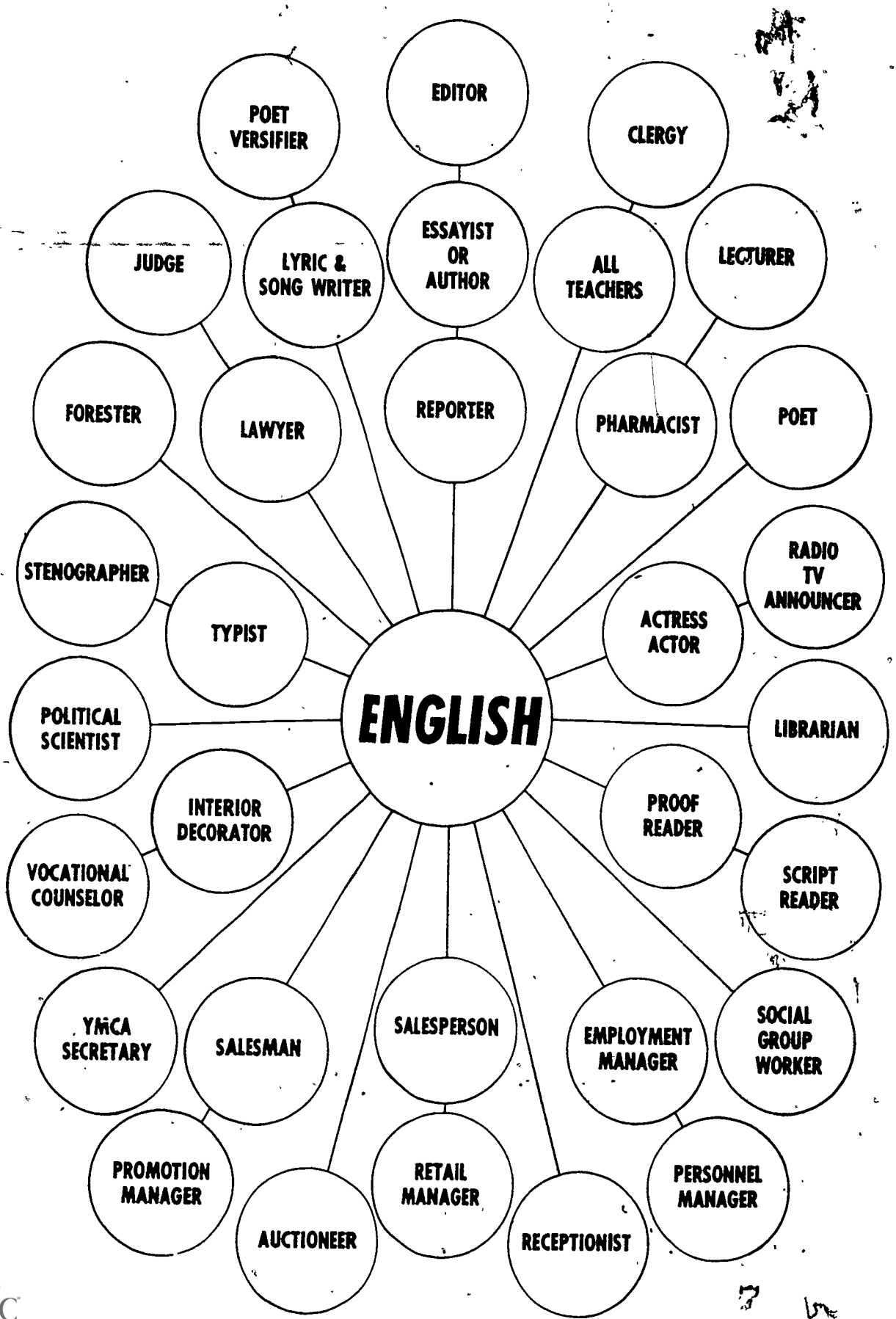


SOME CAREERS RELATED TO INTEREST AND ABILITY IN *ENGLISH*



Learning Activities In The Language Arts Program Related To An Exploration Of A Chosen Career

I. Spelling

A. Synonyms Worksheet

B. Phonetics Worksheet

II. English

A. Composition and Oral Presentation

1. Notetaking

2. Outlining

B. Creative Writing Suggestions

C. English Skill Worksheet

III. Reading

A. Vocabulary

B. Comprehension

C. Interpretation

IV. Career Games Related to Language Arts

A. Spelldown

B. "What's My Line?"

C. Password

SYNONYMS

Directions: Give a synonymous term for each of the following careers. The careers are listed under the fifteen occupational clusters.

I. Agri-Business and Natural Resources

1. Agronomist _____
2. Paleontologist _____

II. Fine Arts

1. Linguist _____
2. Lexicographer _____

III. Communication

1. Installer _____
2. Lithographer _____

IV. Personal Services

1. Mortician _____
2. Valet _____
3. Masseur _____

V. Office Occupations

1. Statistician _____
2. Stenographer _____

VI. Environment

1. Audiologist _____
2. Fumigator _____

VII. Health

1. Chiropractor _____
2. Podiatrist _____

VIII. Hospitality and Recreation

1. Mime _____

2. Ventriloquist _____

IX. Manufacturing

1. Die Maker _____

2. Hackler _____

X. Marine Science

1. Seismographer _____

2. Meteorologist _____

XI. Marketing and Distribution

1. Analyst _____

2. Jobber _____

XII. Public Services

1. Bailiff _____

2. Anthropologist _____

XIII. Transportation

1. Purser _____

2. Tracer _____

XIV. Construction

1. Glazier _____

2. Millwright _____

XV. Consumer and Homemaking Occupations

1. Nutritionist _____

2. Fashion Coordinator _____

PHONETICS

Directions: Divide the following words into syllables placing the accent marks and diacritical marks in the proper place.

1. lexicographer _____
2. paleontologist _____
3. pathologist _____
4. optometrist _____
5. geomorphologist _____
6. cytologist _____
7. cartographer _____
8. chiropractors _____
9. choreographer _____
10. archivist _____
11. astrophysicist _____

See your instructor for any additonal career pronunciations if you so desire.

COMPOSITION

Using any English text containing a section on notetaking and outlining, the student will select his most interesting career and do research according to the following outline suggestions.

At least three resources must be used. Note cards, as prepared according to the directions in the text, must be approved before the outline is prepared. The outline format is also to follow the directions from the text.

Using the outline, the student may make an oral or written presentation.

CAREER RESEARCH

I. Name of Career

A. Other names used
B. Cluster category

II. Reasons for selecting this particular career to study

III. People in the Career

A. How many people are employed in this field?
B. Where are these jobs to be found (urban/rural)? Why?

IV. Duties of the Career

A. General and specific duties of the work
B. Hours usually required
C. Unusual features of the work (seasonal travel, split shift, working conditions, etc.)

V. Qualifications of workers in this field

A. Sex
B. Age
C. Health and physical condition
   1. Are there any specific physical requirements?
   2. Is there a set physical capacity to meet the demands of the job?

D. Personality - Is there a certain temperament for success on the job?
E. Education - general level and type required

VI. Educational planning

A. What high school courses would be the best preparation for this career?
B. Will post-secondary technical/vocational schools be involved in preparation?
C. Is a college education required?

D. Is any other training required?
   1. Apprentice program
   2. Company training program
   3. On-the -job training

VII. Finding a job in the Career field

A. List names of public or private agencies that might be helpful in securing a job in this field
B. List local firms where employment in this career field could be found.

CAREER RESEARCH - Continued

VIII. Financial considerations

A. Salary you can expect
B. Expenses you might have

IX. Career advancement

A. What are the chances for advancement in this field?
B. Would advancement require additional training?
C. Is there a need for continuing education to hold this position?

X. Changes in the Career field

A. What is the future employment outlook?
B. Are any changes anticipated as a result of advanced technology?
C. What new career fields are envisioned for the future, rising from present occupations?

XI. Miscellaneous information - List here any interesting points that do not fall under any other categories.

CREATIVE WRITING SUGGESTIONS

1. Prepare a skit or short story developed around the idea of a time tunnel. Students select the time period they would live in (past or future), describe what life would be like, what career they would select for themselves at this time and why. This could be presented in oral or written form.
2. Plan a trip to an unexplored area or planet. The student is in charge of the expedition and may select people from not more than 10 different occupations to accompany him on this initial colonization flight. Have the student present orally or in written form his list of occupations and reasons for his choice.
3. Prepare a fictional short story depicting the student in the role of a career on another planet.
4. Present a promotional talk selling a particular career.
5. Write a letter to a company soliciting qualification for a position (see guide on following page) or to a friend describing advantages or disadvantages of a position the student has supposedly acquired.
6. Prepare a want ad for an occupation from each cluster or specified cluster.
7. Two students will prepare a dialogue, one acting as an applicant and the other as the employer depicting the qualifications, type of work, etc.

Guide for Writing Application Letter

Heading

Name and Address
of the person or
company to whom
you are writing

Salutation
or
Greeting

First Paragraph:
A. State position wanted
B. How you learned about it

Second Paragraph:
Tell about yourself--age, health, education

Third Paragraph:
Special abilities and training that shows your qualifications for the job.

Fourth Paragraph:
Give reference--List the names, address, and telephone numbers of three persons who will recommend you. (Tell of your character and abilities).

Fifth Paragraph:
Ask for the privilege of an interview.

Complimentary close,

Signature

Please note, if letter is typed, it must be signed with pen.

POSSESSIVES

Directions: Make a table forming the singular, singular possessive, plural, and plural possessive of the following careers followed by an appropriate noun associated with that particular career.

Singular	Singular Possessive	Plural	Plural Possessive
Example:			
Teacher	teacher's desk	teachers	teachers' desks

1. saleslady _____
2. accountant _____
3. programmer _____
4. archivist _____
5. bacteriologist _____
6. biochemist _____
7. shearman _____
8. governess _____
9. charwoman _____
10. clergyman _____

ANALOGIES

Directions: Complete the following analogies by filling in the blank with the proper career.

Example: musician : instrument as carpenter : hammer.

1. melter : alloy as _____ : switchboard.
2. dietician : diet as _____ : electricity.
3. _____ : maps as stewardess : luggage.
4. meteorologist : weather as _____ : religion.
5. pinsetter : bowling alley as _____ : department store.
6. doctor: _____ as scientist : bacteriologist.
7. equestrian : sports as _____ : construction.
8. _____ : camera as secretary : typewriter.
9. farmer : tractor as _____ : Diesel.
10. mechanic : garage as _____ : beauty salon.

LITERATURE

1. In reading Johnny Tremain, list as many careers as possible which appear in the story. Prepare a written or oral discussion outlining which careers have disappeared or been modified for modern times.
2. Read and/or write poetry concentrating on careers. For example, when doing a unit on Westward Expansion in Social Studies, select poems depicting careers involved in this era: pioneers, gold miners, Northern industrialist.

GAMES FOR CAREERS

1. Spelldown involving career titles.
2. "What's My Line?"

   The game consists of 4 panelists, 1 contestant, a scorekeeper, a timekeeper, and a judge. The panelists have 1 minute to question the contestant as long as they get a "yes." As soon as an answer is "no" it passes to the next panelist for questioning but no longer than 1 minute even if the answer is "yes." Questioning by the panelists can make 2 rounds and the contestant automatically wins. Play money of $10.00 for each point may be used for a lively game. For example, a contestant may leave with as high as $80.00 to his credit. The panelists score together as 1 and they can get $10.00 for every minute they go without a "no" or $10.00 as soon as the career is identified.
3. Password

   This game consists of a judge, scorekeeper, a timekeeper and 4 contestants. Contestants A and B are on 1 team and contestants C and D on another. A and C are given a career and they can give 1 word to describe it to their partner. Each partner is given 30 seconds to reply. It is bounced back and forth from A to C until each is given 5 chances unless the career is identified before. The play then passes to B and D to describe a career to A and C.
4. Any commercially prepared game could be used. Some are found at the IMC or at Lake School Resource Center.

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An Analysis of Fifteen Occupational Clusters Identified by the U. S. Office of Education

Dictionary of Occupational Titles, U.S. Dept. of Labor

Occupational Clusters, U.S.O.E.

Occupational Outlook Handbook, U.S. Dept. of Labor

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TITLE: TRANSPORTATION: WORKERS THAT MAKE IT POSSIBLE, INTERMEDIATE EMH.

PERSONAL AUTHOR: BURNETT, ADELL

DESCRIPTOR: *CAREERS; *INTERMEDIATE GRADES; *EMOTIONALLY DISTURBED; *MENTALLY HANDICAPPED; *TRANSPORTATION

IDENTIFIER: OMAHA PUBLIC SCHOOLS

EDRS PRICE: MF AVAILABLE IN VT-ERIC SET.

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ABSTRACT: THIS UNIT IS DESIGNED TO AID THE TEACHER IN ACQUAINTING INTERMEDIATE EMOTIONALLY OR MENTALLY HANDICAPPED (EMH) PUPILS WITH WORKERS IN THE AREA OF TRANSPORTATION. THOSE JOBS REQUIRING THE LEAST ABILITY SHOULD NOT BE SLIGHTED SINCE EMH PUPILS CAN PROBABLY HANDLE THEM AS ADULTS. THE TOPICS COVERED IN THIS UNIT ARE: TRANSPORTATION, LAND TRANSPORTATION, AIR TRANSPORTATION, AND WATER TRANSPORTATION. EACH TOPIC HAS SPECIFIC OBJECTIVES AND LEARNING ACTIVITIES. RESOURCES AND A TEST ARE ALSO INCLUDED. (KB)

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VT 101 436

TRANSPORTATION:
WORKERS THAT MAKE IT POSSIBLE
Intermediate EMH

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TRANSPORTATION: WORKERS THAT MAKE IT POSSIBLE

This unit is designed to aid the teacher of intermediate EMH pupils in acquainting them with workers in the area of transportation. It is hoped that this unit will serve as a guide to the teacher, to be adapted as the teacher sees fit. This is necessary since the ability level of EMH pupils varies widely from classroom to classroom.

It is also desirable that it be kept in mind the kinds of jobs in this area, that EMH pupils would be able to handle as an adult. Thus, those jobs requiring least ability should not be slighted.

TRANSPORTATION

I. Concept

Transportation is an important source of jobs.

II. Objectives

1. To help pupils become aware of the various types of transportation.
2. To help pupils become aware of the interrelationship of the various types of transportation.
3. To aid pupils in discovering the interdependence of jobs in each area of transportation.
4. To expand pupils knowledge of the many different jobs involved in transportation.
5. To help pupils become aware of how much we depend on transportation workers in everyday life.

LAND TRANSPORTATION

I. Objectives

1. To help pupils discover the many jobs involved in providing land travel.
2. To help pupils realize the extent to which we depend on various types of land travel in everyday living.
3. To give pupils an idea of the many types of land travel.
4. To discover how transportation has changed in the last 100 years.

II. Learning Activities

1. Jigsaw puzzles of workers involved in each type of land travel.
2. Role play the jobs of different workers at a train station.
3. Visit the bus station.
4. Find pictures in magazines showing workers involved in land travel--place in booklet.

5. Show a film.

6. Using a diagram of a bus, list the workers involved in making the bus perform a service.

7. Take a make-believe trip by train acting out all steps involved.

8. Write vocabulary words in alphabetical order.

AIR TRANSPORTATION

I. Objectives

1. To help pupils discover the many jobs involved in air travel.

2. To become aware of the interrelationship of jobs in air and land transportation.

II. Learning Activities

1. Class visitation by pilot.

2. Visit airport.

3. Filmstrip.

4. Role play the jobs involved in air travel work.

5. Make up riddles involving air travel workers.

6. Make a mural of an airport terminal.

7. Make puppets of airline personnel.

8. Play Password with vocabulary words.

9. Show pictures of items used by workers in air travel. Match workers with correct item he uses.

10. Take turns pretending to make airline reservations.

11. Discuss the jobs involved in space exploration.

12. Write poems about pilots, stewards, etc.

13. Read stories about working in an airport.

14. Play the game, "I'll Go On A Trip".

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WATER TRANSPORTATION

I. Objectives

1. To help pupils discover the jobs involved in water transportation.
2. To acquaint pupils with services provided by workers in water travel.
3. To show pupils the interrelationship of land and water transportation.

II. Learning Activities

1. Discuss the job of ship captain.
2. Visit the U.S.S. Hazard.
3. Class visitation from navy representative.
4. Filmstrip.
5. Make various kinds of boats.
6. Search magazines for pictures of persons involved in water travel.
7. Read aloud stories.
8. Make up poems about water transportation.
9. Jigsaw puzzles of persons involved in water transportation jobs.
10. Make a booklet showing the changes in water travel over the years and discuss how jobs were affected.
11. Learn songs about the sea and ships.
12. Make posters about safety when boating.
13. Draw pictures of the coast guard in action.
14. Have a toy sailboat race.
15. Make riddles about workers involved in water travel.

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RESOURCES

BOOKS:

Lamber, David; Wonderful World of Transportation

McCall, Edith; How Airplanes Help Us

Greene, Carla; I Want to Be a Bus Driver

Greene, Carla; I Want to Be a Space Pilot

Creene, Carla; I Want to Be a Truck Driver

Encyclopedia Americana

Films and Filmstrips:

"Automotive Mechanics"

"People and Goods Travel"

"How We Traveled"

"Systems At Work"

TEST

A. Label each job title below (air-a, land-l, water-w) according to the type of transportation to which it belongs.

1. pilot ____
2. engineer ____
3. porter ____
4. steward ____
5. co-pilot ____
6. freight ____
7. mechanic ____
8. truck driver ____

B. Answer questions below.

1. Name three types of land transportation.
2. What is a reservation?
3. Name five jobs connected with the train station.
4. What are two ways in which we depend on land, air and water transportation.

C. True or False

1. An engineer works on a train. ____
2. Mechanics are not needed to work on airplanes. ____
3. There are no men stewards. ____
4. A porter carries luggage for passengers. ____
5. A sailor is involved in land transportation. ____
6. When going on a trip it is a good idea to make a reservation. ____
7. Only men can be truckdrivers. ____
8. The crew of a ship does not include a cook. ____

D. Fill in the blank.

1. A person who carries passengers luggage is called a _____. (steward, porter, pilot)
2. Train stations found underground in some large cities are called _____. (subway, rail, terminals)

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3. Goods carried by trains, planes, ships are called _____.
   (mail, freight, packages)

4. Moving from one place to another is called _____.
   (walking, shipping, transportation)

Further evaluation by playing the game, "What's My Line", involving jobs from all types of transportation.

VOCABULARY

1. transportation
2. pilot
3. co-pilot
4. navigator
5. freight
6. reservation
7. dock
8. Steward
9. subway
10. mechanic
11. engineer
12. traffic
13. terminal
14. crew
15. transmission

B. Careers available:

Manager:

He runs the farm. There is no strict requirement in education. The manager need not have a college degree, but he should be knowledgeable about farming. He must know how to care for crops and animals, be familiar with plant and animal diseases, know about planting and fertilizing crops and how and what to feed the animals. He is directly responsible to the Omaha Home for Boys.

House Parents:

They assist the manager and supervise the young men that do the farm chores. They must have a strong moral character and good reputation. They must be mature and responsible and able to work well with young people.

Climate and Pollution - Weather Bureau

Weather is an important topic in science. It deals not only with natural phenomena but also with air pollution.

I. When discussing material on clouds, precipitation, erosion, floods and air pollution in the atmosphere, some of the following films might be used preceding the guided tour of the Omaha Weather Bureau.

A. Movies:

(1)	Origins of Weather	0596
(2)	Atmosphere and Its Circulation	0052
(3)	What Makes Clouds?	0891
(4)	Clouds	0144
(5)	What Makes Rain?	0892

B. Filmstrip - Understanding Weather and Climate (IMC)

II. Field Trip - guided tour to Omaha Weather Bureau:

A. Scientific Goals:

(1) Climate
(2) Atmospheric Pressure
(3) Precipitation
(4) Cloud Formation
(5) Air Pollution

B. Careers available at the Weather Bureau:

Meteorologist:

This person must have at least a B.S. degree in Meteorology with a minor in either Mathematics or Physics. The job of the meteorologist is to study and interpret data relating to weather, atmospheric temperatures and pressure, atmospheric electricity, amount of fallout and pollution. The meteorologist may earn $8,000 as a starting salary and eventually work his way up to earning $25,000 a year.

Meteorological Technician - (with some college):

This is a person who has his high school diploma plus about two years of college. He is trained by the Weather Bureau for a particular job. He also must have taken some computer programming and fortran courses in

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ABSTRACT: THE PURPOSE OF THIS UNIT IS TO INTEGRATE THE STUDY OF ECOLOGY WITH THE CAREER POSSIBILITIES AVAILABLE IN DEALING WITH ECOLOGY. IT PRESENTS GENERAL TOPICS IN ECOLOGY AND SUGGESTED POSSIBLE ACTIVITIES, I.E., FIELD TRIPS, GUEST LECTURERS, PAMPHLETS, FILM AND SLIDE PRESENTATIONS, WHICH WILL ACQUAINT STUDENTS WITH BOTH SCIENTIFIC FACTS AND CAREER POSSIBILITIES. THE TOPICS COVERED INCLUDE: HABITATS-FONTENELLE FOREST, SIMULATED HABITATS-HENRY DOORLY ZOO; DOMESTIC ANIMALS-HUMANE SOCIETY, AGRICULTURE-COOPER FARM, CLIMATE AND POLLUTION-WEATHER BUREAU, AND CHANGING THE LAND-ARMY CORPS OF ENGINEERS. (KB)

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COMBINING SCIENCE
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IN-SERVICE WORKSHOP
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The Exemplary Program - U. S. Commissioner of Education
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INTRODUCTION

The purpose of this unit is to integrate the study of ecology, which seems to be the over-riding topic in junior high science, be it seventh, eighth or ninth grade with the career possibilities available in dealing with ecology. Field trips are strongly recommended in conjunction with both the scientific and career aspects. Guest lecturers pamphlets, film and slide presentations are also very helpful.

There is no reason why career education cannot be mixed successfully with science lessons. This unit will present general topics in ecology and suggest possible activities which will acquaint students with both scientific facts and career possibilities.

Habitats - Fontenelle Forest

When studying a unit on animal habitats, familiarizing the group with Fontenelle Forest could be most beneficial. Good filmstrips available which may be shown to expand the unit are Nebraskaland and North America. (IMC-547.5 E Kit)

The following things could also be done.

I. Guest lecture by one of the naturalists from the forest.
   A. A guest lecturer could be asked to come and talk to the group telling them of the various kinds of natural habitats and the types of animals found in each.
   B. In order to have the pupils realize the various types of workers needed to maintain the forest, the speaker could tell what needs to be done to care for the animals in the way of food and water, care for illness, and protection from fire, etc. Included in the lecture should be the qualifications and the duties of the director and the clerical staff.

II. Field trip-guided tour to Fontenelle Forest.
   A. Scientific goals:
      (1) Types of habitats
      (2) Kinds of animals
      (3) Kinds of plants
      (4) Types of soils
   B. Careers available in running a nature study center.

Director:

A strong college background is required with at least a B.A. degree in Biology, Botany, Ecology or Wild Life management. The personality of the director is also a major factor. He must be dynamic and forceful. He must be a good organizer and administrator. He must be able to write and speak well, for he is the one in charge of publicity and it is he who will be negotiating for funds from the city to run the center. The salary of the director may range from $12,000.00 to $25,000.00 a year, depending on the part of the country in which the center is located and the amount of experience the director has had.

Administrative Assistant:

He helps the director with organization and public relations. The administrative assistant primarily handles the paper work and correspondence. This person should have a strong secretarial background--should be able to type well and take shorthand.

Naturalists:

There are both research and interpretive naturalists. These people should have a degree in Biology. Most of the naturalists at Fontenelle Forest have their masters degrees or are working toward them. The naturalists have the greatest responsibility of running the nature center. They take care of the sick and wounded

animals, set up the exhibits, organize nature hikes, provide environmental education to people of all ages, and lecture as guests for various clubs, organizations and schools.

Head Naturalist:

This person is directly responsible to the director. He heads the staff of naturalists and assigns them their work. He also is in charge of all the rangers. This person must exhibit good judgment and maturity, he must be able to handle other people well. He must have a thorough knowledge of the nature center and must be able to handle most of the maintenance problems.

Rangers:

He should have a high school education and be able to handle responsibility. Personality is important because the ranger must be mature and responsible. He must be able to cope with situations such as accidents or fires. The ranger patrols the nature center land. He reports to the naturalists any problems or changes which may endanger the wildlife or visitors to the center.

Students interested in any of these careers are encouraged by the staff of Fontenelle Forest to visit the nature center and spend as much time as possible there. They should sign up for guided tours and camps along with other activities organized by the naturalists.

Teenagers that become well known at the center may eventually become naturalist helpers and act as guides or camp counselors.

Simulated Habitats - Henry Doorly Zoo

Latest innovations for planning city zoos have been to simulate natural animal habitats as closely as possible. This seems to keep the animals more contented, besides beautifying the zoo. A field trip to the zoo would enable the students to study the more exotic animals and their simulated habitats. Seeing something vital and alive creates a greater impact on the mind of the students, than copying a report out of a book or hearing a teacher talk about the various animals.

I. Field trip to Henry Doorly Zoo.

A. Scientific goals:

(1) Perhaps the zoo staff may arrange to show the students how animals are fed and groomed; how young animals are cared for in the nursery, and how sick animals are treated.

(2) Students especially interested in animals and zoos may also be exposed to the career possibilities and educational qualifications for such positions.

B. Careers:

Director:

Most zoo directors have a degree in veterinary medicine, but a person may have a Ph.D. in either Biology or

Zoology to acquire this job. Obviously he must have a great deal of practical knowledge in animal breeding, diseases, injuries, diets and habitats. The director runs the zoo. He works with the animals, is in charge of the entire zoo staff and handles all the public relations work as well. His salary averages about $20,000 a year.

Administrator:

He must have a college degree in Business Administration or in a science-related field. The Administrator at the Henry Doorly Zoo has a B.A. and M.S. degree in Animal Husbandry and Nutrition. He is in charge of hiring new personnel and heads the office staff. He must be mature and responsible, be able to work well with people and know a little about bookkeeping. He may earn from $10,000 to $15,000 a year.

Animal Curator:

He must have a college degree in some life science. The curator at the Henry Doorly Zoo has a B.S. in Zoology and an M.A. in Business Administration. The curator is in charge of all the keepers. He makes rounds every morning and checks the animals. He keeps detailed records of each animal and any problems which may arise. He is in charge of how the zoo looks and thus sets up all displays. Any new ideas or new zoo additions must first be approved by him. He may earn from $10,000 to $15,000 a year.

Area Supervisor:

The zoo is divided into several geographic areas where specific types of animals are housed. The area supervisor is responsible for the animals in the territory assigned to him. He is also in charge of the keepers working in his area. A high school education and practical knowledge and experience are the qualifications for this job. A zoo keeper may work his way up to the job of area supervisor by the quality of his work and his love of animals. The area supervisor may earn from $9,000 to $11,000 a year.

Keepers:

There are two or three keepers assigned to each zoo area. A high school diploma is recommended but not absolutely necessary. Chief requirements for this job are a love for animals and a willingness to work and learn more about them. Many of the zoo keepers at Henry Doorly Zoo are working and going to college. They thus manage to gain practical experience in working with animals while they receive theoretical knowledge in Biology or Zoology. They are directly responsible for the feeding, cleaning, training and caring of the animals. A keeper may earn from $6,000 to $9,000 a year.

Dietician:

He must have at least a B.S. degree in Zoology or Nutrition, plus he must have a practical knowledge of animal diets. He is responsible for providing every

animal with the proper food to insure good health and nutrition. He may earn $8,000 to $10,00 a year.

Bookkeeper:

He must know about accounting, but a degree is not necessary. A willingness and desire to work are the chief requisites for this position. The bookkeeper is in charge of keeping records of all the financial business of the zoo. He must be careful and accurate. This is a very responsible and at times tedious job. The bookkeeper may earn $6,000 to $9,000 a year, depending on years of experience and quality of work.

Secretaries:

They must be able to type well, take shorthand and organize a filing system. Usually a high school education is sufficient but previous secretarial experience is desirable. A secretary may earn $6,000 to $9,000 a year.

Students interested in zoo work are advised to apply for part-time or summer jobs as keepers. They will get practical experience and thus have a taste of some aspects of zoo work. If they do go on to college and major in a life science particularly Zoology, they are almost guaranteed a job at almost any zoo in the nation because of the experience they will gain.

Domestic Animals - Humane Society

Another phase that could be studied in the animal unit could be the discussion of domestic animals.

I. The discussion preceding the field trip could include the possible effects upon animals when they are taken out of their natural habitats and put in somewhat confined quarters, sometimes neglected and sometimes mistreated. At this time, it probably would be interesting for pupils to see the large colored pictures and to hear the accompanying record concerning eight common pets. (IMC 574 B Kit)

II. Field trip to the Nebraska Humane Society - A guided tour.

A. Scientific goals:
   (1) Breeds of animals
   (2) Physical and emotional effects of mistreatment
   (3) Types of quarters provided for animals

B. Careers available in manning a humane society center:
   The humane society is considered to be a non-profit organization and as such, the employee pay scale is rather low. The chief requisite for all employees is a love of animals and ability to work well with them.

   Director:

   The director earns between $7,200 and $9,000 yearly. He does not need a college degree. All that is needed for this job is a high school education. To become the director, a person must know well all facets of humane work. He must start as a caretaker and work his way up. He must be a capable administrator and personnel manager as well as possess a great deal of practical

knowledge about animals.

Departmental Supervisor:

Each supervisor heads one of the departments, such as field department, secretarial department or caretaking department. Experience in a department plus capability determines who gets this job. Again a high school education is sufficient. A departmental supervisor may earn $7,200 to $8,400 a year.

Field Department Worker:

On-the-job training is provided for this employee. He must learn to know the breeds of animals, recognize animal diseases and how to handle animals. This job consists of two parts:

Investigative - checks out complaints of animal cruelty and mistreatment

Law Enforcement - pick up animals that have been killed or wounded in the city; protect citizens from wild or rabid animals; search for lost pets

A field department worker earns $425.00 per month.

Kennel or Shelter Caretaker:

He feeds and takes care of the daily needs of the animals; refers sick animals to a veterinarian; puts severely injured and unwanted pets to sleep. No educational qualifications are required for this job. Personality, love of animals, and willingness to work determines who gets this job. Wages are $1.90 an hour.

Office Worker:

This individual takes care of the paper work and correspondence. This person must be able to type and take shorthand. He must also be willing to learn about animals, since most of the correspondence will deal with this topic. He earns $1.90 an hour.

Agriculture - Cooper Farm

When teaching about man's domestication and exploitation of animals for food or clothing, a visit to the farm is in order. Most students know theoretically where milk and eggs and meat come from, but very few have actually seen a cow being milked or corn being planted. Information can be presented to the students as normally done in class with textbooks, worksheets, and audio-visual aids such as Farm and Ranch Animals. (IMC 574 B Kit)

I. Field trip - guided tour through Cooper Farm:

A. Scientific goals:

(1) Types of crops
(2) Plowing fields
(3) Irrigation
(4) Farm animals
(5) Breeding - hybridization
(6) Farm implements

B. Careers available:

Manager:

He runs the farm. There is no strict requirement in education. The manager need not have a college degree, but he should be knowledgeable about farming. He must know how to care for crops and animals, be familiar with plant and animal diseases, know about planting and fertilizing crops and how and what to feed the animals. He is directly responsible to the Omaha Home for Boys.

House Parents:

They assist the manager and supervise the young men that do the farm chores. They must have a strong moral character and good reputation., They must be mature and responsible and able to work well with young people.

Climate and Pollution - Weather Bureau

Weather is an important topic in science. It deals not only with natural phenomena but also with air pollution.

I. When discussing material on clouds, precipitation, erosion, floods and air pollution in the atmosphere, some of the following films might be used preceding the guided tour of the Omaha Weather Bureau.

A. Movies:

(1) Origins of Weather 0596
(2) Atmosphere and Its Circulation 0052
(3) What Makes Clouds? 0891
(4) Clouds 0144
(5) What Makes Rain? 0892

B. Filmstrip - Understanding Weather and Climate (IMC)

II. Field Trip - guided tour to Omaha Weather Bureau:

A. Scientific Goals:

(1) Climate
(2) Atmospheric Pressure
(3) Precipitation
(4) Cloud Formation
(5) Air Pollution

B. Careers available at the Weather Bureau:

Meteorologist:

This person must have at least a B.S. degree in Meteorology with a minor in either Mathematics or Physics. The job of the meteorologist is to study and interpret data relating to weather, atmospheric temperatures and pressure, atmospheric electricity, amount of fallout and pollution. The meteorologist may earn $8,000 as a starting salary and eventually work his way up to earning $25,000 a year.

Meteorological Technician - (with some college):

This is a person who has his high school diploma plus about two years of college. He is trained by the Weather Bureau for a particular job. He also must have taken some computer programming and fortran courses in

college. His job is mainly to run the computers and help organize the available weather data. Usually this person completes college, gets his degree and becomes a meteorologist. Starting salary is $7,000 yearly, which is finally increased to $14,000 or $15,000.

Meteorological Technician - (with no college):

This person is a high school graduate with a good mathematics and typing background. He also will receive on-the-job training by the Bureau. He may help gather and compile data, take atmospheric tests or work with computers. Starting salary varies between $6,000 and $7,000 which may eventually be increased to a $14,000 or $15,000 yearly income.

Changing the Land - Army Corps of Engineers

Changes in the environment may be natural or artificial. Earthquakes, glaciers, succession, droughts, and floods are all natural environmental changes. Man has attempted to change the environment for the benefit of himself. He has attempted to harness natural forces for his own use. He has tried to avert natural disasters, which may cause untold damage to him and his property.

I. When teaching about man's changing the environment, the following audio-visual aids could well be used.

A. Movies:

(1) How the Earth Naturally Changes 0597
(2) Weathering 0875
(3) Machines That Move the Earth 0496

B. Filmstrips - Ecological Crisis:

(1) Some Ecological Considerations
(2) Evolution and Extinction (IMC 574.5 Eco Kit)

C. Guest lecturer with slide presentation from the Army Corps of Engineers.

II. Objectives:

A. Science goals:

(1) Flood control
(2) Harnessing natural power
(3) Water resource development
(4) Topography
(a) Geodesy
(b) Mapping
(c) Charting

B. Careers available in the Army Corps of Engineers:

Professional Employees:

The Army Corps of Engineers has almost unlimited job opportunities. On the professional level, employers work together as a team for three basic objectives:

(1) Engineering
(2) Scientific research
(3) Land and resource development

To qualify as a professional, one must have at least a

B.A. or B.S. degree in any one of these disciplines, with the strongest emphasis on Engineering:

(1) Engineering
(2) Architecture
(3) Geology
(4) Law
(5) Economics
(6) Ecology
(7) Biology
(8) Hydrology
(9) Recreation
(10) Sociology
(11) Forestry
(12) Geodesy
(13) Cartography
(14) Geography
(15) Mathematics
(16) Accounting

Since the qualifications and the types of jobs are so diverse, salary depends on amount of education, length of service and type of work.

Non-Professional Employees:

These people do not have college degrees and consequently have supportive jobs that aid the work of the professionals.

1. Technicians:
   These people must be high school graduates. Many have one or two years of college training. They receive on-the-job training and may be inspectors, field representatives, assistant accountants, or real estate personnel
2. Clerical Workers:
   These people make up the office staff. They handle the correspondence, keep records and do all the necessary paper work. The jobs are primarily secretarial in nature and a high school diploma is one qualification. They must be able to type 45 words per minute for a typist job. Stenographers must be able to take dictation at 80 words per minute. They must be able to keep clear, neat, and accurate records. Again salary depends on the amount of education and seniority.
3. Engineering Aides:
   These people must have a high school diploma or pass a proficiency test. They should have some ability in electronics. They will receive training and further education if they have the desire.

The Army Corps of Engineers has a provision for employee training and development. They encourage employees to continue their education and financially help them in this endeavor. This provides an excellent opportunity for a young man or woman whose financial resources are limited to build a career and receive an education.

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ABSTRACT: THE OBJECTIVES OF THIS UNIT ON CAREER AWARENESS ARE: (1) TO IDENTIFY JOB FAMILIES, (2) MAKE STUDENTS AWARE OF PARENT'S OCCUPATION AS IT RELATES TO JOB FAMILIES, (3) MAKE STUDENTS AWARE OF TOOLS USED IN EACH OCCUPATION, (4) IDENTIFY IF THE OCCUPATION PROVIDES GOODS AND/OR SERVICES, (5) IDENTIFY THE SCOPE OF THE OCCUPATION, (6) PROVIDE ONE TO ONE MINI-WORK-AWARENESS EXPERIENCE WITH PARENT, AND (7) PROVIDE ONE TO ONE MINI-WORK-AWARENESS EXPERIENCE WITH SMALL BUSINESSES. LEARNING ACTIVITIES, RESOURCE MATERIALS, AND A TEACHER EVALUATION ARE INCLUDED. (KB)

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VT 101 438

INVOLVING THE FAMILY
AND IMMEDIATE SCHOOL NEIGHBORHOOD
IN CAREER EDUCATION AWARENESS

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INVOLVING THE FAMILY AND IMMEDIATE SCHOOL NEIGHBORHOOD IN CAREER EDUCATION AWARENESS

OMAHA PUBLIC SCHOOLS
DEPARTMENT OF VOCATIONAL EDUCATION
OMAHA, NEBRASKA

IN-SERVICE WORKSHOP
CAREER EDUCATION

The Exemplary Program - U. S. Commissioner of Education
Vocational Amendment of 1968
Part D

Expanded Vocational Education Program for Disadvantaged Youth

Occupational Guidance K-12

Comprehensive Center for Occupational Education

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Department of Vocational Education

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CAREER
AWARENESS

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CAREER EDUCATION AWARENESS

RATIONALE:

1. Self awareness is a prime and necessary objective of career education. It will lead to a lifetime target of self identity.

2. Self awareness is to assist children in gaining a good self concept.

3. Self awareness is to assist each child in accepting himself as a whole unique person--physical, social, emotional, intellectual being.

4. Self awareness will release the human potential and assist individuals toward self-actualization. This can be achieved by promoting self-understanding of perceptions and feelings.

5. Aiding children in the interpretations of the perceptions of others, as well as the feelings of others, will help each one toward better interpersonal relationships.

CONCEPTS:

1. All work has dignity if conducted in a dignified manner.

2. Parents are paid or volunteer workers in the community. They provide goods and services for the community, state, country or world.

3. A worker should be appreciated and respected as a person for his value to the community.

OBJECTIVES:

1. Identify the job families (occupational clusters).
2. Make children aware of parent's occupation as it relates to the job families.
3. Make children aware of the tools used in each occupation.
4. Identify if the occupation provides goods, services or both.
5. Identify the scope of the occupation as to community, state, country or world.
6. Provide one to one mini-work-awareness experience with parent, and/or provide for parent demonstration in the classroom.
7. Provide one to one mini-work-awareness experience with small businesses in the immediate neighborhood, and/or provide for businessmen to demonstrate in the classroom. (Consider senior citizens in the neighborhood as a resource.)

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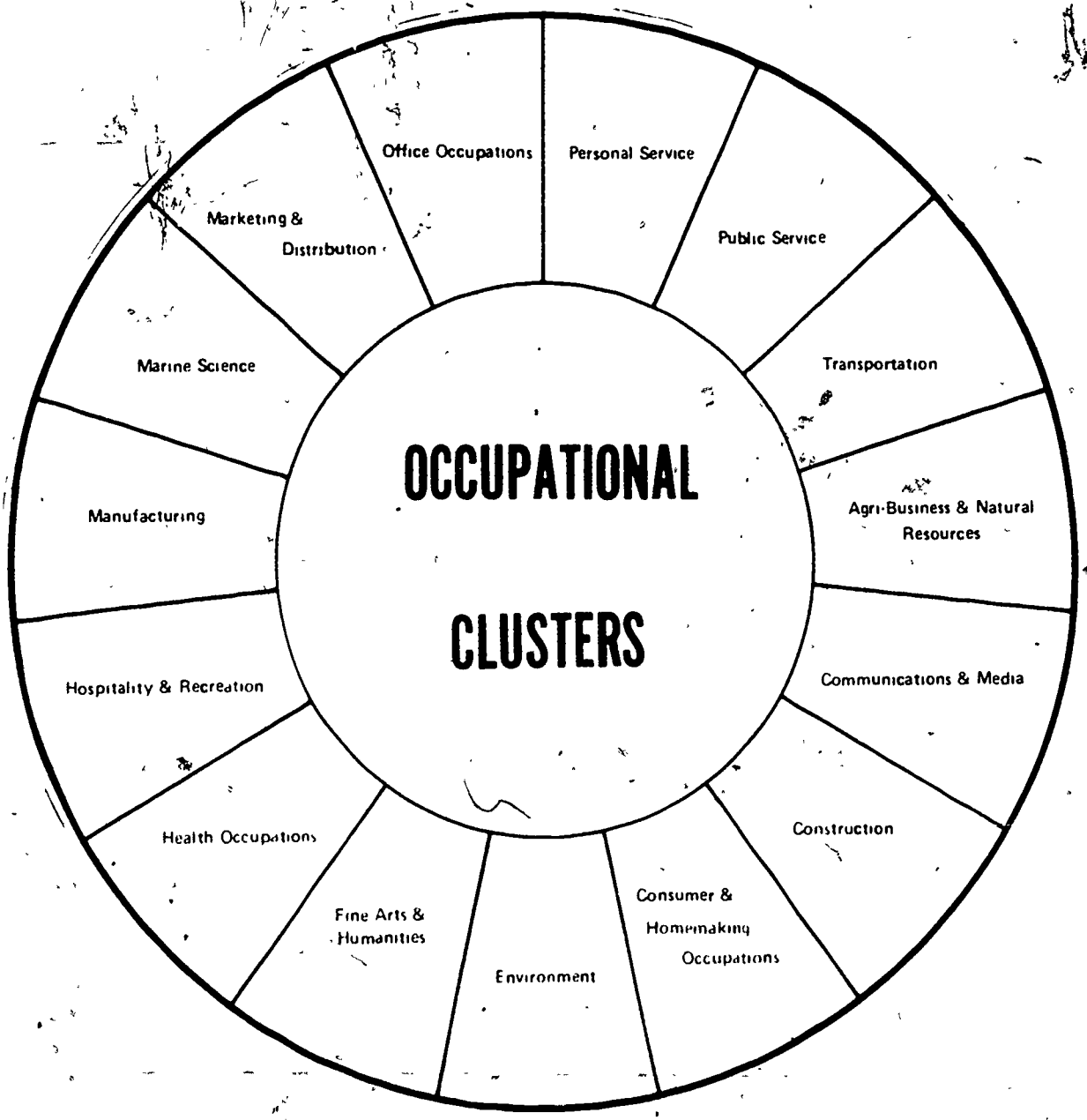

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LEARNING ACTIVITIES:

Objective One: Identify the Job Families

1. Make a bulletin board that will progress with the unit, identifying the job families (occupational clusters). Refer to the beginning of unit for illustration of occupational clusters.

   Agri-Business and Natural Resources

   Communication and Media

   Construction

   Consumer and Homemaking Occupations

   Environment

   Fine Arts and Humanities

   Health Occupations

   Hospitality and Recreation

   Manufacturing

   Marine Science

   Marketing and Distribution

   Office Occupations

   Personal Service

   Public Service

   Transportation

2. Define each family in terms appropriate to the grade level.

   Agri-Business and Natural Resources

Fisheries	Horseshoer
Game Preserves	Food Inspector
Wilderness Areas	Plant Inspector
Farmer	Animal Inspector
Conservationist	Zoologist
Oil Well Driller	Nurseryman
Forester	Animal Keeper
Miner	Cattle Rancher

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Communication and Media

Telephone Operator	Newspaper Writer
Telegrapher	Type Setter
Radio & T.V. Broadcaster	
Publisher	Newspaper Reporter
Sign Maker	Cameraman
Photographer	Record Maker
Satellite Communications	Worker

Construction

Carpenter	Cement Mason
Metal Worker	Welder
Cabinet Maker	Plumber
Glass Installer	Bricklayer-Roofer
Telephone Installer	Painter
Heating & Air Conditioning	Plasterer
Exterior Designer	Interior Designer
Mechanics	Repairmen
Heavy Equip. Operators	Jeweler, Watchmaker

Consumer and Homemaking Occupations

Public Housing	Clothing Designer
Housing for Aging	Model
Household Maintenance	Dietician
Instit. Maintenance	Food Packager
Food Demonstrator	Home Economist
Homemaker	Child Care
Interior Decorator	Babysitter

Environment

Soil and Mineral Conservation
Water Resources, Development and Conservation
Forest, Range, Shore & Wildlife Conservation
Urban Planning and Renewal
Sanitation Systems
Garbage Disposal
Noise Control
Air Pollution Control

Fine Arts and Humanities

Writer	Photographer
Artist	Cartoonist
Sculptor	Poet
Composer	Singer
Actor, Comedian	Dancer
Costume & Set Designer	Film Maker
Clergyman	Museum Curator

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Health Occupations

- Physician, Surgeon
- Dentist
- Rescue and First Aid
- Poison Control
- Blood Bank
- Nurse
- Comm. Health Services
- Optometrist
- Dental Hygienist
- Psychiatrist
- Pharmacist
- Veterinarian
- Home Care
- Medical Researcher

Hospitality and Recreation

- Parks
- Camps
- Aquariums
- Trail Makers
- Picnic Areas
- Scenic Points
- Motels and Hotels
- Ski Facilities
- Wilderness Area
- Fish, Game & Wildlife
- Zoo Keeper
- Tennis Court
- Theaters
- Roller Skating
- Coaches
- Travel Agent
- Zoos
- Hunting & Fishing Guides
- Tour Guides
- Camp Counselor
- Marinas
- Athlete
- Life Guard
- Amusement Park
- Golf Course
- Concession Attendant
- Bowling Alleys
- Ice Skating
- Sports Instructor

Manufacturing

- Assembly Line Worker
- Machine Tool Operator
- Tool Maker
- Storage
- Packaging
- Wholesaling
- Retailing
- Advertising
- Inspector
- Tool Designer
- Transportation
- Equipment
- Distribution
- Sawmill Worker
- Garment Cutter
- Tailor, Seamstress

Marine Science

- Marine Biologist
- Dredgeman
- Underwater Construction and Salvage
- Commercial Fishing and Processing
- Research, Fish Hatcheries, Experiments
- Offshore Drilling
- Marine Architect
- Deepwater Diver
- Exploration & Mapping

Marketing and Distribution

- Sales Promotion
- Sales and Service of Products
- Vending Machines
- Advertising
- Insurance
- Finance
- Banking

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Business and Office Occupations

- Manager, Executive
- Insurance Agent
- Banker
- Secretary: Legal, Medical, Etc.
- Accountant
- Computer Programmer
- Computer Operator
- Office Machine Operator
- Grocery Checker
- Cashier
- Personnel
- Receptionist
- Bookkeeper
- Real Estate
- Bill Collector
- Stock Clerk
- Retail Sales
- Service Station Attendant

Personal Service

- Barber
- Beauty Operator
- Pest Controller
- Product Tester
- Household Pet Services
- Physical Culture
- Animal Trainer
- Mortician
- Maid, Cook, Butler
- Custodian
- Yard Keeper
- Hotel Clerk
- Laundry, Dry Cleaners
- Waiter, Waitress
- Bartender
- Stewardess, Steward

Public Service

- Courts, Judge
- Parks & Recreation
- Defense, Military
- Public Health
- Taxation
- Labor Affairs
- Librarian
- Defense, Lawyer
- Social Worker
- Postal Workers
- Education: Teaching, Counseling & Supervision
- Public Utilities: Water, Gas, Electricity, Sewer, Refuse
- Highways, Bridges and Tunnels
- Public Transportation: Land, Air, Water
- Regulatory Services: Insurance, Savings and Loan, Stock Exchange, Public Records, Licensing, Customs, Immigration
- Police and Fire
- Highway Patrol
- Urban Development
- Detectives
- Rehabilitation
- Public Housing

Transportation

- Drivers of Trucks, Buses, Ambulances, Taxis
- Air Controller
- Signal Systems
- Pipeline Transmission (Gas, etc.)
- Aerospace Transportation: Commercial, Spacecraft, Instruction, Maintenance
- Water Transportation: Ship Captain, Seaman, Long Shoreman
- Rail Transportation
- Freight Handlers

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3. Have the children list some of the known workers in each job family. Draw, paint or find pictures in magazines of workers and their tools; label with occupation; put in appropriate cluster.

4. Use Glasser class meeting technique (see Schools Without Failure by William Glasser) for oral discussion type pre-test to ascertain what the children already know or attitudes they have about each job family. This activity might take several class meetings.

5. Prepare Ditto A of the job families for each child's notebook. Simplify the cluster titles if necessary.

Objective Two: Make Children Aware of Each Parent's Occupation As It Relates to the Job Families

1. Prepare form similar to Ditto B for each child to take home, complete with his parent and return to school. Discuss the meaning of this activity.

2. Share information through use of Glasser class meeting.

3. Record information on bulletin board in appropriate clusters through art or written work.

4. Child places Ditto B in his notebook.

5. Compile information on a form similar to Ditto C and give one to each child to place in his notebook.

Objective Three: Make Children Aware of the Tools Used In Each Occupation.

1. Prepare form similar to Ditto D for each child to take home, complete with his parent and return to school. Discuss the meaning of this activity, i.e. that by tools we mean the things the parent uses to help him in his work, such as equipment, uniform, special product, transportation. Stress that the parent would be the expert in making this list.

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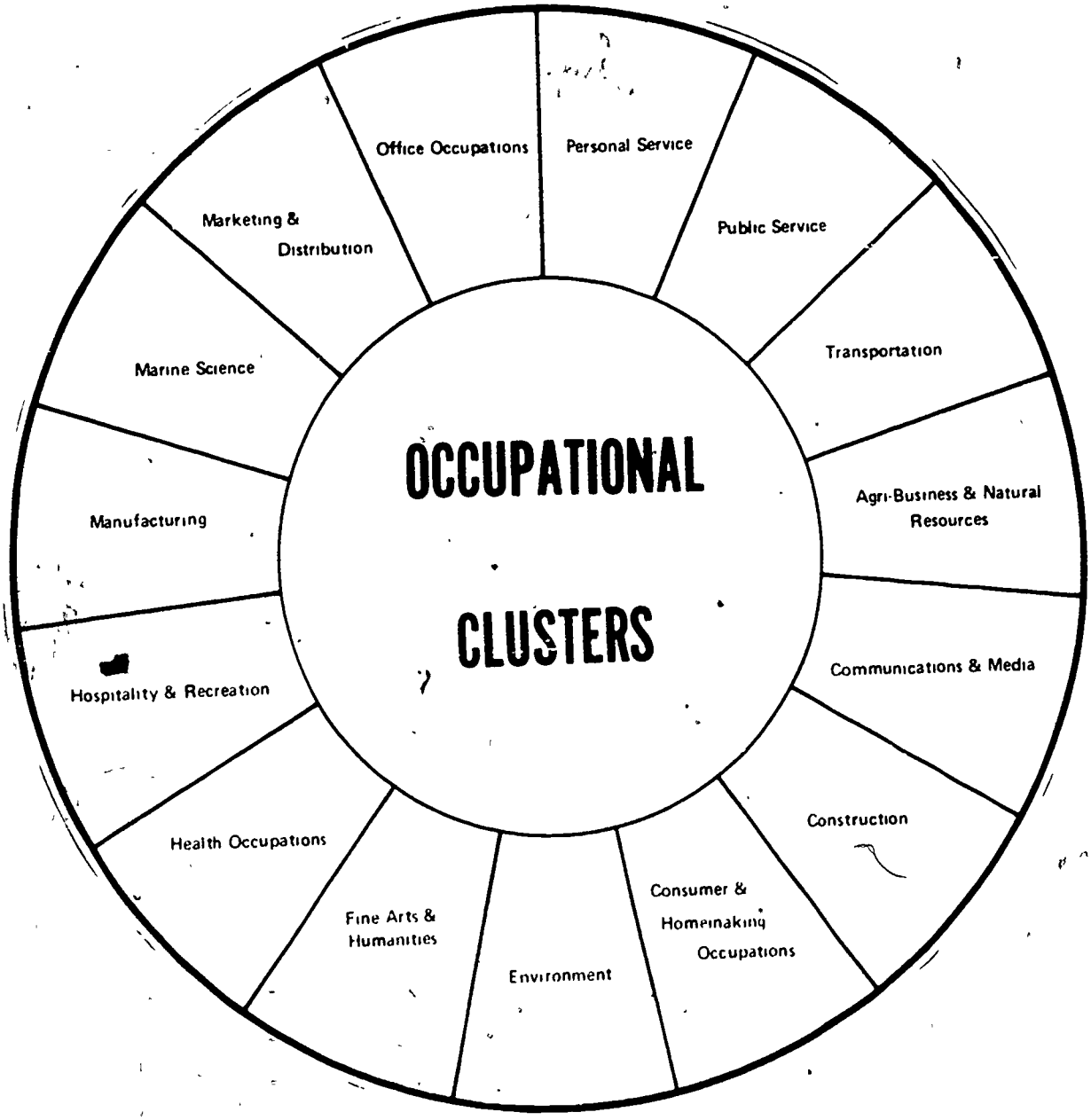
DITTO A

THE JOB FAMILIES



DITTO B

MY PARENT'S OCCUPATION

MY NAME IS _____

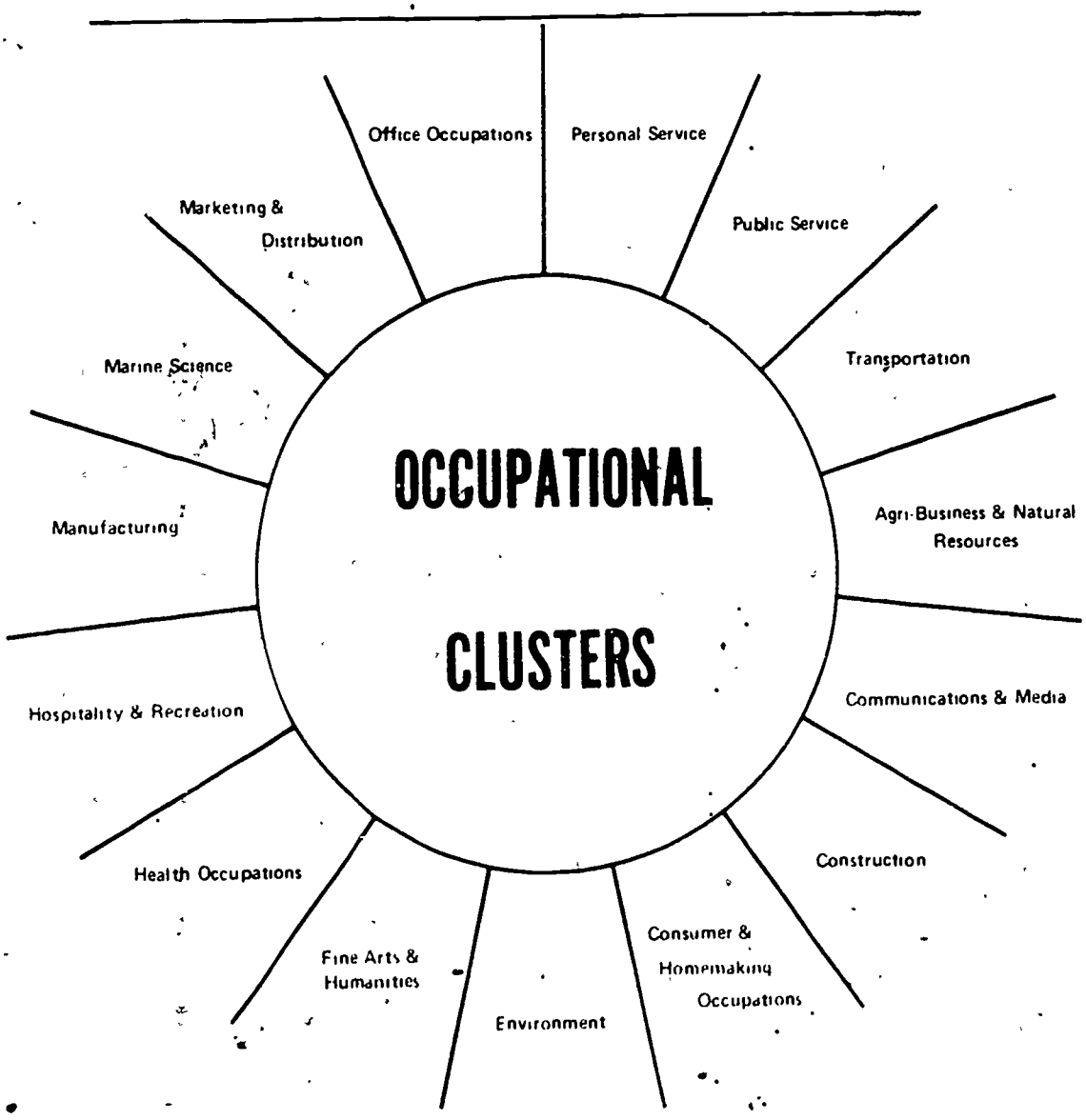
MY PARENT'S NAME IS (MR./MRS.) _____

MY (DAD'S/MOM'S) OCCUPATION IS _____

_____

THE JOB FAMILY THAT OCCUPATION BELONGS TO IS

_____



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DITTO C

OCCUPATIONS OF MY CLASSMATE'S PARENTS

Child's Name	Parent's Name	Occupation	Job Family
1. Billy	Dr. Jones	Physician	Health Services
2.			

DITTO D

TOOLS USED IN MY PARENT'S OCCUPATION

MY NAME IS _____

MY PARENT'S NAME IS (MR./MRS.) _____

MY (DAD'S/MOM'S) OCCUPATION IS _____

_____

THE TOOLS USED IS THIS OCCUPATION ARE:

DRAW AND LABEL EACH ONE.

2. Share information through Glasser class meetings.

3. "Hands-On" experiences with actual tools, if possible at this time.

4. Record information on bulletin board, through art or written activity, in appropriate clusters.

5. Child places Ditto D in his notebook.

6. Compile information on a form similar to Ditto E and give one to each child to place in his notebook.

Objectives Four and Five: Identify if the Parent's Occupation Provides Goods, Services or Both and the Scope of the Occupation

1. Prepare a form similar to Ditto F for each child to take home, complete with his parent and return to school. Discuss the meaning of this activity.

2. Share information through Glasser class meeting.

3. Record the information on the bulletin board through art or written activity in appropriate clusters.

4. Child places Ditto F in his notebook.

5. Compile information on a form similar to Ditto G and give one to each child to place in his notebook.

Objective Six: Provide One-to-One Mini-Work Awareness Experience With Parent And/Or Provide For Parent Demonstration in Classroom

1. Prepare form letter similar to Ditto H for each child to voluntarily take home, complete with parent and return to school.

2. Make arrangements with the principal according to results obtained.

3. Make a large calendar of the month (or months) to record data received, i.e. date and where child will go to work with parent or date and parent who will come to school and give presentation.

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DITTO E

SOME TOOLS USED IN OCCUPATIONS OF MY CLASSMATE'S PARENTS

Child's Name	Parent's Name	Occupation	Tools
1. Billy	Dr. Jones	Physician	Stethoscope Thermometer Tongue Depressor
2.			

DITTO F

DOES MY PARENT PROVIDE GOODS, SERVICES OR BOTH?

WHO ARE THEY PROVIDED FOR?

MY NAME IS _____

MY PARENT'S NAME IS (MR./MRS.) _____

MY (DAD/MOM) PROVIDES

_____ GOODS

_____ SERVICES

_____ BOTH GOODS AND SERVICES

TELL SOMETHING ABOUT IT.

_____

_____

_____

MY (DAD/MOM) PROVIDES FOR THE PEOPLE IN

_____ THE COMMUNITY

_____ OUR STATE

_____ THE UNITED STATES

_____ THE WORLD

TELL SOMETHING ABOUT IT.

_____

_____

_____

DITTO G

GOODS AND SERVICES PROVIDED BY MY CLASSMATE'S PARENTS AND THE SCOPE OF THE SERVICES

Child	Parent	Occupation	Goods	Services	Comm.	State	Country	World
1.Billy	Dr. Jones	Physician		X	X			
2.								

DITTO H

OMAHA PUBLIC SCHOOLS

Dear Parent,

In an effort to provide career education awareness for your child, we are asking if you would be interested in doing one of the following:

--take your child to work with you for a half or whole day to increase his career awareness and become more familiar with your occupation and the tools you use,

--come to school and tell the class about your occupation and the tools you use.

In either case you and your child will be given an outline to follow so he can report his experiences or your visit will be easier to prepare. Please return the bottom portion of this paper so we can organize the activities and send you a response as soon as possible.

Sincerely,

_____
Teacher

_____
Principal

- - - -

4. Child places Ditto H in his notebook if he has brought it back to school. Others do not need duplicate of Ditto H.

5. Compile information from calendar onto form similar to Ditto I. Give one to each child to place in his notebook. Because of changes the teacher may wish to use the large calendar until the end of the unit and then prepare Ditto I.

6. Contact by letter and/or phone each responding parent informing of: 1) confirmation of date and time, 2) restrictions (if any) made by the principal and 3) procedures to be followed in this activity. Parent should be sent in written brief form all information, procedures, etc. the teacher wants followed. Make final confirmation with parent two days before the activity.

   Use Activity 7 or Activity 8 depending on whether the child goes to work with the parent or the parent comes to the school.

7. If the child is to have a mini-work awareness experience, prepare form similar to Ditto J for the child to take to "work", complete in pencil and return to school. Have the child share his information verbally, by role playing, painting or making a large chart containing drawings and information from Ditto J. Child places Ditto J in his notebook. Duplicates can be made for each child's notebook using Thermofax Copier which will pick up pencil.

8. If the child's parent will come to the classroom for a demonstration, prepare a form similar to Ditto K for the child to complete with his parent and return to school. A sheet of oaktag might also be provided for child and parent to prepare for use while making presentation. Child places Ditto K in his notebook. Duplicates are made for each child's notebook in the same manner as in Activity 7.

9. Thank you letter is written by child to parent in case of Activity 7 or by class to parent in case of Activity 8.

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DITTO I

OCTOBER

Mon.	Tues.	Wed.	Thur.	Fri.
		1 Billy goes to work.	2	3
6 Susan's Dad will visit our class.	7	8	9 Tom's Dad will visit our class	10 Jean goes to work.
13	14	15	16	17

DITTO J

MY DAY AT WORK

MY NAME IS _____.

I WORKED AT _____

ON _____
Date

THIS IS WHAT I DID _____

_____

_____

_____

_____

HERE ARE SOME TOOLS AND OTHER THINGS I SAW:

DITTO K

MY PARENT VISITS OUR CLASS

MY NAME IS _____

MY (DAD/MOM) IS COMING TO VISIT OUR CLASS

ON _____ TO TELL US ABOUT HIS/HER
Date

OCCUPATION AS A _____.

HERE ARE SOME OF THE THINGS YOU WILL LEARN ABOUT:

_____

_____

_____

_____

THIS IS WHAT YOU WILL GET TO SEE:

Objective Seven: Provide One-to One Mini-Work Awareness Experience With Small Business in Immediate Neighborhood And/Or Provide For Businessman to Give Demonstration in Classroom. Consider Senior Citizens in Neighborhood As a Resource.

1. Proceed with the format of activities for Objective Six adapted to the new Objective, i.e. the teacher makes the initial contacts, provides information, etc.

2. Possible arrangements could be made to include those children not able to participate in the activities of Objective Six.

3. Charts and forms similar to Ditto L and Ditto M could be prepared. They would be much like Ditto J and Ditto K, with one for each child's notebook except that the class as a whole could prepare one Ditto M each time a speaker came to give a presentation in the classroom.

4. Any child provided with a one-to-one career awareness experience should be given the same opportunity to express his learning as children participating with their parents.

5. Thank you letter is written by the child to the businessman for the one-to-one activity, or by the class to the businessman or senior citizen who gave a presentation in the classroom.

DITTO L

MY DAY AT WORK

MY NAME IS _____

I WORKED AT _____
Name of Business

ON _____ WITH _____
Date Name of Person

THIS IS WHAT I DID.

_____

_____

_____

_____

_____

HERE ARE SOME TOOLS AND OTHER THINGS I SAW:

DITTO M

OUR CLASS VISITOR

MY NAME IS _____

_____ CAME TO OUR CLASS
Name of Person

ON _____ TO TELL US ABOUT HIS/HER
Date

OCCUPATION AS A _____.

THIS IS WHAT WE LEARNED._____

_____

_____

_____

_____

THIS IS WHAT WE SAW.

MATERIALS:

Films avavilable through the Omaha Public Schools Film Library:

People

What Happens Between People

Families Are Different and Alike

What Do You Expect Of Others?

Our Family Works Together

Watch How Well Everything Works

Time to Begin

One Day on a Farm

Farm Community

The Metropolitan Area

The City

Mike and Steve Visit a Shopping Center

Neighborhoods Are Different

Helpers Who Come to Our House

A Community Keeps House

The Fireman

The Policeman

Our Public Utility System

Poultry on the Farm

Eggs to Market

Uncle Jim's Dairy Farm

The Truck Farm

Bread

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The Food Cannery

Food for the City: Produce

Food for the City: Wheat and Flour

Behind the Scenes at the Supermarket

The Lumberyard

Let's Build a House

Building a House

Machines That Move Earth

Boats and Ships

Airport in the Jet Age

Communications for Beginners

How Communications Help the Community

Helpers at Our School

The Zoo

Zoo Baby Animals

MATERIALS:

Professional Assistance in Lesson Design

SERIES OF ELEMENTARY AWARENESS GUIDES	S. D. Statewide Project 435 10th Ave. N. W. Watertown, S. D. 57201
CAREER AWARENESS	Owatonna Elem. Schools Career Ed. Consultant Div. of Vo-Tech. Ed. Dept. St. Paul, Minn. 55101
CAREER EDUCATION PROGRAM	Ryan, Charles W. Houghton Mifflin Co. Boston, Mass.

Books For Classroom Reading

ABOUT BOOKS	Children's Press W. Van Buren Chicago, Ill. 50507
COME TO WORK WITH US	Sextant Information Systems & Service P.O. Box 1231 Milwaukee, Wis. 53201
HOW _____ ARE MADE	David C. Cook 850 No. Grove Ave. Elgin, Ill. 60120
I WANT TO BE A _____	Children's Press W. Van Buren Chicago, Ill. 60607
LET'S GO TO A _____	G. P. Putnam 200 Madison Ave. New York, N. Y. 10016
OPEN DOOR SERIES	Children's Press 1224 W. Van Buren Chicago, Ill. 60607
POPEYE	King Syndicates 235 East 45th Street New York, N. Y. 10017
WHAT DOES _____ DO?	Dodd-Mead & Company New York, N. Y. 10016

Kits to Teach Self-Awareness

DUSO (Developing Understanding of Self & Others)	American Guidance Serv. Circle Pines, Minn. 44014
AWARENESS, FOCUS ON SELF DEVELOPMENT	Science Research Associates 7200 So. Leamington Chicago, Ill. 60638

Kit to Teach Career Awareness

PEABODY LANGUAGE DEVELOPMENT KIT 2	American Guidance Service Circle Pines, Minn. 44014

Audio-Visual Aids to Teach Self Awareness

"GETTING TO KNOW ME" "THE ADVENTURES OF THE LOLLIPOP DRAGON" "DEVELOPING BASIC VALUES" COMMUNITY WORKERS AND HELPERS GROUP 1 COMMUNITY WORKERS AND HELPERS GROUP 2 WORKING IN U.S. COMMUNITIES GROUP 1 WORKING IN U.S. COMMUNITIES GROUP 2	SVE Singer 1345 Diversey Parkway Chicago, Ill. 60614 All filmstrips are available with either records or cassettes. A special buy from SVE Singer containing Primary and Intermediate Sound Filmstrips with Auto Vance II

Picture-Story Prints to Teach Career Awareness

"COMMUNITY HELPERS" STUDY PRINTS "URBAN LIFE" STUDY PRINTS	SVE Singer 1345 Diversey Parkway Chicago, Ill. 60614

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Games and Toys to Teach Career Awareness

CLASSIFICATION GAME No. 1014	Triangle Sioux Falls, S. D. 57101
SCHOOL SMALL TOWN AIRPORT GARAGE	Fisher-Price Co.
AVA SEWING SPECIAL	To Sew, Inc. Box 974 Malibu, Calif. 90265
FINEST ERECTOR SET	Montgomery Ward
DELUXE STEAM ENGINES	Montgomery Ward
WORKING MODEL MACHINE SHOP SIMULATION	Montgomery Ward
PLAY PLANKS	Childcraft New York, N. Y.

TEACHER EVALUATION

Some ways to evaluate the unit, "Involving the Family and Immediate School Neighborhood in Career Education Awareness" are:

1. Develop a class meeting topic to determine a change or development in children's attitudes toward the dignity of work.

2. Build a rating scale to measure each child's knowledge of the job families.

3. Determine whether the child can recall details of an occupation which would give him personal satisfaction.

4. Teacher establish a one-to-one interview with each student, using his notebook, to determine what he has gained from the unit as a whole.

5. Teacher establish a one-to-one interview with each student, using his notebook, to determine what he has learned about his parent's occupation, even if mini-work experience was not included.

6. Construct a "show me" card response test to use with the entire class.

7. Share notebooks and experiences with other classes and note reactions.

8. Note any initiative on the child's part to obtain further information pertaining to an occupation covered in the unit.

9. At conference time or when visiting neighborhood businesses, determine parent and/or businessmen's reactions to the unit. Make note of positive attitudes as well as suggestions for improvement or change.

APPENDIX

The following, taken from "Career Explorations", compiled by Helen K. Dickson, South Dakota Career Education Program, Watertown, South Dakota, is a design for making worthwhile any field trip which might be planned to develop awareness in career education.

Toward Excellence in Career Awareness Field Trips
Primary Division

When making a field trip to develop career awareness concepts, the teacher should arrange to have the following ideas made evident to the children:

1. Everyone working here is helping to produce goods or services or both. Children should be able to identify if it is goods or services and what the final product is. At the same time they should understand that the company could not exist without people.

2. The children should be aware of the job families and be able to identify the roles of most of the workers with these families.

3. The class as a whole should investigate and be able to tell about the tasks expected of at least 25% of the various members of the job family.

4. The class as a whole should be able to tell what position in the job family requires the most education and those that require the least education.

5. The class as a whole should observe and be able to report:

   a) reading ability needed to perform the job well
   b) math ability needed to perform the job well
   c) spelling ability needed to perform the job well
   d) special abilities the worker might need.

6. Children's attention should be focused on workers' tools and their uses.

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7. Children should observe special clothing worn by workers.

Making Your Field Trip Meaningful

1. Enlist the principal's aid in planning tour and arranging transportation.

2. Make children aware of your guidelines.

3. Help children decide what questions they want answered and on plans for recording information to be gathered.

4. Divide the class into groups of about five to gather certain information.

5. Assign "thank you" people.

6. Make arrangements early with your hosts, at their convenience.

7. Give hosts a list of things you would like children to learn and observe.

8. Get parental releases signed.

9. Ask for parents to volunteer to assist you on the field trip.

10. Assign about five children to each parent. Parents are "Lieutenants" responsible for assisting the children in gathering information and keeping tabs on them. The teacher is the "Captain". Let parents know of plans, including discipline, and have them refer problems to you.

Student Conduct

1. Thought should be given concerning the appropriate treatment of students not conforming to class standards.

2. The students, using a class meeting, might be able to prepare their own standards of conduct.

3. The author has found the following to be most effective, used once in the classroom

and as a reminder before leaving the bus. Say, "You have decided your rules for good manners on the field trip. You will have a choice, you know. You may either follow the rules or return to the bus and stay there until the trip is completed. Of course, if this happens, you are automatically eliminated from taking the next trip."

4. Then, if you have a "horser-arounder", calmly remind him of his choice, "You may either . . .", and if he continues, quietly remind him with no malice, "Since your choice is evidently to go to the bus, you may go sit there until the group is ready to leave." Watch to see that he does this.

5. If the above steps are followed and everything is well planned beforehand, you should have a very educationally successful trip, create good public relations and leave the hosts feeling glad you came.

INVOLVING THE FAMILY
AND IMMEDIATE SCHOOL NEIGHBORHOOD
IN CAREER EDUCATION AWARENESS

Prepared By:

Lorie Conrey

ACCESSION NUMBER: VT101439

PUBLICATION DATE: JUL74

TITLE: BOARDS FOR THE NOT-SO-BORED BULLETIN BOARDS, KINDERGARTEN-SIXTH GRADE LEVEL.

PERSONAL AUTHOR: FRITZSCHE, SANDRA

DESCRIPTOR: *CAREERS; *PRIMARY GRADES; *BULLETIN BOARDS

IDENTIFIER: OMAHA PUBLIC SCHOOLS

EDRS PRICE: MF AVAILABLE IN VT-ERIC SET.

DESCRIPTIVE NOTE: 13P.

ABSTRACT: THE PRIMARY PURPOSE OF THIS PROJECT IS TO PROVIDE BULLETIN BOARD IDEAS ON THE AWARENESS LEVEL FOR PRIMARY TEACHERS AND LIBRARIANS TO USE IN CONNECTION WITH CAREER EDUCATION UNITS. SOME OF THE IDEAS ARE PRESENTED IN A VISUAL FORM AND SOME ARE GIVEN IN A DESCRIPTION-CAPTION FORM. (KB)

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INSTITUTION NAME: OMAHA PUBLIC SCHOOLS, NEBR. DEPT. OF VOCATIONAL EDUCATION.

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VT 101 439

BOARDS FOR THE NOT-SO-BORED
BULLETIN BOARDS
Kindergarten - Sixth Grade Level

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101 439

ERIC

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Mrs. Maurice J. Frank

Leo A. Hoffmann

R. F. Jenkins

Paul C. Kennedy

Richard J. O'Brien, Jr.

Charles A. Peters

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Frank E. "Fritz" Stanek

Mrs. Ruth P. Thomas

Owen A. Knutzen
Superintendent of Schools

Distributed by:

Omaha Public Schools
Omaha, Nebraska
351-P227-74

BOARDS FOR THE NOT-SO-BORED BULLETIN BOARDS
Kindergarten - Sixth Grade Level

OMAHA PUBLIC SCHOOLS
DEPARTMENT OF VOCATIONAL EDUCATION
OMAHA, NEBRASKA

IN-SERVICE WORKSHOP
CAREER EDUCATION

The Exemplary Program - U. S. Commissioner of Education
Vocational Amendment of 1968
Part D

Expanded Vocational Education Program for Disadvantaged Youth

Occupational Guidance K-12

Comprehensive Center for Occupational Education

Vendor Number - 465668
Grant Number - OEG-0-71-4661 (361)

July, 1974

Prepared by:

Sandra Fritzsche
Belvedere School

Approved by:

Owen A. Knutzen
Superintendent of Schools

Daniel C. Fahrlander
Acting Director
Department of Vocational Education

Betty Barr
Project Director

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Objective

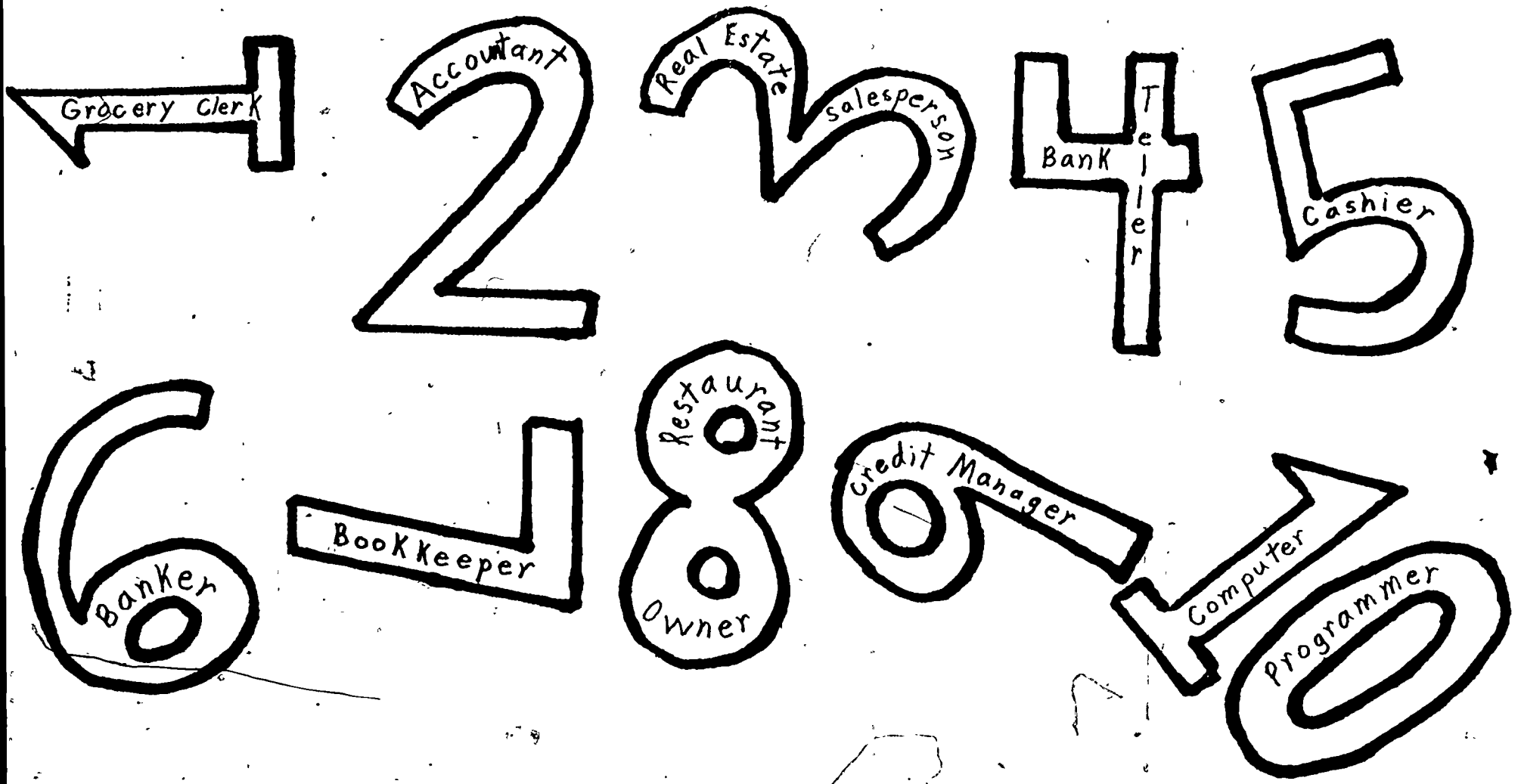
The purpose of this project is to provide bulletin board ideas on the awareness level for primary teachers and librarians to use in connection with career education units.

Introductory Notes

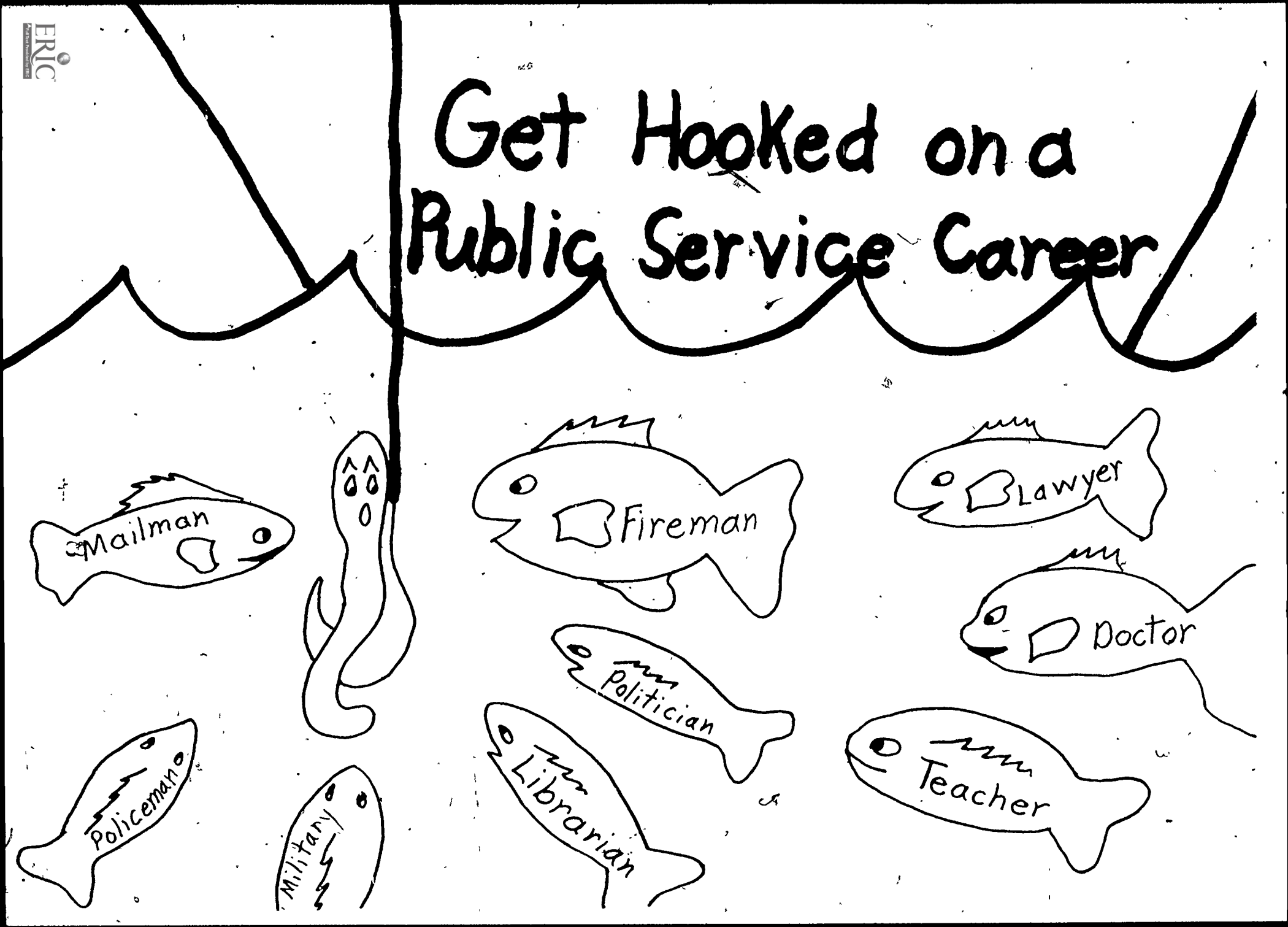
Bulletin boards can often be a source of great concern for most teachers. The ideas in this project will hopefully alleviate some of that concern. An exact duplication of the bulletin boards presented might not be practical for you, but an adaptation or inspiration is always possible. Some of the ideas are presented in a visual form, whereas, some are given in a description-caption form that will allow you to determine the final results. The possibilities are endless, and the need is great, so happy creating.

Bulletin Boards

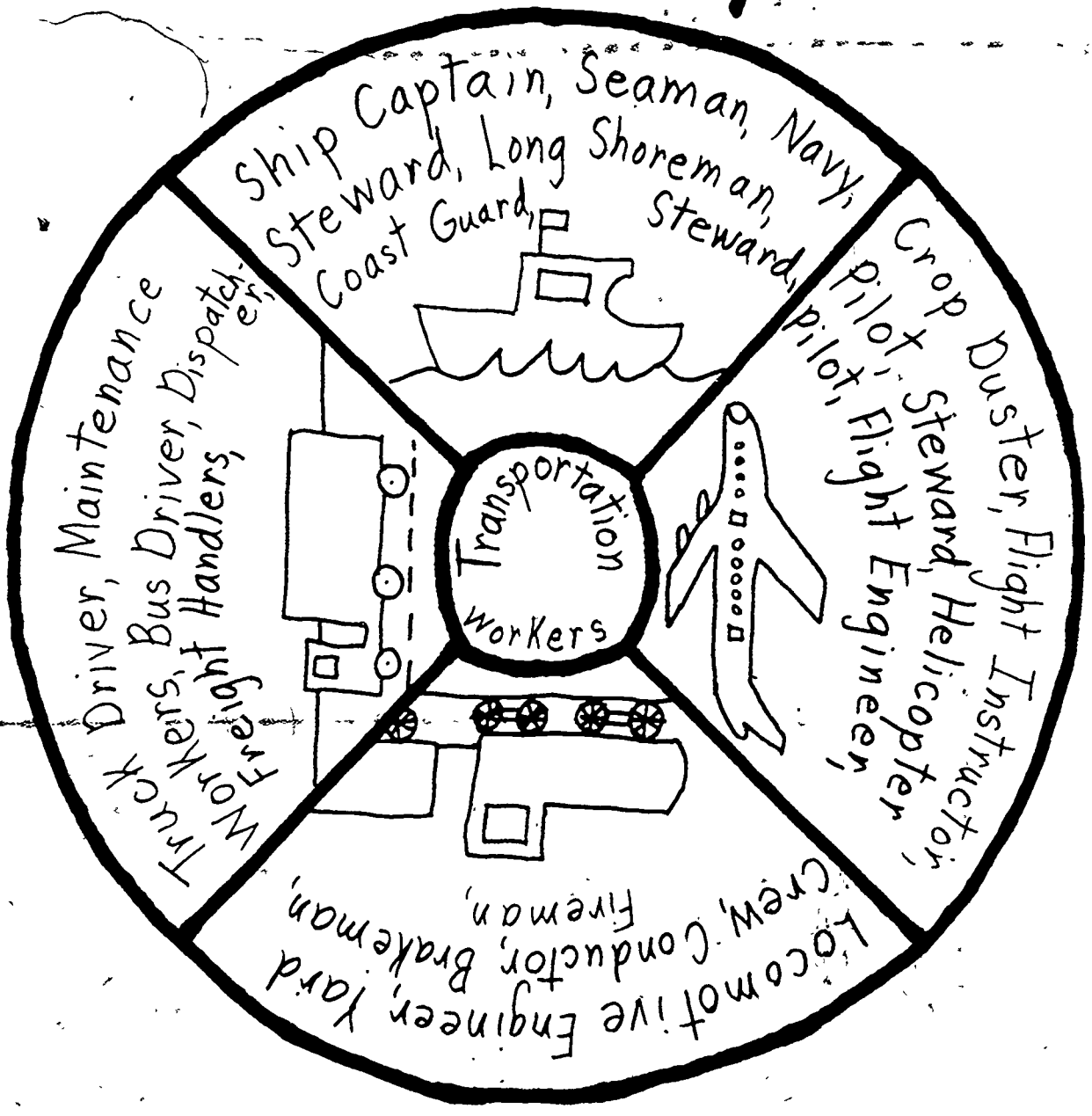
Careers that Count



Get Hooked on a Public Service Career

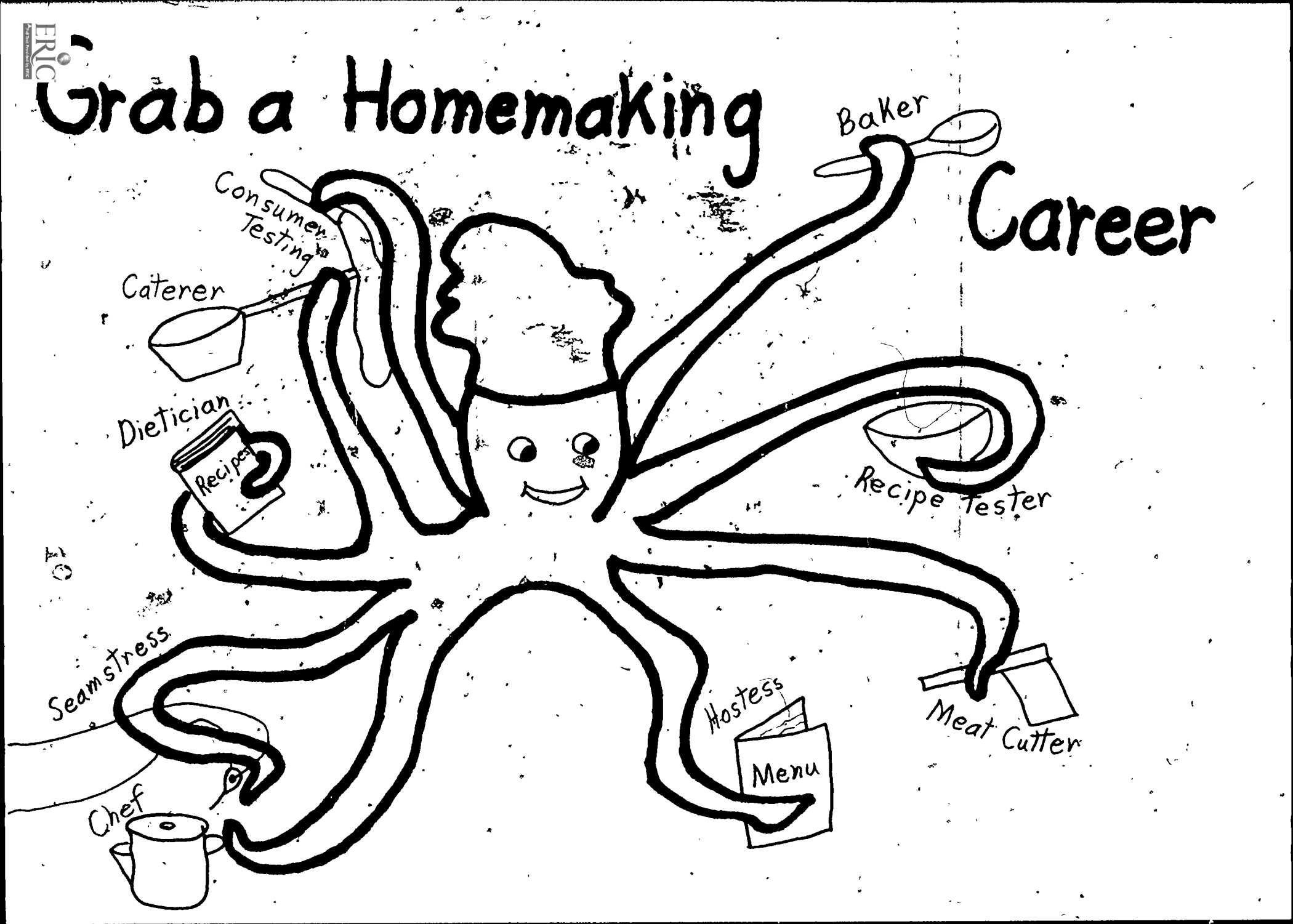


These Workers are Really

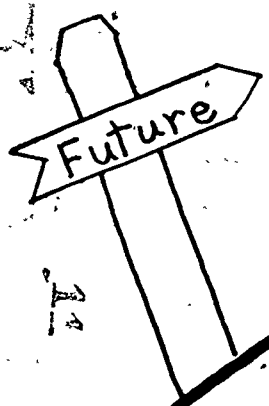


Going Places

Grab a Homemaking Career



Step into your future with your best foot forward



Special Abilities

Healthy

Dependable

Trustworthy

Considerate of Others

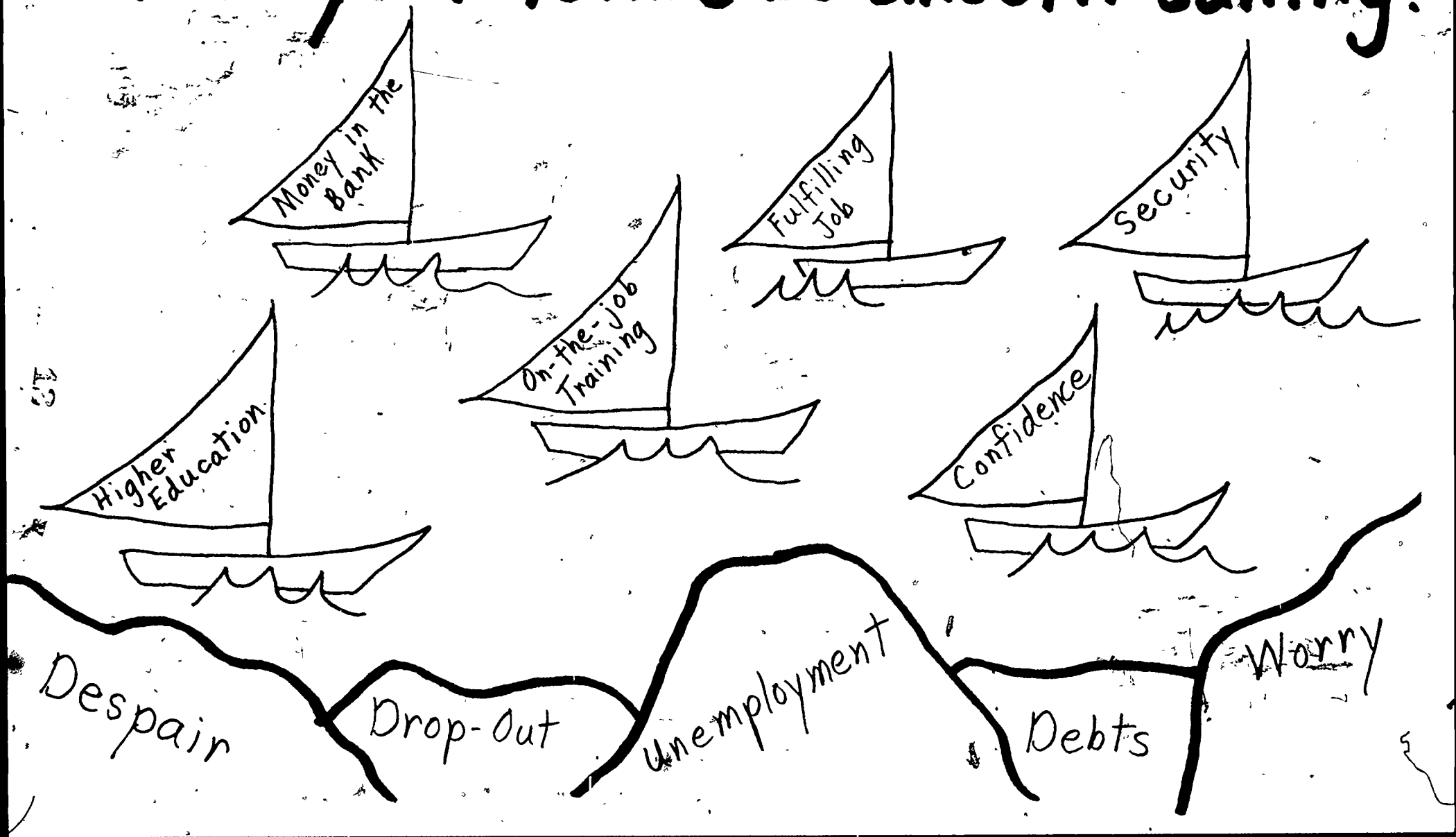
Good Manners

Neat Appearance

Pleasant Personality

Education

Will your future be smooth sailing!



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Captions-Descriptions

for Additional Boards

1. Caption- You've come a long way, lady

Description- The board would be covered with current pictures of women working at a variety of occupations. The pictures could be labeled with the name of the occupation. For a comparison, the board could be divided into "Then" and "Now" sections, and older pictures of women as homemakers could be included. The purpose of this board would be to make the students aware of the variety of careers open to women.

2. Caption- Can you put the workers where they belong?

Description- The board would be divided into three sections. One of the outside sections would be labeled "Goods", the middle section would contain pictures of a variety of workers, and the other outside section would be labeled "Services". Some of the workers pictured could be a plumber, grocer, florist, policeman, painter, nurse, baker, sales clerk, etc. The purpose of this board would be to determine if students can distinguish between workers who offer goods, and those who offer services.

3. Caption- Can you help the workers find their tools?

Description- The board would be divided into two sections. One section would contain pictures of workers, and the other section would contain pictures of the tools

they use. The pictures could be labeled to emphasize vocabulary. Some of the worker-tool combinations could be carpenter-saw, photographer-camera, plumber-wrench, secretary-typewriter, painter-paint can and brush, fireman-water hose, chef-mixing bowl, nurse-thermometer, beautician-comb and brush, seamstress-needle and thread, etc. The purpose of this board is to make students aware of the variety of tools that workers use.

4. Caption- Work is for people like you

Description- This board would be a collage of pictures of different types of workers. The pictures would be inside an outline of a human body. The purpose of the board would be as a type of introduction to work by making students aware of the variety of careers available to them.

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ACCESSION NUMBER: VT101440

TITLE: CAREER EDUCATION ACTIVITY GUIDE. NEW OPPORTUNITIES FOR WORK.

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IDENTIFIER: MAINE

EDRS PRICE: MF AVAILABLE IN VT-ERIC SET.

DESCRIPTIVE NOTE: 359P.

ABSTRACT: THIS NOTEBOOK OF CAREER EDUCATION LEARNING ACTIVITIES ILLUSTRATES SOME OF THE METHODS USED BY LEWISTON (MAINE) TEACHERS TO IMPLEMENT CAREER EDUCATION IN THEIR CLASSROOMS. THE DOCUMENT IS DIVIDED INTO THE FOLLOWING COMPONENTS: THE UNITS K-1 THROUGH 6; ART K-6; MINI-COURSES GRADES 3-6; THE SUBSTANTIVE AREAS OF LANGUAGE ARTS, SCIENCE, MATHEMATICS, SOCIAL SCIENCE, FOREIGN LANGUAGES, HOME ECONOMICS, INDUSTRIAL ARTS, AND ART FOR GRADES 7-9; AND EVALUATION FOR GRADES 10-12. CONTAINED WITHIN THE APPENDIX ARE AN ANALYSIS OF THE 15 CAREER CLUSTERS, CAREER CLUSTERS AND SUBJECT MATTER, AND K-16 CAREER EDUCATION SCOPE AND SEQUENCE PARADIGM. (LJ)

CONTRACT NUMBER: OEG-0-71-0652(361)

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VT 101 440

CAREER EDUCATION ACTIVITY GUIDE

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Project No. 1-361-0161

Grant No. OEG-0-71-0652(361)

NEW OPPORTUNITIES FOR WORK

Exemplary Project in Vocational Education
Conducted Under
Part D of Public Law 90-576

The Project reported herein was performed pursuant to a grant with the Bureau of Adult, Vocational, and Technical Education, Office of Education, U.S. Department of Health, Education, and Welfare. Contractors undertaking such projects under Government sponsorship are encouraged to express freely their professional judgment in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent official Office of Education position or policy.

Kenneth C. Jordan, Director
Lewiston Public School District
65 Central Avenue
Lewiston, Maine 04240

VT 101 440

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ACKNOWLEDGEMENTS

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Careers in Music
Health Occupations

3: Using Career Education in Your Reading Center
Workers Who Build Homes
Personal Services Occupations

4: Water Workers, Part I
Our Life and Water, Part II

Pulp Industries

5: Workers at the Bank
Weather Workers
Electrical Workers
Jobs and Rocks and Minerals
Careers and Mammals
Flowers

6: Short Order Cook
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Appendix: An Analysis of the Fifteen Career Clusters

Career Clusters and Subject Matter

K-16 Career Education Scope and Sequence Paradigm

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ACKNOWLEDGEMENTS

For the most part, these activities have been developed and implemented by teachers in the Lewiston School Department. The N.O.W. Program extends a hearty thanks to them for their cooperation, knowledge, and ideas. Their contributions have made career education available to many other educators.

We regret we cannot include every teacher's contribution to career education in Lewiston. The NOW Program thanks all teachers who used career education in their classrooms. We hope that this guide will be helpful in continuing these activities.

A special thanks goes to the NOW Staff members who also made this guide possible:

Kenneth Jordan, Director
Lynn Markee, Coordinator
Hazel Guyler, Career Education Specialist
Vince Wills, Career Education Specialist
Roy Bagley, Career Education Specialist
Margaret Murphy, Career Education Specialist
Gerry Murphy, Career Education Specialist
Jacqueline Violette, Career Education Specialist
Karen McMahon, Writer
Lawrence McMahon, Mobile Resources Coordinator
Donald Gay, Mobile Resources Coordinator
John Shalek, Mobile Resources Aid
Margaret Claffy, NOW Secretary
Joyce Moulin, NOW Secretary
Jill Parker, Secretarial Assistant
Rejeanne Theriault, Secretarial Assistant

I

INTRODUCTION

Career education is a decision making process. Within this framework, we can provide our students with the necessary means and opportunities to make decisions in the classroom, to begin with, so that they may become more self-directive individuals.

What means? What kinds of opportunities? The means is information and experience about different occupations and related school subject matter. The catalyst in the decision making process comes when students participate in classroom activities that enable them to relate themselves to the information and experiences in the activities.

To find satisfaction and accomplishment in one's work role is a most important tenet of career education. Indeed, we cannot easily find this satisfaction and accomplishment, if we have never had the right information and the necessary opportunities to make appropriate decisions about work in relation to ourselves. Most of us must work at least a third of our lives, so why not make this experience as rewarding and satisfying as possible?

The accompanying career education learning packages illustrate some methods used by Lewiston teachers in implementing career education in their classroooms.

Please feel free to add your own note pages. The guide is a career education resource. It is a way to get closer to the innovations of many other teachers.

Karen McMahon
Activities Writer
NOW Exemplary Program

II

OVERALL OBJECTIVES

The career education learning packages in this guide are sequenced and designed to aid the teacher in meeting the following objectives:

1. To encourage group and individual activity.
2. To encourage sharing, cooperation, taking responsibility, and accepting direction.
3. To encourage the student to experience cause and effect relationships in decision making.
4. To increase the students awareness of, exploration of, and preparedness for changing work roles in a changing society.
5. To make relevant applications of school subject skills.
6. To reinforce good self-concepts.

There are a number of ways to direct and organize activities to meet the above objectives. The paradigm on the following page illustrates the general relationship of these objectives to classroom activity.

III

CLASSROOM ACTIVITY
Encouraging The Student to
Experience Cause & Effect
Relationships in Decision Making

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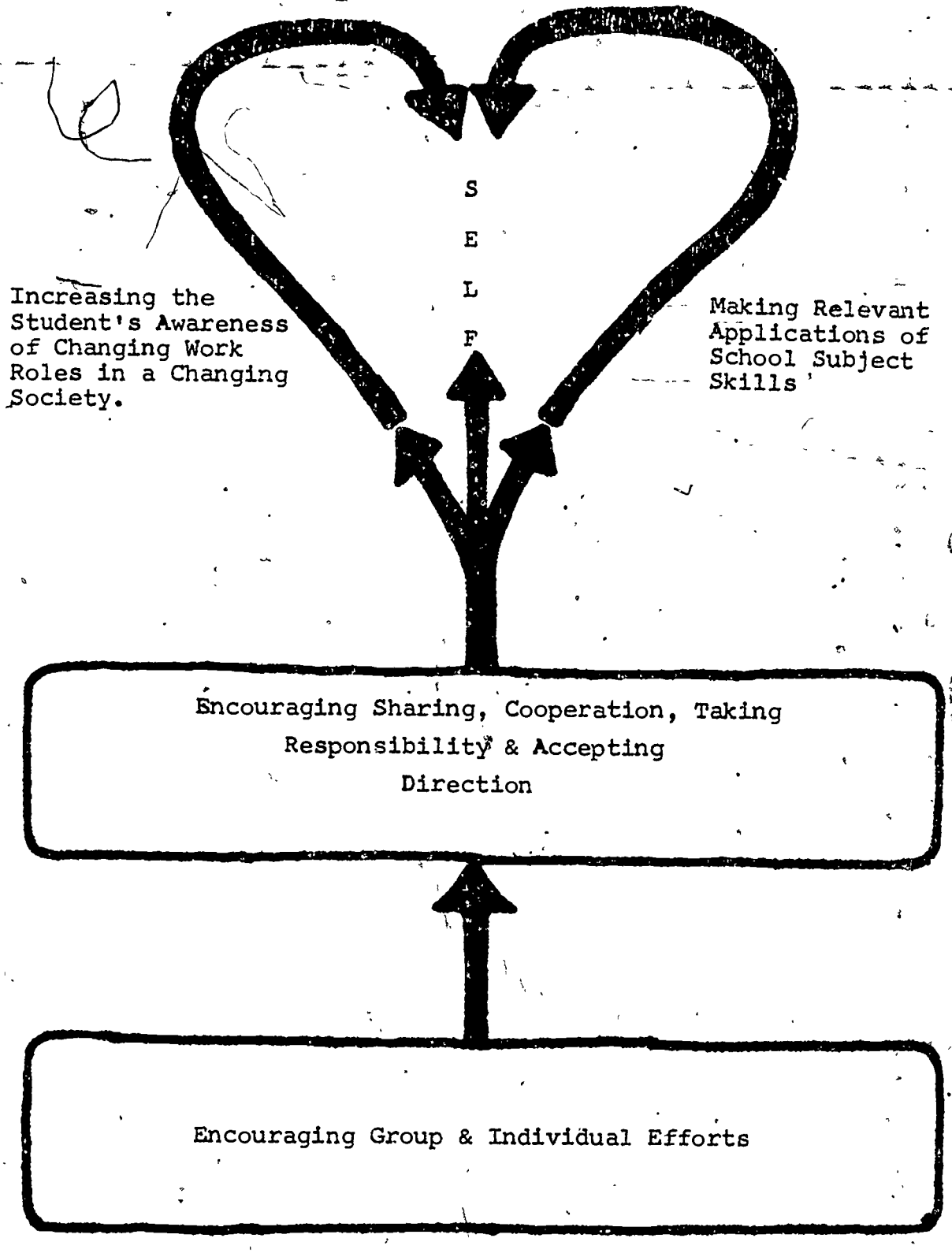
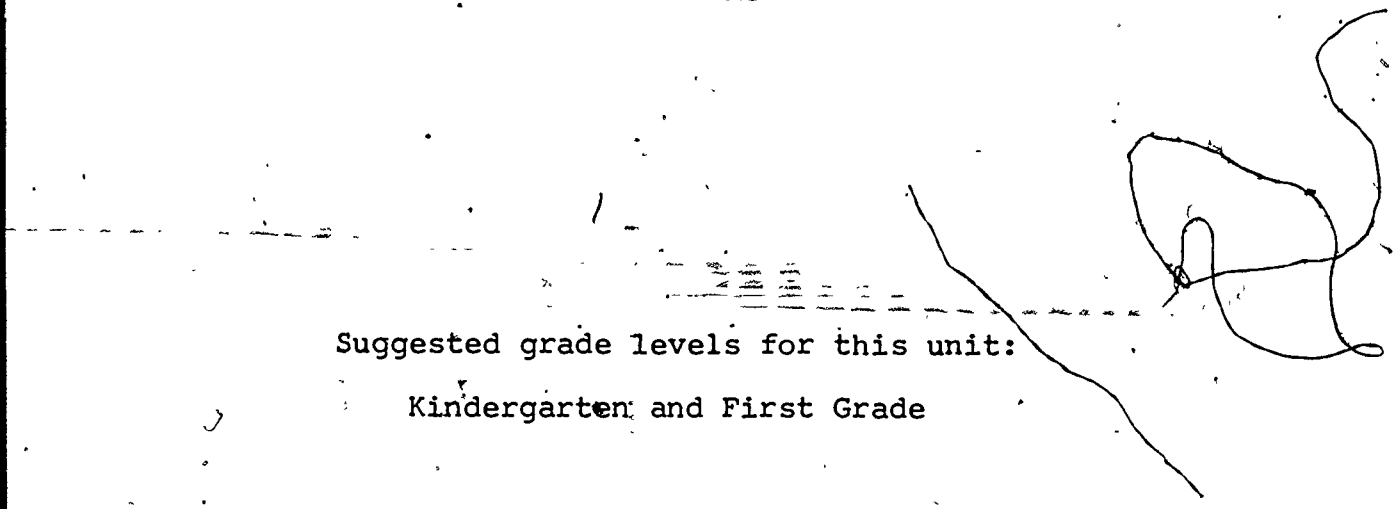


Part I

My Home-Mom
Dad
Sisters
Brothers
Me



Suggested grade levels for this unit:

Kindergarten and First Grade

Developed by the N.O.W. Staff

UNIT INTRODUCTION

This unit is designed to bridge the gap between home and school for the beginning student. Dealing with the student's familiar environment and gradually extending his awareness by means of exploration into other community areas may eventually lead to a better understanding of self in relation to society at large.

In this unit you and your students will have an opportunity to explore the family. Through the process of selecting appropriate unit activities for your classroom individuals, you may answer:

Who am I?
Who are the members of my family?
What do they do at home?
How do we work together?
What jobs do my family members have outside of home?

This unit covers approximately one third of the kindergarten-first grade Career Education model. The N.O.W. Program suggests units on school roles and workers and community helpers follow the implementation of this unit. Please feel free to select and order the activities in any combination from these units you see fit. If the activities are not appropriate for your classroom individuals, please do not hesitate to change and adapt them. I am interested in and open to your ideas for the further improvement of these units and for the development of new units.

Karen McMahon
Activities Writer
N.O.W. Program

Special Note: In implementing the activities in this unit, you should take particular precautions not to evoke embarrassing, too revealing, or discriminating answers to questions in the group experiences. Detailed information about the personal lives of family members, and discriminating descriptions about personal appearances can easily be avoided by carefully planning the questions you ask your students. For example you might not say: "Tell me about Mary's clothing..." or "How is Mary dressed today?" It might be better to say: "What articles of clothing is Mary wearing today?" "What colors does she have on?" Specify your questions.

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I. Objectives and Concepts

A. Concepts

1. The study of the family unit most involves the kindergarten and first grade student because he is most familiar with this environment.

2. The initial study of self and the family unit paves the way to broaden the student's knowledge and experience of society at large.

3. The family's duties, skills, tools, and occupational positions provides a career education base from which to build additional occupational areas.

4. The study of occupations can bring a greater awareness of self in relation to society at large.

5. Occupational awareness is a basis for making appropriate career decisions in the student's future.

B. General objectives

1. To broaden the student's knowledge of the work community.

2. To stimulate the student's awareness of family work roles and relationships.

3. To give the student additional opportunities to identify relationships in terms of self.

4. To enable the student to work in a group as well as on his own initiative.

5. To broaden the base of student experience.

6. To experience cause and effect relationships in making decisions.

7. To provide the student with additional opportunities to share, cooperate, accept responsibility, and take direction in the form of classroom activities.

C. Learner objectives - You may need to change these objectives to meet the needs of your classroom individuals.

1. By the end of the unit study, the student will be able to describe three (3) everyday activities of each family member including himself.

2. The learner will be able to name at least five (5) tools his mother and father use in their everyday activities.

3. The learner will be able to name at least two tools additional family members (including himself) use in their everyday activity.

4. The learner will be able to name the occupational positions that members of his family hold.

5. The learner will be able to name a tool for each of these occupational positions.

6. The learner will be able to describe five (5) physical characteristics of himself.

7. The learner will be able to name five (5) similarities that he and his classmates have.

II. Subject Matter

A. Definition of terms*

1. Family - a group of individuals living and functioning together. Usually the family consists of two adults and their children.

2. Duty - action required by one's position or occupation.

3. Tool - an instrument used or worked by hand.

4. Skill - a developed aptitude or ability.

*Webster's Seventh New Collegiate Dictionary, G.&C. Merriam Co., Springfield, Ma., 1971.

B. Vocabulary terms

Non-readers would not benefit from vocabulary terms as such. In this case, you may want to display pictures and posters depicting family members and associated skills and tools for recognition purposes.

III. Occupational Information

A. Careers at home

1. Home roles for family members.

2. Job roles for family members.

B. Job facts

Information students will find out for each worker and family member. Learner objectives provide specifications for job facts. Refer to the NOW Program's Resource List for general and specific occupational information.

IV. Motivational Activities - "Who am I?"

A. Physical attributes of self

1. HAVE EACH STUDENT DRAW A PICTURE OF HIMSELF OR OF A CLASSMATE. If possible, the students can print the name on the picture. The student can show his picture to the class and point to and describe the individual drawn:

a. Hair color

b. Eye color

c. Body build (small, big, tall, short, etc.)

d. Clothing (dress, shirt, skirt, pants, shoes colors, etc.)

e. Outstanding personal characteristics (dimples, freckles, etc.)

2. A DISCUSSION ON HOW WE ARE ALL DIFFERENT COULD PROCEDE. Play "Hot Potato."

a. Students and teacher stand in a circle.

b. Teacher throws a ball to a student.

c. The student describes how he is different from the teacher:

1.) Eye color

2.) Hair color

3.) Size

4.) Age

5.) Clothing

d. The student who caught the ball tosses or passes it on, and the next student describes the differences between the thrower and himself. Refer to A. 2.c. 1.)-5.) on page 3.

3. DISCUSS PHYSICAL SIMILARITIES.

a. The teacher could ask all the students in the circle to draw closely together and sit in a circle on the floor, and hold hands.

b. The teacher may follow-up by saying:

1.) We have been talking together about how we are all different.

2.) But, we're all alike, too.

3.) There are things we all have in common.

4. Play Sesame Street song: "I've Got Two Eyes, 1-2."

5.) Have children learn to sing the song while pointing to parts of their body as they sing.

4. Refer to Unit A, "Physical Attributes of Self", Focus on Self-Development, Stage One: Awareness, SRA Kit for additional activities.

B. The intellectual self - "What have I learned?" - "What am I learning?" - "What will I learn?"

1. DO ACTIVITIES TO SHOW WHAT THE STUDENTS HAVE LEARNED.

a. Display pictures of students doing the following activities:

1.) Dressing

2.) Washing

3.) Brushing

4.) Combing hair

b. Make individual experience charts for the above activities. Keep a daily tally of the students' personal care/habits.

c. Have students break into groups for a story telling hour. Examples:

1.) I went to the store, and _____.

2.) I visited _____.

3.) I played with _____.

4.) My favorite toy is _____.

5.) I like to eat _____ most, because..., etc.

d. Play games requiring jumping, skipping, and running.

1.) "Simon Says"

2.) Relay games using these activities

e. Discuss how we can feel happy or sad. Make a happy face and a frowning face on two separate paper plates or paper circles. Attach them back to back to a pencil or dowel. Read the following statements. Have the students show the face that shows how they feel.

1.) How do you feel when someone says you are not nice?

2.) How do you feel when someone scolds you?

3.) How do you feel when someone smiles at you?

4.) How do you feel when someone says he likes you?

5.) How do you feel when you tell your mother you love her?

6.) How do you feel when you tell someone you hate them?

7.) How do you feel when you are angry?

8.) How do you feel when you get up in the morning?

*DUSO KIT - Supplemental Activities 11-B.

9.) How do you feel when you are going to a party?

10.) How do you feel when your friend spills lemonade on you?

11.) How do you feel when you win a game?

12.) How do you feel when someone else wins a game?

13.) How do you feel when someone says: "I don't like you anymore."

14.) How do you feel when someone says you did good work?

15.) How do you feel when someone admires your dress or shirt?

16.) How do you feel when you have a new toy?

17.) How do you feel when your new toy gets broken?

f. Ask the students what else they have learned. Construct individual experience charts for these additional activities. (swim, skate, ride a bike, etc.)

2. USE ORDINARY CLASSROOM ACTIVITIES TO SHOW WHAT THE STUDENTS ARE LEARNING. Follow-up with SRA Activities, Stage One: Awareness, "The Intellectual Self."

a. I am learning colors.

b. I am learning numbers.

c. I am learning to print.

d. I am learning to read.

e. I am learning to make new friends.

1.) Make a chart for the class. Make room for each student to have the following entry:

a.) My real name is _____.

b.) Call me _____.

2.) Divide students into groups. (The original activity groups from "Who am I?" would be a good idea.)

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3.) Have acquaintance exercises.

a.) Students introduce each other by their "Call me---------" names.

b.) Group procedes to do friends together exercises.

4.) Refer to Now I'm Ready, "Dimensions of Personality," by Carl Fischer and Dan Johnson (NOW Resource List) for additional friends together exercises. (Unit II. "Making Friends")

3. READ THE FOLLOWING STORY TO YOUR STUDENTS TO ILLUSTRATE WHAT THEY WILL LEARN.

A Trip to the Store

This is a story about a brother and sister named Randy and Cloe. Randy was nine, and Cloe was five. Most of the time Randy and Cloe didn't even notice that they were different ages. They played together and lived together. They were not only brother and sister, but they were friends.

Randy and Cloe's mom and dad, Mr. and Mrs. Hill, were always so glad to see Randy and Cloe playing in the sandbox together or playing on the swing set after school.

But one day Randy come home from school and asked his mother: "Can I go to the store after school tomorrow to buy an ice cream cone with my classmates?".

Mrs. Hill thought that Randy was old enough and knew enough to walk the long distance to the store, even though he had to cross a busy street. When Mrs. Hill told Mr. Hill that evening that she gave Randy permission to go to the store, Mr. Hill said: "But Cloe will be so disappointed when Randy isn't home from school to play with her."

Then he said to his wife: "You're right, though, Randy is old enough and, he does know enough. Cloe is still too young to go to the store after school with her classmates, but what will we say to her?"

Cloe just then walked into the room. She looked very sad. Tears were running from her eyes.

"Randy says he's going to the store," she sniffled. "Why can't I go, too?"

"Randy is going with friends from class, Cloe," said Mrs. Hill.

"Yes, but I'm his friend, too!" Cloe said sadly.

"Yes, you are, but tell me Cloe, how old are you?" Mr. Hill asked.

"Five."

"How old is Randy?" asked Mrs. Hill.

"Nine...almost ten!"

"When you are Randy's age, Cloe, you may go to the store with your classmates," said Mr. Hill understandingly.

"Yes," said Cloe's mother, "and tomorrow afternoon while Randy is at the store, we will bake some cookies."

b. Ask your students these follow-up questions:

1.) What did Cloe do next?

2.) What kind of cookies do you think Cloe and her mother made? What kind would you like?

3.) Was Cloe happy or sad at the end of the story? Why?

4.) Why couldn't Cloe go to the store?

5.) Did Cloe learn anything new from this?

6.) What did she learn?

7.) Are there things that you can't do that your older brothers or sisters can do? What are they?

8.) What do you what to learn most that you can't do now? (ride a bike, go to the store, take care of yourself when your parents are gone, ice skate ..., etc.?)

IV. Study Activities - The DUSO Kit, and SRA - Focus on Self, Stage One: Awareness will provide additional activities.

A. Initial activities - "Who are the members of my family?"

1. DIVIDE THE CLASS INTO "WHO AM I?" GROUPS. Have each member name the members of his family.

2. ASK THE STUDENTS TO DRAW THEIR FAMILY MEMBERS IN A GROUP AND LABEL THEM.

3. HAVE STUDENTS BRING IN PHOTOGRAPHS OF THEIR FAMILY MEMBERS.

4. MAKE A FAMILY TREE BULLETIN BOARD. Arrange pictures and photographs of the family members in appropriate places around the tree. You may want to draw a family tree for each "Who am I?" group or make a small one for each individual student. If provided a form, the student may complete the tree himself, or complete it in his group.

B. Research activities "What does my family do at home?"
"How do we work together?"

1. BREAK INTO GROUPS, AND ASK INDIVIDUALS IN THE GROUP THE FOLLOWING QUESTIONS:

a. What does your mother do at home?*

b. What does your father do at home?

*Allow the students to make their own suggestions before directing them to duties that adhere to traditional roles. The changing attitudes in male-female home roles may indicate that traditional role descriptions are no longer appropriate for that family member. The father may very likely do some cleaning and cooking. The mother may very likely do some fixing and painting. The parents may also cooperate and do these activities because sharing duties is very important aspect of the family unit.

c. What do my brothers and sisters do at home?

1.) Help my mother and father around the house.

2.) They play with me and help take care of me.

3.) They study for school.

4.) They have hobbies of their own. (Ask them to name these hobbies.)

5.) Ask them to name some tools for each 1.) and 4.).

d. What do you do at home?

1.) I help my mother and father. (What do you help them with? What tools do you use?)

2.) I play with my brother and sister. (What do you play?)

3.) I play with my friends and with myself. (Who do you play with? What do you play?)

e. What things do you all do together?

1.) We do some chores together. (What chores do you do together?)

2.) We eat together.

3.) We go places together. (Where?)

a.) Church

b.) Picnics, etc.

2. HAVE EACH STUDENT BRING IN A FEW TOOLS HIS FAMILY MEMBERS USE IN THEIR HOUSEHOLD ACTIVITIES. (You must be careful, and try to make suggestions for tools that are not potentially dangerous.)

a. Egg beater
b. Spoon
c. Measuring cup
d. Pencil, paper
e. Hammer
f. Wrench

3. ALLOW EACH STUDENT TO ASSUME A FAMILY ROLE AND SET UP A PLAY HOUSE. (You might have better control if you allow each group to assume family roles rather than having the whole class participate in this activity at once. Incorporate the tools brought in by the students into the playhouse setting.

a. Emphasize individual duties and the tool(s) each duty requires.

b. Emphasize activities that require group cooperation.

C. Correlating Activities - Subject Matter tie-ins

1. LANGUAGE ARTS

   a. Have each student in the group describe the use of the tool(s) he brought in.

   b. Show each student how to print and recognize the name of five tools his mother and father use.

2. MATH

   a. Have each student name and count the members of his family.

   b. Have each student go home and count as many tools as he can that his family uses.

3. SOCIAL STUDIES

   a. Have each student give his address.

   b. Plot each student's address on a generalized city map with a star and his name beside the star. Give each "Who am I?" group a different colored star. Group 1 members get red stars, and group 2 members get blue stars, etc.

   c. Put a large star at the location of the school.

   d. Point out distance relationships between friends' homes (particularly individuals in the "Who am I?" groups).

   e. Ask individuals to point out where their school is, where they live, and where their friends live.

4. SCIENCE

   a. Ask students to bring in samples of their favorite cookie recipe.

      1.) What are they made of?

      2.) What tools were used to make these cookies?

   b. Ask students to bring in samples of living things around their homes. Conduct a group discussion and a show and tell about these things.

1.) Plant life.

2.) Pets and other living things (insects, etc.).

5. SPECIAL SUBJECT AREAS

Art - You may substitute bringing in articles in these activities by drawing these articles.

D. Culminating activities

1. HAVE EACH STUDENT ASK THEIR FAMILY MEMBERS' OCCUPATIONS AND ACTIVITIES THEY DO OUTSIDE OF HOME.

2. HAVE STUDENTS BRING IN A TOOL OR MATERIAL FOR EACH OF THESE OCCUPATIONS.

3. HAVE EACH STUDENT EXPLAIN AND SHOW THE USE AND OCCUPATION REPRESENTED BY THE TOOLS AND MATERIALS.

4. HAVE STUDENTS DRAW PICTURES OF THEIR FAMILY MEMBERS PERFORMING THESE ACTIVITIES AND OCCUPATIONS.

5. HAVE EACH STUDENT IN A GROUP GIVE AN ACCOUNT OF WHAT HIS FAMILY MEMBERS DO. (Use tools and materials for illustration.) Afterward, put all materials and tools in the center of the group. Have each student (blindfolded) choose a tool or materials. Have each student tell what the tool or material is by feeling it only. Have each student describe the use and related occupation of their tool. (Also, have them tell who brought in the tool, if you desire.)

E. Follow-up Activities

1. DISCUSS THE FAMILY TREE BULLETIN BOARDS.

2. ADD PICTURES AND LISTS OF DUTIES AND TOOLS, AND OCCUPATIONS TO APPROPRIATE FAMILY MEMBERS.

3. ASK A WILLING PARENT TO COME INTO THE CLASS AND TALK ABOUT THE PARENT'S FAMILY. Another teacher who has a family may be most convenient.

4. ALLOW EACH "Who AM I?" GROUP TO PARTICIPATE IN A TYPICAL DAY AT HOME. Include at home and away from home activities.

C. My Home, student checklist

Student's name_____

	poor	fair	good	excellent
1. The student worked individually.	1	2	3	4
a. The student took direction and accepted responsibiligy.	1	2	3	4
b. The student experienced cause and effect relationships in making decisions.	1	2	3	4
2. The student worked in a group.	1	2	3	4
a. The student shared.	1	2	3	4
b. The student cooperated.	1	2	3	4
3. The student met learner objectives 1.-7.	1	2	3	4
4. Changes in student attitudes	1	2	3	4
5. Changes in the student's level about his home in relation to self were:	1	2	3	4
6. Comments:				

Materials and Resources

A. Materials available through the NOW Program

1. SRA KIT: Focus on Self-Development
   Stage One: Awareness

2. DUSO KIT, Level 1

3. Now I'M Ready, Fischer and Johnson (book)

B. The NOW Program has a variety of audio-visual equipment available to you given reasonable notice.

My School

Part II

This unit is suggested for use in Kindergarten and First Grade.

Developed by:

The N.O.W. Staff

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UNIT INTRODUCTION

School is a new and curious place for kindergarten and first graders. For kindergarten students, the first days at school are a totally new experience. Perhaps the student has never been away from home or relatives. He is in the hands of unfamiliar people, and school surroundings are quite different from the comfort of his home environment. It is not his home he sees, but he sees a large official-looking building. It is not a small group of individuals he must deal with, but in his classroom, it probably amounts to twenty to thirty individuals.

Although the first grader has had the opportunity to form some firsthand impressions about school, he is facing an exciting and challenging first year. This is the first year he will attend school for a full day. The first year student also faces an educational challenge: the student will begin to acquire new reading, writing, and math skills.

Let's make the beginning student's introduction to school friendly and unconfusing. Let's show him that school can be fun, and that the people in his school are there to help him. Let's expand his narrow base of occupational awareness by giving him the opportunity to explore these questions:

What do the people at my school do?

What tools do they use?

How do the people at my school help me?

The activities in this unit may help your students explore these areas. Select and adapt the activities to the needs of the individuals in your classroom. Your additional ideas and adaptations can only benefit the development of this unit as a valuable resource to teachers across the country who have become enlightened to the concepts of Career Education. Please do not hesitate to contact me as to your success, problems, and adaptations in implementing activities in this unit.

Karen McMahon
Activities Writer
N.O.W. Program
(784-1672)

I. Objectives and Concepts

A. Concepts

1. Familiarity with the school environment is the next step from familiarity with the home environment to eventual increased awareness of society at large.

2. A knowledge of workers at home, and workers at school leads to a knowledge of workers and occupations at large.

3. Occupational awareness is a basis for making appropriate career decisions in the student's future.

B. General objectives

1. To increase the student's awareness of work roles.

2. To enable the student to become more familiar with the school environment and its purposes in terms of self.

3. To encourage group and individual efforts.

4. To acquaint the student with the work roles in the school.

5. To encourage sharing, cooperation, taking responsibility, and accepting direction.

6. To encourage the student to experience cause and effect relationships in decision-making.

7. To acquaint the student with the various tools and their use in the school environment.

C. Learner objectives

1. By the end of the unit activity, the learner will be able to name three things his school does for him.

2. The learner will be able to name four (4) workers in school.

3. The learner will be able to name two tools for each of these four (4) workers.

4. The learner will be able to describe two duties for each of these four workers that utilize the above mentioned tools.

II. Subject Matter

A. Definition of terms

1. Tool-an instrument used or worked by hand.

2. Duty-action required by one's position or occupation.

3. Skill-a developed aptitude or ability.

*Webster's Seventh New Collegiate Dictionary, G.&C. Merriam Co., Springfield, Mass. 1971

B. Vocabulary

Non-readers would not benefit from vocabulary terms as such. In this case, you may want to display pictures and posters depicting school workers and associated skills and tools. For recognition purposes, print the name of the worker, tool, and duty on the poster for readers.

III. Occupational Information

A. Careers at school:

1. Teacher
2. Principal
3. Janitor
4. School secretary
5. School doctor
6. School nurse
7. Cafeteria worker
8. Dietician
9. Maintenance worker

B. Job facts - information students will find out for each worker studied. The Dictionary of Occupational Titles may help you in obtaining detailed information about the above jobs to help you answer student questions.

IV. Motivational Activities - Getting to know my school.

A. What's in my school?

1. SHOW PHOTOGRAPHS OF ITEMS OUTSIDE AND INSIDE THE SCHOOL. Divide the class into three or four groups. Do either outside or inside activities first. Give each group several pictures of these items or a picture to each or several students. Find the items that are similar to the items in the pictures. Have each group take the rest of the class on a tour to show them what they found.

2. ASK THE STUDENTS TO BRING IN SAMPLES OF THINGS THAT SCHOOLS ARE MADE OF FOR SHOW AND TELL: (You might ask the students to bring in some tools, too.)

a. Brick
b. Piece of cement
c. Piece of wood
d. Piece of metal
e. Nail
f. Paint
g. An unsharp piece of glass
h. Stone
i. Tile
j. A piece of plaster
k. Screw
l. Piping
m. Wire
n. Tar
o. Chair
p. Light bulb
r. Light switch
s. Countertop material

3. MAKE A DISPLAY OF THE ABOVE MATERIALS.

4. ASK THE STUDENTS TO DRAW PICTURES OF WORKERS BUILDING A SCHOOL. Display them. Talk to the students and answer questions about workers who build a school.

B. Who are the people in my school?

1. ARRANGE A FIELD TRIP FOR THE CLASS TO THE PRINCIPAL's OFFICE.

a. Ask the principal to talk to the children about how he helps them at their school. (Ask him to talk about the tools he uses in his work.)

b. Ask the school secretary to talk to the students about what she does. (Ask her to talk about the tools she uses in her work.)

2. ON THE FIELD TRIP EXPLAIN THE THINGS A SCHOOL SECRETARY AND THE PRINCIPAL DO TO HELP THE STUDENTS.

3. THE FOLLOWING ACTIVITY MAY SERVE AS A FIELD TRIP FOLLOW-UP:

a. Bring students together in a group.

b. With the group ask what tools are used by the school secretary and principal.

c. With the group, draw pictures and procure articles that the school secretary and the principal use.

1.) Pen (s&p)
2.) Pencil (s&p)
3.) Pad of paper (s&p)
4.) Telephone (s&p)
5.) Typewriter (s)
6.) Eraser (s&p)
7.) Bell (s&p)
8.) Briefcase (p)
9.) A write-in calendar (s&p)
10.) Address book (s&p)
11.) Student register (s)

4. START A SECOND PART OF THE DISPLAY "WORKERS IN MY SCHOOL." Add materials and pictures pertaining to school workers to the display. Take pictures of school workers and display them.

V.) Study Activities

A. Initial Activities

1. CONTINUE MOTIVATING ACTIVITIES AND USE THEM THROUGHOUT THE UNIT.

2. ASK A JANITOR OR ANOTHER SCHOOL WORKER TO COME INTO THE CLASSROOM. Talk about some of the things he does for the school and in turn for the students.

3. GO ON ANOTHER SCHOOL FIELD TRIP. Go to the:

a. Cafeteria

b. Boiler room

c. School nurse and doctor's headquarters

4. ASK THE WORKERS IN THESE PLACES TO DESCRIBE SOME OF THE DUTIES AND TOOLS USED ON THE JOB.

5. CONTRIBUTE INFORMATION AND TOOLS TO THE "MY SCHOOL" DISPLAY.

B. Research Activities

1. UTILIZE YOUR DISPLAY AS A CLASSROOM ACTIVITY. For example, ask individuals:

   a. (student's name), bring me something from the "My School" display that the school secretary uses. It is black. It has numbers. It is about this big. (Teacher illustrates with hands.) It has an electric cord on it.

   b. (student's name), bring me something this school is made of. It is this big. It is made of steel. It has a head on it. (student's name), bring me the tool that is used on this material.

2. CREATE SITUATION WHERE THE STUDENTS CAN USE THE TOOLS AND MATERIALS IN THE DISPLAY.

   a. If you were a builder, (student's name), what would you do with these things? (Hand the student a piece of wood, hammer, and nails, for example. Manually help the student, if necessary.) Continue this activity until school building materials are implemented and everybody has had a turn.

   b. If you were a school secretary, (student's name), what would you do with these things, if you were talking to a parent whose child was sick? (student's name), Why don't you be the parent? Pretend you are your mother or father.) Hand the "school secretary" the play phone, paper, and pencil. Do not be afraid to manually assist and verbally prompt the participants. Continue this exercise until all your school workers and display tools have been used. If you have a large class, repeat the exercises more than once. The flexibility of this activity should allow the students to display their individuality and interests.

C. Correlating activities

1. LANGUAGE ARTS

   a. Assemble the students into groups.

   b. Have each student tell a short story.

1.) What I saw my first day of school.

2.) My teacher. (principal, school secretary, janitor, etc.)

3.) Tools I use in school.

4.) My first day at school was happy. (scary, sad, etc.)

c. Make up a "Who am I Story" for comprehension purposes.

1.) Describe some physical characteristics of a school worker in the first person. ("I am quite tall...")

2.) Describe some duties of that worker.

3.) Describe some of the worker's tools.

4.) Ask: "Who am I?"

5.) Ask:"Why?"(comprehension)

6.) What does this worker look like?

7.) What does this worker do?

8.) What are some of this worker's tools?

2. MATH

a. Ask students to measure various areas by footsteps.

1.) How many footsteps is it around this room?

2.) How many footsteps long is the hallway?

3.) How many footsteps is it around the school?

4.) How many footsteps is it around the playground?

5.) How many footsteps is it to the principal's office?

6.) How many footsteps is it to the nurse's office?

7.) How many footsteps is it to the boiler room?

3. SOCIAL STUDIES

a. Ask students to go home and ask their parents or an older friend about their first day in school.

1.) What happened?

2.) What did you see that was new?

b. Ask the students to relate their findings in class.

1.) Orally

2.) Art work

4. SCIENCE - Ask the students to go for a natural resources hunt on the school grounds.

a. In winter, you could talk about snowflakes.

b. In fall, students can bring in samples of leaves from around the school grounds.

c. In spring, students can bring in samples of shrubbery, grass and plants around the school grounds.

D. Culminating Activities

1. MAKE A CLASS EXPERIENCE CHART. List the student's names on one axis and school workers on the other.

2. HAVE THE CLASS RUN A SCHOOL FOR A DAY. Assign duties of workers to each student. Have them perform these duties for rehearsal. Then allow the students to work together in a group to make their "play school." Direct this activity to emphasize school workers and student relationships. Take a portion of the students to make a model classroom with a student as the teacher. Assign principal, secretary, janitor, school nurse, sick student, and parent roles.

E. Follow-up activities

1. DO EXERCISES INVOLVING TOOL, SKILL, AND OCCUPATION RECOGNITION. Use your vocabulary words, posters, and student pictures.

2. MAKE A MATCHING EXERCISE WITH TOOLS ON ONE SIDE AND WORKERS ON THE OTHER.

3. ASK STUDENTS WHAT SCHOOL WORKERS THEY WOULD LIKE TO BE. Ask them why.

4. ASK EACH TO DRAW A PICTURE OF THEIR WORKER PERFORMING ONE DUTY.

5. ALLOW EACH TO ROLE PLAY THE DUTY WITH OTHER STUDENTS IN THE CLASS PERFORMING THEIR CHOSEN WORKER DUTIES.

6. ARRANGE TO HAVE THE ACTUAL WORKERS SHOW THE STUDENTS JOB DUTIES IN A SHADOW EXPERIENCE.

C. MY SCHOOL, student checklist

Student's Name: _____

	poor	fair	good	excellent
1. The student worked individually.	1	2	3	4
a. The student took directions and accepted responsibility.	1	2	3	4
b. The student experienced cause and effect relationships in making decisions.	1	2	3	4
2. The student worked in a group.	1	2	3	4
a. The student shared.	1	2	3	4
b. The student cooperated.	1	2	3	4
3. The student met objectives 1.-4.	1	2	3	4
4. Changes in student's attitudes were:	1	2	3	4
5. Changes in the student's level of awareness about his school and its workers were:	1	2	3	4

6. Comments:

Materials and Resources

A. Materials available through the N.O.W. Program:

1. I Want to be a Secretary, book
2. I Want to be a Teacher, book
3. I Want to be a Bus Driver, book
4. I Want to be a Doctor, book
5. I Want to be a Nurse, book
6. DUSO Kit, Level 1

B. The N.O.W. Program has a variety of audio-visual equipment available to you given reasonable notice.

Community Helpers

Part III

This unit is suggested for
kindergarten and first grade

Developed by the N.O.W. Program Staff

A special thanks goes to the following elementary school teachers for developing and implementing new ideas for activities and resources:

Jeanine Scribner - Martel
Patricia Hussey - St. Mary's
Elizabeth Deschenes - Pettingill
Lorraine Fournier - McMahon

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UNIT INTRODUCTION

This unit may be the kindergarten and first grader's introduction to community awareness. Previously the only hands-on experience the beginning student may have had is in his home and in his school. One of the primary objectives of this unit is to increase occupational awareness. You might feel that this is a relatively unimportant aspect of the student's total education at this grade level, but please remember, though, that occupational awareness does not mean that the student will make an actual career decision. At the kindergarten-first grade level, occupational awareness on the community level means that the student will begin to realize the structure of the community, i.e., the community is made up of workers. Workers help the community. To direct this larger concept to the individual student we can enable him to realize: "Workers in my community help me." This is in preparation of future concept exploration like: "How do I fit into my community?" and eventually, "What will be my role as a community worker (or helper)?"

The activities in this unit (and in the two preceding units) are designed to help you lay the necessary groundwork to bring your students to this level of awareness. Hands-on activities with tool and skill involvement and role playing activities may enable your students to improve motor-skill coordination, to utilize subject matter information in physical activity, and to experience real-life situations in the working world.

For the most part, the activities in this unit are untried in the classroom. Therefore, it is important for you to inform us of the suitability of the unit activities to your classroom individuals. Do not hesitate to adapt, delete, or add activities. We do not expect you to follow the unit letter by letter. This is a resource guide. Again, please do not hesitate to inform us of your innovations, because they will aid the development of this unit as a Career Education resource.

Karen McMahon
Activities Writer

I. Objectives and Concepts

A. Concepts

1. Familiarity with the community is the next step from familiarity with the home and school environment to eventual increased awareness of society at large.

2. A knowledge of workers at home, school, and in the community leads to a knowledge of workers and occupations at large.

3. Occupational awareness is a basis for making appropriate career decisions in the future.

B. General objectives

1. To increase the student's awareness of work roles.

2. To enable the student to become more aware of his community and its function in terms of self.

3. To encourage group and individual efforts.

4. To acquaint the student with community helper work roles.

5. To encourage sharing, cooperation, taking direction, and accepting responsibility in the form of classroom activity.

6. To encourage the student to experience cause and effect relationships in decision-making.

7. To acquaint the student with the various tools (and their uses) of community helpers.

C. 1. By the end of the unit activity, the learner will be able to name five community helpers.

2. The learner will be able to name two tools for each of these five workers.

3. The learner will be able to describe one duty for each of the five workers that utilize one of the two above mentioned tools.

4. The learner will be able to name five ways (one for each worker) that community helpers help.

II. Subject Matter

A. Definition of terms*

1. Tool - an instrument used or worked by hand.

2. Duty - action required by one's position or occupation.

3. Skill - a developed aptitude or ability.

4. Community helper - a worker who serves his community in his occupation. On the kindergarten-first grade levels we might consider a narrow category of the expansive field of community helpers. Refer to III. Occupational Information for a worker listing.

*Webster's Seventh New Collegiate Dictionary, G. & C. Merriam Co., Springfield, MA , 1971.

B. Vocabulary - Non-readers would not benefit from vocabulary terms as such. In this case, you may want to display pictures and posters depicting community helpers and associated skills and tools for recognition purposes. Print the name of the worker, tool, skill, or duty on the poster for readers.

III. Occupational Information

A. Community helpers

1. Policeman	5. City maintenance	9. Dentist
2. Fireman	6. Doctor	10. Clergyman
3. Mailman	7. Grocer	11. Librarian
4. Bus driver	8. Druggist	

B. Job facts - Information students will find out for each worker studied. Learner objectives provide specifications for job facts. The Dictionary of Occupational Titles may help you in obtaining detailed information for the above jobs.

IV. Motivational Activities

A. PREPARE STUDENTS FOR A RESOURCE PERSON VISIT.

1. Provide background information on the community. (List some workers in the community.)

a. Show posters and pictures of community helpers.

b. Ask questions concerning these pictures.

1.) Who is this?

2.) What is he doing?

3.) Have you ever seen any worker in the community do this?

4.) What other things could this worker do?

B. HAVE A COMMUNITY HELPER SPEAK TO THE CLASS.

1. Ask the speaker if he would talk about:

a. Some tools of his job

b. Some duties of his job

c. How he helps the community

d. How he might help the student

2. Refer to the N.O.W. Program's "Resource Person Guidelines" for additional background information you should have for the speaker.

C. TAKE A FIELD TRIP TO A COMMUNITY HELPER'S WORK LOCATION. Take your class to the resource person's work location.

1. Tell your students these things about the proposed field trip:

a. Where

b. Why

c. How

d. How long

e. Lunch and/or financial arrangements

2. Also, refer to the N.O.W. Program's "Field Trip Guidelines."

3. Refer to Correlating Activities for subject matter tie-ins for field trip preparation.

4. Field trip follow-up activities are in initial and study activities.

V. Study Activities

A. Initial Activities:

1. BEGIN MOTIVATIONAL ACTIVITIES AND IMPLEMENT THEM THROUGHOUT THE UNIT.

2. START BULLETIN BOARD TO ACCOMPANY THE HOME AND SCHOOL BULLETIN BOARDS OF THE TWO PRECEDING UNITS.

a. Display the vocabulary resource pictures in a group.

b. Display additional student drawings of these workers involved in various job duties which include tool use.

c. Relate this display to the two previous displays of home and school.

1.) How do these community helpers help the members of your family? Relate this to individual family members (including the individual student).

2.) How do these family members help the workers and students who go to our school?

B. Research Activities

1. HAVE STUDENTS BRING IN VARIOUS ARTICLES AND TOOLS THAT A COMMUNITY HELPER MIGHT USE.

a. Policeman-badge, parts of a uniform, (shoes and shoe polish-other articles dealing with personal appearance since a clean and well-dressed image is important for community helper who is in the public eye.), model police car, model motorcycle.

b. Fireman - a piece of hose, nozzle, fireman's hat, toy fire engine, badge, galoshes, rain slicker, toy axe.

c. Mailman - a bag representing a mail bag, stamped envelopes, magazines, model mail truck, make a mailbox out of a box.

d. Bus driver - change carrier, make a hat out of paper, model bus; (If you wanted to make this a big project, the class could make a bus out of an old refrigerator carton.) make bus tickets, set up chairs in rows for a model bus.

e. City maintenance - rake, shovel, broom, paper picker-upper, plastic bags for refuse.

f. Doctor - play doctor's kit and bag.

g. Grocer - various cans of food, play vegetables and fruits, play cash register, play money, counter space (A table will do.), cash register, play money.

h. Druggist - empty bottles, jars and packages of health needs, cash register, play money.

i. Dentist - tooth bursh, tooth paste, dentist chair (A folding chair, play drill - construct it out of a box, some rope or tubing with a small blunt edged piece of rubber or plastic on the end to serve as a drill.)

j. Clergyman-cross, Bible.

k. Librarian - assorted classroom books, a display table, a few file cards to insert in the books. Students can print their name on the file card and leave it with the librarian.

2. ARRANGE THE ABOVE ARTICLES AROUND THE COMMUNITY WORKERS DISPLAY. Break the students up into a group for each worker. Have each group display these things for this worker.

3. PROCEED TO DO THE FOLLOWING EXERCISES WITH THE DISPLAY MATERIALS:

a. "(Student's name), please go to our community helpers display. Bring me something that a policeman uses that...(Describe the article, and ask the student to show and tell how the article is used.)."

b. Continue the process until each student has had the opportunity to contribute. Do not hesitate to help the student verbally or manually, becasue this is not a test but a familiarization exercise.

C. Correlating activities-subject matter tie-ins.

1. LANGUAGE ARTS

a. Have students assemble into groups.

b. Ask each student to tell an "I would like to be a (community helper) because..."

c. Ask questions about tools and skills to all the students concerning the community helper.

d. For readers and writers you might ask the student to learn how to print and recognize the name of the community helper.

2. MATH

a. Have money counting exercises in dealing with the community helpers who use money exchange in their occupations. Example: Grocer-Utilize grocer display materials. Show how money exchange takes place in a store. Have the students act out the procedure with your guidance and prompting. You might even participate to set an example.

b. If the above exercise is too advanced for some of your students, you could implement counting exercises with the different materials in the community helpers display. Example: "(Student's name), go to the Community Helper part of our display and count how many tools we have that this helper uses."

c. Measuring exercises - Have them measure objects with a ruler or a piece of string. "How big around is the policeman's hat?" "How many feet long is our toy bus?", etc.

3. SOCIAL STUDIES

a. Draw a generalized city map. Plot the location of the field trip. (Do this before you take the field trip.) Plot the location of the school. Plot several roads to the location.

b. Plot other locations of some remaining city workers. accompany these locations with pictures of that worker.

c. Have each student go to the map and find a worker's location. Then ask each to trace a route to take from the school to that location.

d. Hand out selected mimeo sheets showing several routes from a designated spot leading to a worker (include dead ends, etc.). Have the students plot the quickest and easiest route to the location of the worker.

4. SCIENCE

a. Do a brief introduction to the student's community environment.

b. Relate the community environment to the role of appropriate workers.

1.) City maintenance worker - helps to keep the community environment cleaned and picked up. You might have students bring in samples or pictures of things that are found in a park. Relate how the city maintenance worker cares for these things.

2.) Policeman - protects the city against vandalism. Ask the students what things they have seen in their community that relate to vandalism.

3.) Fireman - protects our homes, fields and trees from fire. Give your students an introduction to fire.

4.) Dentist, druggist, doctor - tell your students about first aid; have someone come in and give a demonstration; allow the students to demonstrate. Give your students a brief introduction to drug safety (Never take any pills or medicine or explore in the medicine cabinet. Explain what medicine is for, and when it should be taken.). Explain how a doctor protects our health. Give a brief lesson on dental care.

5. SPECIAL SUBJECT AREAS

Art - Draw pictures for the display and construct models. If the students have spare time, you might ask them to draw pictures of the community helper they would like to be.

D. Culminating activities

1. MAKE A STUDENT EXPERIENCE CHART. List the student's names on one axis and community workers on the other. Put a special star for each student's chosen community worker on the chart. Fill-in other community workers

that the student has dealt with in his learning activities with checkmarks.

2. SET-UP A MODEL COMMUNITY WITH ALL MATERIALS FROM THE HOME, SCHOOL, AND COMMUNITY DISPLAYS. Have each student assign himself a role. Allow group interaction to take place between workers and roles. Before the activities start, ask each student to think for a moment about the duties, materials, and tools each worker or role requires. Ask them to think how they can ask other workers in the "community" to help. You might ask questions before the interaction like this:

   a. If you are the fireman, (student's name), what could you do to help the students who will be family members?

   b. If you are a dentist, (student's name), why would a doctor come to you? (A doctor has tooth decay, too.)

   c. How can a policeman and maintenance worker work together in the fight against vandalism? (The policeman might find the vandal, and the maintenance worker might repair the damage.)

   Continue to question until several relationships have been made apparent to each worker. (You might allow the student to role play his original "I want to be a _____" choice.)

3. ALLOW THE INTERACTION TO TAKE PLACE. You might assume a role, also. Do not interrupt the interaction unless the activity becomes disruptive and out of control. Give direction where needed. If pointing out relationships becomes a problem with your students, you may want to direct the group interaction more closely. You may also more clearly point-out these relationships by assigning individuals interaction situations, and asking them to draw a picture of this interaction.

E. Follow-up activities

1. REVIEW VOCABULARY WITH THE PICTURES AND POSTERS. (Ask what the worker is doing, what he is using and which worker it is.)

2. MAKE A STENCIL WITH HOME, SCHOOL, AND COMMUNITY WORKERS. On one side represent the school, the home and the community. On the other draw the workers.

Ask the students to draw lines from worker or role to the appropriate location. (Some workers and roles will have lines connecting them to several or all locations.) Use this as a tool to show relationships.

3. REFER TO THE FOLLOW-UP ACTIVITIES OF THE TWO PRECEDING UNITS.

4. ASK THE STUDENTS TO DRAW PICTURES OF HOME-SCHOOL-COMMUNITY WORKER INTERACTIONS. Ask them to refer to their actual interaction experiences. Compare the development of the students' home-school-community worker awareness by looking at their drawings from the preceding units and this one.

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EVALUATION

C. COMMUNITY HELPER STUDENT CHECKLIST

	excellent	good	fair	poor
1. The student worked individually.	4	3	2	1
a. The student took direction and accepted responsibility.	4	3	2	1
b. The student experienced cause and effect relationships in decision-making.	4	3	2	1
2. The student worked in a group.	4	3	2	1
a. The student shared.	4	3	2	1
b. The student cooperated.	4	3	2	1
3. The student met Learner Objectives 1.-4.	4	3	2	1
4. Changes in the student's attitudes were:	4	3	2	1
5. Changes in the student's level of awareness about community helpers were:	4	3	2	1
7. Compare student checklist from the two preceding units with this one. The over all change in the student's level of awareness for home-school and community was:	4	3	2	1

7. Comments:

Materials and Resources

A. Material available through the NOW Program

1. Careers with the Police Department, book
2. "Drug Store Workers," W.O.W. Kit, filmstrip and record
3. "Fireman at Work," filmstrip
4. I Want to be a Bus Driver, book
5. I Want to be a Dentist, book
6. I Want to be a Doctor, book
7. I Want to be a Fireman, book
8. I Want to be a Policeman, book
9. I Want to be a Postman, book
10. "Mail Delivery," W.O.W. Kit, filmstrip and record
11. "Mr. Storekeeper," filmstrip
12. "Post Office Workers," filmstrip
13. "The Fire House," filmstrip
14. "The Policeman at Work," filmstrip

Transportation Occupations

Truck Driver

Grade 1

Developed by:

Lorraine Fournier
Grade 1 Teacher

In Cooperation with
the N.O.W. Staff

INTRODUCTION

This unit specifically deals with occupations related to truck driving. You may want to develop other units dealing with workers in different kinds of transportation. The activities in this unit will easily lend themselves to this sort of adaptation. You may want to use this unit in conjunction with other units about goods and articles that are commonly transported on trucks.

Karen McMahon
Activities Writer

Truck Drivers

I. Objectives

A. General objectives

1. To familiarize the student with the world of transportation.
2. To familiarize the student with truck driving occupations.
3. To increase the student's awareness of the truck driver's usefulness in society.
4. To integrate social studies skills and language arts skills with related occupational information.

B. Specific objectives

1. By the end of this activity the student will be able to list three ways that a truck driver can help him.
2. The student will be able to name four trucking jobs.
3. The student will be able to describe one work duty for each of these four truck workers.
4. The student will be able to identify the four different kinds of trucks. (for the above truck drivers)
5. The student will be able to name at least four products delivered by the four above trucks.

II. Activities

A. INTRODUCE THE TYPES OF TRANSPORTATION. Discuss and display appropriate pictures. Discuss generally the purposes of these transportation vehicles. Introduce general points of departure and destination that they usually travel. Emphasize product need, product manufacture, and product transportation, i.e., supply and demand.

B. INFORM YOUR STUDENTS THAT THEY WILL BE TALKING ABOUT TRUCKS. Introduce the various types of trucks that you will be discussing with pictures, laminations, and transparencies:

1. Straight truck
2. Pick-up truck
3. Trailer truck
4. Wrecker truck
5. Dump truck
6. Tank truck
7. Multi-stop truck
8. Automobile transporter truck
9. Agitator body truck

Some of the questions you might ask are:

Have you seen trucks anything like this before?

Where? Describe the person who was driving it.

What was this truck delivering?

Where do you think it was going?

What do you think the truck driver needs to know to drive a truck?

C. ASK SEVERAL TRUCK DRIVERS WHO DRIVE DIFFERENT KINDS OF TRUCKS TO COME AND TALK. Prepare your students for the visit by informing them who is coming and the kind of truck he drives. Ask them each to prepare several questions similar to the following:

1. What is your job?
2. What are some of the things you have to do?
3. Why is your truck well suited for your job?
4. How does your truck help you out?
5. What kind of truck is it?
6. What special equipment do you have on your truck?
7. How do you use this equipment on your job?
8. What kind of training did you have to have to be a truck driver?
9. Do you work for yourself or are you a part of a company?
10. What relationship is your job function to the company?

11. What are some of your interests outside of trucking?

12. Why did you decide to become a truck driver?

13. What are some of the places you have seen while trucking?

D. HAVE THE CLASS WRITE A THANK-YOU NOTE TO EACH TRUCK DRIVER. Relate all the information the students gained from the visit.

E. HAVE THE STUDENTS DRAW A PICTURE OF A REAL OR IMAGINARY TRUCK THAT THEY WOULD LIKE TO DRIVE. Display these pictures. Help the students write a short story about an imaginary experience of driving a truck. Ask them to tell about the goods they are transporting, who they are transporting the goods for, and where they are going. Write the story for them on a flip chart. Ask them to illustrate each page.

F. HAVE GROUPS PUT ON SHORT DRAMATIZATIONS OF A TRUCK DRIVER. Ask them to illustrate the following points:

1. Group 1: A truck driver must be a mechanic sometimes.

2. Group 2: A truck driver knows the rules for safe driving.

3. Group 3: A truck driver is always ready to help people who are in trouble on the road.

4. Group 4: A truck driver is a driving expert on crowded city streets.

G. CONDUCT A SHOW AND TELL. Use toy trucks that you and your students have brought in. Ask each student choose a truck and explain:

1. What kind of truck it is.

2. What the various special equipment is for.

3. What the truck driver usually does on a trucking venture.

4. The education and training required for a driver of this kind of truck.

H. GIVE VOCABULARY TERMS FROM A FILMSTRIP OR OTHER SOURCE ON TRUCKING. The N.O.W. Program has filmstrips on trucking that you might use for this purposes. (FS # A686 and A687) Have the class make-up sentences and stories using these words.

examples:

tow	trailer
(un)load	tractor
deliver(y)	tank
cement	carry

Have the class write sentences or short stories using these words as often as possible.

I. MAKE A DISPLAY OF ALL THE MATERIALS THE CLASS COLLECTED ON TRUCKING. Use these as resources to a final review of the material covered in the unit.

J. GIVE YOUR STUDENTS A POST-UNIT QUESTIONAIRE. This will determine if there has been any measurable changes in the students's knowledge about trucking and related occupations.

K. INTRODUCE UNITS ON OTHER FORMS OF TRANSPORTATION AND RELATED WORKERS.

IV. Materials and Resources

A. Materials available through the N.O.W. Program:

1. I Want to be a Mechanic, book

2. I Want to be a Truck Driver, book

3. "Trailers at Work," filmstrip

4. "Trucks at Work," filmstrip

B. The N.O.W. Program has an extensive array of audio-visual materials and equipment that are available to you at your request from our "Resource Center" at Lewiston Comprehensive High School:

1. Tape recorders, tapes, microphones

2. Video-tape equipment

3. Cameras, films, flash cubes

4. Projectors, screens

Agri-Business and Natural Resources

Occupations

THE FARM

Grade 1

Developed by:

Patricia Timberlake

Grade 1 Teacher

In Cooperation with the

N.O.W. Staff

INTRODUCTION

You will find that the first grade student's innate curiosity about people, animals, and things will naturally guide him through the activities of this unit. This unit is about farms in general, but it may be adapted for more specific purposes such as a unit on the dairy.

The activities also enable the student to understand the role of the farmer in the working world. This is important since it provides an occupational base from which to build additional occupational areas.

School subject matter is well integrated. The unit provides the student with the opportunity to expand his vocabulary, use writing skills, and do addition and subtraction problems using farm implements, workers, and animals as variables.

If it is not possible for you to take the class to a farm as the unit suggests, the material in The Farm can still be useful for your class. You may use a film, filmstrip, or pictures as your main reference when doing the farm activities.

If you have any questions, please do not hesitate to contact either the developer of this unit or myself. We are interested in the growth of this unit in many first grade classrooms.

Karen McMahon
Activities Writer

Agri-Business and Natural Resources Occupations

The Farm

Developed by Patricia Timberlake
First Grade Teacher

I. Objectives

A. General objectives

1. To enable the student to understand the role of the farmer in the working world.
2. To help the student understand the farmer's function in supplying food to the market.
3. To become familiar with farm animals and to discriminate between their sounds.
4. To help the student show compassion toward animals.
5. To help the student utilize writing, reading, vocabulary and math skills.
6. To introduce the following concepts about work:
   a. Occupations exist for a purpose.
   b. Individuals differ in their interests, abilities, attitudes, and values.

B. Specific objectives

1. By the end of this activity the student will be able to state three different jobs that a farmer does.
2. The student will be able to describe how milk gets to the market in three steps.
3. The student will be able to name five animals and imitate their sounds.

II. Activities

A. ARRANGE A BULLETIN BOARD OF PICTURES OF FARM ANIMALS. Have the students print the names of the animals. Discuss the animals and the sounds they make. (Some good pictures are available through the Dingley-Jordan Resource Center or from the Maine Dairy Council.)

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B. DISPLAY A LIFE SIZE PICTURE OF A FARMER. Discuss how the farmer cares for the animals. Arrange for a field trip to a local farm. Divide your class into three groups. Group 1 can take pictures of the farmer and his farm workers. Group 2 can record animal and farm sounds. Group 3 can record the class communications with the workers. Prepare the students to ask questions such as the following: How do the animals earn money for the farmer? What products do the animals provide for us? How do these products get to the market? (What workers are involved?) What kinds of work do the farmer and his helpers do? What are the farmer's machines and tools? How much does it cost the farmer to buy his animals? How much does it cost him to feed and take care of them? Have each child write his question(s) down on a piece of paper, and take them on the field trip.

C. DIVIDE THE CLASS INTO THE THREE ORIGINAL GROUPS. Assist them in planning an oral report of field trip findings. Tape record reports and allow individuals to listen to themselves at the learning center. Put the tape of animal and farm sounds in the learning center, too. Have each student use the tape recorder and name five animals he hears and then imitate their sounds.

D. DO SOME SIMPLE MATH PROBLEMS USING ANIMALS AND THE FARMER AS SUBSTITUTES.

Example:

Farmer Jones had ten cows. He gave three cows away. How many cows does he have? (Do this in the form of pictures and words.)

Use felt board models to do the following problem: Mr. McDonald had three workers helping him on his farm. Three just didn't seem to be enough though. He decided that he needed two more workers. If he hired two more workers, how many would he have?

E. CHOOSE FARM SUBJECTS AS VOCABULARY WORDS. Have the students write the words for practice, and later have them utilize them in a story about a farmer and his animals. Have the class draw pictures to go along with the story. You may want to start the class off. Write the story as they make it up on large, lined easel paper with a large, felt-tipped marker.

F. SHOW MOVIES AND FILMSTRIPS ABOUT FARMERS. The Maine Dairy Council has a film called "Jim Visits a Dairy Farm." Compare Jim's findings with the class findings on their field trip. Make an experience chart with the class of the story of milk from cow to consumer:

a. The farmer and his cows: Cows eat, and make milk; the farmer and his helpers milk the cows and store the milk.

b. A dairy picks the milk up.

c. Stores buy the milk to sell to the customer. Workers price, stock, and check out the milk.

G. REFER BACK TO THE LIFE SIZE MODEL OF THE FARMER. Use strips of oak-tag, and have the students write down at least three different jobs that a farmer does. Attach these tags to the model.

IV. Materials and Resources

A. Resources available through the N.O.W. Program

1. "Autumn in the Country," filmstrip

2. Dairy, book

3. "Dairy Product Delivery," filmstrip and record

4. I Want to be a Farmer, book

5. I Want to be a Dairy Farmer, book

6. Farm, a Fisher-Price model

B. Films: "Jim Visits a Dairy Farm" - available through the Maine Dairy Council

C. The NOW Program has a variety of audio-visual equipment and materials available at your request given reasonable notice:

1. Tape recorder, tapes, microphones

2. Video-tape equipment

3. Cameras, film, flash cubes

4. Projectors, screens.

Agri-Business and Natural Resources

Occupations

Marketing and Distribution Occupations

Consumer and Homemaking Occupations

FOODS

grade 1

Developed by:

Patricia Timberlake

Grade 1 Teacher

In Cooperation with the

N.O.W. Staff

INTRODUCTION

FOODS is a way to introduce the very young student to the food chain and the importance of good food to good health. The unit can be easily integrated with social studies, health, science, reading, and/or language arts activities. There are many more things that you can do other than the activities suggested in this unit, and some of the suggested activities may not fit in well with your classroom plan. Whateyer the case, feel free to use this unit as a career education resource. Contact the NOW Program concerning your findings when you try activities from this unit because we are open to your additional suggestions so that these learning packages may be adapted and improved.

Karen McMahon
Activities Writer

FOODS

Developed by: Patricia Timberlake, 1st Grade Teacher

I. Objectives

A. General objectives

1. To familiarize the student with the foods that are necessary for human growth.
2. To increase the student's understanding of the relationship between food and good health.
3. To introduce the concept that workers are involved in food production.
4. To introduce the following concepts about work:
   a. Occupations exist for a purpose.
   b. There is a wide variety of careers.
   c. Work means different things to different people.
5. To utilize and improve communication skills.

B. Specific objectives

1. The student will be able to name three workers who are involved in the story of the apple from blossom to consumer.
2. The student will be able to state two job functions for each of these three workers.
3. The student will be able to name: one fruit, one vegetable, one dairy product, one cereal product, and one meat product.
4. The student will be able to make a chart from magazine clippings illustrating a well-balanced breakfast.
5. The student will be able to state one reason why food is necessary for good health.

II. Activities

A. MAKE AN ATTRACTIVE DISPLAY OF FOODS. For example:

a saucer of peaches	a pork chop with a sprig of chicory
a saucer of peas	a plate of macaroni and cheese
a bowl of cereal	a glass of milk
a piece of cake	a bottle of soda pop
bread and butter	a candy bar

Tell the students to pretend that they are very hungry. Have them come to the table and choose what they would like to eat. Discuss the foods that would most satisfy their hunger and are necessary to make them grow. Discuss candy and soda pop in relation to good teeth.

B. ASSIGN THE FIVE FOOD GROUPS TO GROUPS. Ask them to cut out as many food group members from magazines as they can find.

group 1 - fruit
group 2 - vegtables
group 3 - meat, poultry, fish
group 4 - dairy products
group 5 - cereal products

C. WRITE A GROUP CHART STORY ABOUT EACH FOOD GROUP. An example of a fruit group might be a little boy that didn't like fruit or juices. He had many colds and missed a lot of school until he learned that he needed to drink them to keep him healthy. Tell the students to copy chart stories in a scrapbook along with a picture for each one. These could be taken home at the end of the unit.

D. LET YOUR STUDENTS PLAN, PREPARE AND SERVE A WELL-BALANCED BREAKFAST. Discuss the importance of eating a good breakfast. Orange juice, French toast with syrup, and milk are favorities and are easy to prepare. Plan to do this activity first thing in the morning. Following the clean-up period, give each student a magazine and instruct them to find or draw pictures illustrating a good breakfast on one page in their scrapbook.

E. FOLLOW THE STEPS IN FOOD GROWTH TO CONSUMPTION. For example, you might take the story of the apple from the farmer to the consumer.

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1. DRAW AN APPLE BRANCH WITH BLOSSOMS AND A FARMER. Place a bowl of apples on a table. Ask the students if they would like to find out what happens and who is involved between the blossom and the farmer and the apple on their table. Use an opaque projector or overhead and show pictures of apple trees with people working around them. These pictures can probably be found in a pomological magazine.

2. PLAY "THE ORCHARD WORKERS" VIDEO-TAPE. This is available at the NOW Career Education Resource Center. As a follow-up discuss important details about workers and their jobs. Talk about at least two job functions for each worker discussed. Have the students write a short story about what they saw on the tape.

3. ASK THE CLASS TO GO TO THE SUPERMARKET TO OBSERVE THE KINDS OF THINGS THEY HAVE. After most have done this, instruct them how the workers at the store are involved in getting produce to the consumer. Discuss the workers and what they do: packaging, pricing, stocking, consumer pick-up, cashier, home to the table. Use the pictures taken on the orchard tour to summarize the apple activity. Ask the students to draw pictures of three workers they saw who are involved in getting apples to our tables. Ask them to name two things that each worker does on his job. Include the pictures in their scrapbooks.

4. CONDUCT SIMILARLY STRUCTURED ACTIVITIES ABOUT THE OTHER FOOD GROUPS.

IV. Materials and Resources

A. The N.O.W. Program can supply any audio-visual equipment you might need like films, projectors, cameras, flash bulbs, video-tape equipment.

B. The N.O.W. Program has the following materials and resources currently available for this unit:

1. "Autumn in the Country," filmstrip
2. Dairy, book
3. "Dairy Product Delivery," filmstrip and record, W.O.W. Kit
4. I Want to be a Farmer, book
5. "Apple Orchard," video-tape

Public Service Occupations

SAFETY AWARENESS

Grade 1

Developed by:

Patricia Timberlake

Grade 1 Teacher

In Cooperation with the

N.O.W. Staff

INTRODUCTION

You may use this unit in conjunction with part III of a series of kindergarten-first grade units called "Community Helper."

Safety Awareness is a necessary addition to the first grade curriculum. These students are naturally becoming more aware of their community. Activities in this unit can expand this awareness and encourage the student to think and act responsibly for his own safety and for the safety of others.

Community helpers play a very important part in this unit. The student discovers that in case of an emergency, there are people in the community who can help.

Karen McMahon
Activities Writer

Public Service Occupations

Safety Awareness

Developed by Patricia Timberlake
First Grade Teacher

I. Objectives

A. General objectives

1. To help the student recognize the importance of following safety rules.

2. To help the student to understand the roles of public service occupations pertaining to safety.

3. To learn the procedures for receiving help during an emergency.

4. To learn the basic form of writing a letter.

5. To introduce the following concepts about work:

a. Students must understand and accept themselves in order to become good workers.

b. Occupations exist for a purpose.

B. Specific objectives

1. The student will be able to name four community workers who are involved in public safety occupations.

2. The student will be able to state one reason why each of the above workers is necessary for the safety and health of themselves and others.

3. The student will be able to state step by step the procedure he would have to follow in case of an emergency such as an accident, fire, or injury.

4. The student will be able to state two reasons why safety rules should be followed.

II. Activities

A. HAVE THE CLASS MAKE ROAD SIGNS FROM CARDBOARD AND COLORED PAPER. Bring in a bicycle or several bicycles. Set up the models of traffic safety signs and lights. Discuss the

meaning of each. Have students take turns riding the bicycles on the road. Have a student "policeman" or "policewoman" make sure the signs and rules are observed. Hold the bicycle for students who haven't learned to ride. Simulate accidents that might occur if signs and rules are not observed.

B. HAVE THE LOCAL POLICE LIAISON OFFICERS COME IN AND TALK ABOUT ROAD SAFETY. Local officers have a road safety puppet show which you might ask them to show. Have them discuss why the policeman is very important in enforcing the rules and signs.

C. SHOW THE FOLLOWING 16MM MOVIES. They are available on request through the University of Maine Film Library. (The N.O.W. Program will order for you. Give your order at least two or three weeks in advance.)

a. "Safety After School"

b. "Safety on Our School Bus"

D. HAVE EACH STUDENT CONTRIBUTE A PAGE DRAWING TO A SCRAPBOOK OF ACCIDENTS. Follow-up with a discussion on how each could have been avoided.

E. MAKE ARRANGEMENTS TO VISIT THE LOCAL FIRE STATION. Invite a fireman to talk to the students about his job at the station. Take tape recordings and slides of your visit.

1. Previously help the student to think of a question to ask concerning fire prevention and emergency procedures.

2. Give the students an opportunity to ask their questions about the fireman's job.

3. As a follow-up, watch the NOW Program's video-tape on the fire department. Point out important details. Have the students draw a picture of the part of their tour that was most interesting to them. Have each student compose a letter to their parents telling them about their career field trip. Encourage the students to take their picture and letter home.

F. HAVE A PUPPET PRODUCTION

1. Divide the class into 8 groups.

2. Instruct 4 groups to plan and present a show about what to do in case of an accident. Let the students decide the type of accident.

3. Have the other 4 groups plan and present a show on 2 important aspects of a fireman's job and two important aspects of a policeman's job. The teacher may want to assist all groups in their planning sessions.

IV. Materials and Resources available at the N.O.W. Program's Resource Center at Lewiston Comprehensive High School.

A. Books

1. Careers with the Police Department, K-4

2. I Want to be a Policeman, K-4

B. Filmstrips

1. "Fireman at Work," K-4

2. "Larry Helps the Police," K-4

3. "The Fire House," K-4

C. The NOW Program has a variety of audio-visual equipment that is available on request given reasonable notice.

Communications and Media Occupations

Business and Office Occupations

TELEPHONE WORKERS

AND

USING THE TELEPHONE

Grade 2

Developed by:

Mary Joyce

Grade 2 Teacher

In Cooperation with the

N.O.W. Staff

INTRODUCTION

This unit can be a part of a larger program on different types of communication. You can begin the unit by talking about the word communication and what it means. Then, introduce the telephone. You may want to follow this unit on the telephone with similar units on other forms of communication like the newspaper, radio, and television.

Telephone Workers not only widens the student's occupational awareness, but it provides the student with a very valuable skill: using the telephone in emergency situations and in general communication. Math is used in counting change. Science becomes a part of the activity when the students discover how vibrations (sound) travel by making model telephones. Communication skills are used throughout the unit. Choose the activities from this unit that are most appropriate for your classroom individuals. Feel free to add activities of your own. The NOW Program is most anxious to hear of your success with this career education unit.

Karen McMahon
Activities Writer

Developed by Mary Joyce
Grade 2 Teacher

Communication and Media Occupations

Telephone Workers and Using the Telephone

I. Objectives

A. General objectives

1. To familiarize the student with workers in telephone companies.
2. To give the student an opportunity to use the home and pay phone.
3. To introduce the student to good telephone habits.
4. To make the student aware of the telephone operator and how this worker can help him.
5. To familiarize the student with the telephone as a means of communication.
6. To reinforce and use language arts, math, science, and artistic skills.

B. Specific objectives

1. By the end of this unit activity the student will be able to name three workers that work for telephone companies.
2. The student will be able to name one duty for each of these workers.
3. The student will be able to dial his own number on the telephone.
4. The student will be able to dial the following emergency numbers: police, doctor, fire department, hospital, ambulance.
5. The student will be able to select the proper coins to make a local call on a pay phone.
6. The child will be able to demonstrate the use of a pay phone
7. The student will be able to distinguish his family name, address, and phone number in the telephone book.
8. The student will be able to demonstrate his ability to answer the phone and relay a message.

II. Activities

A. INTRODUCE THE CONCEPT OF COMMUNICATION AND THE DIFFERENT FORMS OF COMMUNICATION. Tell the class that they will find out about telephones. Talk about some important uses for the telephone: emergencies (fire department, hospital, police, operator), telling news to friends, calling parents or relatives.

B. PREPARE YOUR CLASS FOR A RESOURCE PERSON VISIT FROM THE PHONE COMPANY. If possible ask him to bring in a mock private phone and a mock pay phone. Prepare your class to ask questions about the resource person's job and the company he works for. Document the visit with pictures, tape recordings, and, if possible, video-tape equipment. Ask the students to bring in their telephone numbers. Practice counting money for use in a pay phone.

1. Let the students practice dialing their telephone numbers.

2. Show them the difference between a home and pay telephone.

3. Have a math lesson. Discuss and use the proper coins for using a pay phone. Let the children deposit their money in the mock pay phone and call a friend or relative.

C. INTRODUCE THE PHONE BOOK.

1. Let the class see if they can discover how the phone numbers are listed.

2. Conduct a brief lesson on alphabetization of last names first in the phone book.

3. Let the students find their parents' names and the name of a friend in the phone book.

4. Use the telephone book to reinforce or develop research skills:

   a. Emergency numbers: police, fire department, hospital, doctor

   b. Addresses of popular stores in the community

   c. Local addresses needed for letters or invitations

   d. Using the yellow pages to look up various businesses in the community

D. MAKE A CLASSROOM TELEPHONE DIRECTORY. For slower students each name can be color coded so they can easily recognize their names and friends' names.

E. PRACTICE WAYS TO ANSWER THE TELEPHONE. Let the student choose a partner and converse with him.

F. SET UP SOME EMERGENCY SITUATIONS. Discuss the information that must be given in case of an emergency: name, what has happened, and the location.

a. Calling the police department

b. Calling the fire department

c. Calling the hospital

d. Calling the operator

e. Calling a neighbor or relative

Discuss what the police department, fire department, and operator can do in case of an emergency. Talk about the job roles involved. How can the operator help in case of an emergency? What other things does the operator do? (check numbers, information, take long distance calls, etc.)

G. HAVE THE CLASS MAKE DECALS OF IMPORTANT NUMBERS ON GUMMED PAPER. The students may use these on home phones.

H. HAVE THE STUDENTS PRACTICE TAKING MESSAGES ON THE PHONE. You can do this by tape recording some common messages and playing them to the students. They can practice writing down the message, and reading it back at your request. At this time you can make some telephone tally pads for taking down messages.

I. DISCUSS WHY THE PHONE COMPANY IS IMPORTANT, AND WHY MOST PEOPLE HAVE A PHONE. Ask them to ask their parents if they have a phone, and why they have a phone.

J. CONSTRUCT SIMPLE TELEPHONES.

1. Discuss briefly sound waves and vibrations. (Use your science text or an encyclopedia as a reference.)

2. Have the students pair-up and make telephones. A twenty foot length of string can be connected on the bottoms of two paper cups. Punch a hole in the bottom of each cup. Insert the string in each hole, and tie a knot in each end. You can do the same exercise with a larger container. Have the students note the difference in the quality of the sounds.

K. DO SOME ROLE PLAYING ACTIVITIES WITH TELEPHONE WORKERS:

a. Operator

b. Telephone repairman

c. Telephone assemblers (making the play telephones)

d. Business and clerical workers

L. ASK YOUR CLASS TO WRITE AN EXPERIENCE STORY. Ask them to name three telephone workers. Make a sequence of pictures illustrating this experience.

M. MAKE A BULLETIN BOARD ABOUT THE DIFFERENT OCCUPATIONS COVERED IN THIS UNIT.

N. MAKE A CHECKLIST OF GOOD TELEPHONE HABITS WITH THE CLASS.

IV. Materials and Resources

A. The N.O.W. Program also has a variety of audio-visual equipment such as cameras, film, flashbulbs, projectors, videotape equipment, and screens.

B. Reference Manual for Office Personnel, (put out by the phone company) Unit 14, page 153 for teacher reference.

C. Classroom materials available through the NOW Program:

1. Telephone directories
2. Careers in a Telephone Company, book
3. I Want to be a Secretary, book
4. I Want to be a Telephone Operator, book
5. "Office Workers," no. 114, filmstrip
6. Telephone Company, book
7. Telephone Services, WOW Kit, filmstrip - record

Fine Arts and Humanities Occupations

Communications and Media

Occupations

CAREERS IN MUSIC

grade 2

Developed by:

Audrey Davis
Grade 2 Teacher

In Cooperation with the
N.O.W. Staff

INTRODUCTION

During the year the music teacher usually introduces musical instruments and rhythm. At this time the regular classroom teacher can also introduce sound as a science unit.

The teacher can perform various experiments with sound. Some of the most interesting experiments with sound are with musical instruments. At this time, careers in music can also be easily introduced. The class can listen to other people playing music and their own music and can discuss how the different sounds make them feel.

Feel free to adapt this unit to the needs of your classroom individuals. The growth of this unit will benefit other classrooms, if you contact the NOW Program concerning your implementation plans.

Karen McMahon
Activities Writer

Developed by Audrey Davis
Grade 2 teacher

Communications and Media Occupations
Fine Arts and Humanities Occupations

Careers in Music

I. Objectives

A. General objectives

1. To familiarize the student with occupations in the music field.
2. To introduce the student to the following concepts about work as they relate to music careers:
   a. An understanding and acceptance of self is important throughout life.
   b. Persons need to be recognized as having dignity and worth.
   c. Occupations exist for a purpose.
   d. Work means different things to different people.
   e. Individuals differ in their interests, abilities, attitudes and values.
3. To give the student an opportunity to listen to and see people playing different musical instruments.
4. To familiarize the student with sound and its properties in a scientific sense.
5. To familiarize the student with the arithmetic skills of measurement.
6. To introduce the concept of leisure as a productive time in our lives, and how music can make it more meaningful.

B. Specific objectives

1. The student will be able to name one occupation related to music.
2. The student will be able to state one aspect of this work role.
3. The student will be able to tell the difference by appearance and sound of the following instruments: stringed, brass, woodwind, and percussion instruments.

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4. The student will be able to describe how three different pieces of music affect him or make him feel.

5. The student will be able to select a good sound conductor given a choice of three materials.

6. The student will be able to make a simple musical instrument.

II. Activities

A. INTRODUCE SOUND AS PART OF A SCIENCE LESSON. Explain how sound is conducted. Do sound experiments in groups. For example, you might split the class up into several groups. Give each group several materials and ask them to decide which materials are the best sound conductors. You could give them things like: cloth, metal, string, rubber bands, wood sticks, etc. Discuss the different kinds of sounds. (Refer to Concepts in Science, Bradwein, Cooper for units in sound, or any other science text that might have similar units.) Introduce music as sound. Play several different kinds of music with different instruments. Explain the different types of instruments: stringed, brass, woodwind, and percussion. Show pictures of instruments as examples of these classifications.

B. LET YOUR STUDENTS MAKE SIMPLE MUSIC INSTRUMENTS. Refer to books in "IV. Materials and Resources" for ideas in constructing classroom instruments. Group your students according to what they want to make. You might ask mothers or parents to help the groups make their instruments. Mimeograph instructions for each student's instrument so that he may have his own working plans. Mathematics comes into instrument making because the plans are set up so that they will make actual musical sounds, if the measurements are precisely followed. Display pictures of craftsmen making instruments. Tell the class that they are very much like the workers in the pictures.

C. HAVE GROUPS EXPLAIN HOW THEY MADE THEIR INSTRUMENTS TO THE REST OF THE CLASS. Take pictures and tapes of these presentations to use at a later date for review and display.

WHILE ACTIVITIES B. AND C. ARE GOING ON, PLAY MUSIC ON THE RECORD PLAYER OR TAPE PLAYER AS MUCH AS POSSIBLE SO THAT THE STUDENTS WILL GRADUALLY BECOME MORE FAMILIAR WITH THE DIFFERENT SOUNDS OF MUSIC.

D. LET THE STUDENTS PLAY THEIR INSTRUMENTS. Tape this experience on the video-tape recorder. Play the tape back to the class and to parents and other classes. Let the students perform with their instruments in front of other classes. (Kindergarten students would particularly enjoy the simple rhythms.) Let the students tell how they made their instruments. Before the students perform tell them that they are very much like the musicians they have been hearing on records and tapes, but the musicians on the records and tapes do this for a living.

E. BRING IN SOME RESOURCE PERSON WHOSE CAREER IS MUSIC. (Music teacher , band teacher, conductor, guitar group, Portland Symphony Orchestra participant, musical instrument maker or repairer, or a singer) Have the class as part of an English assignment write an invitation to their speaker.

F. PREPARE THE CLASS FOR THE SPEAKERS. Have some students in charge of the tape recorder, and some students in charge of cameras for documentation of the resource person's visit. Prepare the class to ask some questions. For example:

1. What does your career have to do with music?
2. What instruments do you play?
3. Is this a stringed, brass, woodwind, or percussion instrument?
4. Where do you work?
5. Why do you do this?
6. What are some advantages and disadvantages to your career?

G. LET THE STUDENTS HAVE HANDS-ONS EXPERIENCES WITH MUSICAL INSTRUMENTS. Explain music as being a part-time or leisure-time activity for some people. Use the high school student who plays music in the band or orchestra, or the student who plays by himself or with a group as an example.

H. PREPARE THE CLASS FOR A FIELD TRIP TO THE HIGH SCHOOL BAND ROOM. Let the band director answer questions about his work. Show the students the various instruments. If possible allow them to see the students playing their instruments together. Let your class ask the students questions about why they play music, why they play that instrument, why they like it, etc. Document this field trip experience with tapes, pictures, and slides. Prepare your students for the trip by instructing them on what will be expected of them.

I. MAKE AN EXPERIENCE CHART TO CONCLUDE AND REVIEW.

IV. Material and Resources

A. Books: I Want to be a Musician, Carla Green, Sterling Publishing, 1959. (available through the N.O.W. Program)

Concepts in Science, Bradwein, Cooper, Blackwood, Hone; Harcourt, Brace, and World, Inc., 1966. (school text)

The True Science Library, Children's Press, Chicago, Volume 2, 1966.

The Musical Instrument Recipe Book, McGraw-Hill, Newton, Mass.

Making and Playing Classroom Instruments, Vernazza, Ferron Publishers, California, 1959.

Make Your Own Instruments, Mandell, Wood; Sterling Publishing Co., Inc., 1959.

B. Films: "Adventures in Sharps and Flats" #33225 Grade 1-6 16mm sound, 23 minutes, Modern Talking Pictures Service, 1964.

C. Classroom materials available through the NOW Program:

I Want to be a Musician, book.

D. The N.O.W. Program has an extensive array of audio-visual materials and equipment that are available to you at your request from our Resource Center at Lewiston Comprehensive High School:

1. Tape recorder, tapes, microphones
2. Video-tape recording equipment
3. Cameras, films, flash cubes
4. Projectors, screens.

HEALTH OCCUPATIONS

grade 2

Developed by:

Anne Cheney

Grade 2 Teacher

In Cooperation with the

N.O.W. Staff

INTRODUCTION

When school starts in September in Lewiston, elementary students receive a visit from the school nurse. You may want to take this opportunity to introduce a unit on health careers to your students. You might start with this activity about doctors, nurses, and hospital workers, then follow it with several other activities like the dentist and optometrist.

Second graders have reacted very enthusiastically to the activities in this unit. It gives the learner a chance to alleviate fears about doctors and the hospital at an early age. The young student's innate curiosity about the human body serves as a good motivator not only to learn about health workers but to learn about good health habits and a few basic functions of the body such as: digestion, breathing, circulation and the heart, and growth.

Karen McMahon
Activities Writer

HEALTH OCCUPATIONS

Developed by: Anne Cheney
Gr. 2
Teacher

I. Objectives

A. General objectives

1. To help develop an awareness of the importance of workers in health occupations.

2. To help develop an understanding of the kind of work these people do, and why they do it.

3. To help develop an understanding of how and why these workers in health work together and help one another.

4. To introduce the various tools these workers use and how they are used.

5. To help develop better health habits.

6. To reinforce the language arts skills of sharing ideas and discussing them, and making accurate observations.

7. To reinforce the math skills of counting and measuring.

8. To encourage the student to use his artistic and creative talents.

B. Specific objectives

1. When the activity has been completed the student will be able to identify at least three careers pertaining to health occupations in the hospital other than a doctor.

2. The student will be able to identify at least one instrument that each of the above workers uses.

3. The student will be able to name two different kinds of doctors other than the general practitioner.

4. The student will be able to state two ways that health occupation workers are helpful to us.

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IX. Activities

A. ASK THE SCHOOL NURSE TO COME INTO THE CLASS AND SPEAK ABOUT WHAT SHE DOES AT THE SCHOOL FOR THE STUDENTS. Ask her why she is a school nurse. The N.O.W. Program has a video-tape of a school nurse visit to a second grade classroom.

B. INTRODUCE THE VARIOUS OCCUPATIONS IN THE HEALTH FIELD. Have the students bring in and draw pictures of hospital workers, but first, show some filmstrips and other resources to the class about health workers. (Refer to the N.O.W. Program's Resource List under Health Occupations and your grade level index.)

C. HAVE YOU OR YOUR STUDENTS READ: I Want to be a Doctor, and I Want to be a Nurse. Have students take turns at relating what happened in these stories.

D. ASK YOUR STUDENTS WHAT THEY WANT TO BE. Have each give a short oral or written report:

1. Why I want to be a doctor.

2. Why I want to be a nurse.

3. What I would like to be when I grow up.

Provide some general career information materials or in some cases specific information from the N.O.W. Resource List. You may want to explore the self-concept further by using the S.R.A. Self-Awareness KIT.

E. MAKE UP A VOCABULARY LIST OF WORDS PERTAINING TO HEALTH AND HEALTH CAREERS. You might have the class write stories using these words about workers in health, or have the class draw appropriate pictures for the words, and print the words underneath. Display the posters and refer to them throughout the unit activities. Some of the words you might use are:

1. Doctor
2. Specialist
3. Physical therapist
4. Nurse
5. X-ray
6. Technician
7. Surgeon
8. Sickness
9. Health
10. Thermometer
11. Bandage
12. Gauze
13. Medicine
14. Tonsils

Print the words on flip charts for quick vocabulary reference.

F. HAVE THE STUDENTS RELATE IN ORAL DISCUSSIONS EXPERIENCES THEY HAVE HAD WITH THE DOCTOR OR HOSPITAL. Tape record these experiences so that the students can compare and improve their speaking skills.

G. WRITE SHORT DRAMATIZATIONS OF:

1. A trip to the doctor's office.

2. A trip to the hospital.

3. Taking an x-ray.

4. A trip to the school nurse.

You might ask several student nurses from the local hospital to come in and help with the presentations. They could also explain their jobs, and how they depend on other workers at the hospital.

Have the students make their props and scenery from classroom materials. Video-tape record these dramatic presentations. Write an account or have some students write thank-you notes to the student nurses.

H. MAKE BULLETIN BOARDS USING HEALTH CAREERS INFORMATION AND ACTIVITY PRODUCTS.

I. PRACTICE USING AND READING A THERMOMETER. To continue this, measure height, and weigh students. Also discuss good habits. The school nurse may want to come in and discuss how the students should take care of themselves. (Eating properly, brushing teeth, washing, staying home from school when sick, etc.)

J. REVIEW THE MATERIAL COVERED IN THIS CAREER ACTIVITY BY SHOWING FILMSTRIPS AND GOING OVER STUDENTS REPORTS. Make sure you bring up enough material to cover the objectives of this activity. Some of the things you might do are:

1. Have a final discussion about health occupation workers.

   a. Why and how do these workers depend on each other?

   b. What kinds of people work in the health occupations?

c. What workers are in health occupations?

d. What do they do?

e. What are some of the tools they use?

At this time make an experience chart for the class on the blackboard or bulletin board showing what they have learned.

2. Have several students assume the role of a health occupations worker. Have the rest of the class ask questions to find out what worker the student is.

3. Have the students put together scrapbooks about the health occupation workers covered in your unit.

4. Introduce workers in health occupations other than hospital workers like dentists, optometrists, etc. Conduct activities for these workers along the same lines as hospital workers.

IV. Materials and Resources

A. The NOW Program has an extensive array of audio-visual materials and equipment that are available to you at your request from our Resource Center at Lewiston Comprehensive High School:

1. Tape recorders, tape, microphones
2. Video-tape recording equipment
3. Cameras, film, flash cubes
4. Projectors, screens

B. Teacher references available through the NOW Program:

1. Guide to Health Careers in Maine
2. Occupations and Careers, Feingold-Swedloff, McGraw Hill

C. Classroom materials available through the NOW Program:

1. Careers in a Medical Center, book
2. Hospital, book, Sextant Series
3. I Want to be a Dentist, book
4. I Want to be a Doctor, book
5. I Want to be a Nurse, book
6. "Workers for Health," no. 121, filmstrip
7. "Let's Meet the Doctor," 3M Series, cassette
8. "Let's Meet the Nurse," 3M Series, cassette

USING CAREER EDUCATION IN YOUR READING CENTER

Grade 3

Developed by:

Paula McGrath

Grade 3 Teacher

In Cooperation with the

N.O.W. Staff

INTRODUCTION

This is an unusual and useful learning package for teachers in grades 1-3. Generally, it is a prescription for using career education in your reading program without disrupting it. Any of the 15 career clusters may be used here. It is up to you to supply the specifics. Here are the fifteen career clusters:

1. Business and Office Occupations
2. Communications and Media Occupations
3. Manufacturing Occupations
4. Transportation Occupations
5. Construction Occupations
6. Natural Resources and Agri-Business Occupations
7. Marine Science Occupations
8. Environmental Control Occupations
9. Personal Service Occupations
10. Health Occupations
11. Public Service Occupations
12. Fine Arts and Humanities Occupations
13. Marketing and Distribution Occupations
14. Recreation and Hospitality Occupations
15. Consumer and Homemaking Occupations

The transportation occupational cluster is often used here as an example, but any of the career clusters may be substituted. We suggest that rather than trying to take these activities in sequence, you choose only the activities that are most appropriate for your career and reading projects.

Karen McMahon
Activities Writer

A Brief Description of the Reading Center

Physical arrangements: Designate one section of the classroom for the Reading Center. Desks or tables can be clustered to give the desired effect. Have the Reading Center close to the Arts and Crafts Center so that when a student wants to recreate a story in pictures, paints, sculpture, or other materials his needs will be readily available.

Equipment: The equipment needed should include tables and chairs, book shelves, magazines and newspaper racks, and a bulletin board. A felt board, a file cabinet, a tape recorder, some ear phones, and a filmstrip projector are useful items.

Number of students at one time at the center: The career reading activities involved and the maturity of your students are the deciding factors. If you will be acting only as a consultant to the reading center or if you have a teacher aide, you may be able to have as many as six students at the center at a time. If your efforts will be concentrated on other centers, perhaps three or four children will be a more realistic number for you.

Items and Materials: Here are some of the items and materials you will want to include in the reading center for your career education activities and other special projects:

a. Pictures books

b. Poetry books

c. Books checked out from school and local libraries

d. Different levels of basal readers

e. All kinds of career information (much is available through the N.O.W. Program)

f. Reading games-commercial, teacher and student-made

g. Book reports and character sketches made by students

h. Posters

i. "My Weekly Reader," "Scholastic Magazine," and similar periodicals

j. Information on how to write

k. Current newspapers and magazines

l. S.R.A. [illegible] LABORATORY

m. Word cards for making phrases and sentences

n. TV strips of stories read by the class

o. Experience charts

p. Filmstrips

q. Charts of stories with missing words

r. Puppet theater

s. Riddle books

t. Feltboard stories

u. Dioramas and peep-boxes showing story scenes

Appeal: To make the Reading Center as appealing as possible include a rocking chair, stuffed animals and a rug. From an occupational standpoint, you can even discuss with your students the processes by which these articles were obtained.

I. Objectives

A. General objectives

1. To increase the student's awareness of varied work roles in the fifteen occupational clusters.

2. To introduce to the students the following concepts about the world of work:

a. An understanding and acceptance of self is important throughout life.

b. Persons need to be recognized as having dignity and worth.

c. Occupations exist for a purpose.

d. There is a wide variety of careers which may be classified in several ways.

e. Work means different things to different people.

f. Education and work are interrelated.

g. Individuals differ in their interests, abilities, attitudes, and values.

3. To develop and reinforce reading skills.

B. Specific objectives - these objectives will have to be developed for each occupational cluster that you take up. They would include specific reading objectives as well as specific objectives concerning work roles in the selected career cluster. The following objectives are examples of what a reading teacher might develop for a unit on Transportation Occupations in the reading center.

1. By the end of this unit the student will be able to list five ways goods are transported.

2. The student will be able to name five ways that people travel.

3. The student will be able to name five roles in transportation that he feels he would like to investigate further.

4. The student will be able to name the education/training requirements, two duties, two necessary skills as related to his own interests.

5. The student will be able to make a list of ten new vocabulary words he encountered in this unit.

6. The student will be able to write a short story about a transportation worker using the ten vocabulary words.

II. Activities - Activities with an asterisk* apply to the above mentioned specific objectives. Choose activities from this list that are most appropriate for your career projects.

*1. HAVE YOUR STUDENTS WRITE A REBUS STORY. Use an "I Want to Be" book that relates to the career cluster that you are taking up. Write the rebus story using names of workers, tools, and duties. (This activity can meet specific obj. no. 6.)

*2. PREPARE A PICTURE DICTIONARY. Use the cluster of workers you are currently working with in class. Cut out pictures from magazines to illustrate words that have been selected for the dictionary. Paste the pictures on heavy paper with the word and a definition. Gradually add words and pictures to this dictionary until you have covered a great variety of occupations in the fifteen career clusters. (Specific obj. no. 5.)

3. SELECT FIVE DIFFERENT WORDS PERTAINING TO THE GROUP OF WORKERS YOU ARE TAKING UP. Use the students' original responses, or ask them to recall words from stories about these workers. (Refer to the "I Want to Be" series or other appropriate career resources for your grade level. Check-out the N.O.W. Program's Resource List.) Look up these

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meanings. As a reading center exercise scramble the letters and ask the students to unscramble them.

*4. MAKE A LIST OF WORDS OF ALL THE WAYS THAT PEOPLE GET TO WORK, Have the students draw pictures that depict each way. This activity is good as a categorizing exercise. The topics are endless. (specific obj. no. 2.)

5. DO SOME SYNONYM EXERCISES.

For example: automobile-car
locomotive-train
aviation-flying
cargo-goods, supplies

Do this exercise orally or written with the use of dictionaries.

*6. WRITE HAIKU POEMS ABOUT VARIOUS WORKERS. Afterwards, have the students do a Japanese brush stroke painting of their worker performinga job duty. (Haiku is a 17 syllable three lined (5-7-5) poem) (specific obj. 4)

Example: I looked and I saw
The bus driver stop his bus
And open his door.

*7. HAVE A PANEL DISCUSSION ABOUT WORKERS IN A PARTICULAR CLUSTER OF OCCUPATIONS. Assign the four or five students on the panel a different job within the occupational cluster you are currently discussing. Use the "I Want to Be" series and "Popeye Career Comics" as references. Have each member of the panel discuss the advantages and disadvantages of their occupation. Also, have them discuss whether they like the job or not. If they don't like the job, ask them to give a reason and tell what job they would rather have out of the jobs given to the group members. Have the rest of the class listen to this discussion, and later have them evaluate the students on the panel according to some of the following criteria:

a. Did the speaker speak clearly and understandably?

b. Did the speaker know enough about his job so that he could give good reasons for liking or not liking his job?

You might tape record the whole sequence to use later as a follow-up to another discussion. This way you can compare the relative improvement of each speaker not only in speaking ability, but in understanding and attitude growth.

(This activity can complete the requirements for specific obj. no. 4.)

3. DISTRIBUTE PICTURES OR POSTERS THAT DEPICT THE KINDS OF WORKERS YOU ARE CURRENTLY DISCUSSING. Ask them to name the worker. Have the students write a short paragraph about the worker in each picture. Here are some ideas to direct the paragraph writing:

   a. Tell me what this worker is doing?

   b. Does he look happy?

   c. Does he look sad?

   d. What does he need to do his job?

9. DO AN EXERCISE IN STORY SEQUENCE. Make up short stories in class about workers and their jobs. Print each sentence of the story if possible on one line of composition paper. Cut each sentence out. Have enough stories or copies of stories to give one to each student at the reading center. Let the students shuffle the sentences until they think they have the story in the right order. Have them read the story the way they have it. Then decide as a group whether the sequence is correct. Do this for each student at the reading center.

10. READ A "POPEYE" STORY OR AN "I WANT TO BE" BOOK, OR MAKE UP A STORY OF YOUR OWN. Start to relate the story in your own words for about a minute. Then ring a bell or buzzer. Ask the student next to you to continue the story about the workers in his own words. Ring the bell after about a minute and ask the next student to continue. Continue this until all the members at the reading center have had a chance to speak.

11. ORGANIZE A LIBRARY CLUB. Help organize and select classroom books and materials appropriate to the career area you are taking up. Members should be responsible for checking out and returning borrowed books. Once a week have a meeting to discuss the organization of the club, and have one member responsible for a short book review.

12. USE THE BULLETIN BOARD TO MAKE SPECIAL ANNOUNCEMENTS ABOUT CAREERS YOU ARE DISCUSSING. Display magazine cuttings, drawings, and labels.

13. WRITE SHORT SCRIPTS FOR PUPPET PLAYS. Write the plays about workers in the occupational cluster that you are studying. For transportation occupations you might ask two students to put on a short puppet show about the bus driver and the

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people who ride on the bus. You might enact a group of workers getting together on their rest period with conversations about their jobs and their personal lives.

14. MAKE A CARTOON BOOK ABOUT ONE OF THE STORIES YOU HAVE READ TO THE CLASS. Have the students depict in cartoons the important things that happened in the story.

15. MAKE TELEGRAMS. Use words from magazines and newspapers. Have your students take the letters and words and construct a telegram from them by pasting the letters and words on paper. Have them pretend they are sending a telegram to their best friend telling them about a new job.

16. TAKE PICTURES AND TAPES TO DOCUMENT A CAREER FIELD TRIP OR RESOURCE PERSON VISIT. Have a small group of students plan an oral presentation with the slides, photographs, and tapes.

17. WRITE SOME ALPHABET ALLITERATION STORIES. Assign each participant at the reading center a letter of the alphabet. Ask them to use this letter as often as possible in developing a story about a worker in the occupational cluster you are taking up. For example: "Fabulously Funny Frankie and His Fantastic, Fascinating Freight Train" would make a good beginning to a story about a worker in transportation occupations.

18. USE THE S.R.A. READING LABORATORY. Use parts that pertain to workers.

19. ASK A RESOURCE PERSON WHO WORKS IN THE OCCUPATIONAL CLUSTER YOU ARE TAKING UP TO COME INTO THE CLASSROOM. Allow them to interview him about his work. Before the resource person comes instruct your students to ask questions like the following:

    a. What is the title of your job?

    b. What are your duties?

    c. What are some of the tools and implements you use?

    d. What are their purposes?

    e. What do you like about your work? What do you dislike about it?

    f. What are some of your outside interests?

    g. What kind of education and training was necessary to get your job?

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Either document this interview with slides, photographs, and tapes, or list the key words and have the class draw pictures to go along with the event. Display this on the reading center bulletin board.

20. MAKE STORY PLOTS BY USING PICTURES OF WORKERS FROM YOUR CURRENT OCCUPATIONAL CLUSTER. Ask or write on the backs of the pictures questions like these: Who could these people be? Where are they? When is this happening? What are they doing? What happened before this picture?, etc. Let the pupils write a story from these pictures and questions. Stories with pictures could be put together to make a class storybook.

21. MAKE SOME PLOT FOLDERS. Fold 9"X12" manila paper like a small book. Put student drawn pictures or magazine pictures on one side. Put a word list on the other side.

For example: A picture of a truck driver is placed on one side of the folder. On the other side of the folder is this sentence: "I am a truck driver named Terry." Follow this sentence with a list of words the student might need to write a story about a truck driver: diesel engine, forward, reverse, tractor, trailer, gears, long distance, different units, training, experience, etc. The plot folders could be kept in a story box so that the students could go to the reading center and write these stories. You could keep the pictures and words in a shoe box rather than pasted on a manila folder.

22. MAKE ADVENTURE STORIES. Display a picture of a worker from the occupational cluster you are currently taking up. Every day have a different student make up a new adventure for the worker of the week and put it on a story chart. Bind the stories into a large book or make individual booklets of the stories.

23. USE EVERY DAY REFERENCES: "TV Guide," television, newspapers, telephone books, and the radio. Find out new things about workers you are taking up, and improve reading and listening skills.

24. WRITE A STORY USING AS MANY ECHOISMS AS POSSIBLE. Echoisms are words that imitate sounds like bang, pop, roar, etc. For example you might take the class on a career field trip to a factory, airport, newspaper, dairy, farm, or grocery store. You can ask the student to write a short story using the sounds that he heard.

III. Evaluation

Your evaluation of the individual child's work may depend on your own philosophies about education. The evaluation can be as formal or informal as you want it to be. It should be a cooperative venture and may be a collection of the child's work or a discussion by one of the team learning groups. The evaluation should be a continuing process, so you should make arrangements to give the students some sort of pre-test before you start to institute this program. A post-test will be necessary to make a final evaluation of the results of your projects.

If you want your students to become questioning and self-directed individuals, you will help them to define their objectives and values by giving them the opportunity to make decisions in completing their activities. Make their objectives apparent to them before they embark on this program.

The reading center can be considered successful if the students begin to develop their own reading activities and voluntarily frequent the center.

Here are some questions you might ask yourself in planning your reading center:

1. What did you plan to accomplish through this program?
2. Are your planned activities suited to the level of your individual students?

Here are some questions you might ask yourself after you have used the reading center for a while:

1. Can your students meet the objectives of this program with the activities you have planned?
2. What activities motivated your students the most?
3. What have you had to change from your original plans for the program?

IV. Materials and Resources

Refer to the NOW Program's Resource List for materials and resources that pertain to the career cluster you are taking up. The NOW Program also has access to audio-visual equipment that you might need: tape recorders, video-tape equipment, cameras, film, flashbulbs, projectors, and screens.

Construction Occupations

WORKERS WHO BUILD HOMES

grade 3

Developed by:

Geraldine Ricker

Grade 3 Teacher

In Cooperation with the

N.O.W. Staff

INTRODUCTION

WORKERS WHO BUILD HOMES can be integrated in many subject areas. Here, construction occupations are primarily applied to social studies, but math and language arts skills are also applied. This unit is also designed to help you add to the students' conceptual development of the world of work.

The focus of this unit is initially on the people who are involved in building the student's home. The student's awareness can then be expanded by dealing with other types of homes through history and throughout the world. Here, the relationship of environmental and cultural needs to the formation of domociles might be pointed out.

Karen McMahon
Activities Writer

Construction Occupations

WORKERS WHO BUILD HOMES

Developed by: Geraldine Ricker
Grade 3 Teacher

I. Objectives

A. General objectives

1. To make the student more aware of the many workers involved in the construction of homes.
2. To increase the student's awareness of various building materials.
3. To expand the student's awareness of some of the different types of homes in the world.
4. To attempt to instill in the student an appreciation and pride in their own homes.
5. To reinforce language arts, math, and social studies skills.
6. To introduce the following concepts about construction workers:
   a. An understanding and acceptance of self is important throughout life.
   b. Persons need to be recognized as having dignity and worth.
   c. Occupations exist for a purpose.
   d. Work means different things to different people.
   e. Education and work are interrelated.
   f. Individuals differ in their interests, abilities, attitudes and values.

B. Specific objectives

1. By the end of the unit activity the student will be able to name at least three workers in construction occupations.
2. The student will be able to state two duties, and the training/education requirements for each worker.
3. The student will be able to recognize and name seven different building materials, and he will be able to state a use for each.

4. The student will be able to recognize and name three different types of homes.

II. Activities

A. HAVE A DISCUSSION ABOUT HOMES. What are homes? Are they all alike? What is my home like? Why are homes different? Who build my home? Who are some of the people who built my home? What are some of the building materials in my home? What plans are made before a home is built?

B. ASK YOUR STUDENTS TO DRAW A PICTURE OF THEIR HOME.

C. INTRODUCE THE TYPES OF WORKERS THAT BUILT THEIR HOMES. Use pictures, drawings, and other occupational information that is available through the N.O.W. Program and your own resources. Some of the workers you might introduce are:

1. Architect
2. Contractor
3. Carpenter
4. Bricklayer
5. Electrician
6. Plumber
7. Roofer
8. Laborer
9. Foreman

Talk about these workers in relation to what they do when they are building homes for people. The bricklayer or mason has learned how to lay brick for chimneys, fireplaces foundations, and sometimes for the exterior of houses. The contractor owns and runs the company who is responsible for the building of the house. The architect designs the house.

D. ASK THE STUDENTS TO BRING IN BUILDING MATERIALS.

Some of these materials might include:

1. Brick
2. Lumber (several different shapes, sizes, and types)
3. Paint
4. Glass
5. Shingles

6. Concrete
7. Pipe
8. Wire
9. Stone
10. Nails
11. Screws

E. HAVE THEM BRING IN SOME TOOLS THAT ARE USED IN BUILDING A HOUSE:

1. Hammer
2. Screw Driver
3. Saw
4. Rule
5. Level
6. Square
7. Trowel
8. Pala

F. HAVE THE STUDENT WRITE A SHORT PLAY ABOUT THE WORKERS WHO BUILD HOMES. Use the materials and tools from above as props. Have the students assume the roles of various workers until all have had an opportunity to participate. Let the students make their own costumes and, where necessary, tools and materials from your art supplies.

G. BRING IN SOME BLUEPRINTS, or HAVE THE STUDENTS GO HOME AND DEVELOP A FLOOR PLAN OF THEIR HOMES WITH THEIR PARENTS. Then, as a lesson in measurement for a math class, design a home that must fit into a specific area and has a specific number of rooms. Refer to the floor plans for help. This could be a role playing activity as an architect.

H. ASK A CONSTRUCTION WORKER TO COME INTO THE CLASS AND SPEAK ABOUT HIS JOB. Prepare the class to ask questions:

1. What do you do for work?
2. What is the title of your job?
3. What tools do you use?
4. What do you like and dislike about your job?
5. What kind of education and training have you had?
6. What are some of your outside interests?
7. Why are you proud of the work you do?

Ask some students to tape-record the resource person's talk. Ask other students to take pictures for slides or photographs. Ask other students to make a written documentation of this event. Use the slides, tapes, and write-up for a follow-up discussion.

I. WRITE A THANK-YOU LETTER TO THE RESOURCE PERSON.

J. DISCUSS DIFFERENT KINDS OF HOMES AROUND THE WORLD AND THROUGHOUT HISTORY. You might begin with a brief discussion about materials used by early man: branches, caves, mud, stones, leaves, and logs. Show pictures of different types of homes around the world. Ask the students to postulate on the materials used and how they think the house was built. You could then direct the discussion to how and why homes are different in different locations and climates. Why are homes different in hot countries? Cold countries? Wet countries? Dry countries? Ask them what kinds of workers do they think built these homes. Ask them what kind of home they would most like to build or live in. Ask them to draw a picture of this home.

K. DISPLAY MATERIALS, STUDENT WORKS AND RESOURCES, AT A LEARNING CENTER.

L. ASK THE STUDENTS TO GIVE AN ORAL OR WRITTEN REPORT ABOUT THREE FAVORITE CONSTRUCTION WORKERS. Ask them to relate two duties for each worker and the education/training requirements. Ask them also to tell why they like these workers. Ask the students to use the learning center for their research.

IV. Materials and Resources

A. The N.O.W. Program can supply any audio-visual equipment you might need like films, projectors, cameras, flash bulbs, video-tape equipment, etc.

B. You can order films from the University of Maine, Orono "Film Catalogue" through the N.O.W. Program:

1. "Upholstery Workers"

2. "Window Glass Workers"

3. "Building a House"

4. "The Paper Forest"

C. Materials and resources available through the NOW Program:

1. "Construction Occupations," Calling Careers, video-tape

2. "Building a House," 98, filmstrip

3. "Construction Careers," cassette

4. I Want to be a Carpenter, book

PERSONAL SERVICES OCCUPATIONS

Grade 3

Developed by:

Geraldine Ricker
Grade 3 Teacher

In Cooperation with
the N.O.W. Staff

INTRODUCTION

Third graders learn how to count change. This is a good time to show the student that school skills can become job skills particularly in the area of personal services occupations.

Personal services occupations have dignity and worth. This is the message for third graders in this learning package. Role playing exercises help reinforce this by giving the student the chance to find out that it is satisfying to do a personal service for someone else.

Community resources are also very helpful. These workers can be given the opportunity to explain their reasons for being a personal services worker.

Karen McMahon
Activities Writer
N.O.W. Exemplary Program

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PERSONAL SERVICES OCCUPATIONS

I. Objectives

A. General objectives

1. To encourage the student to participate in individual and group activities.

2. To introduce the student to personal services occupations and skills.

3. To help the student understand the dignity of all kinds of work.

4. To show the student that schools skills can be job skills.

5. To help the student understand that money is often exchanged for personal services.

B. Specific objectives

1. By the end of the activity, the student will be able to recognize five personal services occupations.

2. The student will be able to demonstrate his ability to count change correctly when given at least a dollar's worth of (play) change.

3. The student will be able to perform at least one personal services worker skill of his choice.

4. The student will be able to match two tools with each of the five above occupations.

II. Activities

A. HELP YOUR STUDENTS READ POPEYE'S PERSONAL SERVICES OCCUPATIONS INDIVIDUALLY OR IN GROUPS.

B. MAKE A CAREER VOCABULARY LIST FROM THE OCCUPATIONS IN THE COMIC. Make definitions with the class by identifying the skills and tools of workers such as these:

1. Baker.

2. Shoe-shine person.

3. Manicurist.

4. Cosmetician.

5. Beautician.

6. Host.

7. Hostess.

8. Waiter.

9. Waitress.

10. Chauffeur.

11. Butler.

12. Maid.

13. Cook.

14. Housekeeper.

15. Gardener.

16. Seamstress.

17. Tailor.

18. Cobbler.

Ask your students to identify which workers are associated with each other. Separate the workers into groups. Identify the working environment for each group: barbershop and hairdressing, restaurant, home, shop, etc.

C. ASK YOUR STUDENTS TO DRAW THE WORKING ENVIRONMENT FOR EACH GROUP OF WORKERS. Display these with word charts and additional pictures of skills, tools, and personal services workers. Discuss the interrelationships of the workers within each group.

D. ASK A PERSONAL SERVICES WORKER TO BE A CAREER RESOURCE PERSON FOR YOUR CLASS. Prepare students to ask the resource person questions. Some of these might include:

1. What do you do for work?

2. How did you learn to do your job?

3. What other kinds of workers work with you?

4. What people require your services?

5. Do you like this kind of work? Why?

6. What is it about this work that you don't like?

7. How much money are your services worth? (How much do you charge?)

8. Why is your personal service important?

9. Is it dignified to offer a personal service to other people? Why or why not?

Write a thank-you note to the resource person. Ask the worker to wear what he wears to work and bring some of his tools, so he can make a demonstration for the students. They may want to participate in the demonstration.

E. TAKE AN EXCURSION TO A LOCAL PLACE OF BUSINESS THAT EMPLOYS PERSONAL SERVICES WORKERS. A laundromat, a shoe repair business, a health club, or a barbershop or beauty shop are good places to go. Students usually have had some orientation to these places, but they do not yet know the particulars of running such establishments. Prepare your students to ask questions much the same as with the resource person.

F. ASK YOUR STUDENTS TO BRING IN OR MAKE AS MANY ARTICLES AS THEY CAN THAT REPRESENT PERSONAL SERVICES OCCUPATIONS TOOLS. Display these tools. Some might include:

1. Shoe polish, shoe brushes, rags.

2. Combs, brushes, hairpins, rollers.

3. Make-up and facial preparations.

4. Fingernail clippers, file, cuticle trimmers.

5. Cloth, needles, thread, pins.

6. Serving trays, food, dishes, silverware.

7. Gardening tools.

G. USE THESE TOOLS IN ROLE PLAYING ACTIVITIES. Ask students to choose a personal services worker to role play. Some students may want to be customers. Collect play money. Have "customers" give the workers money in exchange for their services. Each "worker" should decide before he has customers how much his services are worth.

H. CONCLUDE AND REVIEW SUBJECT MATTER. Practice change counting exercises. Review personal services workers, their working environments, their skills, and their tools. Ask students to write about five of these workers, and their skills in tools.

III. Evaluation (Refer to Evaluation section in Activity Guide.)

IV. Materials and Resources

A. Popeye Comic: Personal Services Occupations.

B. Community resources.

C. Personal services tools. (Refer to II. Activities, F.)

Public Service Occupations

Environmental Control Occupations

WATER WORKERS

I

Grade 4

Developed by:

Lucille Allen

Grade 4 Teacher

In Cooperation with the

N.O.W. Staff

INTRODUCTION

This learning packet is intended to help students learn the properties of water, and the value that we must place on our water supply for survival. Without water workers an adequate and pure supply of water would not be available for our population. Therefore, this unit is also intended to help develop an understanding and appreciation for the workers who help supply us with our daily water needs.

Several subject areas can be utilized in this unit. Science, social science, and language arts activities are well integrated with career information.

This unit can also serve as an introduction to Our Life and Water which not only deals with water workers, but with environmental questions.

The NOW Program suggests that you use both of these units. Environmental education is an integral part of career education because workers to a great extent affect our environment for better or for worse.

Karen McMahon
Activities Writer

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WATER WORKERS

Developed by Lucille Allen
Grade 4 Teacher

I. Objectives

A. General objectives

1. To introduce the students to the various workers involved with supplying us with water.

2. To help the students realize the following things about this kind of work:

   a. Occupations exist for a purpose.

   b. Individuals differ in their interests, abilities, attitudes, and values.

   c. Various institutions influence the nature and structure of work.

   d. Work means different things to different people.

3. To enable the students to discover that water is the most important liquid on earth.

4. To develop an understanding of the properties of water and means of purification.

B. Specific objectives

1. By the end of this unit study, the student will be able to name three kinds of workers who are involved in supplying our city with water.

2. The student will be able to state a job function for each of these workers.

3. The student will be able to discover two ways in which these workers help purify water.

4. The student will be able to isolate the four properties of water.

5. The student will be able to find five ways he uses water.

6. The student will be able to identify the three states of water.

II. Activities

A. TELL YOUR STUDENTS THAT THERE IS NO WATER AVAILABLE. No one can have a drink, go to the basement, or wash. In a discussion allow each student to develop at least five ways that they use water each day. In this respect, discuss why water is essential. Make a chart from the student responses of the ways we use water.

B. BRING IN A BUCKET OF WATER. Blindfold several students and have them smell, taste, and touch the water. Remove the blindfolds. Discuss the properties of water: clear, colorless, odorless, liqiud.

C. INTRODUCE SOLIDS, LIQUIDS, AND GASES. Boil water on a hot plate. Set up a fish bowl of water. Put some ice in a container. Discuss temperature. Let each student feel the hot gas, the room temperature water (liquid), and the cold ice (solid). Don't let them get too near the tea kettle. Use solid, liquid, gas, steam, ice, temperature, and water as vocabulary words. Draw pictures of the three states of water. Print the vocabulary words on the pictures. Hang them near the "Uses of Water" poster.

D. STUDY PURE AND IMPURE WATER WITH THE USE OF A MICROSOPE. A drop of drinking water on a slide and a drop of swamp water on a slide will illustrate your point. Let each student observe the pure and impure water. Let some students draw what they see and display the pictures. Other students may want to do some research about scientists (workers) who use microscopes. State of Maine workers test water for purity. Obtain special vials for testing water through the state department. Send in two samples of water. (The samples you looked at under the microscope.) Write a class letter to the department asking what kinds of workers work there, what they do, and a description of the test results of the samples.

E. ASK THE CITY WATER DEPARTMENT TO COME IN AND EXPLAIN THE WAYS THAT OUR WATER SYSTEM IS PURIFIED.

1. Chlorine

2. Aereation

Ask the resource person to relate the jobs involved in these processes.

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F. PREPARE THE CLASS TO ASK THE RESOURCE PERSON QUESTIONS ABOUT HIS JOB. The following questions are suggestions. You may want to ask more.

1. What is your job?
2. What do you do?
3. What equipment and tools do you use?
4. What kind of education and training was necessary for you to do your job?
5. Why is your job important? What does your job mean to you?
6. Why is the water department located here?
7. What part does the city government play in the function of the water plant?

G. HAVE THE STUDENTS RESEARCH THREE OCCUPATIONS THAT INTERESTED THEM AT THE WATER DEPARTMENT OR AT THE STATE DEPARTMENT. Have them write letters and use the collected information to put together a career scrapbook about the workers' duties, wages, training requirements, and opportunities. Assemble this from pictures, drawings, letters and compositions.

1. Office personnel
2. Supervisors
3. Foreman
4. Water revenue inspector
5. Water service dispatcher
6. Meter installer
7. Meter repairman
8. Pipe layer
9. Water plant pump operator
10. Maintenance men
11. Micro-biologist, water analyst

H. SHOW FILMSTRIP AND RECORD "NATURAL RESOURCES" FROM THE W.O.W. SERIES. Complete the water display by incorporating slides, tapes, pictures, scrapbooks, and posters. (The W.O.W., Series is available through the N.O.W. Program at the Resource Center, Lewiston Comprehensive High School.)

I. MAKE SOME WATER ECOLOGY POSTERS.

IV. Materials and Resources

A. Materials - teakettle, hot plate, fish bowl, ice cubes, bowl, wall chart, blindfolds, paper cups, microscope, glass slides, pure water, impure water.

B. Resources - W.O.W. Kit: "Natural Resources", filmstrip and record. Write to the city water plant and the state department for additional information. Refer to the N.O.W. Program's Resource List under Agri-Business and Natural Resources Occupations for additional learning aides about water and workers.

C. The N.O.W. Program has an extensive array of audio-visual materials and equipment that are available to you at your request from our Resource Center at Lewiston Comprehensive High School:

1. Tape recorders, tapes, microphones
2. Video-tape equipment
3. Cameras, film, flash cubes
4. Projectors, screens

Public Service Occupations

Environmental Control Occupations

OUR LIFE AND WATER

II

Grade 4

Developed by:

Lucille Allen

Grade 4 Teacher

In Cooperation with the

N.O.W. Staff

INTRODUCTION

Use this unit as a continuation of the unit by the same author: Water Workers. The focus of that unit was on the properties and uses of water, and on the workers involved with our water supply. In this unit, the student may take a closer look at these workers. They may also take a closer look at themselves as interacting beings with their environment. Problem solving processes are emphasized concerning the student's ability to affect his environment for better or for worse.

The role playing activities in this unit pose real-life situations that may help your students grow to make decisions concerning work-life-environmental problems.

Karen McMahon
Activities Writer

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Our Life and Water

Developed by Lucille Allen
Grade 4 Teacher

I. Objectives

A. General objectives

1. To show the relationships of workers to our needs for water.

2. To help the student become more aware of his environment.

3. To enable the student to realize his interdependence with his environment.

4. To help the student realize that he can make decisions which will affect his environment for better or worse.

B. Specific objectives

1. The student will be able to name five ways that life is dependent on water.

2. The student will be able to state three reasons why water is a limited natural resource.

3. The student will be able to state three workers who help provide us with our water needs.

4. The student will be able to describe a job duty for each of these workers, and the education and/or training requirements.

5. The student will be able to state one advantage and one disadvantage for each of these jobs.

II. Activities

A. MAKE A CLASS LIST OF THE WAYS WE USE WATER.

B. INTRODUCE THE CONCEPT THAT WATER IS NOT A LIMITLESS RESOURCE. Telling the class that there is no water in the school for drinking, washing or going to the basement. Ask the students what would happen if there was no more water.

C. ASK EACH STUDENT TO MEASURE THE WATER THAT THEIR FAMILY USES PER DAY. (drinking, baths, washing dishes, and flushing the toilet --- flushing the toilet takes up to five gallons of fresh water.) Or have the class measure how much water

they use in the classroom for one day for washing up, using the basement and drinking water, etc. Keep a daily tally for a week. Compare results. Change cups to quarts and gallons.. Bring in quart, gallon and cup containers so that the students may observe the amounts. Ask them how they would feel if they had to measure every drop of water they used. Ask them if they felt they used less water by measuring it. Ask them if they realized just how much water they use. How many gallons of water does the classroom use in a week?

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D. PREPARE YOUR CLASS TO TAKE A FIELD TRIP TO A LOCAL POWER DAM OR SEWERAGE TREATMENT PLANT. Prepare them to ask questions such as the following:

1. How much water is used here per day?
2. For what purposes is it used?
3. What kinds of workers work here?
4. What are some of the things they do?
5. What are the basic processes involved in the operation of this plant?
6. How do the various workers here relate to these processes?
7. How does the equipment and machinery relate to these processes?

Prepare the students by telling them that when they return they will have to give a report on three workers of their choice. They will have to report on their work duties, educational requirements, advantages, and disadvantages to the work, etc. They may find out this information by research or by asking questions of the workers at the plant on the career field trip.

E. ASSIGN STUDENTS VARIOUS RESPONSIBILITIES ON THE FIELD TRIP. Have some students make written accounts, some take pictures and some tape record. Have the students who will be responsible for recording pay particular attention to the worker and their duties, education, training, and job advantages and disadvantages so that this information may be used in the student reports. When you make arrangements with the water plant make sure you check out safety requirements.

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F. WRITE THANK-YOU NOTES TO THE COMPANIES INVOLVED IN THE FIELD TRIPS. As a classroom activity, prepare a newspaper article relating what occurred and what was learned on the field trip in conjunction with previous classroom activity, and the career information involved.

G. ASK THEM TO RESEARCH THE THREE OCCUPATIONS THEY WERE ASKED TO THINK ABOUT. Provide information from field trip products your resources and appropriate career education resources from the N.O.W. Program's Resource List. Have the group write or give an oral report on these three workers noting duties, education/training requirements, and job advantages and disadvantages.

H. DISPLAY CARD 28 FROM THE S.R.A. LANGUAGE DEVELOPMENT PROGRAM. Have groups of students attend the center and write a short parapraph on what's happening in the picture about pollution.

I. HAVE OTHER STUDENTS WORK WITH S.R.A.'s FOCUS ON SELF STAGE III INVOLVEMENT. The filmstrip and cassette "Physical Environment" poses environmental problems to the student.

J. INTRODUCE THE PROGRAMMED LEARNING PACKAGE DISTRIBUTED BY THE COCA-COLA COMPANY CALLED MAN IN HIS ENVIRONMENT. Two activities in this program may be useful as closing activities to this unit. "Rescue in Space" will help reinforce the concept that we live in an environment of limited natural resources. "Make Your Own World" helps summarize man's interdependency with his environment.

IV. Materials and Resources

A. S.R.A. Kits:

1. Language Development Program, card 28.

2. Focus on Self, Stage III, Involvement, "Physical Environment."

B. Man and His Environment, "Rescue in Space," "Make Your Own World," available through your local Coca-Cola distributor.

C. Refer to the N.O.W. Program's Resource List for additional workers who help supply our water needs. Refer to Agri-Business and Natural Resources Occupations, Environmental Control Occupations, and Public Service Occupations.

D. The NOW Program has an extensive array of audio-visual materials and equipment that are available to you at your request from our Resource Center at Lewiston Comprehensive High School:

1. Tape recorders, tapes, microphones

2. Video-tape equipment

3. Cameras, films, flash cubes

4. Projectors, screens

Manufacturing Occupations

Agri-Business and Natural Resources Occupations

PULP INDUSTRIES

Developed by:

Edith Jordan,
Grade 4 Teacher

In Cooperation with
the N.O.W. Staff

Introduction

A unit on papermaking and pulp industries is very pertinent for fourth graders in Lewiston. The pulp industry is a primary industry of our state, and traditionally fourth graders in Lewiston study Maine.

In this case, the NOW Program asks you to take a different point of view. Instead of highlighting your paper unit with the mechanical and chemical processes of papermaking, we ask you to highlight your unit with the workers involved in these processes, and also the relationship of this industry and its workers to the economic and environmental future of our state.

The problem solving approach to the activities that culminate this unit make these rather sophisticated concepts understandable to the fourth grade student. Care has been taken not to present a point of view, but to allow the student to make his own decisions when presented the facts.

Additional activities might include a paper recycling project.

Karen McMahon
Activities Writer
N.O.W. Exemplary Program

Developed by:

Edith Jordan
Grade 4 Teacher

Pulp Industries

I. Objectives

A. General objectives

1. To introduce the student to the occupations related to pulp industries.
2. To help show the student the various rights and responsibilities of the workers discussed in this unit.
3. To increase the student's awareness of forestry and manufacturing processes that are beneficial to the environment as well as industry.
4. To introduce the student to the many products that we use that come from trees.
5. To introduce the student to the processes involved in papermaking from tree growing to paper marketing and distribution.

B. Specific objectives

1. By the end of the unit activity, the student will be able to name eight (8) jobs that relate to eight steps in papermaking from the forest ranger to the paper salesman.
2. The student will be able to state at least one job duty for each of these eight workers.
3. The student will be able to state the eight papermaking processes represented by these workers.
4. The student will be able to make a recommendation for a given representative group concerning a given environmental-pulp industry problem.
5. The student will be able to determine which products are made from trees and which are not given a list of fifteen products.

II. Activities

A. ASK YOUR STUDENTS WHAT THINGS THEY THINK ARE MADE OF TREES. Make a class list, and add to it as the unit progresses. You may want to start this unit after you discuss the different kinds of conifers in Maine, how they reproduce, and what they are used for.

B. SHOW THE FILM "THE PAPER FOREST." This film is available through the S.D. Warren Paper Company. Ask your students to make a list of the workers they saw on the film. Discuss the job roles of these workers in relation to the paper industry.

C. MAKE PLANS WITH THE CLASS FOR A MURAL DEPICTING THE WORKERS THEY LISTED. Show the workers involved with the processes of papermaking from the forest ranger to the paper salesman.

1. Forest ranger
2. Tree farmer
3. Logger
4. Workers in a paper mill:

a. Washer	d. Drainer	g. Roller
b. Chipper	e. Dryer	h. Cutter
c. Beater	f. Ironer	i. Packager

5. Paper salesman-store-consumer

D. ASSIGN THE STUDENTS TO BRING IN VARIOUS ARTICLES SUCH AS THE FOLLOWING:

1. Records
2. Pens
3. Linoleum
4. Cellophane
5. Plastic articles
6. Dishes (synthetic)
7. Sponges (synthetic)
8. Rayon
9. Paint
10. Pres-to-logs
11. Leather articles
12. Cotton fiber articles
13. Metal articles
14. Glass articles
15. A rock or a piece of concrete

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Display these articles. Ask the students to identify the things they think are made of wood. Afterwards, ask the class to isolate the various properties of the articles according to their similarities and differences. As a class, decide again which articles they think are made of wood according to these characteristics. Ask the class to think of as many occupations as they can that could have participated in the making, sales, and distribution of the product. Do not expect the students to give the technical names. They will probably feel most comfortable by describing the job according to the process involved.

E. GIVE THE STUDENTS VOCABULARY TERMS THAT PERTAIN TO PAPERMAKING. (Feel free to add to this short list.)

1. Lumber(ing)
2. Logging
3. Conifer
4. Washing (pulp)
5. Chipping "
6. Beating "
7. Draining "
8. Drying (pulp)
9. Ironing "
10. Linoleum
11. Cellophane
12. Rayon
13. Pulp

Make up a crossword puzzle using these words.

F. PROCURE PULP IN THE VARIOUS STAGES OF PAPERMAKING. A local paper company usually has samples available. If the samples are mixed, the students can make paper. This makes a good science experiment and role-playing exercise. Take this opportunity to review the processes and workers involved in papermaking.

G. ASK A FOREST MANAGER FROM A PAPER COMPANY OR FROM THE STATE DEPARTMENT TO COME INTO THE CLASS AND SPEAK. Discuss how it is important that forestry and manufacturing processes are as beneficial as possible to both the environment and industry. Prepare the class to ask the forest manager questions. Some of these questions might include:

1. Why is your job necessary?
2. What are some of the things that you do? What do you feel are your responsibilities?

3. What kinds of things are the paper companies doing to protect the environment? In the forests? In the mills?

4. Why do you like your work?

5. Are there state and federal laws concerning the use of forest land and industry pollution?

6. What are some of these laws?

7. Do you feel these laws help the paper companies to meet environmental standards?

8. What is your relationship to other paper workers who work in the forest? (What are some of these jobs? What do they do?)

9. What paper products do Maine paper mills produce?

10. Can Maine forests and mills keep up with the demand?

11. What measures can we take to limit our paper consumption? (Additional activities might include a paper recycling project.)

Write a thank-you note to the forest manager. Try to tape-record his visit. Have some students record what went on in writing.

H. POSE A HYPOTHETICAL ENVIRONMENTAL-PULP INDUSTRY PROBLEM TO GROUPS OF STUDENTS. Have each group represent a different faction. One group might represent the pulp industry. Another could represent environmentalists. A third group might represent the state government. A fourth group might represent concerned citizens, and another group might be pulp industry workers. Ask each group to make a recommendation concerning this problem. You might structure this activity something like this:

1. Give each student a sheet describing the problem. (Insert 1)

2. Ask the students to decide which group they will represent.

3. Ask the students to get together according to group.

4. Give each member of the group a paper telling them the group they represent and the particular needs of that representative group. Make room on the paper for each member to write down his recommendations. (Inserts 2&3)

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5. Give the groups fifteen to twenty-five minutes to discuss the problem in terms of their needs.

6. Ask each group to choose a main speaker.

7. After the groups have had their discussion period, have the state government group come to the front of the room. Their main speaker can mediate the proceedings and ask each group leader to give their recommendations.

8. Give each group leader thirty seconds to a minute to give their recommendations.

9. After listening to all groups, the state government group makes their recommendations taking into consideration the previous recommendations and the needs of the State.

10. The class can then discuss the problem together.

INSERT 1

The Problem

A Maine paper company is laying-off workers because they cannot get enough fuel to run their plant on a full-time basis. To complicate the problem, the company is getting pressure from environmental groups to improve their waste disposal system. The air in the immediate area of the plant has a high sulpher content. The plant dumps all their wastes in a nearby river. What could be done to:

1. Give these workers jobs?
2. Solve the energy problem?
3. Help solve the waste problem?

You may choose from these alternatives or you may make-up your own:

1. __Start a new industry in the area.
2. __Use the river as an energy source.
3. __Put filters on the smoke stacks.
4. __Recycle the wastes and use the chemicals over again.
5. __Use solid wastes as land-fill.
6. __Everbody try to recycle paper.

What other things could be done?

Teacher's note: You may want to include a hypothetical map giving the location of the mill in relation to other businesses and buildings and to the physical environment.

INSERT 2

Representative Groups and Their Needs

Group 1: Pulp industry

Needs:
1. We must have enough pulpwood to make the paper that we need.
2. We must have good workers.
3. We must be able to run the mills five days a week to supply enough paper.
4. We need an abundant fuel supply to get the pulpwood and process it into paper.
5. We need a place to put our wastes.
6. We must not permanently harm our environment for our own protection and for the protection of others.

Group 2: Environmentalists

Needs:
1. Papermill wastes are ruining our rivers.
2. Lack of planning in lumber-cutting has left many acres bare. Erosion has taken place.

Group 3: Concerned citizens

Needs:
1. We depend on paper products.
2. We want to protect our environment.

Group 4: Pulp industry workers

Needs:
1. We must keep our jobs!

Group 5: State government

Needs:
1. We want to keep everyone as happy as possible.
2. Maine needs some industry.
3. Maine needs clean rivers and forests.,

Student's Name: _____

INSERT 3

Group Member Information Sheet

ENVIRONMENTALIST

NEEDS: 1. Papermill wastes are ruining our rivers.

2. Lack of planning in timber-cutting has left many acres bare. Erosion has taken place.

Carefully read your problem sheet several times. Take into consideration your needs as an environmentalist. Make a recommendation that you think will best solve the problem. State why you think this is the best solution.

RECOMMENDATIONS:

Business and Office Occupations

WORKERS AT THE BANK

Grade 5

Developed by:

R. G. McCallum

Grade 5 Teacher

In Cooperation with the

N.O.W. Staff

INTRODUCTION

Workers at the Bank can be very valuable to your students. They will not only learn what services the bank has to offer, but they will also learn about the career opportunities available in a bank.

This knowledge applies practically in the classroom when the students set-up their own bank and display their knowledge of bank workers' operations, and simple math skills such as addition, subtraction, and percentages.

It is not absolutely necessary for you to take the class to a bank. They could perhaps go to the bank with their parents and be asked to observe particular things about bank operations, or ask the bank workers questions.

Karen McMahon
Activities Writer

Workers at the Bank

Developed by R. G. McCallum
Grade 5 Teacher

I. Objectives

A. General objectives

1. To introduce the student to business and office occupations.

2. To introduce the student to the workers in the bank.

3. To introduce the student to the following concepts about these workers:

   a. Their work and education are interrelated.

   b. Their job specialization creates interdependency.

4. To introduce the student to the various functions of a bank: savings accounts, checking accounts, mortgage agreements, loans, and interest.

5. To give the student an opportunity to make a practical application of the following math skills: addition, subtraction, and percentage operations.

6. To give the student an opportunity to make a practical application of language arts skills.

7. To increase the student's awareness of the role of social interaction in business.

B. Specific objectives

1. The student will be able to choose two job positions available at a bank, one of which would be easy for him to perform, and one which would be difficult for him to perform.

2. The student will be able to state three reasons why they selected each of the jobs in 1. above.

3. The student will be able to name two job functions for each of the two above-mentioned positions, and will be able to state the education requirements for each.

4. The student will be able to describe two personal characteristics that are necessary for each of the above jobs.

5. The student will be able to perform one function of the job of his choice.

6. The student will be able to compute at least three math problems that a bank worker commonly faces.

7. The student will be able to describe the processes of opening up a checking account, a savings account, and applying for a bank loan.

II. Activities

A. HAVE A GENERAL CAREER ORIENTATION WITH YOUR STUDENTS. Discuss jobs that the students are familiar with: parents' jobs, friends' jobs, jobs they have heard about in the newspaper, on television, and on the radio, etc. Direct the discussion towards businesses that are common to your area: banks, insurance companies, etc. Choose the bank this time to be the highlight of your activities. Give out a short questionaire to find out what the students already know about banking.

B. HAVE THE CLASS WRITE A LETTER TO A LOCAL BANK. Ask whether the class can come and tour the bank, and ask the employees and manager how the bank is run, and what kinds of jobs are available.

C. HAVE THE CLASS DEVELOP MATERIALS, ARTICLES, AND RESOURCES ABOUT BANKING AND BUSINESS OCCUPATIONS. Some of the things you might try to procure are: a cash register, an adding machine, ledgers, typewriters.

Have the students bring in some refrigerator boxes to make tellers' cages. Bring together paper supplies and masters for such things as model check books and accounts, and masters for model mortgage agreements, and loan applications. Break the class up into groups so that they may develop their own materials. Bring in samples of these things from local banks to use as models.

D. INTRODUCE THE OCCUPATIONS AT THE BANK BY USING "The Money Tree". (This is a multi-media kit put out by the Bowmar Company. It includes filmstrips, cassettes, and written learning aides, plus a teacher's manual.) Request this kit from the N.O.W. Program personnel in your school.

E. PREPARE YOUR STUDENTS FOR THE FIELD TRIP TO THE BANK. Break the class up into groups to document the visit. Some students might make written reports. Others might take pictures and tape record. If you want to video-tape the visit, the N.O.W. Program has the equipment. Prepare them to ask the workers at the bank questions about their jobs and the function of the bank:

1. What is the title of your job?

2. What are some of the things you do?

3. What education and training were required for your job?

4. What is your role at the bank in relation to the other workers?

5. What does a bank do?

F. INTRODUCE YOUR STUDENTS TO THE FOLLOWING BANK SERVICES: opening a savings account and checking account, making an application for a loan, making a savings deposit and withdrawal, keeping a checkbook, and an explanation of interest rates for savings and loans.

G. TOUR THE BANK, DOCUMENT THE VISIT WITH AUDIO-VISUAL EQUIPMENT. Make sure that your students are well organized and informed about what they should expect to see on the career field trip. Have the students not only question the manager and other workers about their jobs but also let them find out about the services and benefits that the bank provides. Pick-up any available leaflets and brochures for your bulletin boards.

H. HAVE YOUR STUDENTS WRITE A THANK-YOU LETTER TO THE BANK. Organize and display any information you have collected about the bank and its workers on a table and bulletin board displays.

I. HAVE THE STUDENTS WRITE A COMPOSITION ABOUT TWO WORKERS AT THE BANK: one worker whose job would be easy for them to perform and one which would be very difficult. Ask them to give at least three reasons why they selected these jobs. Tell them to include at least two job duties for each of these workers in explaining their choices. Ask them to take the education and training requirements into consideration, too. Ask them to also consider at least two personal characteristics that are necessary for workers in these jobs.

J. GIVE THE STUDENTS ADDITION, SUBTRACTION, AND PERCENTAGE OPERATION PROBLEMS THAT A BANK WORKER COMMONLY FACES: adding up deposits, making withdrawals, calculating interest, cashing checks, and counting money, etc.

K. HAVE THE CLASS ORGANIZE AND DEVELOP A SIMPLIFIED BANKING OPERATION. Break the class up into workers at the bank and customers. Organize the equipment that was brought in earlier. Make the tellers' cages out of boxes and get ready for action. Some of the positions you might fill are:

President
Executive vice-president
Treasurer
Assistant treasurer
Manager
Head teller
Loan clerk
Bookkeeper
New accounts clerk
Tellers
Secretaries

Customers might be:

Bond holders
People requesting loans
People opening checking and savings accounts
Depositors withdrawals, etc.

Let the student have several trial runs with the machines and instruments they brought in.
When the class feels more confident with the equipment, video-tape some of the best bank-customer transactions for permanent record. Give each student an opportunity to perform a function of his favorite bank worker in the model bank.

L. PASS OUT A QUESTIONAIRE SUCH AS THE FOLLOWING FOR A FOLLOW-UP ACTIVITY:

1. Describe what you would do if you wanted to open a savings account? A checking account?
2. What kind of information is asked on a loan application?
3. What are the differences between savings interest and loan interest?
4. What workers do you know of at a bank?
5. Name one thing that each does.
6. What did you like best about the unit activities?
7. Which one was most valuable to you?

IV. Materials and Resources

A. The N.O.W. Program has an extensive array of audio-visual equipment and materials that are available to you at your request from our Resource Center at Lewiston Comprehensive High School:

1. Tape recorder, tape, microphones
2. Video-tape recording equipment
3. Cameras, film, flashbulbs

B. Materials available through the NOW Program:

1. Bank, book
2. "Business and Office Careers," cassette
3. Careers in a Bank, book
4. I Want to be a Bank Teller, book
5. "Office Occupations," filmstrip and record
6. "Office Workers," filmstrip
7. "The Money Tree," filmstrip - cassette

Environmental Control Occupations

Public Service Occupations

WEATHER WORKERS

Suggested for use in

Grade 5

Developed by:

Suzanne Cyr
Grade 5 Teacher

In Cooperation with the
NOW Staff

INTRODUCTION

The fifth grade student usually studies weather. This unit on Weather Workers not only introduces the student to the workers who are involved in predicting and measuring weather, it allows the student to experience and discover these processes himself. Two main career education goals are met:

1. The student is provided additional career education information which will broaden his knowledge of opportunities available to him.
2. The student is allowed to experience some job duties of workers in the form of role playing and the integration of work skills and school skills which will help him determine his interests and aptitudes as they apply to occupations.

A trip to the weather station can provide additional information and knowledge other than what can be found in the average classroom, but if a field trip is not possible, perhaps you can invite a weather worker to come into your classroom.

Karen McMahon
Activities Writer

WEATHER WORKERS

I. Objectives

A. General objectives

1. To enable the student to realize the advantages and disadvantages to a studied work role.

2. To introduce the student to the responsibilities involved in a given work role.

3. To help show the student that occupations exist for a purpose.

4. To enrich the student's understanding of weather related occupations.

5. To reinforce the math skills of subtraction, addition, and division by working with problems in relation to temperature differences at different locations, and temperature averages.

6. To give the student the added opportunity to use skills in locating information.

7. To give the student practice in map work.

B. Specific objectives

1. By the end of the unit activity the student will be able to name at least four careers related to weather and at least one job duty, one job advantage, one disadvantage, and the training and education requirements for each job.

2. The student will be able to state two reasons why each job exists.

3. The student will be able to compute temperature differences and averages.

4. The student will be able to recognize at least three weather instruments and explain their use.

II. Activities

A. HAVE THE STUDENTS LEAF THROUGH THEIR SCIENCE TEXT TO DISCOVER AS MANY WORKERS AS THEY CAN THAT DEAL WITH WEATHER.

B. MAKE A CLASS LIST FROM THESE CAREERS.

C. DISCUSS SOME OF THE ADVANTAGES AND DISADVANTAGES TO OCCUPATIONS THAT DEAL WITH THE WEATHER. (ex.: An airplane pilot flying for weather information must fly through hurricane storms.) The student should also note the responsibilities of each of the mentioned careers. (ex.: The airplane pilot must gather information about the weather sometimes to protect the lives and property of people.) In this way the student will get a better understanding of why these weather workers must perfomm these tasks. Introduce the class to any available occupational information about weather workers. (Refer to the N.O.W. Program's Resource List.)

D. TAKE YOUR STUDENTS ON A FIELD TRIP TO A WEATHER STATION. Make previous arrangements to have a guide explain what the various workers at the station do. Prepare your class for the career field trip by introducing them to various weather instruments and also the kinds of workers that they are likely to see. Have them prepare questions about the workers and equipment. Ask some students to write a report on what happened. Ask others to tape record and take pictures.

E. HAVE A RESOURCE PERSON WHO WORKS IN THE FIELD OF WEATHER COME INTO THE CLASS TO SPEAK ABOUT HIS JOB. Prepare the students to ask questions concerning salary, education, job satisfiers, advantages and disadvantages, and responsibilities of the work role. Ask him to introduce weather instruments and their uses.

F. HAVE THE STUDENTS COMPUTE SOME PROBLEMS CONCERNING LOCATION AND TEMPERATURE DIFFERENCES. (ex.: What are the highest and lowest temperatures ever recorded in the United States? Where were these temperatures recorded? Locate these places on a map of the Unites States. This type of problem could also be used for individual states.

G. HAVE A LESSON IN COMPUTING AVERAGES BY USING TEMPERATURES. ex.: Recorded temperatures in Lewiston for September 2-9, 1973 are: 65 degrees, 63 degrees, 72 degrees, and 70 degrees. What is the average temperature?

H. ASK YOUR STUDENTS TO LISTEN TO A WEATHER REPORT. Have them use this type of information in making up a weather report of their own. This could be performed like a TV presentation, or it could be written or recorded.

I. ASK EACH STUDENT TO RESEARCH FOUR CAREERS OF THEIR CHOICE RELATED TO WEATHER. Give them the following criteria as requirements for their research:

1. State two reasons why they think the jobs exist.

2. State why these jobs were chosen for their research as related to:

   a. Job duties (including tools and instruments used)

   b. Job advantages

   c. Job disadvantages

   d. Training and education requirements

   Provide information obtained from resource person visits and/or field trips plus any additional information from NOW Resources for classroom research.

IV. Materials and Resources

A. Refer to your science text or Science in Our World by Schneider for grade 5.

B. Refer to the N.O.W. Program's Resource List for additional learning aides concerning weather workers.

1. "Environmental Careers;" cassette

2. "Airplanes at Work,"126, filmstrip

3. Careers in a Television Station, book

4. Your Career in TV and Radio, book

C. The N.O.W. Program has an extensive array of audio-visual materials and equipment that are available to you at your request from our "Resource Center" at Lewiston Comprehensive High School:

1. Tape recorders, tapes, microphones

2. Video-tape equipment

3. Cameras, film, flash cutes

4. Projectors, screens

Construction Occupations

Public Services Occupations

ELECTRICAL WORKERS AND ELECTRICITY

Grade 5

Developed by:

Suzanne Cyr

5th Grade Teacher

In Cooperation with the

N.O.W. Staff

Introduction

This unit is intended to help the student explore and discover what electricity is and how it happens. Occupational information relating to electrical careers in the power company and also the electrician and electrical serviceman are integrated in the activities. The unit is also designed to encourage discussion and questions concerning the environment and natural resources as they relate to today's problems. The students will have the opportunity to experiment, classify, observe, hypothesize, and interpret data.

The unit deals with a number of subject areas. This interdisciplinary approach gives science and occupational information wider applications in the areas of math, communications skills, and social studies. The students use math skills in reading electrical meters. Communications skills are needed in all activities. Social studies becomes part of a gaming activity where the students are asked to make their own solutions to energy problems.

Since these activities are student-oriented and involve group and individual efforts, I think that you will find that your students will participate enthusiastically.

Karen McMahon
Activities Writer

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Developed by Suzanne Cyr
Grade 5. Teacher

ELECTRICAL WORKERS AND ELECTRICITY

I. Objectives

A. General objectives

1. To introduce the student to the many occupations related to electricity, and some of the factors relating to job choice.

2. To help the student discover what electricity is and how it happens.

3. To increase the student's awareness of environmental and natural resource problems that have resulted from our vast energy needs.

4. To encourage the student to formulate personal and societal solutions to these environmental and natural resource problems resulting from energy consumption.

B. Specific objectives

1. By the end of the unit activity, the student will be able to classify a given set of workers who have jobs in the field of electricity.

2. By the end of the unit activity the student will be able to construct a complete circuit within ten minutes given two pieces of insulated wire, a battery, a light bulb, and a switch.

3. By the end of the activity the student will be able to hypothesize in writing why and how the light went on when the above circuit was made.

4. By the end of the unit activity the student will be able to prescribe in writing three ways that we can conserve energy.

II. Activities

A. ASK YOUR STUDENTS TO MAKE A LIGHT WORK. Divide the class in groups and give each group two pieces of wire, a battery, a light bulb. Ask them to make a complete circuit given these articles.

B. HAVE EACH GROUP RELATE THEIR FINDINGS. Ask each member to hypothesize on paper how and why they think the light went on.

C. GIVE EACH GROUP A SWITCH. Ask them to connect the switch and make the light go off and on using the switch.

D. TAKE THE SAME EQUIPMENT YOURSELF. Ask the students to tell you what to do to make a complete circuit. Ask the students why it is necessary to do one thing before another. A class discussion could follow that goes over the findings of each group.

E. SHOW A VIDEO-TAPE CALLED "CALLING CAREERS: CONSTRUCTION OCCUPATIONS" (available through the N.O.W. Program). As an introduction you might say: "See what you can find out about electrical workers in relation to other workers. Write down what you find out." You might ask questions similar to the following:

1.) What other workers are necessary to build other than electrical workers?

2.) What are some of the differences and similarities between these jobs?

3.) What did you notice about electrical workers on the tape concerning their working conditions, training, tools, materials?

4.) What specifically was the electrician doing on the tape?

5.) Why do you suppose these men have chosen to work in this field?

6.) According to your observations, did the men and the women on the tape seem to enjoy their work? Why do you think they do or don't?

F. ASK AN ELECTRICIAN TO VISIT THE CLASS. Prepare the students to ask questions about job duties, functions, tools, skills, abilities, interests, and electricity. The electrician may give a short presentation followed by a demonstration of his tools and electrical meters. The students may want an opportunity to try and read the meter. Use the school fuse box as a visual aid to show that a complicated network of systems is required to provide a building with its electrical needs.

G. USE THE FOLLOWING AUDIO-VISUAL AID FROM THE W.O.W. SERIES: "Electrical Workers." This will introduce them to the workers involved in the power company. It will also show the processes involved in supplying us with electricity. Ask them questions relating to fuel such as:

1.) What kinds of fuel do we use in Maine at the power plants?

2.) Where does it come from?

3.) Will we have this fuel forever?

4.) Why not?

5.) What can we do about it?

H. TELL THE STUDENTS THAT THEY WILL CONSTRUCT A MODEL POWER PLANT. There is no wood for them to burn. There is no coal or oil. Make boxes, dowels, cardboard, paints, glue, and staples available. If the students need more direction, assign each group an energy source: sun, water, winds, nuclear power, or waste, for example.

I. HAVE EACH "POWER COMPANY" MAKE A WRITTEN PRESCRIPTION FOR THE PEOPLE WHO WILL USE THEIR ENERGY. This prescription will include at least three ways that people can conserve energy. Compare the prescriptions of each power company and discuss these solutions as a class.

IV. Materials and Resources

A. Materials

1. Insulated wire
2. Batteries
3. Flashlight bulbs
4. Switches
5. Cardboard boxes of various shapes
6. Dowels
7. Cardboard
8. Paints
9. Glue
10. Staples

B. Resources

1. Learning aids available through the NOW Program

a. Calling Careers video-tape - "Construction Occupations"

b. Wonderful World of Work Series - "The Electrical Workers"

2. Equipment

a. Video-tape deck and monitor and camera

b. Dukane sound record projector

Construction Occupations

Agri-Business and Natural Resources Occupations

JOBS AND ROCKS AND MINERALS

Grade 5

Developed by:

Suzanne Cyr
5th Grade Teacher

In Cooperation with the

N.O.W. Staff

INTRODUCTION

Jobs and Rocks and Minerals is a natural for Maine students since rocks and minerals are a valuable resource of this state. The availability of rocks and minerals also will help motivate your students since they may start their own rock collections and even visit a mineral mine in the area, if it is possible for you to make this type of arrangement in your school.

If you can't take a career field trip, you can no doubt find a rock hound who would be pleased to come into the class and talk about his hobby.

This unit also provides the student with the opportunity to engage in independent research and decision-making concerning the type of activities that will meet the unit objectives. This combined with pertinent occupational information gives this unit relevance in the area of career education for several reasons:

1. The student will have to learn to make decisions independently in life and in work situations.
2. Occupational information broadens the student's awareness of available work opportunities, and, therefore, helps the student make the best career decisions for him.

Karen McMahon
Activities Writer

JOBS AND ROCKS AND MINERALS

Developed by: Suzanne Cyr
Grade 5 Teacher

I. Objectives

A. General objectives

1. To help the student realize that occupations exist for a purpose.
2. To familiarize the student with occupations in geology.
3. To increase the student's awareness of rocks and minerals i.e., jobs, beauty, building materials, value.
4. To help reinforce school skills such as the following: math, language arts and social studies.

B. Specific objectives

1. By the end of the unit activity the student will be able to recognize the following jobs: geologist, construction worker, gemologist, sales personnel, and jewelers.
2. The student will be able to state the necessary education or training required to obtain a job in each of the above occupations.
3. The student will be able to name at least five different types of minerals.
4. The student will be able to describe each of the above minerals according to the following standards: 1. Where the mineral is usually found 2. color 3. shape (crystalline, layered) 4. two uses.
5. The student will be able to correlate five basic geometrical shapes with the process of cutting and making stones.

II. Activities

A. SHOW THE CLASS PICTURES OF PEOPLE WORKING WITH ROCKS AND MINERALS. Show pictures of stone houses and pictures of jewelry. (Slides are available of a mineral store and mine from the NOW Program.)

B. CONDUCT A DISCUSSION FROM THESE PICTURES. Discuss education, training, experience and possible job satisfactions.

C. TALK ABOUT THE VALUE OF ROCKS AND MINERALS. Use diamonds as an example. Discuss the difference between precious and semi-precious stones. Show pictures, slides, and transparencies of precious and semi-precious stones.

D. HAVE THE STUDENTS WRITE AN ACCOUNT OR INTERPRETATION OF THE CLASS DISCUSSION AND FILMSTRIP.

E. HAVE A GEOLOGIST OR ROCK COLLECTOR COME INTO THE CLASSROOM. He can speak about his hobby or occupations with rocks and minerals. Prepare the students to ask him questions. Take a video-tape, pictures, and recordings of the resource person. Some questions might be:

1. Why do rocks and minerals interest you?
2. What kinds of rocks and minerals can you find around here?
3. What uses do they have?
4. What do you do with rocks and minerals?
5. What kinds of tools and implements do you use?
6. Are your rocks and minerals valuable?

F. CONDUCT A GEOMETRY CLASS USING BASIC GEOMETRIC SHAPES AS THEY RELATE TO STONE CUTTING. Show pictures of gems that utilize these shapes, or have a jeweler come in and show the basic cutting shapes for different kinds of gems.

G. POOL ALL OF THE PRODUCTS INTO A BIG DISPLAY. Use this (along with selected occupational information from the N.O.W. Program's resource file) as a learning center.

H. ALLOW THE STUDENTS TO GO TO THE CENTER IN SMALL GROUPS TO DO SELF-DIRECTED RESEARCH. Each student must be able to show at the end of his research that he can meet the specific objectives. Hand each student a sheet similiar to the following:

You will have three weeks to prove that you can do the following tasks. You may use your free time, and two periods a week will be assigned to you for using the "Rocks and Minerals Learning Center." All the information you need to complete these tasks is in the center.

1. You will be able to recognize the following jobs in the field of geology: geologist, construction worker, gemologist, sales personnel, jeweler.

2. You will be able to state the necessary training and/or education requirements to obtain a job in each of the above occupations.

3. You will be able to name at least five different types of minerals.

4. You will be able to describe each of the above minerals according to the following standards: 1. Where the mineral is found 2. color 3. shape 4. at least two uses.

I. GIVE THE STUDENTS A LIST OF ACTIVITIES THAT THEY CAN DO TO PERFORM THE ABOVE TASKS.

*1. Write a short report about each of the workers in 1. Give a brief description of what the job entails. Tell the basic education and training requirements needed to get a job in this field. Tell whether you would like to do the job or not, and why. (This activity fulfills tasks 1. and 2.)

and 2. Make mineral displays of at least five minerals. Label these minerals. Attach short reports about each mineral's characteristics. (This activity fulfills tasks 3. and 4.)

or 3. Write a story of a rock hunt you went on. (This could be imaginary.) In it, name and describe five minerals you found. Make sure the minerals you find come from the same approximate area. (Task 3. and 4.)

or 4. Keep an index file of all the rocks, minerals, and gems the class has discussed in this unit. Follow the standards in task 4. Transfer the information to a map of the U.S. (Tasks 3. and 4.)

5. Draw pictures of workers who use rocks and minerals on the job.

*All students must do this activity.

IV. Materials and Resources

A. Books

1. Science in Our World, Herman and Nina Schneider, Heath Science Series, Chapter 10.

2. I Want to Be a Coal Miner, book, available through the NOW Program.

B. Filmstrips: "Rocks and Minerals"; "A Very Special Stone."

C. Career Monograms: "Geology," available through the N.O.W. Program.

D. The N.O.W. Program has an extensive array of audio-visual materials and equipment that are available to you at your request from our Resource Center at Lewiston Comprehensive High School:

1. Tape recorder, tapes, microphones.

2. Video-tape recording equipment.

3. Cameras, films, flash cubes.

4. Projectors, screens.

Environmental Control Occupations

Agri-Business and Natural Resources Occupations

CAREERS AND MAMMALS

Grade 5

Developed by:

Suzanne Cyr

Grade 5 Teacher

In Cooperation with the

N.O.W. Staff

INTRODUCTION

Most students are curious about the natural world. This unit on animals (more specifically on mammals) not only provides the student with a way to classify the animal world, but it also introduces the student to the fact that workers can be classified according to certain job characteristics. If for nothing else, the unit is valuable in showing the student that classifying things is an organized method for learning more about a group of things.

This unit is not only task oriented, but it encourages the student to express and develop sensitivity to animals and their environment. You will probably find that they will be naturally motivated in discussing their feelings and knowledge.

Karen McMahon
Activities Writer

Environmental Control Occupations
Agri-Business and Natural Resources Occupations

Careers and Mammals

Developed by Suzanne Cyr
Grade 5 Teacher

I. Objectives

A. General objectives

1. To help the student realize that various groups and institutions influence the nature and structure of work.
2. To show that individuals differ in their interests, abilities, attitudes, and values.
3. To help the student realize general animal classifications.
4. To help the student become more familiar with the group of animals called mammals.
5. To reinforce skills in writing and role playing.
6. To encourage the student to develop sensitivity to animals and the environment.
7. To inform the student of workers who affect the animal world and environment for better or for worse.

B. Specific objectives

1. By the end of this unit activity the student will be able to name at least five jobs related to working with animals.
2. The student will be able to state four characteristics of the mammal group.
3. The student will be able to name one work role related to the protection and/or survival of mammals.
4. The student will be able to state one work role that deals with the slaughter or misuse of mammals.
5. The student will be able to state his own opinion that he has formed about mammals.

II. Activities

A. SHOW TRANSPARENCIES, PICTURES, OR LAMINATIONS OF DIFFERENT KINDS OF ANIMALS. Ask the students to pick out similarities and differences to classify the animals. Label them for name and animal group. Attractively display them.

B. EMPHASIZE THE MAMMAL GROUP'S CHARACTERISTICS. Talk about job opportunities with animals. Show pictures of workers and animals (mammals): zoologist, zookeeper, veterinarian, game warden, rancher, fur farmer, animal breeder, conservationist. Introduce the concept that people can harm animals. i.e., game poachers, fur poachers, people who are cruel to animals. Conduct a discussion about the animals' dependency on their environment, and man's affect on this environment for better or for worse.

C. COLLECT INFORMATION FROM MAGAZINES, YOUR RESOURCES, AND N.O.W. RESOURCES. Display pictures and information about animals and workers.

D. ARRANGE TO HAVE SPEAKERS COME IN WHO WORK WITH MAMMALS. Prepare your class for their visit. Instruct some students to take photographs and pictures, and somebody to video-tape. This equipment and material are available through the N.O.W. Program. Prepare the students to ask these workers questions such as the following:

1. What satisfaction do you get out of your work?
2. What kinds of animals do you usually work with?
3. What kind of training and education did you have to have?
4. What kinds of tools and implements do you use, if any?
5. How do your interests and abilities fit into your job?
6. What kind of other workers do you work with?
7. What salary range is your job?
8. What is the future outlook for your kind of work?
9. What are the advantages and disadvantages to your type of work?

E. REVIEW THE RESOURCE PERSON'S VISIT BY LOOKING AT THE CLASS-DOCUMENTED MATERIALS (pictures, slides, tapes, etc.). Have each student choose a career that interests him most of the ones discussed. (If too many students choose the same career, or some are undecided, try to aid them in a choice rather than assign them an occupation.

F. ASK THE STUDENTS TO DO CAREER RESEARCH ON AN OCCUPATION OF THEIR CHOICE. Students who are particularly interested in one occupation could listen to a cassette or read about a biologist, or vet., etc. They could report their findings to the class. The rest of the class could look up pertinent information on other careers, write their interpretation, and report it to the class.

G. HAVE STUDENT GROUPS WRITE A SHORT SKIT. Help them develop a skit utilizing careers associated with animals and their environment. They may use people that help animals and their environment and people who harm animals and their environment. Ask them to resolve a problem involving these two factions in their play.

IV. Materials and Resources

A. Materials available through the N.O.W. Program:

1. Books: I Want to be a Zookeeper, I Want to be an Animal Doctor

2. Monographs: Careers: Biological Science

3. Cassettes: "Veterinarian," "Biologist"

4. Refer to the N.O.W. Program's Resource List for additional learning aides about workers and animals.

B. The N.O.W. Program has an extensive array of audio-visual materials and equipment that are available to you at your request from our Resource Center at Lewiston Comprehensive High School:

1. Tape recorders, tapes, microphones

2. Video-tape recording equipment

3. Cameras, films, flashcubes

4. Projectors, screens

Agri-Business and Natural Resources Occupations

Marketing and Distribution Occupations

FLOWERS

Grade 5

Developed by:

Suzanne Cyr

Grade 5 Teacher

In Cooperation with the

N.O.W. Staff

INTRODUCTION

Life sciences are too often neglected in the elementary curriculum. Too often science is pushed into a corner with no correlation between its relationship to our world.

A knowledge of the basic life sciences is necessary for every student no matter what his future career plans may be, because our existences are solely dependent on the living things around us.

This unit on botany is an example of how a teacher can correlate science with careers and with other subject areas.

Units such as this one can be utilized throughout the school year to make the interdisciplinary approach to subject matter like science a total learning experience for your students.

Karen McMahon
Activities Writer

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Agri-Business and Natural Resources Occupations
Marketing and Distribution Occupations

FLOWERS

Developed by Suzanne Cyr
Grade 5 Teacher

I. Objective

A. General objectives

1. To enable the student to realize that individuals differ in their interests, abilities, attitudes and values.
2. To familiarize the student with the field of botany and the workers in this field.
3. To help show the student the various rights and responsibilities of the workers discussed in this unit.
4. To instill a greater appreciation of flowers and their uses, and the beauty they provide.
5. To reinforce language arts and mathematics skills.

B. Specific objectives

1. The student will be able to describe three ways that jobs and flowers interrelate.
2. The student will be able to name five job opportunities available in the field of botany.
3. The student will be able to state three ways that flowers are valuable in the community.
4. The student will be able to correctly formulate two problems dealing with the distribution of seeds over a given area.

II. Activities

A. SHIFT THE EMPHASIS ON YOUR REGULAR BOTANY UNIT TO PEOPLE AND THEIR JOBS IN BOTANY.

B. COMPILE A CLASS LIST OF CAREERS IN BOTANY. Refer to the resource list for occupational information resources.

C. HAVE EACH STUDENT SELECT FIVE JOBS FROM THIS LIST THAT PARTICULARLY INTEREST HIM. Have the students procure the following information about each of these jobs:

1. Education and training
2. Experience necessary
3. 3 job duties
4. At least two tools or implements used (related to job duties)
5. Expected salary
6. Whether this job interests the student (why or why not?)

D. INVITE A BOTANIST TO COME AND SPEAK TO THE CLASS. Prepare the class to ask questions along the lines of the above questions. Ask him about his job satisfactions in the field of botany. Ask the class to write a thank-you note.

E. A FLORIST COULD BE INVITED TO SPEAK. Have the florist do a demonstration flower arrangement. Ask some students to record what the speaker said. Have some students take pictures, and some students write an account. You may even want to video-tape. (Available through N.O.W.) Ask the class to write a thank-you note.

F. THE CLASS COULD DO SOME FLOWER ARRANGING. Or the students could draw flower arrangements. Have each student find out the name of the flowers he uses. (You might use plastic flowers and let the students take turns making an arrangement on a styrofoam block.)

G. A GARDENER WOULD ALSO BE A GOOD CLASSROOM SPEAKER. Follow the same procedure as with other resource persons.

H. DO SOME MATH PROBLEMS WITH AREAS OF LAND AND SEEDS. For example:

> A package of seeds contains 100 seeds and covers an area of 100 square feet. If the package is 3/4 full, what is the area that could be covered with this partial packet of seeds?

I. DISPLAY ALL THE INFORMATION THE CLASS HAS GATHERED. Use it as a research center.

J. GIVE THE STUDENTS THE FOLLOWING RESEARCH TO COMPLETE:

1. You will be able to discover three ways that flowers are valuable to the community.

2. You will be able to describe three ways that flowers and jobs interrelate.

Along with these objectives give them the following list of activities to choose from to meet these objectives:

1. Write a short skit about three customers who come into a florist shop. They each ask for flowers for a different purpose.

2. Go to a local florist shop and conduct an interview with the owner on a tape recorder. Ask the owner questions like this: "What are the different reasons that people come in to buy flowers in your shop?" "What kinds of jobs can you get in a florist shop-greenhouse?"

3. Make out an order to a catalogue seed company. Ask for three different types of flowers for different purposes in your garden. Write a short paragraph telling why you selected these types.

4. Make a drawing of three different jobs that deal with flowers.

5. Make a collage or drawing showing three different ways that flowers might be used.

6. Make three different flower arrangements. Give one to your teacher. Give one to your family. Give one to a friend.

7. With a classmate role-play the florist shop owner and customers. Do this on the telephone. Have three different requests. Make an order to the shop owner.

You may chose any of these activities just as long as you choose enough activities to complete both tasks. You must report to me on the activities you choose.

IV. Resources and Materials

A. Career Monographs: Botany is available through the N.O.W. Program.

B. The N.O.W. Program has an extensive array of audio-visual materials and equipment that are available to you at your request from our Resource Center at Lewiston Comprehensive High School:

1. Tape recorder, tape, and microphones
2. Video-tape recording equipment
3. Cameras, film, and flash cubes
4. Projectors and screens

Hospitality and Recreation Occupations

SHORT ORDER COOK

Grade 6

Developed by:

Richard Campbell

Grade 6 Teacher

In Cooperation with the

N.O.W. Staff

INTRODUCTION

This unit on the short order cook can serve as an introduction to other occupations in the food services. You may want to follow an activity or activities from this unit with information about waitresses, chefs, kitchen managers, and kitchen aides, for example. You may even want to set up a model restaurant where members of the class get the opportunity to act out the duties and skills required of food services occupations. The needs of your classroom individuals will determine the extent to which you articulate activities. There is a great variety of things you can do (from planning menus to preparing a meal), and the NOW Program is very anxious to hear from you concerning the activities you plan to implement.

Karen McMahon
Activities Writer

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Developed by Richard Campbell
Grade 6 teacher

Hospitality and Recreation Occupations

Short Order Cook

I. Objectives

A. General objectives

1. To help the student recognize the skills and abilities required to be a short order cook.

2. To give the student an opportunity to participate in classroom activities that involve the utilization of some of the above skills and abilities and selected school subject skills in the areas of math and language arts.

3. To give the student a better understanding of the training requirements of a short order cook.

4. To enable the student to realize that:

a. Occupations exist for a purpose.

b. There is a wide variety of careers that may be classified in several ways.

c. Education and work are interrelated.

d. Occupational supply and demand has an impact on career planning.

e. Job specialization creates interdependency.

f. Various groups and institutions influence the nature and structure of work.

g. Individuals can learn to perform adequately in a variety of occupations.

h. Work means different things to different people.

B. Specific objectives

1. The student will be able to name two advantages and two disadvantages of being a short order cook.

2. The student will be able to use the math skills of addition, subtraction, multiplication and division in computing a model payroll for three short order cooks given wages/hour and hours worked.

3. The student will be able to communicate his ability to speak on the telephone on a professional basis concerning wholesale food purchasing by:

   a. Introducing himself, and his purpose for calling.

   b. Concisely asking for the information he needs.

   c. Repeating this information to assure accurateness.

   d. Copying this information down on paper.

   e. Thanking the party for contributing the desired information.

4. The student will be able to utilize the information he obtained from 3. in computing the total price of the product for a given number of people on a given day.

II. Activities

A. ASK THE CLASS TO TALK ABOUT COOKS THAT THEY KNOW. Discuss the cook's abilities, duties, wages and interests. Take a closer look at the duties, skills, and abilities required for a short order cook. Students and teachers can do this by using the S.R.A. W.O.R.Kit and the S.R.A. Occ. Exploration Kit. You may place these materials on an overhead projector, or make a temporary bulletin board with these occupational materials and any other information you or the students may be able to bring in. When talking to the students about the abilities, skills, and duties of a short order cook, take into consideration the career education concepts introduced in objective 4., a.-h. For example, you might introduce the concept and ask the students to make the connection in the form of a class discussion. Refer to the general objective 4., e.: Job specialization creates interdependency. You might ask "How does the short order cook depend on other workers?" or "How do other workers depend on the short order cook?" This brings us to another important point: "Occupations exist for a purpose."

You might relate to the student's own interest by discussing the concept that work means different things to different people. Also, many people work as a short order cook only on a part-time basis, and hold very different full-time jobs i.e., "Individuals can learn to perform adequately in a variety of occupations."

B. HAVE THE STUDENTS WRITE TWO ADVANTAGES AND TWO DISADVANTAGES OF A JOB AS A SHORT ORDER COOK AFTER THE DISCUSSION.

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C. ASK YOUR STUDENTS TO MAKE A PAYROLL FOR THREE COOKS: Give information such as the following:

1. Cook 1 works 40 hours a week and he earns 2.25/hr.

2. Cook 2 works 48 hours/week at two dollars an hour.

3. Cook 3 works 52 hours/week at $3.13/hour.

Provide your students with social security and tax scales. Here you might discuss how experience (education) and pay are interrelated in this occupation. (Refer to general objective 4., c.)

D. TELL THE STUDENT TO CALL A LOCAL MEAT DISTRIBUTER FOR THE PRICE OF HAMBURGER AND RIB EYE STEAK FOR THAT DAY. He will conduct his conversation according to the specific objectives 3., a-e. Procedure: The restaurant will need 70 lbs. of each to feed two sixth grade classes and their parents. How much will it cost the restaurant to order the meat? How much is the cost per person considering that there will be 150 people there? How much should the restaurant charge per plate if four people will work two hours each at $2.50/hour to prepare and serve the meal, and it cost the restaurant twenty additional dollars for extras, and the restaurant wanted to make a ten percent profit? (Computing all parts of this problem may be too complicated for some of your students. You might present it by parts, and give credit only for what is completed and not take away credit for parts that are not completed.)

E. CONCLUDE THE ACTIVITIES. Ask each student to answer the following:

1. Name three duties of a short order cook.

2. Name three skills that a short order cook must have.

3. What is the job outlook for short order cooks?

4. What kind of education and/or training is necessary to become a short order cook?

5. What are some of the working conditions for a short order cook?

   a. Hours:

   b. Pay:

   c. Benefits:

   d. Working environment:

   e. Expected productivity:

6. Why or why not would you like to be a short order cook?

IV. Materials and Resources

A. Periodicals you can send for:

1. "Hospitality Magazines," South Wabash Ave., Chicago, Illinois 60603.

2. "Institution Magazines," 1801 South Prairie Ave., Chicago, Illinois.

3. "Volume Feeding Magazines," 205 E. 42nd St., New York, N.Y. 10022.

B. Places to write to:

1. The Restaurant Assoc.
New York Ave.
New York, N.Y.

2. Hotel and Restaurant Employees and Bartenders International Union
6 East Fourth St.
Cincinnati, Ohio 45202.

C. The NOW Program has an extensive array of audio visual materials and equipment that is available at your request from our Resource Center at Lewiston Comprehensive High School:

1. Tape recorders, tapes, microphones.

2. Video-tape equipment.

3. Cameras, film, flash cubes.

4. Projectors and screens.

D. Classroom materials available through the NOW Program:

1. "Hospitality and Recreation Careers," cassette.

2. Hotel, book.

3. I Want to be a Restaurant Owner, book.

4. I Want to be a Waitress, book.

Construction Occupations

STRUCTURES

Grade 6

Developed by:

Ray LeClair

Grade 6 Teacher

In Cooperation with the

N.O.W. Staff

INTRODUCTION TO STRUCTURES

Structures is recommended to be used with children in grade 6. In this unit the students use various materials to build many different kinds of structures. It may be used with individual students, in small groups, or as a total class activity. Some of the common materials used are: clay, straws, common pins, thread, toothpicks, washers, pipe cleaners, uncooked spaghetti, and gumdrops. Many other materials are as useful to keep around if they happen to be available.

In STRUCTURES the student's own creativity is the prime motivating factor. Therefore, it is suggested that the teacher does not direct the student's handling of the given materials. It is the thinking process involved in making the structure rather than the structure itself that is important here. The teacher should only present the materials and not instruct the student on how to solve the given problem.

Occupational information about construction careers can give added meaning and interest to these activities. The total tie-in of structural concepts and careers can really motivate students in the suggested grade level. If you don't structure these activities too much, STRUCTURES will be successful in your classroom. The excitement of the experiment may make your classroom the noisiest on the floor, but you can be assured that STRUCTURES is a very constructive learning activity.

Karen McMahon
Activities Writer

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Construction Occupations

Structures

By Ray LeClaire
Grade 6 Teacher

I. Objectives

A. General objectives

1. To introduce the student to the various occupations and their function in the construction field.

2. To introduce the student to the concept of structure.

3. To develop an understanding of the natural forces of gravity and balance.

4. To develop an understanding of the physical characteristics of various materials and their limitations for use in structures. (strength, durability, weight, texture, pliability, etc.)

5. To enable the student to understand the importance of planning.

6. To introduce the student to the following concepts about workers:

   a. Education and work are interrelated.

   b. Occupations exist for a purpose.

   c. Individuals differ in their interests, abilities, attitudes, and values.

   d. Job specialization creates interdependency.

B. Specific objectives

1. The student will be able to name five construction occupations.

2. The student will be able to state five tasks of a construction worker of his choice.

3. The student will be able to state the education and training requirements for the worker of his choice.

4. The student will be able to relate his own interests, abilities, attitudes, and values to the worker of his choice.

5. The student will be able to build structures with the following materials: clay, straws, pins, tape, wood, toothpicks, paper tubes, and index cards.

II. Activities

A. INTRODUCE YOUR STUDENTS TO THE CONCEPT OF STRUCTURE. Point out various aspects of the school building, furniture, and natural objects such as bushes and trees. Discuss the role of gravity and balance in the make-up of these structures. Discuss the physical characteristics of the various materials in these structures. (pliability, strength, durability, weight, texture, etc.)

B. PROVIDE CLAY FOR YOUR CLASS. Ask them to build such familiar objects as bridges, towers, and trees. After they have built the structures, ask each student why he built this particular structure given clay as a material. Ask them to relate the various physical characteristics of clay. You may want to take pictures of some of the structures.

C. SHOW PICTURES OF CONSTRUCTION WORKERS. Refer to the N.O.W. Program's Resource List under Construction Occupations and General Occupational Information for various resources concerning these workers and workers in general. Make appropriate information available to your students on display tables and bulletin boards.

D. TAKE THE CLASS ON A CAREER FIELD TRIP TO A LOCAL CONSTRUCTION SITE. Document the field trip with pictures, written accounts, and tape recordings. Prepare your class for workers at the construction site:

1. What are some of the materials used in this structure?
2. Why were they used? (What properties do they have that make them appropriate for this structure?)
3. Who designed this structure?
4. Who specified the materials that went into this structure?
5. What jobs are necessary to insure the construction of this structure? (What are some of the things they do?)
6. How do these different jobs depend on each other for the completion of the structure?
7. What are the education/training requirements for these occupations?

E. WRITE THANK-YOU NOTES TO THE CONSTRUCTION COMPANY. Relate the important information the class found out.

F. BUILD STRUCTURES WITH STRAWS, PINS, AND TAPE TO SHOW STRENGTH, STABILITY, DURABILITY, WEIGHT FACTORS, PLIABILITY, AND TEXTURE. Take pictures of the structures, or otherwise document the improvement, if any, of the students' abilities to make a structure according to the standards that you specify.

G. ASK THE STUDENTS TO DO INDIVIDUAL RESEARCH ON THE CONSTRUCTION WORKER OF THEIR CHOICE. Ask each to prepare a final oral or written report on the construction worker of his choice paying particular attention to:

1. Five tasks or job performances of the construction worker of his choice. (Giving his job relationship to the completion of two specified structures.)
2. The education/training requirements for the worker of his choice.
3. The student's own interests, abilities, attitudes, and values concerning this worker.

H. BUILD A STRUCTURE FROM UNCOOKED SPAGHETTI AND TAPE. (DO not use thin spaghetti. It breaks too easily!) After the class has built their sturctures, ask each student why they built their particular structures given the materials uncooked spaghetti and tape. Ask them to relate the physical characteristics of these materials to their structure. Compare student responses and structure results with activities B. and F.

I. BUILD STRUCTURES TO SUPPORT A MAXIMUM WEIGHT FROM PAPER TUBES, INDEX CARDS AND TAPE.

J. BUILD STRUCTURES TO SUPPORT WEIGHT, USING SUCH MATERIALS AS TOOTHPICKS, SMALL PIECES OF WOOD, TAPE, AND PINS.

K. GIVE FINAL REPORTS ON WORKERS. Ask the students to give their reflections on the structures project.

IV. Materials and Resources

A. The N.O.W. Program has an extensive array of audio-visual materials and equipment that are available to you at your request from our Resource Center at Lewiston Comprehensive High School:

1. Tape recorders, tapes, microphones
2. Video-tape recording equipment
3. Cameras, film, flash bulbs
4. Projectors, screens

B. Resources

1. "Building a House," filmstrip
2. Construction Careers, book
3. I Want to be an Architect, book
4. I Want to be a Carpenter, book
5. I Want to be a Roadbuilder, book
6. "Roadbuilders at Work," filmstrip
7. "The Nation's Builders," Bowmar Kit, filmstrip-cassette

VTR USE

Developed by: Vincent Wills
N.O.W. Program

CONCEPTS: Although there is no direct connection with this mini-course and subject matter for fifth and sixth graders, VTR Use can serve as a useful vehicle for more generalized school skills like: hand, eye, and mind coordination, and following directions. This course may also motivate students who potentially have interest in communications and media occupations to explore their individual direction in this area.

OBJECTIVES	ACTIVITIES	OUTCOMES	MATERIALS AND RESOURCES
1. To be aware of the various occupations in the communications and media field that deal with the technical aspects of filming and recording. 2. To be aware of the basic skills and training requirements for selected careers in video and recording. 3. To give the student an opportunity to do some taping and playing back with the VTR System. 4. To encourage the student to follow directions in setting up and taking down the VTR System. 5. To encourage group and individual efforts.	1. An introduction to the various elements in a VTR System with an emphasis on function and methods: a. An actual illustration by the instructor on the components and their use. b. Hands-on practice activity by the students. 2. Take the students on a field trip to a local TV station. 3. Ask your students to draw parallels between the occupations at the TV station and the required roles to successfully tape a VTR program. 4. Give each student an opportunity to set-up, tape, play back, and dismantle the VTR System.	1. The student will become aware of some jobs, training, requirements, and skills related to video tape recording. 2. The student will set up the VTR System. 3. The student will tape a portion or all of a play, program, or TV commercial. 4. The student will play back his program. 5. The student will dismantle the VTR System.	1. A complete VTR System: a. Camera b. Deck c. Tapes d. Monitor television (These materials are available through the N.O.W. Program.) 2. Selected material for taping: a. Play b. Students write their own programs or commercials. 3. A field trip to a local TV Station to observe: a. Camera man b. Audio specialist c. Producer d. Director e. Mechanical technician

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STUDENT CHECKLIST

VTR USE

1. Did the student work as a team member?

2. VTR use

   a. Did the student successfully assemble the VTR system? (explain

   poor 1 | fair 2 | good 3 | excellent 4

   b. Did the student tape a program, play segment, or commercial? (Did he meet your criteria for a good taping?)

   AUDIO - poor 1 | fair 2 | good 3 | excellent 4

   VISUAL CLARITY - poor 1 | fair | good 3 | excellent 4

   FOCUS ON PROPER SUBJECT - poor 1 | fair 2 | good 3 | excellent 4

   c. Did the student go through the necessary steps of monitor hook-up etc. to successfully play back his tape?

   poor 1 | fair 2 | good 3 | excellent 4

   d. Did the student dismantle and store the VTR properly?

   poor 1 | fair 2 | good 3 | excellent 4

3. What occupational information did this student gain from his partic pation in "VTR Use?"*

   a. occupations: _____ _____ _____

   b. skills: _____ _____ _____

   c. training: _____ _____ _____

   *You may want each student to fill out a questionaire relating to occupations, skills, and training.

4. Comments:

PLAY PRODUCTION Developed by: Doria St. Hilaire

This course was developed in conjunction with another mini-course: VTR Use. The actors observed their performances. The play participants also improvised their own costumes and made the play setting. The play used was called "The King Who Hated Birthdays" by Jane Foster Thornton. It was from the March 1973 issue of the Drama Magazine for Young People. The play was selected for its brevity and easy readability.

OBJECTIVES	ACTIVITIES	OUTCOMES	MATERIALS & RESOURCES
1. To give the student an opportunity to learn to express himself orally in front of a group. 2. To introduce the student to the performing arts, and the various occupations and roles involved in play production. 3. To give the student an opportunity to utilize reading and memory skills. 4. To give the student an opportunity to utilize his creative talents in design and expression. 5. To stress the interdependence of the people who work together on a play.	1. Introduce your play choice to the course participants: a. Tell them something about who wrote the play. b. Tell them something about each character. c. Tell them about the play itself. d. Ask for volunteers to try out for each part. e. Determine who is most suitable for each part. 2. Read the play together. 3. Work on scenery. 4. Make costumes. 5. Have rehearsals. 6. Video-tape so that actors may determine their strengths and weakness.	1. Each participant will have contributed to the full production of a play in the following areas: a. Development design, and/or construction of play scenery. b. The memorization and performance of his part in the play. c. The development and construction of his own costume. d. The self-analysis of his performance in the play after viewing the video-tape of his performance.	1. A short and easily read play with enough characters for everybody. 2. A room or stage where stage scenery and costumes will not be disturbed for the course duration. 3. Materials: a. Boxes. b. Scissors. c. Crayons. d. Paints. e. Chairs and tables. 4. Hand-me-down clothes. 5. Video-tape equipment. 6. Persons who can run video-tape equipment.

PLAY PRODUCTION

Student Checklist

Student's Name: _____

1. Did the student cooperate in developing, designing, and/or constructing scenery for the play?

2. Did the student know his part in the play?

3. How would you rate the student's efforts in representing his part in the play?

poor	fair	good	excellent
1	2	3	4

4. Did the student work well in a group as well as individually?

5. Did the student put together his costume for the play?

6. Did the student make a thorough analysis of his performance in the play after viewing the video-tape? (What was this analysis?)

7. Comments:

WOODWORKING

Developed by: Robert Ducharme

Woodworking can be a valuable learning experience by providing a more palatable and relevant way for 5th and 6th graders to improve reading, math, and motor coordination skills. Occupational information gives added impetus to the impact of this course by showing that these "school skills" can become job skills.

OBJECTIVES	ACTIVITIES	OUTCOMES	MATERIALS AND RESOURCES
1. To be aware of the various occupations related to woodworking. 2. To be aware of the basic skills and training requirements for occupations in woodworking. 3. To use and care for basic hand and measurement tools. 4. To plan and read working drawings before starting a project. 5. To encourage group and individual efforts.	1. An introduction to tool use and occupational information: a. Demonstration and hands-on activity. b. A resource person to speak to participants about his occupation in the woodworking field. c. A field trip to a business where woodworking is done. 2. Students choose their projects. (Instructor also works on a project for demonstration purposes.) Examples: a. Birdhouse b. Footstool c. Small and simple toys 3. Students work at their own speed and competency to complete project per objectives 3,4, and 5.	1. The student will become aware of jobs, training requirements and skills related to woodworking. 2. The student will start and finish a woodworking project of his choice per objectives 3,4, and 5.	1. Tools: a. Hammer b. Rule c. Square d. Hand saw e. Drill f. Sandpaper g. Plane h. Vise i. Paint brush 2. Wood 3. Nails and screws 4. Resource persons in woodworking related occupations. 5. A field trip to a cabinetmaking, woodmaking, or furniture making concern. 6. Suggested book for instructional materials reference: Carpentry for Children, Leavitt, Jerome E. Dingley Library 784.08

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Student's Name: _____

WOODWORKING

Student Checklist

1. Did the student work as team member?

2. Use and care of tools:

	Use	Care
a. Hammer		
b. Rule		
c. Square		
d. Hand saw		
e. Drill		
f. Sandpaper		
g. Plane		
h. Vise		
i. Paint brush		

3. Respect for others and their property:

4. End product:

   a. Completed:
   b. Incomplete:

5. Behavior

   a. Improved
   b. Same
   c. Worse

6. Comments:

GLASS STAINING

Developed by: James Gondek

Primarily this course is designed to help students use their leisure time wisely. The materials used are easily obtained. Glass can often be donated. The special paints and the liquid lead can be purchased at a local hobby center. Since the paints and liquid lead are a considerable investment, the teacher may well encourage the students to use their materials wisely and to plan ahead what they want to do on a working drawing. A frugal use of materials and the ability to plan ahead are valuable in the working world.

OBJECTIVES	ACTIVITIES	OUTCOMES	MATERIALS AND RESOURCES
1. To involve the student in constructive leisure-time activity. 2. To introduce the student to the idea that constructive leisure-time activity can develop into a full time economic-occupational venture. 3. To encourage the student to plan ahead. 4. To encourage the student to use materials conservatively. To give the student a sense of accomplishment by completing his project.	1. Introduce the materials used and give a simple demonstration on their use. 2. Allow the students to plan their project on a working drawing. 3. Encourage them to use materials conservatively by pointing out the importance of planning ahead.	1. The student designs and completes a glass staining project in a four week period given one class period each week for this activity.	1. Panes of glass. 2. Liquid lead. 3. Glass paints. 4. Fine and coarse brushes. 5. Paint thinner. 6. Drawing paper. 7. Colored pencils, crayons or felt-tipped markers.

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STUDENT CHECKLIST

GLASS STAINING

Name: _____

1. Did the student show respect for others and their property.

2. Behavior:

   a. improved b. same c. worse

3. Did the student plan ahead?

4. Did the student use materials conservatively?

5. End product: (What was the product?)

   a. completed:

   b. incomplete:

6. Comments:

CANDLEMAKING

Developed by: James Gondek

Primarily this course is designed to help students use their leisure time wisely. Mathematical skills are needed, however. Students must measure correctly and determine temperature levels and differences in order to make a candle that will burn properly. After the initial instruction on candlemaking procedure, students were encouraged to follow their own creative spirits in constructing candles of all sizes, shapes, colors, and types.

OBJECTIVES	ACTIVITIES	OUTCOMES	MATERIALS AND RESOURCES
1. To involve the student in constructive leisure-time activity. 2. To encourage group and individual efforts. 3. To reinforce the math skills of measurement and determining temperature. 4. To introduce the student to the idea that constructive leisure-time activity can develop into a full-time occupational-economic venture.	1. Introduce the students to the various materials used in candlemaking: a. wax b. wicks c. conditioners d. polishes e. dyes f. scents g. molds 2. Demonstrate the steps in making a candle by making a simple candle: a. Melt wax (discuss safe and unsafe ways of melting wax.) b. Add conditioners, dyes, and scents. (Discuss measurement.) c. Secure wick in mold. d. Pour wax in mold. (Discuss safety.) 2. Allow the students to plan their projects. 3. Visit a craft store or have someone who makes candles for a living talk to the class. 4. Allow remaining time for project completion.	1. Each student will complete at least one condle in the four class sessions. Some of these products might include: sand candles, water candles, and candles of various shapes from molds such as detergent bottles.	1. Wax (80# for $20.00) 2. Wicks 3. Conditioners 4. Polishes 5. Scents 6. Dyes (Crayons work OK) 7. Sand 8. Salad oil for water candles 9. Eye dropper, measuring cups 10. Candy thermometers 11. Heating units 12. Double boilers 13. Molds (Plastic containers of all sizes and shapes) 14. As a reference you might want to procure a candlemaking instruction book from a local hobby center. 15. Make contacts with a person who makes candles for money to come into the class and speak. Prepare your students to ask questions about this person's work role.

STUDENT CHECKLIST
CANDLEMAKING

Name: _____

1. Did the student work well individually as well as part of a team?

2. Did he show respect for others and their property?

3. Behavior:

   a. improved b. same c. worse

4. End products: (What was the project?)

   a. completed: b. incomplete:

5. Did the student observe safety procedures in handling melted wax and in melting wax?

6. Comments:

MODEL CONSTRUCTION

Developed by: Roland Hachey

Model construction, a common leisure time activity for 5th and 6th grade boys, can easily extend into the realm of education. To read and follow directions, to encourage group and individual efforts, to visualize parts into a whole, to improve motor coordination, and to explore occupations and means of transportation make this course valuable to the student who is motivated by model construction.

OBJECTIVES	ACTIVITIES	OUTCOMES	RESOURCES AND MATERIALS
1. To read and follow directions included in a model kit and/or to plan and follow original instruction plans. 2. To encourage group and individual efforts. 3. To assemble and complete a model kit and/or to create and complete an original model. 4. To introduce and explore briefly, occupations connected with the use, management, or construction of the vehicles represented by the models.	1. Instructor presents various model kits and miscellaneous model parts dealing with transportation. 2. Students select a model kit, or they may make plans for the construction of an original "transportation" model. 3. Instructor talks about: a. Transportation occupations based on student selections of model construction. b. Why and how transportation systems are important. 4. A field trip to a business that deals with the use, management, or construction of transportation vehicles. 5. A resource person in the transportation occupations area. 6. Students work at their own speed and competency to complete projects.	1. The student will become aware of selected jobs and basic skill and training requirements related to the use, management, and construction of transportation vehicles. 2. The student will start and finish a model-making project per objectives 1.-4. (Also, see Student Checklist on following page.)	1. Materials: a. Plastic glue b. X-acto knives c. Misc. plastic model making material 2. Model kits: a. Boats b. Cars c. Airplanes 3. Resources: a. A resource person involved in the use, management, or construction of transportation vehicles b. A field trip to a concern that deals with the use, management, or construction of transportation vehicles.

MODEL CONSTRUCTION

Name_____

1. Did the student work as a team member? (Respect for others and their property?)

2. Did the student carry out and complete his original project plans? (What was the project?)

3. Behavior:

   a. improved b. same c. worse

4. Comments

LEATHERCRAFTS

Developed by: Raymond LeClaire

This mini-course can provide students with the motivation to use their leisure time constructively. Preplanning and organization are emphasized to encourage the students not to waste materials. It might well be noted that preplanning, organization, and a frugal handling of materials and resources are much respected by most employers. It is, therefore, evident that constructive leisure time activities such as leathercrafts can contribute to the student's total adjustment to his life role and work role.

OBJECTIVES	ACTIVITIES	OUTCOMES	MATERIALS AND RESOURCES
1. To improve the manual dexterity of students who already show ability in this area. (Students with poor manual dexterity should be discouraged from taking this mini-course since sharp implements are used on the leather.) 2. To enable the student to engage in constructive leisure time activity. 3. To introduce the student to some occupations that deal with leather. 4. To give the student a sense of accomplishment in a simple task that he has organized and planned himself.	1. Show film: "Earning a Living by Leathercrafts." 2. Bring in various materials for leather crafts. (Refer to Material & Resources.) a. Introduce these materials. b. Allow them to engage in hands-on experience materials. 3. Show them several projects that they may get involved in. (Refer to resource list for suggested references.) 4. Have them choose their project, plan the amount and types of materials and implements they will use. 5. Take them to a business that deals with leather.	1. The student will make a relationship between leathercrafts and ways of making a living with leather. 2. The student will plan and organize his materials and implements in order to complete a leathercrafts project. 3. The student will become exposed to at least one occupation that deals with the processing or manufacturing of leather products.	1. Scrap leather from the local shoe industry. 2. X-acto knives. 3. Punches. 4. Leather glue. 5. Lacing. 6. Plastic gimp. 7. Suggested projects: a. Change purse. b. Pencil-pen holders. c. Headbands. d. Chokers. e. Knife cases. f. Braided gimp objects. 8. A resource person and/or field trip dealing with the leather industry. 9. Instruction books about simple leather crafts and gimp braiding: a. Knotting and Braiding with Pyro-Lace. (Gordon's Hobby House) b. Creative Leathercraft, Grete Peterson. Available at the H.S. Library 745.53 P.44.

Student's Name_____

LEATHERCRAFTS

STUDENT CHECKLIST

1. What was the student's project?

2. Did he complete the project?

3. Did the student waste materials?

4. How would you rate the student's organization and planning for his project?

poor	fair	good	excellent
1	2	3	4

5. How would you rate the student's behavior in the classroom?

poor	fair	good	excellent
1	2	3	4

6. Was the student willing to share his tools and materials?

7. Was he willing to help other students in the course?

8. What tools and materials did the student use? Did the student use them effectively?

Comments:

SEWING

Developed by: Doria St. Hilaire

Although sewing is a very constructive leisure time activity, it can also be a very valuable vocational skill not only in the world of work but in the home. It also has value in school situations. Math skills are needed in measurement; reading skills are needed in reading and interpreting patterns. Following directions and organizing materials are also useful in work, school, and home situations.

OBJECTIVES	ACTIVITIES	OUTCOMES	MATERIALS AND RESOURCES
1. To encourage the student to use reading skills in reading sewing pattern directions. 2. To encourage students to plan ahead. 3. To encourage the student to organize materials. 4. To utilize the math skills of measurement and number recognition. 5. To help develop fine and gross motor skills. 6. To introduce the student to occupations that utilize sewing skills. 7. To involve the student in constructive leisure-time activity. 8. To introduce the student to hand, machine, and decorative stiching.	1. Display and explain briefly the materials and equipment that the students will be using. 2. Teach hand sewing of base running, and blanket stitches by making random patterned quilting projects with the class. 3. Make cross and embroidery stitch samplers along with with the students. 4. Instruct them on the use, and care of the sewing machine by demonstration and hands-on experience. 5. Have the students make simple projects like: pocketbooks, pillow cases, and curtains. 6. Show them ways to use iron-on tape for appliques. 7. Have a tailor and/or seamstress talk to the class about their occupation. 8. Give individual help to students until their projects are completed.	1. Each student will demonstrate his ability to do base running and blanket stitches in making random quilt patterns. 2. Each student will be instructed on the use and safety procedures of the sewing machine. 3. Each student will make a cross stitch and embroidery stitch sampler. 4. Each student will complete a sewing project using his choice of or combination of the above skills.	1. One sewing machine for every two students. (This course may be taught without a sewing machine.) 2. Colored thread. 3. Needles and pins. 4. Scissors for each student. 5. Linen. 6. Embroidery thread. 7. Embroidery hoops. 8. Cloth scraps and yard or more remnants. 9. Iron-on tape for appliques. 10. Ironing board. 11. A tailor and/or seamstress to talk to the class. 12. Pencil and paper for pattern making.

STUDENT CHECKLIST

SEWING

Name: _____

1. Did the student show respect for others and their property?

2. Behavior:

   a. improved b. same c. worse

3. The student learned to do the following stitches:

   a. base ___
   b. running ___
   c. blanket ___
   d. embroidery ___ (please specify)
   e. cross ___

4. Did the student complete the project? (What specifically was the project? What stitches were involved? Did the student use appliques and/or embroidery?)

5. Comments:

Knitting and Crocheting Developed by Joanne Snell

The purpose of this mini-course is primarily to provide constructive leisure time activity. Reading and following directions, developing fine and gross motor skills, and counting make the course valuable to school and work-life situations.

OBJECTIVES	ACTIVITIES	OUTCOMES	MATERIALS AND RESOURCES
1. To help the student develop fine and and gross motor skills. 2. To encourage the student to read and follow directions. 3. To give the student a sense of accomplishment by completing a planned project. 4. To introduce the student to a constructive leisure time activity that can develop into a full time economic-occupational venture. 5. To encourage peer-group interaction.	1. Show the students some samples of some simple & useful objects that can be made by knitting and crocheting. 2. Take the students to a craft boutique where they can see that people can use knitting & crocheting not only as a hobby but as a money making project. 3. Demonstrate how to knit & perl. 4. Demonstrate how to do chain stitch, single, double, and triple crochet. 5. Allow the students to practice combinations of the above. Give individual attention where necessary. Use a mirror for instructing left-handed students. 6. Show those who are crocheting how to do a granny square.	1. Each student will have completed a simple knitting or crocheting project such as, a headband or a granny square pot holder.	1. Large knitting needles (8-9) and crochet hooks. 2. Beginning crochet and knitting books. 3. 10-15 students per class. 4. Previous arrangements for a career field trip to a craft boutique. 5. Yarn, scraps and skeins of yarn for more [illegible] students.

STUDENT CHECKLIST

KNITTING AND CROCKETING

Student's Name: _____

1. Did the student show respect for others and their property?

2. Behavior:

   a. improved b. same c. worse

3. Did the student complete the project? (What was the project?)

4. The student learned to do the following stitches:

   a. knit ___ d. single crochet ___

   b. perl ___ e. double crochet ___

   c. chain___ f. triple crochet ___

5. Comments:

CHESS

Developed by: Richard McCallum

Although chess is not directly related to any school subject for fifth and sixth graders (except mathematics), chess can improve the following skills: organization, logic, and concentration. This all adds up to a constructive development of the mind outside of an academic situation, and the improvement of basic skills that are essential to success in school and in turn to success in the working world.

OBJECTIVES	ACTIVITIES	OUTCOMES	MATERIALS AND RESOURCES
1. To improve hand-eye coordination, organization, logic, and concentration. 2. To illustrate mathematical relationships in terms of strategy on the chess board. 3. To involve the student in constructive leisure time activity. 4. To encourage individual as well as collective efforts. (Games involving identification of chess pieces, moves and strategies.)	1. Introduce the basic chess moves: a. Lecture. b. Hands-on experience. c. Posters illustrating each move. 2. Reinforce moves and strategies: a. Play chess games: 1.) Stencils picturing moves. Students identify piece, move & strategy. 2.) Teacher sets up a board with a particular strategy. Student & partner must try & get out of the situation. 3.) Students play a game of chess with themselves. 4.) Students play chess with other course participants. b. Conduct chess tournaments within the school & with other schools.	1. The student will know the moves and placement of each piece in a chess game. 2. The student will recognize mathematical relationships between the moves of the various pieces & possible associated strategies. 3. The student will complete a chess game with himself. 4. The student will complete a chess game with another course participant. 5. If your course allows the time, the student will complete at least one game of chess as a participant in a school or interschool chess tournament.	1. A quiet room that allows participants to engage in the game without distraction and crowding. 2. Chess boards and pieces for every two participants. 3. Enough instructors for participants to get individual attention (Probably about one instructor for every fifteen students) 4. A chess instruction book for reference: Drueke's Chess Primer, WMF Drueke, Pub. by WMF Drueke Inc. This book is available at Gordan's Hobby House, 19 Park Street. 5. Refer to student checklist.

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CHESS

STUDENT CHECKLIST

1. Did the student participate as an individual as well as a group member?

poor	fair	good	excellent
1	2	3	4

2. Did the student exhibit a noticeable improvement (according to his individual abilities) in hand-eye coordination, organization, logic, and concentration? Explain:

3. Did the student make the appropriate moves for each piece?

Pawn_____ Bishop_____

Castle_____ Queen_____

Knight_____ King_____

4. Did the student meet OUTCOMES 1.-5.?

1	2	3	4

5. Was the student's behavior:

improved? the same? worse? different?

6. Comments:

CARD GAMES: CRIBBAGE-WHIST-BRIDGE

Developed by Henry Hall

Card games such as cribbage, whist, and bridge are one way to use leisure-time constructively. They can give the student an opportunity to use mathematical relationships for fun. Card games is a way for friends to get together. Card games can also sharpen the student's awareness of possible consequences that may result from his decision to play a certain combination of cards. Each card game was introduced in a four week period.

OBJECTIVES	ACTIVITIES	OUTCOMES	MATERIALS AND RESOURCES
1. To improve hand-eye coordination, organization, concentration and logic. 2. To provide the student with decision-making opportunities. 3. To give the student an opportunity to function as an individual as well as a team member. 4. To involve the student in constructive leisure time activity. 5. To give the student the opportunity to use math in an enjoyable and constructive manner. 6. To encourage the student to think ahead.	1. Initially give the students an opportunity to get used to handling cards by allowing them to shuffle, deal, and hold the cards in a fan. 2. Introduce the rules of the game. Show some possible card combinations on an overhead projector. 3. Have the students practice the combination by playing some games open handed. 4. Give the students individual attention on holding and organizing their cards. 5. Point out mathematical combinations (pairs, runs, combo's, etc.) 6. Give the students an opportunity to play the games in groups. 7. Evaluate them according to their ability to play the game by the rules.	1. The student will demonstrate his knowledge of the rules and procedures of cribbage, whist, and/or bridge by participating in the game(s) and playing to completion.	1. Cribbage boards and pegs. 2. Cards. 3. Tally sheets and pencils. 4. Overhead. 5. Transparencies with common card combinations for cribbage, whist, and bridge. 6. Hoyle's Book of Games for teacher and student reference.

Student's Name: _____

Mini-Course: _____
(cribbage-whist-bridge)

Student Checklist.

1. Did the student participate individually as well as with a group?

poor	fair	good	excellent
1	2	3	4

2. Did the student exhibit a noticeable improvement (according to his individual abilities) in hand-eye coordination, organization, logic, and concentration? Explain:

3. Did the student have a grasp of the rules of the game?

poor	fair	good	excellent
1	2	3	4

4. Was the student's behavior:

improved? the same? worse? different?

5. Comments:

COMMERCIAL ART

Developed by: Maurice Locke
Commercial Artists
Locke Signs

Drawing can be a valuable skill. It can help develop perspective, and coordinate the mind with the hand. This course can give the student a different point of view for looking at the natural world since the instructor applies the initial drawing of basic forms such as cylinders cubes, spheres, and pyramids to the forms of natural and made-made objects. Mr. Locke also related art skills to the world of work.

OBJECTIVES	ACTIVITIES	OUTCOMES	MATERIALS AND RESOURCES
1. To introduce the student to the drawing of three dimensional objects such as: cylinders, cubes, pyramids, spheres and rectangular solids. 2. To encourage the student to apply the above basic shapes to the forms of natural and man-made objects. 3. To encourage the student to become more confident in expressing himself by drawing. 4. To enable the student to coordinate the mind with the eye and with the hand. 5. To help the student develop a sense of visual perspective. 6. To introduce the student to the various occupations that utilize art skills.	1. Prepare drawings of basic three dimensional shapes, and display or draw the shapes on a blackboard to illustrate methods and forms. 2. Ask the students to draw the same forms. Give them individual help. 3. Introduce and discuss as a class the occupations that require artistic skill. 4. As they become more confident with the basic forms help the students materialize these forms into natural and man-made objects. 5. After the fourth week ask each student to draw the basic forms again. Compare these results with initial results.	1. Each student will demonstrate how to draw the following basic forms: cylinder, cone, pyramid, cube, rectangular solid, and sphere. 2. Each student will, by means of drawing, draw natural and/or man-made objects using the above solids as a basis.	1. Three dimensional basic solids models. (wood or cardboard) 2. Drawings of these three dimensional solids. 3. Drawing pencils. (soft lead) 4. Drawing paper. 5. The opportunity to observe natural and man-made objects that reflect the basic solid shapes. 6. Occupational information about careers that use art skills. (Refer to the NOW Program's Resource List)

STUDENT CHECKLIST

COMMERCIAL ART

Student's Name:_____

1. Did the student show respect for others and their property?

2. Behavior:

   a. improved? b. same? c. worse?

3. The student drew the following basic forms:

   a. Cylinder ___ d. Cube ___

   b. Cone ___ e. Rectangular solid ___

   c. Pyramid ___ f. Sphere ___

4. The student used the basic forms below to draw:

   a. Cylinder: d. Cube:

   b. Cone: e. Rectangular solid:

   c. Pyramid: f. Sphere:

5. My overall evaluation of the student's progress in depicting the solids (by comparsion of first week and fourth week drawings) is:

poor	fair	good	excellent
1	2	3	4

6. Comments:

TUTOR CORPS

Developed by: Richard Bernier

This mini-course gives students a first hand experience at teaching. Tutors were allowed to choose their subject and grade level. A number of things can be gained from this experience. The student may find ways to relate to his peers better. The tutoring situation also provides the student with the incentive to help others, and it particularly helps them with their own study skills since they must prepare a lesson for their tutee.

OBJECTIVES	ACTIVITIES	OUTCOMES	MATERIALS AND RESOURCES
1. To give the student the opportunity to relate to his peers. 2. To encourage the student's incentive for helping others. 3. To help improve the tutor's study skills by giving him the opportunity to prepare lessons for his tutee. 4. To introduce the student to the teaching profession.	1. Start the program by having a discussion about the teaching profession. Ask the students their impressions of what a teacher does. 2. Inform them that they will tutor a student on a grade level and subject matter of their choice. Have each student write a contract for his desired tutoring program. 3. Make appropriate arrangements with the teachers in the school for your tutors. 4. Provide textbooks and materials that are needed. 5. Ask tutors to submit a teaching plan for their tutoring program. 6. Individually advise tutors.	1. Each tutor will have tutored a student on a grade level and subject matter of his choice for a contract period of two hours for four weeks.	1. Textbooks, workbooks and school supplies.

STUDENT CHECKLIST

NAME: _____

MINI-COURSE: Tutor Corps

1. Did the student submit a contract?

2. Did he follow out his contract plans?

3. Did the student show incentive in helping others?

4. Has the student showed increased interest in the teaching profession as a result of this activity?

5. Did the student return borrowed textbooks and supplies?

6. Was the regular classroom teacher of the tutee pleased with the performance of the tutor with her student?

7. Did the regular classroom teacher notice any changes in the tutee performance in classroom work?

CAREER FIELD TRIPS

Developed by: Raymond LeClaire

CONCEPTS: This activity is most closely related to the social studies curriculum. The intent is to show the students a wide variety of occupations that do not require special skills or intense training that exist in our community. This exposure should help widen social concepts on the fifth and sixth grade levels. It may show how society depends on workers to function. It can also make them aware of the wide variety of opportunities that will be available to them as young adults.

OBJECTIVES	ACTIVITIES	OUTCOMES	MATERIALS & RESOURCES
1. To expose the student to a wide variety of careers. 2. To enable the student to examine his own interests, abilities, aptitudes, and values in relation to these careers. 3. To show the interdependent relationships of society and workers. (Examine 2., a.-e. in a field trip follow-up by showing slides or pictures of workers taken on the field trips.)	1. Take the students on a variety of career field trips. 2. Ask students to observe workers they see on their field trips: a. Worker roles. b. Tools, machines, and implements. c. Worker's relationship to other workers. d. The worker's role in relation to society's function. e. The student's interests, abilities, aptitudes, and values in relation to selected work roles. 3. Have the student's make lists of all the workers they can think of who contributed to the business.	1. The student will become aware of selected worker relationships in an interdependent society. 2. The student will examine his own interests, abilities, aptitudes, and values in relation to selected occupations. 3. The student will become more aware of selected work roles, skills, and duties.	1. A list of cooperative business establishments for proposed field trips. 2. Arrangements for transportation. 3. Student-permission slips. 4. Film, flashbulbs, and camera. 5. Projector and screen. 6. Organization and planning prior to the course to make the proper arrangements with the business establishments for the career field trips.

Student's Name: _____

CAREER FIELD TRIPS

STUDENT CHECKLIST

1. The student returned approved permission slips for the career field trips in which he participated.

   yes no

2. According to my own guidelines and expectations the student observed and reported on his observations about these career field trips according to the criteria in ACTIVITIES 2., 1.-3. to the best of his ability.

	poor	fair	good	excellent
2.a.	1	2	3	4
2.b.	1	2	3	4
2.c.	1	2	3	4
2.d.	1	2	3	4
2.e.	1	2	3	4

3. Was the student cooperative?

4. How would you evaluate the student's behavior in class and on the field trips? (Please explain your choice.)

poor	fair	good	excellent
1	2	3	4

5. Comments:

ART IN CAREER EDUCATION

Grades K-3

Developed by:

Elaine Cannan

Elementary Art Teacher

In Cooperation with the

N.Q.W. Staff

Suggested for use in conjunction with career education activities by regular classroom teachers and art teachers.

INTRODUCTION

Art in Career Education is primarily intended for the elementary art teacher, but it can also help the regular classroom teacher who wishes to supplement and reinforce career education activities with art.

This package covers four grade levels. The activities suggested for these grade levels coincide with other career education learning packages that have already been developed. A list of packages is available at your request.

The NOW Program welcomes your suggestions for additional career education art activities.

Karen McMahon
Activities Writer

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ART IN CAREER EDUCATION

Developed by Elaine Cannan
Elementary Art
Teacher

I. Objectives

A. General objectives

1. To integrate art into other existing curriculum areas by emphasizing career education applications in these areas.

2. To help develop the student's hand-eye coordination skills.

3. To develop the student's abilities to use art tools in expressing his ideas and feelings.

4. To familiarize the student with the basic art concepts of color, shape, and line.

B. Specific objectives

1. Kindergarten

The student will be able to illustrate tools, objects, clothing, workers, buildings, and machinery that are appropriate to a given unit of instruction in the kindergarten curriculum.

2. First grade

a. The student will be able to illustrate his choice of profession by completing an "I wish I were..." portrait.

b. The student will be able to illustrate his impressions of a story about a given worker.

3. Second grade

a. The student will be able to construct a hat representing a worker of his choice.

b. The student will be able to construct a doll house, store, clubhouse, business office or other appropriate building that represents a group of workers currently being taken up in the classroom.

4. Third grade

a. The student will be able to design and draw a floor plan of his own home.

b. The student will be able to help design and illustrate a wall mural depicting buildings appropriate to a group of workers.

**The art teacher may at times want to take the liberty to make career education applications through art in the existing curriculum even though the regular classroom teacher does not do so. It is also advisable that the art teacher coordinates her activity with regular classroom activities as closely as possible.

These objectives can easily be expanded and added to as you find additional art activities to coordinate with career education classroom activities. The NOW Program will appreciate your communications concerning your additions.

II. Activities

Note: These activities are divided according to grade level. These activities are only examples of how an art teacher can integrate art lessons with career education activities. Many more activities could and should be developed and incorporated with these activities. Since the elementary art program is on an itinerant basis, the art teacher only sees each class once a week at the most and most often every two weeks. Good rapport is needed between the classroom and art teachers. A great deal of planning is needed on the part of the art teacher to coordinate the art lesson with the teacher's current classroom career education activities.

A. Kindergarten

1. ASK THE STUDENTS TO HANG OUT THE FAMILY CLOTHES. Paste a piece of yarn on a sheet of drawing paper. Ask the students to fill in various articles of clothing with their colored markers or crayons. Ask them to draw in a background of trees, sky, clouds, sun, flowers, and shrubs. This fits in nicely with the NOW Program's unit "My Home—Mom—Dad—Sister—Brother—Me."

2. HAVE THE STUDENTS DRAW VARIOUS ASPECTS OF FARM LIFE AND WORK. Refer to the unit called "The Farm" which is distributed by the NOW Program. Ask the students to draw farm workers performing their duties, animals, buildings, and equipment.

B. First grade

1. HAVE THE STUDENTS DRAW A SELF-PORTRAIT DEPICTING THEMSELVES AS THEIR FAVORITE WORKER. You may extend this activity to any group of occupations. For example, you might ask the students to draw pictures of themselves as their favorite community helper, construction worker, or health worker.

2. HAVE THE CLASS DRAW PICTURES OF ONE THING THAT A WORKER DOES ON HIS JOB. Do this after the teacher has read a story from the "I Want to Be" Series (available through the N.O.W. Program). Pay special attention to tools, implements, job duties, and the appropriate uniform.

C. Second grade

1. HAVE THE STUDENTS CONSTRUCT HATS THAT WORKERS WEAR ON THEIR JOBS. Use construction paper, glue, tape, string, and cardboard. The teacher may want to follow-up this activity with a role playing exercise where the students use their hats as part of a costume to act-out their worker on the job.

2. HAVE THE CLASS CONSTRUCT BUILDINGS OR VEHICLES THAT WORKERS WORK IN. Use cardboard boxes, poster paints, and classroom furniture. The classroom teacher may later use these buildings and vehicle for role playing activities...either adlib or script plays.

D. Third grade

1. ASK THE STUDENTS TO DRAW A FLOOR PLAN OF THEIR HOMES. Materials needed for each student will include: sharp pencils, rulers, and paper. Have the students note that they are, in part, performing the architect's role. This activity may be used in conjunction with a teacher's unit on construction workers. (Refer to "Workers Who Build Our Homes"--available through the N.O.W. Program.)

2. HAVE THE CLASS PLAN A MURAL OF THE CITY SKYLINE OR AN AREA WHERE WORKERS ARE. Provide paints, brushes, and drawing tools for the students to illustrate their mural.

III. Evaluation - Evaluation should be individualized and on an observation basis.

A. As an art teacher, you may primarily want to check the art work for the student's application of color, shapes, and lines. A comparison with previous work will indicate the student's progress in these areas.

B. The art teacher might ask: "What efforts did I make to coordinate my art activity with current classroom activity?"

C. From a career education standpoint, the art products can be valuable to the classroom teacher as well as the art teacher. The art work can reveal what the student knows about workers in general, job duties, and specific groups of workers.

Art work is a useful evaluative tool particularly in the case of non-readers. The teacher may suggest that the students depict an aspect of the working world before she starts a career education unit that involves this aspect, and then give the same assignment after the unit. A comparison of the two products will indicate any progress.

IV. Materials and Resources

A. A variety of art supplies.

B. Refer to the NOW Program's Resource List for occupational learning aides and information.

C. The NOW Program has a vast array of audio-visual materials and equipment that are available at your request from our "Resource Center at Lewiston Comprehensive High School. Refer to the Resource List for a complete list of materials and equipment.

*ART IN CAREER EDUCATION
CAREER EDUCATION IN ART

Grades 4-6

Developed by:

Elaine Cannon
Elementary Art Teacher

In Cooperation with
the N.O.W. Program

*Suggested for classroom teachers as well as art teachers

INTRODUCTION

This unit serves several purposes. Art can reinforce career education activities. Art work can also be a useful evaluative tool for career education activities. Students can also learn more about the many different kinds of artists by making art works representative of the types of work these artists do.

Feel free to use these activities if you are a classroom teacher or an art teacher. Although the activities are specifically intended for the art teacher, the classroom teacher may find them most useful as supplements to regular career activities.

Karen McMahon
Activities Writer

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*Art in Career Education
Career Education in Art

**I. Objectives

A. General objectives

1. To integrate art into other existing curriculum areas by emphasizing career education applications in these areas.

2. To introduce the student to various careers in the field of art.

3. To introduce the student to the various skills, interests and abilities needed for careers in art.

4. To help develop the student's hands-on coordination skills.

5. To familiarize the student with the basic art concepts of color, shape, and line.

B. Specific objectives

1. Fourth grade

a. The student will be able to construct a free-form sculpture given two or more objects that relate directly or indirectly to ecology and conservation in Maine.

b. The student will be able to construct a free-form hanging mobile given two or more objects that relate directly or indirectly to his choices of the following industries in Maine: fishing, lumber, paper, and agriculture.

*The art teacher may at times want to take the liberty to make career education applications through art in the existing curriculum even if the regular classroom teacher does not do so. It is also advisable that the art teacher coordinate her activity with regular classroom activities as closely as possible.

**These objectives can easily be expanded and added to as you find additional art activities to coordinate with career education classroom activities. The NOW Program will appreciate your communications concerning your additions.

c. The student will be able to depict his choice of the following natural resources of Maine given magazines, colored paper, crayons, poster board, scissors, and paste: waterways, oceans, minerals, seafoods, forests, mountains, and potato growing country.

2. Fifth grade

a. The student will be able to draw, color, and write an accompanying dialogue for at least a four-frame cartoon with characters of his choice of two worker from a given group of workers depicting a worker with good work habits and a worker with bad work habits.

b. The student will be able to lay-out and sketch a newspaper advertisement whose product or service is representative of a given classification of occupations.

3. Sixth grade

a. The student will be able to construct a free-form sculpture or a structured form given at least two pieces of lumber scrap, a hammer, and nails, and if the student chooses, a working plan.

b. The student will be able to design, draw, and color an eight frame filmstrip depicting a worker of his choice from a given group of workers performing at least one job duty.

c. The student will be able to design, draw, and color a greeting card representing an occasion of his choice given construction paper, crayons, scissors, paste, and pencils.

Note: These activities are divided according to grade level. These activities are only examples of how an art teacher can integrate art lessons with classroom activities. Even if careers are not specifically utilized in some classrooms, you may want to take this opportunity to make some of these tie-ins by closely coordinating your activity with the teacher and bringing in careers, or you may take the opportunity to introduce different careers in art. Many more activities could and should be developed and incorporated with these activities. Since the elementary art program is on an intinerant basis, the art teacher only gets around to each class once a week at most. Good rapport is needed between the classroom and the art teacher to coordinate the art lesson with the teacher's current career education activities.

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II. Activities

A. Fourth grade

1. COLLECT OBJECTS THAT REPRESENT CONSERVATION AND ECOLOGY IN MAINE: bird feathers, tree branches, pictures of animals, shells, rocks, paper, pictures of smoke stacks, cigarettes, litter of all types, etc. Hand out at least two objects to each student. Make available such things as glue, string, rubber bands, crayons, and paper. Ask the students to compile (individually or in groups) free-form sculptures that they feel represent ecology and conservation in Maine. Introduce the role of the sculptor as artist. You might ask someone who does sculpting in Maine to come into the class and speak about his job as a sculptor and to help direct the classroom activities. You may want to do this activity in conjunction with environmental control occupations.

2. COLLECT OBJECTS THAT RELATE TO MAINE INDUSTRIES: fishing, lumber, paper, and the agricultural industries. Distribute at least two articles to each student. You might ask the students to bring in their own things, if you notify them a week beforehand what they will need. Ask the regular teacher to remind the students to bring the things in. If the class is taking up Maine industry, some things may already be in the classroom. Ask them also to bring in a coat hanger. Provide string and glue. Ask the students to construct a free-form hanging mobile with the materials they brought in. Arrange with the teacher to conduct a classroom discussion on the different careers that are represented in the various mobiles that the students construct.

3. ASK THE STUDENTS TO DEPICT THE FOLLOWING MAINE NATURAL RESOURCES IN THE FORM OF A COLLAGE: waterways, ocean, minerals, seafood, forests, mountains, and growing land. Hand out magazines, colored paper, crayons, poster-board, scissors, and paste. Have the teacher talk about the careers that are involved with Maine's natural resources. Discuss industry and its effect on these natural resources.

B. Fifth grade

1. ASK THE STUDENTS TO MAKE AT LEAST A FOUR-FRAME CARTOON. Ask them to choose two workers from the group of workers they are currently taking up. If they are not taking

up any group of workers, suggest a group. Ask them to depict good worker habits with one worker and bad worker habits with the other. You might also introduce the student to the commercial artist who draws cartoons so that the students can see the different cartooning styles. Materials will include: pencils, rulers, crayons, or felt-tipped markers, drawing paper.

2. ASK THE STUDENTS TO LAY OUT, DRAW, AND COLOR, A NEWSPAPER ADVERTISEMENT. The product or service may be representative of a group of workers that the teacher is currently taking up, or of a worker of the student's choice. You might show pictures of commercial artists doing the lay-out and drawing of newspaper ads, and explain some of the things that a newspaper artist does.

C. Sixth grade

1. PRESENT THE FOLLOWING WORK ROLES TO YOUR STUDENTS: free-form sculptor, carpenter, and craftsman. Ask them which worker they will represent in a woodworking project. Provide simple work plans for a structure for those who wish to follow the carpenter's role. Provide less structured work plans for those who will represent craftsmen. Ask the craftsmen to make their own innovations with this work plan. Other students may want to do an entirely free-form sculpture. After the activity, pole the students to find out if they were satisfied with their role and product. If some students express interest in other roles, give them the opportunity to test-out these. Ask the teacher to conduct a discussion about individual preferences for structured or unstructured work situations.

2. ASK YOUR STUDENTS TO MAKE FILMSTRIPS. Collect old and useless filmstrips, or ask a film supply company for their waste. Strip the films by soaking them in bleach. Give each student an eight-frame filmstrip. Ask them to depict a worker or workers performing a job duty. The classroom teacher may want to use these filmstrips as an overview of a group of workers she is currently taking up.

3. ASK YOUR STUDENTS TO DESIGN, DRAW, AND COLOR A GREETING CARD. The card may represent an occasion of the student's choice. Have available construction paper, crayons, scissors, paste, and pencils. Provide career information about commercial artists who work for greeting card companies.

III. Evaluation - Evaluation should be individualized and on an observation basis.

A. As an art teacher, you may primarily want to check the art-work for the student's application of color, shape, and line. A comparison with previous work will indicate the student's progress in these areas.

B. The art teacher might ask: "What efforts did I make to coordinate my art activity with current classroom activity?"

C. From a career education standpoint, the art products may be valuable to the classroom teacher as well as the art teacher. The art work can reveal what the student knows about workers in general, job duties, and specific groups of workers.

Art work is a useful evaluative tool particularly in the case of non-readers. The teacher may suggest that the class depict an aspect of the working world before she starts a career education unit concerning this aspect. The teacher may give the same assignment after the unit. A comparison of the two products will indicate any progress.

IV. Materials and Resources

A. A variety of art supplies.

B. Refer to the N.O.W. Program's Resource List for occupational learning aides and information.

C. The NOW Program has a vast array of audio-visual materials and equipment that are available from our Resource Center at Lewiston Comprehensive High School.

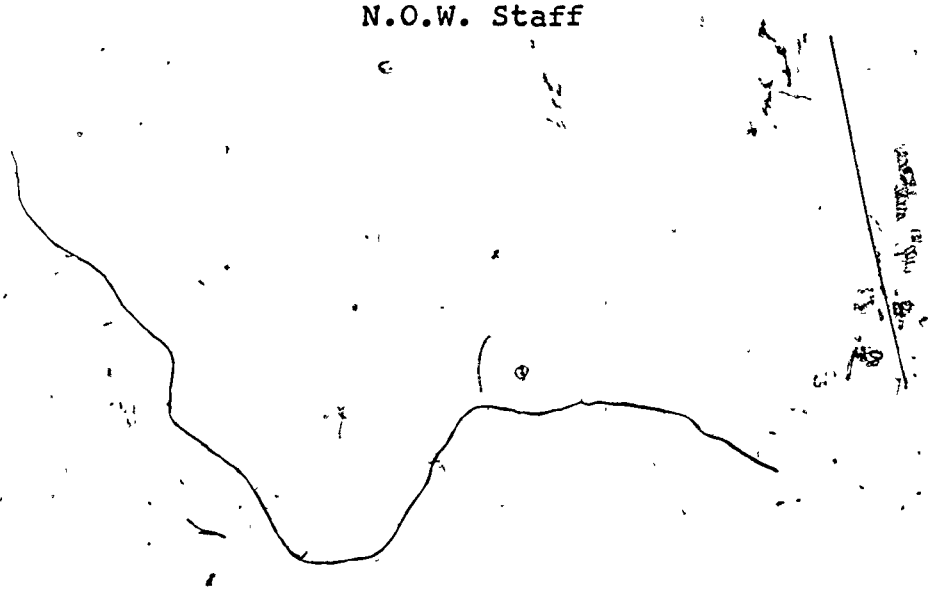
DISCOVERING INTERESTS AND CAREERS

Suggested for use in 7th grade language arts classes

Developed by:

Eleanor Gove
7th grade language arts teacher

In cooperation with the
N.O.W. Staff



INTRODUCTION

This activity gives the student the opportunity to discover his interest areas, and how these areas can apply to the world of work. The activities in this unit are particularly well-adapted to language arts classes because the primary skills involved are communication skills. The students can express themselves orally, in writing, and in visual media.

These activities provide a strong core on which to build additional individual interest-oriented activities. We strongly urge you (and your students will probably urge you) to spread activities such as these throughout the school year. You will find the students to be strongly motivated, and you will find that they will probably devote some of their free time to discovering more about themselves in relation to the working world around them.

The use of the interest survey and the SRA kits gives the activity structure and direction which sometimes is a problem in individualized activities dealing with large groups of students. A guidance counselor will be most helpful to you when you score the Kuder E Interest Survey, and during general discussion periods concerning personal interests, abilities, and personal appearances.

Karen McMahon
Activities Writer
N.O.W. Exemplary Program

Discovering Interests and Careers

I. Objectives

A. General Objectives

1. To encourage the student to participate and function in individual as well as group efforts.

2. To help develop discussion skills particularly in the area of sharing ideas about individual interests.

3. To show the student how personal interests relate to career areas.

4. To involve the student in decision-making processes concerning the relationship of his interests to possible career avenues.

5. To encourage the student to express his interests in a variety of media.

B. Specific Objectives

1. By the end of the unit activity, the student will be able to identify at least one vocational area that requires at least one of his personal interests.

2. The student will be able to describe to his own satisfaction the following characteristics about himself:

a. What I am like now
b. My appearance
c. My abilities
d. My interests

II. Activities

NOTE: The Kuder E Interest Survey should be followed by KEYS and then the SRA WORK KIT. This sequence identifies interests, and applies interests to vocational areas, and finally gives the student the opportunity to choose specific jobs within the vocational areas that apply to these interests. Choose other activities to complement this sequence in any order that is comfortable for your schedule. Teachers who have tried this activity suggest that it occur after the first quarter in the seventh grade.

A. SHOW THE FILM "WHEN YOU GROW UP." This film is well-adapted for seventh graders and will start them thinking about the future.

B. ADMINISTER THE KUDER E INTEREST SURVEY. You might preface this with a short introduction about what interests are, and the fact that the KUDER E is not a test. It cannot be graded. There are no right or wrong answers. It is only an indication of the things that the student likes to do and doesn't like to do.

C. HAVE THE STUDENTS SCORE AND INTERPRET THE SURVEY RESULTS. Briefly discuss the implications and answer questions. A follow-up activity might consist of asking a guidance counselor to come into the class and hold a group guidance session. One way to lead the discussion would be to pass out a mimeographed sheet that includes such categories as:

1. What I am like now.
2. My appearance.
3. My abilities.
4. My interests.

Have them write down their responses to the four categories. The group guidance session could help the student discuss these things in a relaxed manner with the rest of the class. The interest survey results could become a part of the student's cumulative record.

D. ALLOW GROUPS OF STUDENTS TO EXPLORE THEIR INTERESTS IN TERMS OF OCCUPATIONAL AREAS WITH THE SRA KEYS KIT. You will probably need a Dukane projector or a cassette-filmstrip viewer of some sort to use this kit. Assemble students in groups according to interest areas or allow them to work individually. Give each group or student the appropriate KEYS kit. They can then explore occupations that fit in with their interests.

E. SOME OF THE FOLLOWING FILMS MIGHT HELP PROMOTE CLASS DISCUSSIONS ABOUT CAREERS: "Making a Choice" and "Leisure Industries" are both available through the N.O.W. Program. "New Horizons in Vocations," also available through the N.O.W. Program, is a particularly good film for students who like to work with their hands. Discussion topics might include: interests, skills, abilities, attitudes, and values necessary for the different career areas.

F. GIVE EACH STUDENT THE OPPORTUNITY TO USE THE SRA WORK KIT. This kit will give the student the opportunity to find out about more specific job choices that apply to his interests. Ask each student to write a description of an imaginary day at work for one of the jobs that go along with his interests.

G. ASK YOUR STUDENTS TO MAKE A COLLAGE THAT WILL REPRESENT THEIR INTERESTS IN A SPECIFIC OCCUPATION. Some students may prefer to do mobiles. Magazines, poster board, paste, scissors, and assorted junk are handy materials to have around for this activity. Encourage the students to use their creativity, but at the same time to make a total composition that communicates the student's interests and feelings about a specific area. In other words, the shape and content of the composition should be indicative only of the chosen area. This activity may be carried on throughout the unit and may reveal the student's growth in awareness about his interests.

III. Evaluation

Evaluation should be on an individual basis. The KUDER E Survey results may be helpful to you at other times when planning classroom activities centered around student interests. Collages and mobiles may be evaluated according to the following criteria:

1. What was the student's subject?
2. How does this subject correlate with his interests according to the interest survey?
3. How well did the student coordinate shape and content to make a total composition?

IV. Materials and Resources

A. Materials available through the NOW Program

a. Films: "When You Grow Up," "Making a Choice," "Leisure Industries," "New Horizons in Vocations"

2. SRA Kits: Kuder E Interest Survey, KEYS, WORKITS

B. Helpful materials to have around:

1. Poster board
2. Old magazines
3. Paste
4. Scissors
5. Assorted odds and ends
6. Composition paper

C. Equipment

1. Dukane projector
2. Movie projector
3. Screen

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COMMUNICATIONS SKILLS IN CAREERS

Suggested for use in
8th Grade Language Arts
Classes

Developed by:

Sharon Martin
Language Arts Teacher

In Cooperation with the
N.O.W. Staff

Introduction

Speaking, writing, and listening are communication skills. There is no work-life situation that does not use these skills. This unit is intended to help the eighth grade language art student develop speaking, writing, and listening skills, and to show the correlation of these skills to the world of work.

In the process of exploring three careers of his choice, the student discovers how these communication skills are important through career information, research, and letter and speech writing. This unit also provides the student with a basis for evaluating the effectiveness of a speech, the organization of a letter, and the ability to listen.

We encourage you to modify and improve this unit to the needs of your classroom individuals.

Karen MaMahon
Activities Writer
N.O.W Exemplary Program

Communications Skills in Careers

I. Objectives

A. General objectives

1. To help the student communicate on the oral amd written levels.

2. To encourage the student to listen to and analyze the communications of others.

3. To enable the student to recognize the value of communication in work-life situations.

4. To encourage the student to apply communication skills in occupationally-oriented learning activities.

5. To enable the student to have a knowledge of careers that require the use of communication skills.

6. To give the student a basis for evaluating the effectiveness of communications.

7. To encourage the student to analyze interests as they apply to careers.

B. Specific objectives

1. By the end of the unit activity, the student will be able to identify two work role characteristics, the education/training requirements, an advantage and a disadvantage for three occupations of his choice.

2. The student will be able to demonstrate his knowledge of the four aspects of successful speech making.

3. The student will be able to write an organized speech by using the three elements of a well-organized speech.

4. The student will be able to demonstrate his knowledge of the four basic parts of a business and personal letter.

5. The student will be able to demonstrate his knowledge of the seven aspects of good listening.

II. Activities

A. ADMINISTER AN INTEREST SURVEY SUCH AS THE KUDER E. If some of your students have already taken this test, refer to their cumulative folders for their profile results. Ask each student to choose three careers that are representative of their highest interest areas.

B. INTRODUCE YOUR STUDENTS TO THE COMMUNICATION SKILLS THAT ARE IMPORTANT TO ALL CAREER AREAS: writing letters, speech making, and listening. Give them the following information about these skills.

1. Speech making-

a. Writing a speech:

1.) Introduction - present the subject.
2.) Body - discuss the subject in detail.
3.) Conclusion - summarize points in body and draw conclusions.

b. Giving the speech:

1.) Proper selection of subject matter for the audience.
2.) Undistractive body movements by the speaker.
3.) Clear and audible speech.
4.) The use of voice, facial expression, and body movement to promote the interest and understanding of the audience.

2. Listening-

a. Avoid distracting the speaker or others who are listening.
b. Be aware of non-verbal communication.
c. Recognize the speaker's purpose.
d. Know what's fact and what's opinion.
e. Recognize and analyze details in the body of the speech.
f. Notice whether the conclusion supports the details in the body.
g. Ask questions after the speech pertaining to the subject matter in the speech.

3. Letter writing (business and personal) -

a. Opening a letter.
b. Body of a letter.
c. Closing a letter.
d. Paragraphing.

*Refer to IV. Materials and Resources for a list of University of Maine films that are appropriate for these topics.

C. DEVELOP THE FOLLOWING ACTIVITIES TO SHOW THE CORRELATION BETWEEN EACH STUDENT'S CAREER CHOICES AND COMMUNICATION SKILLS:

1. Display general occupational information.
2. Ask the students to research the following occupational information for each career:

   a. Two work role characteristics.
   b. Education/training requirements.
   c. An advantage.
   d. A disadvantage.

3. After talking about how to write a business letter, ask the students to write three business letters to businesses who employ people who have jobs similar to their job choices. Ask the students to request information about job opportunities, salary, and working conditions. Use the return letters as information sources and examples of business letters. Compare letters as a class.

4. After the students have throughly researched their job choices, ask them to choose one of these jobs as a speech topic. Ask each student to give his speech as if he were actually a person working in this field. Students will discuss the following in their speeches:

   a. Work role characteristics.
   b. Salary.
   c. Education/training requirements.
   d. Advantages.
   e. Disadvantages.
   f. Job outlook.
   g. Reasons for working in this field.

5. Have the students listen to and evaluate each others speeches. Discuss the characteristics of a good listener as outlined in B.,2. You may want students to make their evaluation on a sheet similar to the inserted example at the back of this package.

6. Have a final discussion about the role of communication skills in the world of work.

III. Evaluation

A. To what extent did the student meet the specific objectives of this unit?

1. Researching occupational information on three careers.

2. Demonstrating his knowledge ~~of~~ the four aspects of successful speech making.

3. Writing an organized speech by using the three elements of a well-organized speech.

4. Demonstrating his awareness of the seven aspects of good listening.

B. To what extent did the activities in the unit help the students meet the objectives?

IV. Materials and Resources

A. Career information materials:

1. Occupational Guidance Series, Finney Co.

2. SRA Career Information Kit.

3. SRA Occupational Exploration Kit.

4. Interview Cassettes.

5. Careers for Good Speakers, J. Weston Walch Poster Series.

6. Careers for Good Writers, J. Weston Walch Poster Series.

B. Films on subject matter: (available from the University of Maine Film Rental Library given two to three weeks notice)

1.	Speech: Effective Listening	$3.50	jh-sh.
2.	Speech: Planning Your Talk	2.50	jh-sh-c-ad.
3.	Speech: Using Visuals in Speech	3.50	sh-c-ad.
4.	Speech: Using Your Voice	2.50	jh-sh-c-ad.

Student's Name: _____

INSERT I

Evaluation Sheet

Speaker's Name: _____

Speaker's Topic : _____

	(circle one) excellent	good	fair	poor
How was the speech organized?	4	3	2	1
To what extent did the speaker observe the four aspects of good speech making?				
a. Proper selection of subject for audience	4	3	2	1
b. Undistractive body movements	4	3	2	1
c. Clear and audible speech	4	3	2	1
d. The use of voice, facial expression, and body movement	4	3	2	1
To what extent did the facts support the conclusions?	4	3	2	1
To what extent did the speaker interest you?	4	3	2	1
How well did the speaker introduce his subject?	4	3	2	1

Check-off the job facts the speaker included:

____work role characteristic

____salary

____education/training requirements

____advantages

____disadvantages

____job outlook

____reasons for working in the field

General comments about the speaker's performance: _____

English--Grammar & Composition

CAREER RESEARCH PROJECT

I. Objectives

A. General objectives

1. To help the student improve research skills.

2. To encourage the student to work independently.

3. To help the student explore a career that correlates with his interests.

4. To expose the student to many different careers.

5. To give the student additional experience in report writing, letter writing, and oral presentations.

6. To encourage the student to develop public relations skills.

B. Specific objectives

1. By the end of the unit study, the student will be able to describe in writing and orally the skills, abilities, education/training requirements, future outlook, advantages, and disadvantages, salary, necessary interests, and duties for a job of his choice.

2. The student will be able to take the necessary steps to make arrangements for a resource person to come into the classroom to give a presentation about his work.

3. The student will be able to write a business letter to ask a business information about job opportunities and requirements at that place of work.

4. The student will be able to conduct an interview with a local businessman concerning the kind of work he does, training/education requirements, necessary skills, interests, abilities, and advantages and disadvantages.

II. Scope and Sequence

A. Introduction-choosing a research topic: a career that correlates with interests, skills, and job satisfactions

1. Have the students participate in a Vocational Exploration Group to:

a. Help develop communications skills when talking about jobs.

b. Refine career decisions.

c. Help the student make a choice for a research topic.

2. Introduce the students to the resources that can help provide occupational information such as:

a. Necessary skills, abilities, interests.

b. Education/training requirements.

c. Future outlook.

d. Job advantages and disadvantages.

e. Salary.

f. Job duties.

SUGGESTED NOW RESOURCES:

1. Vocational Exploration Groups.
2. Finney's-Finding Your Job.
3. Interview Cassettes.
4. SRA Occ. Exploration Kit.
5. Occupational Outlook Handbook.

B. Independent research- Ask the student to find out the above information by:

1. Researching available occupational information.
2. Writing a business letter to a business who has jobs in the student's interest area.
3. Interviewing a local businessman whose job is similar to the student's choice.

C. Ask the student to share this information with the rest of the class by:

1. Giving an oral presentation.
2. Writing a report.
3. Asking a resource person to come into the classroom and speak about his job. (Parents are very often willing to cooperate as resource persons.)

English--Media

TELEVISION

I. Objectives

A. General objectives

1. To introduce the student to the occupations involved in the production of television shows and commercials.
2. To show the student how communication skills can be occupational skills.
3. To help train the interested student in the use of video-tape equipment.
4. To help the student understand the role of the media in our everyday lives.
5. To help the student understand how television influences people.

B. Specific objectives

1. By the end of the unit study, the student will be able to name seven jobs that are involved with the production of television shows and commercials.
2. The student will be able to describe the skills, abilities, education/training requirements, future outlook, advantages and disadvantages, necessary interests, and duties of each of these workers.
3. The student will be able to write a script for a television show, news cast, or commercial.
4. The student will be able to perform a job function from the following list of workers that could be involved in the production of a television show, newscast, or commercial:
   a. Writer.
   b. Producer-director.
   c. Set designer.
   d. Properties manager.
   e. Camera man.

f. Editing man.

g. Announcer.

h. Master of ceremonies.

i. Actors.

j. Contestant.

h. Sound-music-special effects workers.

i. Technical assistant.

II. Scope and Sequence

A. Introduction to subject matter:

1. The role of television in our everyday lives:

a. Information previously unavailable.

b. Communications throughout the world.

c. The media is constantly changing our life-styles by exposing us to the life-styles of peoples throughout the world.

d. An individual's experience can become the experience of millions.

2. How television advertising influences people:

a. The power of suggestion.

b. Famous person approach (If Bobby Orr likes it, you'll like it.).

c. The economical approach (more for your money).

d. The "Best and Greatest" approach.

e. The masculine or feminine image approach.

f. The special offer approach (one time only...).

3. Television and careers;

   a. Writer.

   b. Producer.

   c. Director.

   d. Set designer.

   e. Properties manager.

   f. Camera man.

   g. Editing man.

   h. Announcer.

   i. Master of cermonies.

   j. Actor.

   k. Sound-music director.

   l. Special effects man.

   m. Technical assistant.

SUGGESTED NOW RESOURCES:

Actor-Career Monograph.
Careers for Good Speakers-Poster Series.
Careers for Good Writer-Poster Series.
Communication-Film.
Mass Communication-Tapes Unlimited.
Your Career in TV. and Radio-Book.
Finding Your Job Series-Finney.

A television will be useful in your classroom for the introduction to illustrate advertising techniques and the role of television in our everyday lives.

An excursion to a local television station will help provide additional occupational information.

B. Independent study-

1. Ask the students to research at least seven occupations involved in the production of television shows and commercials. Ask them to incorporate the following information in their written or oral report: skills, abilities, education/training requirements, future outlook, advantages and disadvantages, necessary interests, and duties for each of the workers.

2. Ask the students to write a script for a television show, newscast, or commercial.

C. Concluding activities

1. Instruct interested students in the use and care of video-taping equipment:

   a. Decks--editing and recording.

   b. Tapes.

   c. Cameras.

2. Using the above scripts, allow students to role-play the television occupation of their choice. Tape the finished product, and conduct evaluation sessions concerning the collective efforts of the class to make the programs.

SUGGESTED NOW RESOURCES: Video-tape decks.
Video-tapes.
Video-camera.
Tripod or monopod.

SCIENCE

Careers and Topographical Map Reading

I. Objectives

A. General objectives

1. To introduce the student to the careers and leisure time activities that have a use for topographical map reading.

2. To show the relationship between contour and topographical maps.

3. To help the student recognize geological formations with the use of the topographical map.

4. To enable the student to perceive spatial relationships.

5. To encourage the student to recognize some environmental needs of a given area when shown a topographical map.

B. Specific objectives

1. By the end of the unit activity, the student will be able to name eight careers and/or leisure time activities that could use topographical map reading skills to advantage.

2. The student will be able to describe the skills, abilities, interests, education/training requirements, job outlook, and an advantage and a disadvantage for each career or leisure time activity.

3. The student will be able to construct a simple contour map that respresents the topography on a topographical map.

*4. The student will be able to construct a scale model of the lay of the land from a topographical map.

*optional

II. Scope and Sequence

A. Introduction

1. Introduce the student to topographical map reading.

a. Topographical maps:

1. How they are made...Who makes them.

2. What they represent.

b. How to read a topographical map:

1. Using a stereoscope.

2. Making a contour map from a topographical map.

2. Careers and leisure-time activities that can use a topographical map to advantage:

a. Urban planning careers.

b. Wild life management.

c. Geologist.

d. Heavy equipment operator.

e. Engineer-agricultural, civil, geological.

f. Construction worker.

g. Landscaping technician.

h. Surveyor.

i. Cartographer.

j. Forestry worker.

k. Farmer.

l. Hunter.

m. Fisherman.

n. Camper.

o. Pilot.

Suggested NOW Resources: Stereo Photo Kit
SRA-Career Information Kit
Finney's-Finding Your Job
Career Monographs

NOTE: The state wildlife, fishery servic and conservation service may be helpful in providing additional occupational information, resource persons, and topographical maps of Maine.

B. Classroom activity

1. Students read and interpret topographical maps for:

   a. Geological formations.

   b. General contours.

   c. Spatial relationships of land formations.

   d. Some environmental needs of that area given the information from the topographical map.

2. Students make some contour maps from topographical maps.

3. Students are given the opportunity to research eight careers and leisure time activities for job facts.

4. State wildlife and fishery department and the conservation department may help provide occupational information through literature, resource person visits, and additional topographical maps.

5. More motivated students may want to make a scale model of a section of land that is represented on a topographical map.

C. Concluding activities

1. Students may want to do some land use exercises using their contour maps or scale models as working plans:

   a. Urban areas.

   b. Suburban areas.

   c. Wildlife preserve.

   d. Parks and recreation areas.

   e. Pulp woodlands.

   f. Marshlands.

2. Students write about or describe the eight careers they researched that can use topographical maps to advantage.

3. Students indicate the careers that could be involved in their land use plan.

Suggested NOW Resources: Excursions in Outdoor Measurement by Donovan A. Johnson, J. Weston Walch, Publishers, can provide additional outdoor activities.

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ENVIRONMENTAL SCIENCE

Recycling Careers

I. Objectives

A. General objectives

1. To encourage the student to find creative solutions to solid waste problems.

2. To orient the student to the careers that could be involved in solving solid waste problems.

3. To allow the student to try-out some of his solutions to solid waste problems.

B. Specific objectives

1. By the end of the program activity, the student will be able to discover three ways to recycle solid waste.

2. The student will be able to name four careers that could be involved in solving solid waste problems.

3. The student will be able to describe to his own satisfaction the work role and its function in our society for each of these occupations.

II. Scope and Sequence

A. Introduction

1. Pre-test the students' awareness of solid waste problems and careers. Use specific objectives as a test model.

2. Discuss: What is solid waste?

3. Discuss: What careers could be involved in solving the solid waste problem?

B. Class activity

1. Collect solid waste such as the following:

a. Paper.

b. Bottles.

2. Decide what the solid waste will be used for. Some items might include:

   a. Recyclable paper for a paper recycling company.

   b. Glasses, vases, candleholders, etc. from bottles.

   c. Candles in cut and decorated bottles.

3. Obtain materials and equipment and make arrangements with a paper recycling company. Materials might include:

   a. Glass stain.

   b. Acrylic paint.

   c. Glue.

   d. Hodgepodge.

   e. Glass cutter kits.

   f. Paraffin.

   g. Candle wicks.

4. Students may be able to carry on the making of the recycled products with an art instructor who may have the room and materials to conduct the recycling projects

C. Concluding activities

1. Have the students research further the occupations that can be involved in solving solid waste problems.

2. Have each student assess the work role and its function in our society to at least four occupations.

3. Post-test the students' awareness of solid waste problem and careers as you did on the pre-test.

4. Compare pre- and post-test results.

Suggested NOW Resources: An Analysis of the Fifteen Career Clusters: Environmental Careers
SRA-Career Information Kit.

Transportation Occupations

CAREERS IN AEROSPACE

Suggested for use in
8th or 9th Grade
Science Classes

Developed by:

Roger Labbe
Grade 8 Science
Lewiston Junior High School

In cooperation with the
N.O.W. Staff

INTRODUCTION

Although the excitement of a few years ago that was associated with space exploration has somewhat lessened, there is still considerable opportunity in aerospace careers. This unit introduces the student to some of these careers as they relate to the subject of astronomy and science in general. This is important because aerospace occupations have not only significantly contributed to space exploration--but to many areas in the scientific field such as electronics, chemistry, geology, and medicine.

Your students will probably enjoy working in groups with other class members in the exploration of job duties, responsibilities, education requirements, advantages and disadvantages, training, skills, abilities, and interests for aerospace careers.

Karen McMahon
Activities Writer
N.O.W. Exemplary Program

Transportation Occupations

CAREERS IN AEROSPACE

I. Objectives

A. General objectives

1. To give a brief introduction to astronomy as a subject area and aerospace as a career area.
2. To give the student an opportunity to associate other subject matter skills such as math and language arts with skills needed in aerospace careers.
3. To enable the student to become more familiar with general trends in space exploration.
4. To emphasize the following career education concepts in relation to careers in aerospace:
   a. Job characteristics and individuals must be flexible in a changing society.
   b. Job specialization creates interdependency.
   c. Education and work are interrelated.
   d. Individuals differ in their interests, abilities, attitudes, and values.
5. To give the student a realization of the economic potential of various careers in aerospace.

B. Specific objectives

1. By the end of the unit study, the student will be able to state four personal qualifications for success in aerospcae careers.
2. The student will be able to state three reasons why a career in aerospace is attractive or unattractive to him.
3. The student will be able to state at least three geographic locations where it is possible to work in the field of aerospace.
4. The student will be able to state five career specialities within the area of aerospace.
5. The student will be able to choose one career from the above five specialities and will be able to:

a. Relate it to 1. through 3. above.

b. State the education training requirements.

c. State possible pay scales in the various geographic areas.

6. Given problems that selected workers in aerospace might solve, the student will be able to help develop a solution to at least four problems that require the use of the following subject areas: basic astronomy, math, and/or language arts.

II. Activities

A. ASK YOUR STUDENTS TO WRITE A PARAGRAPH GIVING THREE REASONS WHY THEY WOULD LIKE OR NOT LIKE TO HAVE A JOB IN THE FIELD OF AEROSPACE. Tell them that this assignment is ungraded, and is only a way for you to discover their present knowledge about astronomy and careers in aerospace, and their interests.

B. HAVE THE CLASS CONSTRUCT AN AEROSPACE CAREERS BULLETIN BOARD:

1. Either hang up a poster of the universe you already have, or have the students draw or construct a poster from colored paper, poster paper, and colored markers.

2. Divide the class into four or five groups (4-5 members per group). Try to put at least one or two highly motivated students into each group. You may find this out by reading the results of activity A.

3. Assign each group a destination in the universe. Make sure this destination is observable through a small telescope.

4. Give each group at least five career specialities in the area of aerospace to work with:

a. Astronaut,

b. Astronomer,

c. Dynamical astronomer,

d. Aeronautical dietician: food, air & water.

e. Communications specialist in aeronautics.

c. The space dietician knows that two astronauts need 1.5 gallons of drinking water per day. She also has the following information concerning the journey: The spaceship will travel approximately 17,000 m.p.h. The distance is the same as a. above. From this information she must know how long it will take to reach the destination. The answer will be in the form of hours. Change hours time to days. From there compute the number of gallons of water the astronauts will need to reach their destination and return to earth. Add this information to the bulletin board.

d. Write an explanation of what a communications specialist in aeronautics and an astronaut would do if suddenly all communication with Earth was cut off.

e. With a camera try to take pictures using a telescope of various celestial bodies. Add these along with magazine cut-outs to the bulletin board.

C. IF THERE IS A PLANETARIUM IN YOUR COMMUNITY TAKE THE CLASS TO VISIT A SHOWING. Add information and pictures to the bulletin board.

D. ASK RESOURCE PERSONS IN THE AEROSPACE FIELD TO COME TO THE CLASS TO SPEAK ABOUT THEIR OCCUPATIONS. Prepare your students to ask questions about job duties, responsibilities, advantages, and disadvantages, salary, education/training requirements, skills, abilities, interests, and outlook.

III. Evaluation

A. Give your student a questionaire similar to the one suggested in II. Activities, A. after the completion of the unit activities. A comparison of the students' answers will reveal their growth as a result of the unit activity.

B. Check each student's contribution to the unit projects by using the specific objectives as your measure. Check-off the objectives as they are met.

C. Analyze the activities in this unit by their effectiveness in helping the students meet unit objectives.

D. Change and add activities to meet your needs and the needs of your students.

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5. Have the groups research for one class period job characteristics as described in I., B., 5. Make available appropriate materials and resources. Give them a brief description of what each job might entail on a given journey. You might get your information from the D.O.T., Occupational Outlook Handbook, Encyclopedia of Careers, Volume II, SRA Occupational Exploration Kit, or Finney's Series. While introducing these careers emphasize the following concepts as they relate to aerospace careers:

   a. Job characteristics and individuals must be flexible in a changing society.

   b. Job specialization creates interdependency.

   c. Education and work are interrelated.

   d. Individuals differ in their interests, abilities, attitudes, and values.

6. Combine the above information and add it to the bulletin board:

   a. Attach copies of reports.

   b. Attach various lines and symbols standing for job performances of these workers. Example: A colored line or string is stretched from Earth to a given destination. Written along the line might be a statement such as this: The astronomer may estimate distances by looking through a telescope. (Have a small drawing or picture of a telescope at a given point on earth.)

7. Write-up problems that the five mentioned aerospace workers might face on a given destination. Examples:

   a. Have the class construct several telescopes. (Refer to page 384 Astronomy in Action.) Have each group estimate the distance from the assigned destination with the use of the telescope. Check it with actual astronomical findings. Add this information to the appropriate place on the bulletin board.

   b. Compute the trajectory line of travel a spacecraft must follow from Earth to the assigned destination taking into consideration the following variables: the craft's path, position, and the spacecraft's speed. Add this information to the bulletin board.

IV. Materials and Resources

A. The American Astronomical Society and The National Aerospace and Education Council has a variety of information to offer in the astronomy-aerospace fields.

B. Occupational Information

1. Encyclopedia of Careers, volume II.

2. The Occupational Outlook Handbook.

3. The Dictionary of Occupational Titles.

4. SRA Occupational Exploration Kit.

5. Finney's - Finding Your Job.

C. Suggested text as information:

1. Astronomy in Action - The teacher's edition has a selection of films and other materials.

2. Your Future in NASA, Levine, ARCO Pub., New York, 1971.

D. The N.O.W. Program has an extensive array of audio-visual materials and equipment that are available to you at your request from our "Resource Center" at Lewiston Comprehensive High School.

1. Tape recorders, microphones.

2. Video-tape equipment.

3. Cameras, films, flashcubes.

4. Projectors, screens.

MATHEMATICS

The Metric System and Careers

I. Objectives

A. General objectives

1. To familiarize the student with the uses of the metric system.

2. To show the relationship of the metric system to a consumer-oriented society.

3. To orient the student to mathematics careers that can be affected by the metric system.

4. To help the student develop skills in converting standard and metric measures.

B. Specific objectives

1. By the end of the program activity, the student will be able to name ten mathematics careers that can be affected by the metric system.

2. The student will be able to describe the following information about five of the above careers: interests, skills, abilities, education and/or training, two job functions, a disadvantage and an advantage.

3. Given a math problem in standard measure, the student will be able to change the problem to metric measure.

4. Given a math problem in metric measure, the student will be able to change the problem to standard measure.

5. The student will be able to describe a practical application for each given problem.

II. Scope and Sequence

A. Introduction

1. Pre-test students per specific objectives 1.-5.

ex. Name ten math careers that can be affected by the metric system.

Change the following metric problem into standard measure. Give me a practical application of this problem.

2. Collect data and save for comparison with post-test results.

3. Introduce the practical applications of the metric system in a consumer-oriented society by having your class play the Decimeter Game.

4. Discuss the occupations encountered while playing the game:

   a. Necessary skills, interests, and abilities.

   b. Education and/or training requirements.

   c. Job function.

   d. Disadvantages and advantages.

B. Class exploration of additional careers

1. Use the NOW Program's library of math and careers materials to provide additional information about math in the world of work (list available from department head).

2. Whenever possible, have the class work on problems that these workers encounter.

3. Do standard and metric conversions with these problems.

4. Discuss the effects of the metric system on our society in relation to these careers in mathematics.

5. Play Decimeter Game for review and further development of metric system skills. The Metric System: A Programmed Approach may also be helpful.

C. Concluding activities

1. Post-test the students per specific objectives 1.-5. as in pre-test procedure.

2. Compare pre- and post-test results with the class.

3. Use the pre- and post-test procedure as an example of of how a statistician finds out information.

4. Briefly describe how the pre- and post-test results can be used to provide statistical data.

Suggested NOW Resources:

5-Decimeter Games and The Metric System: A Programmed Approach.

Teacher's choice of the following:

Geometry in Occupations.
Algebra in Occupations.
Math in the Home.
Math in Nature.
Math in Everyday Life.
Math in Space.
Math in Life.
Opportunities in Math.

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U.S. HISTORY

Journalism Careers and the History of Journalism in America

I. Objectives

A. General objectives

1. To help the student realize the relationship of journalism and political cartoons to the history of the United States.

2. To expose the student to examples of journalism and political cartoons that have influenced American history.

3. To show the student the relationship of journalism and political cartooning to the contemporary political scene.

4. To orient the student to career opportunities in journalism and political cartooning.

B. Specific objectives

1. By the end of the unit activity, the student will be able to write a headline story of his choice about a historical event in U.S. history.

2. The student will be able to draw a political cartoon of his choice that represents a political event in U.S. history.

3. The student will be able to describe three functions of journalism and political cartooning in current political events.

4. The student will be to name four career opportunities in journalism and political cartooning.

5. The student will be able to describe the job function, education/training requirements, necessary interests, skills, and abilities that a journalist and political cartoonist need.

6. The student will be able to describe to his own satisfaction how the study of political science and U.S. history can be beneficial to the journalist and political cartoonist.

II. Scope and Sequence

A. Introduction:

1. Using "History in Headlines" and "Classic Political Cartoons," show the relationship of journalism and political cartooning to the history of the United States.

2. Introduce the journalist and political cartoonist as occupations.

Suggested NOW Resources: History in Headlines-Denver Post, Des Moines Register, Altanta Constitution.

Classic Political Cartoons.

Your Career in Journalism.

Joseph Pulitzer.

First Woman Editor.

B. Classroom activity:

1. Students write headline stories of their choice about historical events in U. S. history.

2. Students draw political cartoons of their choice that represent political events in U.S. history.

3. Students visit a local newspaper to see journalists on the job and to observe UPI and AP printouts.

4. Students research journalism as a career per specific objectives 4., 5., and 6.

Suggested NOW Resources: same as above.
SRA-Career Information Kit.

Finney's-Finding Your Job.

Career Monographs.

C. Concluding activities:

1. Class discussion on the functions of journalism and political cartooning in current political events.

2. Students report on career opportunities and job facts concerning journalism and political cartooning in relationship to the study of political science and U.S. history.

Hospitality and Recreation
Careers

Consumer and Homemaking Careers

CAREERS IN FRENCH CUISINE

Suggested for Use in Intermediate French Classes

Developed by:

Claire Bolduc
Junior High French Teacher

In cooperation with
the N.O.W. Staff

INTRODUCTION

This unit can be completed within a semester. It can, also, be adapted to any foreign language. These activities need not be done all at once but may be comfortably spread throughout the semester. The student will not only be introduced to careers in French cuisine, but he will have the opportunity to expand language development skills and to learn something about the French culture.

The home economics department can assist the class by providing kitchen facilities so that the students may make their own French meal going by a menu they made up. Students will enjoy role-playing the careers they encountered on the field trip in their own French restaurant.

Karen McMahon
Activities Writer
N.O.W. Exemplary Program

Careers in French Cuisine

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I. Objectives

A. General objectives

1. To introduce the student to careers which involve French cuisine.

2. To help the student realize that education and work are interrelated.

3. To compare American cuisine with French cuisine.

4. To help develop the following French language skills: vocabulary, grammar, and idiomatic expressions.

B. Specific objectives

1. By the end of the unit activity, the student will be able to compare three aspects of American cuisine with three aspects of French cuisine (appetizer, main dish, desert).

2. The student will be able to define, pronounce, write, and use the following words in complete sentences:

a. Hors d'oeuvres
b. Gourmet
c. Glutton
d. A la Carte
e. Table d'hote
f. Maitre d'hotel
g. Cuisine
h. Saute
i. Pie a la mode
j. Garcon
k. Chef
l. Coq au vin
m. Flambé
n. Roquefort
o. Crêpe suzette
p. Soufflés
q. Entrée
r. Aperitifs
s. Liqueur
t. Creme de menthe
u. Julienne salad
v. Au gratin
w. Blanche

3. The student will be able to write a menu in French for a French meal.

4. The student will be able to name three occupations involved in running a French restaurant.

5. The student will be able to describe in French three duties for each of the above workers.

6. The student will be able to prepare a French dinner in conjunction with the home economics department.

II. Activities

A. HAVE THE STUDENTS PREPARE A CLASS PRESENTATION ON AMERICAN AND FRENCH CUISINE. Compare appetizers, main dishes, and desserts. Have each student make an American menu using these three elements. Then give them choices of French appetizers, main dishes, and desserts. Let them also make a French menu. Compare the results. Bring in an American cookbook and a French cookbook so that the students can compare the preparation and ingredients of their American and their French meal. Display food pictures from French and American magazines.

B. ARRANGE TO HAVE RESOURCE PERSONS COME INTO THE CLASS AND SPEAK. Prepare the class to ask questions in French concerning job duties, training, job satisfactions, and necessary tools and implements. Some of these workers might include:

1. Chef from a French restaurant
2. A specialist in Franco-American or Canadian cuisine
3. A connoisseur or a salesman of French wines
4. A caterer who specializes in French bread and pastries
5. Waiter or waitress
6. Host or hostess
7. Franco-American housewife
8. Native French housewife

C. COLLECT INFORMATION FROM THESE RESOURCE PERSONS. Display photographs and written accounts. As a class exercise, have the students write two short compositions or give an oral presentation in French about the resource person of his choice. Ask the students to express their opinion in French whether or not these workers' jobs were appealing to them.

D. ARRANGE FOR THE CLASS TO TAKE AN EXCURSION TO A FRENCH RESTAURANT. Pay special attention to the workers and their duties as mentioned in specific objectives 4. and 5. Tell the students before they go on the field trip that they will have to write or give an oral report about three workers at the restaurant and will have to describe three duties for each of these workers (in French). As preparation to the field trip, introduce the types of workers they can expect to see. Prepare them to ask questions about restaurants.

At the restaurant pay special attention to workers and their duties, the menu, and actual food preparation and ingredients. Make comparisons with an American restaurant that the students are familiar with in the area.

E. HAVE THE STUDENTS WRITE OR GIVE ORAL REPORTS ABOUT THREE WORKERS AT THE RESTAURANT. Tell the students that they will organize and prepare a French meal to which guests will be invited. Make preliminary plans for a French dinner. Make up a menu. Form committees. Ask for the home economics department's cooperation in preparing the meal.

III. Evaluation

A. The teacher will administer pre- and post-tests utilizing new French words, grammar, and idiomatic expressions as outlined in specific objectives 2.

B. A written test will be administered covering French language development.

C. A written or oral account of the resource persons and of the career field trip will be required of each student.

IV. Materials and Resources

A. The Art of French Cooking, Fernade Garvin.

B. Gourmet, magazine series.

C. The Joy of Cooking.

D. Que Ferai - Je Plus Tard?, Simone.

E. Duden - Francais.

Foreigh Languages

FRENCH I and II

I. Objectives

A. General objectives

1. To develop a mastery of the following skills:

a. Conversational skills.

b. Grammatical structures.

c. Reading skills.

d. Writing skills.

2. To help develop independent study habits.

3. To help the student develop an appreciation of his own culture as well as others.

4. To introduce the student to the occupations in the area that require French speaking ability and/or comprehension.

5. To introduce the student to other occupations where French is helpful.

B. Specific objectives-these are career education objectives.

1. By the end of the course study, the student will be able to demonstrate his mastery of conversational skills necessary for a local worker who must use French on the job.

2. The student will be able to demonstrate his mastery of grammatical structures by describing the grammatical structure of the above conversational skills in terms of "Lewiston French" and then the grammatical structure of similar conversational skills in standard French.

3. The student will be able to demonstrate his mastery of French reading skills by reading in French a job description that requires French speaking skills.

4. The student will be able to demonstrate his mastery of French writing skills by writing a résumé in French for the above job.

II. Scope and Sequence

A. Standard French in relation to "Lewiston French".

B. The French culture and how it is represented in Lewiston:

1. Customs.

2. Jobs in Lewiston where French is either helpful or necessary:

a. Restaurant jobs.

b. Hospitals.

c. Mills.

d. Shops.

e. Travel agencies.

f. Any job requiring interaction with the people of Lewiston.

NOTE: An introduction to these jobs may be easily integrated into everyday subject matter by asking guest speakers who represent the above workers to come into the classroom and act as resource persons. Follow-up activities to guest speakers might include new vocabulary words and conversational skills, and writing skills. Since many places who employ French speaking workers are within walking distance, fieldtrips to these places can help give students a better idea how these workers actually function within the community. Follow-up activities could be done much the same as with resource persons. Role playing is always an effective follow-up activity. It can give the students the chance to exercise written and/or conversational skills. Example: One student could be a shop customer and the other could be the owner. A transaction in French could then take place. Exploration homework assignments could provide pertinent job information.

C. Other occupations where an understanding of and/or an ability to speak French is helpful or necessary:

1. Interpretor, translator.

2. Customs examiner.

3. Export clerk.

4. Singer.

5. Actor, actress.

6. Teacher.

7. Stewardess, steward.

8. Travel agent.

9. Foreign diplomat, etc.

NOTE: Activities here might include writing résumés in French for these jobs and holding mock interviews. Activities could also include role playing activities where students pretend they are performing an aspect of a chosen job.

III. Resources Available through the NOW Program.

A. Que Ferai-Je Plus Tard?, Simone Monlau, Pierre Moreau, Georges Monlau, Gessler Pub. Co., 1971.

B. Duden-Francais. Mary S. Rosenberg, Inc., 100 West 72nd St., N.Y., N.Y. 10023.

Consumer and Homemaking Occupations

Hospitality and Recreation Occupations

CAREERS HELP MAKE OUR HOUSES INTO HOMES

Suggested for use in the
Seventh Grade
Homemaking Curriculum

Developed by:

Lorenza Piper
7th Grade Homemaking Teacher

In Cooperation with
the NOW Staff

INTRODUCTION

This unit may help orient your students to the objectives of the homemaking curriculum. It will also help show them the correlation of homemaking to other curriculum areas.

As each part of the home is discussed (living room, kitchen bedroom, and bathroom) the students will enjoy making a class list of all the careers they can think of that are associated with each area. In discussing the necessary skills and training for each career, other school subjects come into the picture.

Later on in the year, students may want to become more individualized in their study and explore their choice of careers in the home further.

Karen McMahon
Activities Writer

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Workers Help Make Our Houses into Homes

I. Objectives

A. General objectives

1. To assist the student in becoming more familiar with the consumer and homemaking curriculum.
2. To enable the student to understand that a HOME and everything in it involves many careers related to homemaking.
3. To increase the student's awareness of the many different jobs that are needed to make a home function.
4. To help the student realize that homemaking career involve a wide range of abilities and training.
5. To increase the student's awareness of the interrelationships of various subject matter areas to homemaking careers.
6. To helpthe student realize that career in consumer and homemaking have dignity and worth.

B. Specific objectives

By the end of the unit activity, the student will be able to describe five careers related to each area in a home (living room or family room, kitchen or dining room, bedroom, and bathroom) with respect to:

1. The student's interests, values, and abilities.
2. The necessary skills and training required for the above jobs.

II. Activities

A. ASK THE STUDENTS TO READ POPEYE'S CONSUMER AND HOMEMAKING CAREERS. Show and discuss the filmstrip and record on home economics from the W.O.W. Series.

B. HAVE THE STUDENTS DEVELOP AND LOOK UP MEANINGS FOR THE FOLLOWING WORDS:

1. Home economics.
2. Family economics.
3. Human development.
4. Family.

5. Home management.

6. Foods, nutrition.

7. Textiles and clothing.

8. Housing and interior design.

Letter the words on spiral flip charts. Do this exercise orally with the class. As they develop meanings, write them down on the appropriate pages.

C. SHOW THE CLASS PICTURES, TRANSPARENCIES AND/OR POSTERS OF THE FOLLOWING:

1. A house and a home.

2. Living area (living or family room).

3. Kitchen area (kitchen or dining room).

4. Bedroom (teenager's or child's).

5. Bathroom.

D. CONDUCT A DISCUSSION OF EACH OF THE ABOVE INCLUDING:

1. What careers do any of these areas bring to mind?

2. What academic subjects come to mind as you think of the various occupations that are represented in these areas?

3. What homemaking subjects are involved in these areas?

E. PREPARE BULLETIN BOARDS FOR EACH HOUSE AREA. Show the careers involved, and the subjects needed for these careers (both homemaking and academic subjects). Have copies of the junior high and the vocational high school curriculums available for student reference. Include the homemaking curriculum.

F. DISPLAY THE POSTER SERIES BY LOUISE LEMMON" CAREERS IN HOME ECONOMICS." This is available through the NOW Program.

G. HAVE EACH STUDENT INDICATE TO YOU FIVE CAREERS THAT ARE NEEDED IN A HOME. Have the student indicate one career that she would like to explore further. Have the student research this career to discover necessary skills and training requirements.

H. GIVE THE STUDENTS THE OPPORTUNITY TO EXPLORE THEIR CHOICES FURTHER AS THE YEAR GOES ON. Provide them with occupational materials and emphasize the career aspects of the subject matter that will follow in the homemaking curriculum.

I. HAND THE FOLLOWING SHEET OUT TO EACH STUDENT:

Rate each activity according to the assistance it gave you in arriving at your list of careers relating to the home.

	VERY GOOD	GOOD	POOR
1. Popeye: Consumer and Homemaking Careers			
2. Transparencies, posters, pictures			
3. Looking up school curriculums			
4. Group bulletin board			
5. Home Economics record and filmstrip			
6. Posters of home economics careers			
7. Looking up home economics careers			

Use this as one measure of the effectiveness of the material used in this unit in helping the students meet unit objectives.

IV. Materials and Resources

A. Occupational information (available through the NOW Program)

1. Popeye and Consumer and Homemaking Careers.

2. World of Work Series #212-home economics filmstrip and record.

3. Posters by Louise Lemmon: "Careers in Home Economics," J. Weston Walch, Pub.

B. Helpful books

1. Teen Guide to Homemaking, Barclay, McGraw-Hill Book Co., 1972.

C. Curriculum guides

D. The NOW Program's "Resource Center" has a variety of audio-visual materials and equipment that you may use. Our Resource Center is located at Lewiston Comprehensive High School.

HOME ECONOMICS

Good Grooming and Personal Services Careers

I. Objectives

A. General objectives

1. To encourage boys and girls to develop good grooming and poise.

2. To provide the student with ways to develop good grooming and poise

3. To introduce the student to the personal services careers that can help develop good grooming and poise.

4. To enable the student to realize that personal services careers have dignity and worth.

B. Specific objectives

1. By the end of the course study, the student will be able to name six careers that are considered to be personal services.

2. The student will be able to describe the job function, skills, abilities, interests, an advantage and a disadvantage, the job outlook, education/training requirements, and expected salary for each of the above occupations.

3. The student will be able to choose a personal services career that he/she is interested in and role play a function of that job.

II. Scope and Sequence

A. Introduction

1. Good grooming for young adults.

2. Careers involved with personal services:

a. Cobbler.

b. Manicurist.

c. Make-up artist.

d. Hair stylist.

e. Wig stylist.

f. Health club workers, instructors.

g. Model.

h. Clothing designer.

i. Shoe shiner.

j. Barber.

k. Beautician.

l. Karate expert.

m. Physical trainer.

n. Masseur, masseuse.

o. Chauffeur.

p. Housecleaner.

q. Laundry personnel.

r. Butler.

s. Maid.

t. Cook.

u. Gardener.

v. Waiter, waitress.

w. Host, hostess.

Suggested N.O.W. Resources:

Your Future in Beauty Culture.
Your Future in the Beauty Business.
Your Future as a Dietician.

SRA-Career Information Kit.
SRA-Occupational Exploration Kit.
Finney's-Finding Your Job.
Interview Cassettes.
Career Monographs.

B. Independent research

1. Ask students to research six personal services occupations according to the criteria set in specific objectives 2. They may use the resources listed above.

2. Arrange for the students to visit local businesses that employ personal services occupations. Prepare your students for the trips with occupational information and audio-visual aids. Ask each to think of several questions to ask about the kind of work at the business.

3. If excursions are not possible, resource persons may be available to come into the classroom. Prepare your students to ask questions about the resource person's job. The resource person may be able to give a demonstration of skills needed for the job.

4. Integrate your regular program on personal grooming with this career area during the independent research.

C. Concluding activities

1. Ask students to choose one career in personal services that interests him/her most.

2. Ask them to plan a role playing activity that is representative of the type of work they chose.

3. Allow students to participate in a shadow experience with local people who work in the personal services career cluster.

Home Economics

CHILD CARE

I. Objectives

A. General objectives

1. To introduce the student to the responsibilities of a day care center worker.

2. To give the student the opportunity to work with small children.

3. To give the student the opportunity to use interpersonal relationship skills.

4. To introduce the student to the child development process.

5. To introduce the student to the physical and emotional needs of the young child.

B. Specific objectives

1. By the end of the course study, the student will be able to tell the difference between physical and emotional needs of the young child.

2. The student will be able to identify the characteristics a child displays when physical needs are not met.

3. The student will be able to describe the physical characteristics and special problems of a given age group.

4. The student will be able to list and describe the three ways that children learn.

5. The student will be able to make a good toy for small children given three criteria.

6. The student will be able to develop four different kinds of learning activities that will motivate small children: a reading, an art, a music, and a play activity.

7. The student will be able to guide and supervise a group of small children in one of the above activities.

8. The student will be able to demonstrate his (her) ability to handle common discipline problems when dealing with a group of small children.

II. Scope and Sequence

A. Course introduction

1. What is child care?

2. What are the responsibilities of the child care center worker?

3. What does the child care center worker need to know about the small child?

a. Physical needs.

b. Emotional needs.

c. The child development process.

d. Activities that motivate young children.

e. Discipline.

f. Interpersonal relationship skills.

SUGGESTED NOW RESOURCES: Babysitting, Interpersonal Relationships--Guidance Associates.

Foods as Children See It--General Mills.

Discipline and Punishment--NASCO Co.
Intellectual Development

B. Resource persons and child care experience

1. A visit to a local child care center.

2. Resource persons.

a. Child care center workers.

b. Social workers.

c. Child psychologist.

3. Class sets up their own play school.

a. Reading center.

b. Blocks.

c. Music center.

d. Art center.

e. Playhouse

f. Table toys area.

4. Local children come to the center so the students may gain experience in dealing with small children.

5. Students develop and supervise activities for the play school.

Home Economics

HUMAN RELATIONS

I. Objectives

A. General objectives

1. To introduce the student to the occupations which require a great understanding of human relations.

2. To show the correlation of human relations to all kinds of work.

3. To encourage the student to handle home, school, and friend relationships with understanding, honesty, and sensitivity.

4. To help the student understand some common problems of adolescence.

B. Specific objectives

1. By the end of the course study, the student will be able to describe three ways that human relations correlate with the world of work.

2. The student will be able to name at least ten occupations from three occupational areas (health and mental health occupations, social service occupations, and child care and education occupations) that require a great understanding of human relations.

3. The student will be able to describe one reason why human relations are very important in each of the ten above occupations.

II. Scope and Sequence

A. Introduction-the role of human relations in our every day living

1. At home

2. At school

3. With friends

4. In the world of work

a. Health and mental health occupations

b. Social service occupations

c. Child care

d. Education

e. Correlation with all career areas

B. Human relations at home

1. The things children and parents have in common

2. Where they differ

3. How greater understanding can be attained

SUGGESTED NOW RESOURCES: The Tuned-Out Generation, Understanding Your Parents, The Adolescent Experience: Interpersonal Relationships--Guidance Associates.

A local child and family health services bureau may help in providing you with qualified resource persons.

C. Human relations at school

1. Relationships to other students

a. In the classroom

b. In extracurricular activities

2. Relationships with teachers

SUGGESTED NOW RESOURCES: Somebody's Cheating--Guidance Assoc.
Education--Tapes Unlimited

D. Human relationships with friends inside and outside of school

1. What is a friend?

2. Boyfriend or boy friend?

HUMAN RELATIONS

SUGGESTED NOW RESOURCES: Beginning to Date, VD: What You Should Know, Personal Commitment: Where Do You Stand?, Masculinity and Femininity, Your Personality: The You Others Know, High on Life--Guidance Associates

Your guidance department may want to take an active role in some of these group discussions.

E. Human relations in the world of work

1. Occupations involved in the human relations previously discussed

2. Job attitudes and human relations

SUGGESTED NOW RESOURCES: People Who Help Others, Babysitting, What You Should Know Before You Go to Work, Liking Your Job and Your Life, Job Attitudes: Trouble at Work--Guidance Associates

Compassion for People--Bowmar Kit

SRA Occupational Exploration Kit

Career Opportunities in Health-Book

Counselor-Interview Cassette
Education-Tapes Unlimited
Health Services-Tapes Unlimited
Social Worker-Interview Cassette

Community resources in the areas of health, mental health, and social services can provide additional career information.

Consumer and Homemaking Occupations

Fine Arts and Humanities Occupations

INTERIOR DESIGN

Suggested for use in grades 8-9
for Home Economics Classes *

Developed by:

Sherman Kendall
Grade 7 Art Teacher

In cooperation with
the N.O.W. Staff

*This may be of interest to art and mathematics teachers, too.

ERIC

INTRODUCTION

Although these activities are suggested for use in home economics classes, interested teachers in other subject areas such as art and mathematics may find the unit very suitable for their classes, also.

The activities are individualized and require each student to identify problem areas in their bedroom (or another family room) and solve the problem areas by using scale drawings and models.

Occupations play an important part in the activities. Students not only find out about interior design and decorating, but they also discover the correlation of such careers as cabinet maker, furniture maker, wallpaper hanger, and painter to this general area of work.

This package also introduces the student to local businesses that can supply interior decorating needs. This is of use to the student who may someday decorate a home of his own.

Karen McMahon
Activities Writer
N.O.W. Exemplary Program

Interior Design

I. Objectives

A. General objectives

1. To introduce the student to an area of skills and occupations which he may use, although he may not desire to become an interior designer.

2. To allow the student to evaluate his skills and interests as related to an occupation which requires imagination, creativity, as well as post-high school training.

3. To introduce the student to fields related to interior design including furniture making, drapery and window treatment, and methods of floor covering.

4. To integrate other subject areas such as communication skills, art, and simple mathematics (proportion, ratios, and measurement) with the activities in this unit.

B. Specific objectives

1. By the end of the unit study, the student will be able to recognize, explain, and diagram five common symbols found on a blueprint.

2. The student will be able to draw the proportions of a room to scale.

3. Given a floor plan, the student will be able to recognize and evaluate the various areas of a bedroom that an interior decorator must consider: lighting, storage, window treatment, activities, traffic pattern, furniture, and heating.

4. The student will be able to name one local retail supplier for each of the following products: furniture, drapery, window treatment, lighting, floor covering, wallpaper supplies, and paint supplies.

5. The student will be able to identify the art principles that an interior decorator must be knowledgeable in: color compatability, proportion, texture, lighting, placement, and mood.

II. Activities

A. ASK YOUR STUDENTS TO GO HOME AND CLOSELY EXAMINE THEIR BEDROOMS (OR OTHER FAMILY ROOM).

1. What is the main purpose of this room? Is it well located for this purpose? Is it quiet or noisey?

2. What rooms is this room located next to?

3. Does the room have any storage space? Is the closet large enough for the room's purposes? Is there enough room for the room's purposes? Is there room for bookshelves or storage along the walls?

4. Is the present furniture comfortable for the room's activities? What kind of condition is the furniture in? What kind of condition are the walls and woodwork in?

5. Is the lighting adequate for the room's purposes? What parts of the room receive the most light for activities? What areas are darkest during the day?

6. What areas of the room get the heaviest traffic? Do the floors look better or worse for the wear? What other types of flooring could you use in this particular room?

7. What colors have been used in this room? Are they pleasing to your eye? Are the colors coordinated? Do the colors fit the mood that the room should convey?

8. What areas would you like to change if your resources were unlimited? What would these changes be?

9. Why would you change these areas? Does your family feel the same way about this as you do?

B. SUPPLY YOUR STUDENTS WITH REFERENCE INFORMATION ON INTERIOR DESIGN. Attractively display these materials on tables and bulletin boards.

C. HAVE THE STUDENTS MEASURE THE LENGTH AND WIDTH OF THE CLASSROOM. Have them measure the windows for size and placement and hinge arrangement of the doors. Record these measurements and instruct the students on the board how to make a scale drawing of the room.

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D. HAVE THE STUDENTS TAKE THE SAME MEASUREMENTS FOR THEIR BEDROOM OR OTHER FAMILY ROOM. As a class activity have them convert these measurements onto a scale floor plan of their chosen room. Ask them to include doors, windows, built-in furniture, and closets. Have them do the scale drawing on a 12"X18" drawing paper. Introduce the symbols found on a floor plan. (Refer to Inserts1 and 2)

E. BRING IN FLOOR PLANS OF OTHER HOUSES. Have the class examine them for symbols and abbreviations. Make available a mimeographed sheet of the most common symbols and abbreviations. (Insert 1)

F. ASK THE STUDENTS TO TAKE THEIR ORIGINAL FLOOR PLAN HOME AND STUDY THE FURNITURE IN THEIR ROOMS. Have the students get the approximate measurements of all furniture in the room including rugs and wall hangings. Ask them to place these on the floor plan in their location in the room.

G. ON A SEPARATE SHEET OF PAPER HAVE THE STUDENTS REDRAW TO SCALE ALL OF THE FURNITURE. Have them cut their furniture out and place it on the scale drawings. (Have the students either place and not glue the furniture, or have them spread a thin layer of rubber cement on the scale drawing of the furniture so that the piece may be peeled off and placed elsewhere.)

H. ASK THEM TO SELECT AN AREA WHICH THEY FEEL NEEDS IMPROVEMENT. In analyzing the problem area the students should consider the following questions:

1. What is the problem area?
2. Why is this the area? Would a new arrangement of furniture help?
3. Have you outgrown the decorating scheme?
4. Are you bored of the decorating scheme?

I. THE STUDENTS SHOULD NOW CONSIDER THE VARIOUS METHODS OF SOLVING THE PROBLEM AREAS. They must consider the amount of available money. They must consider available resources for help in painting and refinishing. Are there alternatives? Is new furniture necessary?

J. ASK THE STUDENTS TO ASSUME THE ROLE OF AN INTERIOR DECORATOR. Tell them that they must go out into the community to see what resources are available for furniture, drapery-window treatment, lighting, floor covering, wallpaper sup-

plies, and paint supplies. Prepare a list of local resource persons and companies that the students may refer to. Ask them to pay special attention to the resources that apply to the problem area. Provide a format similar to insert 3 for them to fill out concerning outside resources and the problem areas.

K. ASK THE STUDENTS FOR A FINAL DECISION FOR THE SOLUTION TO THE DECORATING PROBLEM. Ask them to show the solution on their floor plan, detailing selection of colors, lighting, drapery, and furnishings. (Either by descriptions or actual samples.)

L. FOR THE HIGHLY MOTIVATED STUDENT, THE NEXT STEP IS A THREE-DIMENSIONAL CONSTRUCTION OF THE ROOM AS HE WOULD LIKE TO SEE IT. Using heavy chipboard or cardboard the student may construct a scale model. . . This will include openings for doors and windows. He may also construct furniture, drapery, and rugs using small pieces of fabric and wood. This activity is for the most interested student as the activity takes a long time to complete.

M. YOU MIGHT CONSIDER THE FOLLOWING ACTIVITIES AS A UNIT FOLLOW-UP:

1. Give the students an opportunity to talk to an interior decorator. Go on a field trip or ask a resource person to come into the classroom to give your students this opportunity.

2. Give your students an opportunity to see someone that deals with interior decorating who isn't an interior decorator, i.e. cabinetmaker, furniture maker, wall-paper hanger, painter, etc.

3. Give the students an opportunity to see a house under construction, or allow them to go to an open house.

4. Take the class to see an apartment house or a large business where interior decorators have been at work.

5. Take the class to visit a local supplier-furniture store, carpet layer or manufacturer.

N. ASK SOME OF YOUR STUDENTS TO SOLVE SOME OF THE FOLLOWING PROBLEMS BASED ON A HYPOTHETICAL SITUATION. Mr. Gregg is the interior decorator.

1. A Mr. and Mrs. Babcock approach the interior decorator. They want to redecorate their daughters' bedroom. The two girls are ten and thirteen years old. They presen

the interior decorator with a floor plan of the bedroom and explain that they are limited by a budget of $300.00. They would like to use the existing furniture which includes: twin beds, two matching bureaus and two chairs.

What solutions to the problem can you think of?

What areas need the most concentration?

What can be done to give the sisters some privacy?

2. Mr. and Mrs. Hopkins request the services of the interior decorator to furnish a nursery for an expected baby.

What color schemes, wall coverings, furniture, floor covering, and drapery materials should you use in an infant's room? Are they the same things that you might find in an older child's room? What are the most important things to consider?

Can you help Mr. Gregg? Does the room size matter?

3. Mrs. Clements approaches the interior decorator about home ideas and perhaps new furniture for her third bedroom. Her children have grown up and she has no need for three bedrooms for herself and her husband. She would like to convert the extra bedroom into a den, but she would still like to be able to use it as a bedroom when her family comes to visit.

What type of furniture, color schemes, drapery, and floor covering would be appropriate for a bedroom-den? Do you need to have a bed in the den? What else could you use? Would a TV set be appropriate? How about bookshelves? Can you give Mr. Gregg any suggestions that might help? Consider the age of his client.

EVALUATION

III.

A. Student observation

1. Did the student show an interest in the field of interior design and decoration?

2. How was this interest maintained?

3. How did the student use his abilities in the field of art?

4. What related fields did the student show an interest in?

5. How successful was the student in completing each of the activities?

6. How did the student recognize and evaluate his own performance?

7. Was the student satisfied or pleased with his accomplishments?

B. Evaluation measures for the teachers

1. To what extent did the activities meet the objectives?

2. What might be changed to improve the effectiveness of my activities?

3. How effective were the materials and information in helping the students meet the unit objectives?

IV. Materials and Resources

A. The teacher should have available to the student as many of the following materials as possible:

1. Wallpaper sample books (out of date ones are free from a retail supplier).

2. Carpet and linoleum samples (extra pieces are available from a supplier).

3. Paint charts (available at any paint supplier).

4. Pamplets on furniture can be obtained from the furniture manufacturers.

5. Pamplets on paneling, various types of suspended ceilings, windows, and other building materials available from the local lumber yard.

6. Blueprints for the students to examine can be found in Better Homes and Garden and House and Garden. They may also be obtained from: New England Homes and Westville Homes by writing to the manufacturer.

B. The N.O.W. Program has an extensive array of audio-visual materials and equipment that are available to you at your request from our "Resource Center" at Lewiston Comprehensive High School:

1. Tape recorders, tapes, microphones.

2. Video-tape recording equipment.

3. Cameras, films, flash bulbs.

4. Projectors, screens.

C. N.O.W. materials:

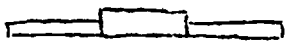
Your Future in Interior Design, ARCO Press.

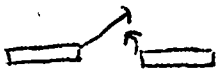
INSERT 1

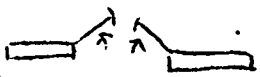
SYMBOLS FOUND IN A BLUEPRINT

one foot=1'
one inch=1"

walls
(double line)

window 

single doors 

double doors 

folding doors

stairs

(arrow shows direction)

ABBREVIATIONS

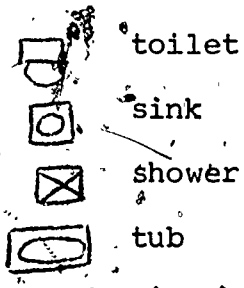
CL=closet

BR=bedroom

LR= livingroom

BATH=bathroom

BATHROOM SYMBOLS



INSERT 2

name

date class

The student will measure the width and length of the room in feet and inches to be written as feet ' and inches " .

The student will place doors and windows in the correct location. These will also be measured and recorded in feet and inches.

All closets or build-in furniture should also be measured and included as it exists.

INSERT 3

name

date class

1. Room: _____

2. Floor covering
   - local supplies: _____
   - type: _____
   - color: _____
   - cost: _____

3. Walls
   - paint color: _____
   - brand: _____
   - cost: _____
   - local retailer: _____
   - wallpaper: _____
   - colors: _____
   - cost: _____
   - local retailer: _____

4. Windows
   - drapery: _____
   - colors: _____
   - fabric cost: _____
   - available at: _____
   - window shades: _____
   - cost: _____
   - colors: _____
   - available at: _____

5. Furniture
   - style: _____
   - colors: _____
   - manufacturer: _____
   - cost: _____
   - do it yourself: _____

6. Lighting
   - style: _____
   - moveable as furniture: _____
   - in ceiling: _____

7. The problem area to be solved was: _____

8. Alternatives: _____

9. The final solution was: _____

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INDUSTRIAL ARTS

Modular Programming with a VTR for Industrial Arts

I. Objectives

A. General objectives

1. To facilitate the industrial arts teacher in individualizing instruction.

2. To provide the student with the following occupational information about industry in Lewiston:

a. What jobs are there in the area that are relative to the industrial arts programs at Lewiston Junior High School?

b. What do these workers do on their jobs?

c. What is the general salary for these kinds of jobs?

d. What education and/or training is required?

e. What abilities, skills, and interests are required?

f. What advantages and disadvantages are there to these jobs?

g. What is the job outlook?

3. To expose groups of students to the parts, function, and operation of industrial arts tools and machinery more efficiently by the use of video-tapes and instructional packages.

B. Specific objectives

1. By the end of the program, the student will be able to name at least five job opportunities in the local area that are related to his industrial arts program of study.

2. The student will be able to describe to his own satisfaction what these workers do on their jobs, general salary, education and/or training requirements, necessary skills, abilities, and interests, and the advantages and disadvantages for these five jobs.

3. The student will be able to describe the part and function of a given industrial arts tool or piece of machinery after receiving instruction concerning the parts and function by means of video-tape, instructional package, and classroom teacher.

4. The student will be able to demonstrate the operation of a given industrial arts tool or piece of machinery after receiving instruction concerning the operation by means of video-tape, instructional package, and classroom teacher.

II. Scope and Sequence (Teacher's guide for developing and implementing modular programming)

A. Occupational information about industry in Lewiston:

1. Make an industrial survey to find out which local companies employ people with industrial arts skills.

2. Make a resource list from this information.

3. Identify specific jobs in each company that require I.A. Skills.

4. Have students conduct interviews with persons holding the specific jobs as identified in 3. above to find out the following information:

a. What the worker does on the job.
b. Salary.
c. Required education and/or training.
d. Necessary skills, abilities, and interests.
e. Advantages and disadvantages to this kind of work.
f. The job outlook.

5. Video-tape these interviews.

6. Use these interviews in your program of study to supplement existing occupational information.

B. Instructional use of the VTR in demonstrating tool and machinery parts, function, and operation:

1. Identify specific areas in your curriculum concerning tool and machinery parts, function, and operation that would best be demonstrated via the VTR.

2. Make a list of these curriculum modules.

3. Write accompanying information packages for each curriculum module that describe instructional outcomes, and an outline of the information offered.

4. Use the information package as a basis for your demonstration of the tool or machine.

5. Demonstrate the parts, function, and operation of the tool or machine. Give each student a copy of the information package. Video-tape record your demonstration.

6. Save the tape for review, for students who missed the instruction, and for an instructional module for future classes.

7. Use the information package as an adjunct to the taped demonstration.

SUGGESTED NOW RESOURCES: VTR System: deck, camera, tripod, VTR Moniter

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INDUSTRIAL ARTS

Corporate Structure and
Industrial Arts

I. Objectives

A. General objectives

1. To encourage the student to participate in group and individual efforts.

2. To introduce the student to the role of corporate structure in supplying the demands of a consumer society.

3. To increase the student's awareness of worker interdependency.

4. To familiarize the student with the structure of a corporation.

5. To give the student a chance to see a product to its completion.

B. Specific objectives

1. By the end of the program activity, the student will be able to perform the job duties of five workers within the corporate structure to his own satisfaction in a mock corporate structure.

2. The student will be able to describe the job function, the education/training requirements, a job advantage and a disadvantage, necessary skills, abilities, and interests, and the relation of the worker to others in the corporate structure for each of the five above occupations.

3. The student will be able to demonstrate the use of a given tool or piece of machinery that is necessary for the manufacture of the corporate structure's product.

II. Scope and Sequence

A. Introduction

1. Show students what a corporate structure is. (Refer to Insert 1)

2. Show students some products they can make while the classroom functions as a corporate structure.

3. Decide what products the corporate structure will make.

4. Discuss products in relation to the corporate structure:

   a. Supply and demand.

   b. Necessary steps to make the product (pricing materials, selling stock, designing, and production, etc.).

B. Class activity

1. Instruct students on the use of the tools and machinery necessary to make the product.

2. Set-up the corporate structure with the students as its members. (Inserts 2 & 3)

3. Have students change work roles until everybody has had the chance to perform the job duties of at least five workers.

4. As students role play each worker, have them investigate further the job function, education/training requirements, job advantages and disadvantages, necessary skills, abilities, and interests, and the relation of that worker to others in the corporate structure.

5. Interview students to determine their orientation to these workers.

C. Concluding activities:

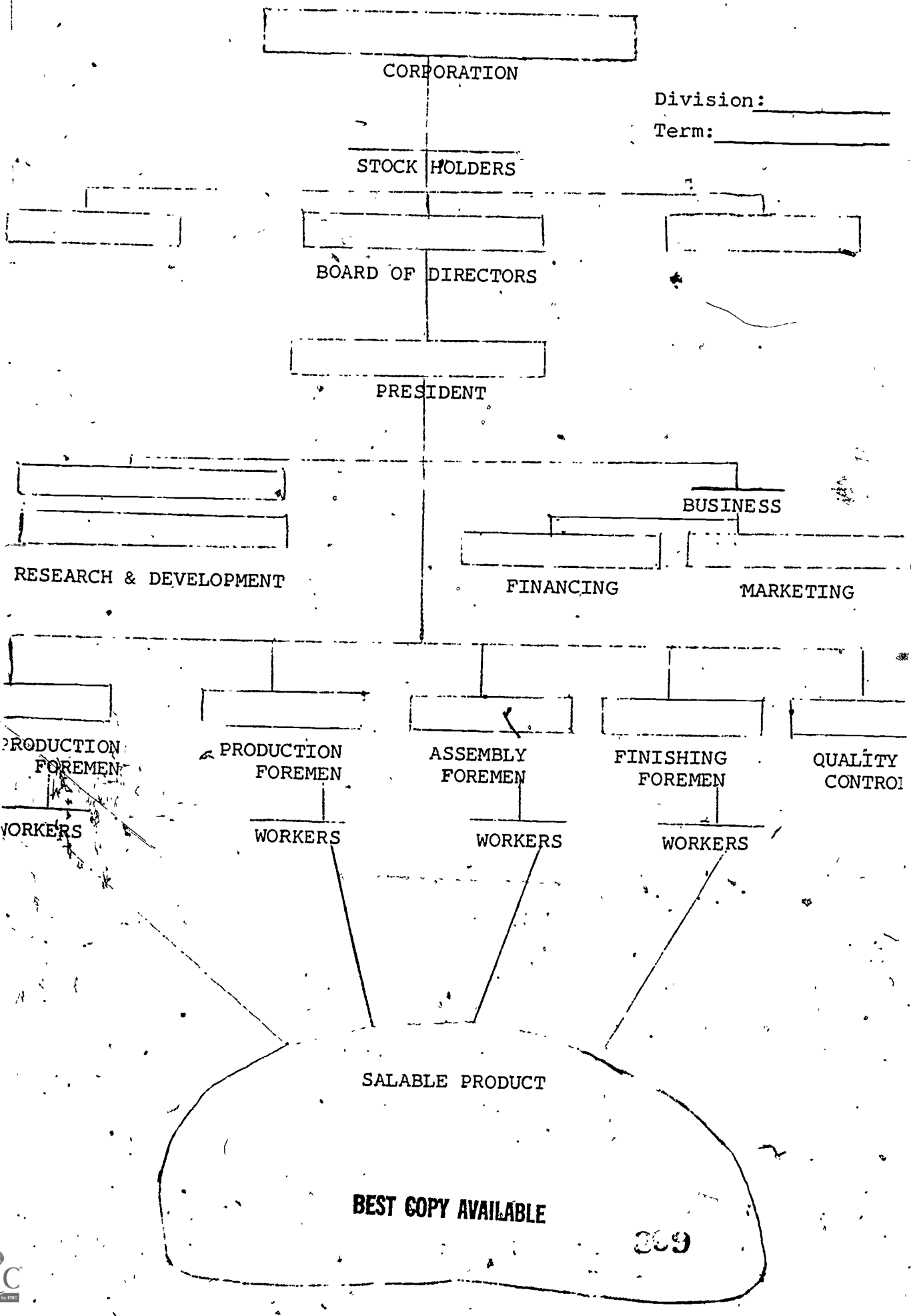
1. Complete corporate structure products.

2. Sell products to replenish materials and supplies.

3. Discuss profits in relation to stockholders.

Suggested NOW Resources: Finney's-Finding Your Job.
Occupational Outlook Handbook.
Career Monographs.
SRA-Career Information Kit.

INSERT I



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INSERT 2

Stock #

Share

LEWISTON JUNIOR HIGH SCHOOL

COMMON STOCK

THIS CERTIFIES THAT _____ IS OWNER OF _____ SHARE(S) COMMON STOCK AT THE RATE OF $_____ PER SHARE.

THIS STOCK INVALID AFTER: _____ DATE SOLD: _____

_____
FINANCE MANAGER

_____
PRESIDENT

_____
STOCK HOLDER

_____
INSTRUCTOR

INSERT 3

LIST OF STOCK HOLDERS

DIVISION:_____ TERM:_____ CORP. NAME:_____

FINANCING MANAGER:_____

NAME	# OF SHARES	COST PER SHARE	TOTAL COST

STOCK INTENSIONS

NUMBER OF PRODUCTS TO BE SOLD:_____

NUMBER OF PRODUCTS TO BE KEPT:_____

Fine Arts and Humanities Occupations

ART IN ADVERTISING

Suggested for use in
Junior High Art Classes

Developed by:

Joan Flynt
Art Teacher

In cooperation with
the N.O.W. Staff

Introduction

The application of careers to art can help develop any art curriculum. Career education in art can encourage the art student to use art skills and concepts in work-life situation beyond the school environment. For the student who is artistically talented, career education in art can make the difference between occupational disappointment and occupational fulfillment.

There is a place for the artist in the working world. The artistically inclined are in all areas of advertising, for example. A more sophisticated public has learned to ignore and distrust the great wave of unartistic and gaudy advertising that has exploded into all media areas in the past. Advertising has, in fact, become an art form.

This unit may help you orient your students to the concept of art in advertising. As an artist, you may feel confined by the academics of the unit approach. Your own sensibilities can be your guide Cull out what you cannot use. Implement, improve, and add activities according to the needs of the individuals in your classroom.

Karen McMahon
Activities Writer
N.O.W. Exemplary Program

Art in Advertising

I. Objectives

A. General objectives

1. To introduce the student to the role of art in contemporary advertising.

2. To inform the student of the work roles of the artist in advertising.

3. To encourage the application of artistic skills and appreciations to display techniques in advertising.

4. To introduce the student to the various forms of advertising.

B. Specific objectives

1. By the end of the unit study, the student will be able to name three careers associated with advertising and art.

2. The student will be able to describe the job function, advantages, disadvantages, interests, skills, abilities, education and training requirements, job outlook, and expected salary for each of the three above occupations.

3. The student will be able to compose and draw a two-dimensional advertising poster using the nine elements of a successful display and one advertising approach.

4. The student will be able to demonstrate his knowledge of five advertising approaches.

5. The student will be able to compose a 3-D advertising display using the nine elements of a successful display and at least one advertising approach.

II. Activities

A. INTRODUCE YOUR STUDENTS TO THE ARTISTIC ELEMENTS AND APPROACHES IN ADVERTISING. Ask the students to bring in newspaper and magazine advertising clippings before you conduct your discussion. Use the clippings as examples.

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1. Artistic elements that contribute to a successful displa

   a. Color.
   b. Line-point.
   c. Shape.
   d. Composition.
   e. Clash-harmony.
   f. Direction-movement.
   g. Balance-size.
   h. Variety.
   i. Elegance.

2. Advertising approaches:

   1. Famous person approach (If Bobby Orr likes it, you'll like it).
   2. The "Best and Greatest" approach.
   3. The economical approach (more for your money).
   4. The popularity approach (everybody wants one...).
   5. The masculine or feminine image approach.
   6. The special offer approach (one time only).

B. ASK YOUR STUDENTS TO MAKE AN ADVERTISING DISPLAY POSTER. Discuss these displays in relation to the nine artistic elements and the six advertising approaches.

C. INTRODUCE YOUR STUDENTS TO OCCUPATIONS IN ADVERTISING THAT REQUIRE ARTISTIC SKILLS. Make occupational information available so that each student may research three occupations to find out the job function, advantages and disadvantages, interests, skills, abilities, education and training requirements, job outlook, and expected salary for each. Refer to IV. Materials and Resources for information sources.

D. OCCUPATIONS IN ADVERTISING:

1. Display workers.
2. Commercial artist--design, layout, composition.
   a. Newspapers.
   b. Magazines.
   c. Posters.
   d. Pamphlets and leaflets
3. Graphic artist--design, layout, composition (a.-d. above).

E. INTERESTED STUDENTS MAY WANT TO VISIT A PRINT OR COMPOSITON SHOP. Here, the students may discover the occupations and techniques involved in graphic arts. Much printed matter is actually in the form of advertising. Students may want to ask what percentage of the jobs in the shop are advertising, and what kinds of advertising are most frequently printed. Job facts such as salary, training, outlook, advantages, and disadvantages may also be of interest.

F. ARRANGE AN EXCURSION TO A LOCAL DEPARTMENT STORE. Make your arrangements with the person who is responsible for advertising so that he may highlight the tour with the advertising techniques used. Prepare your students to ask questions concerning the jobs involved in advertising in that store. Ask your students to note and evaluate the artistic elements and approaches used at the store. Note three-dimensional as well as poster displays. Ask your students to write a thank-you note.

G. DIVIDE THE CLASS INTO GROUPS TO MAKE THREE-DIMENSIONAL DISPLAYS. Ask the groups to decide what they will advertise. Group members can procure the articles, and make their displays. Make-out an evaluation sheet so the students can evaluate each display for effectiveness in using artistic elements and advertising approaches. (Refer to Insert 1).

H. ASK YOUR STUDENTS TO GIVE THEIR REPORTS ON THREE OCCUPATIONS IN ADVERTISING THAT USE ARTISTIC SKILLS. Take this opportunity to review unit material.

III. Evaluation

A. Check each student for completion of unit projects.

B. Check with specific objectives to see if unit projects satisfied the criteria set in the objectives.

C. Evaluate how successful the unit activities were in motivating students to meet unit objectives.

IV. Materials and Resourses

A. Materials to have around:

1. Poster paper.

2. Felt markers, pens, paints, crayons, ink.

3. Glue.

4. Construction paper.

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5. Scissors.

6. Magazines.

7. Articles for ad displays.

8. Small boxes.

9. Drapery material.

B. Occupational information sources:

1. Occupational Outlook Handbook.

2. SRA Career Information Kit.

3. Finney's - Finding Your Job.

4. Career Monographs.

INSERT 1

Three Dimensional Display

Evaluation Form

Student's name: _____

Group: _____

Advertised products: _____

I. Use of artistic elements: Excellent Good Fair Poor (circle one).

1. Color	4	3	2	1
2. Line - point	4	3	2	1
3. Shape	4	3	2	1
4. Composition	4	3	2	1
5. Harmony	4	3	2	1
6. Direction - movement	4	3	2	1
7. Balance	4	3	2	1
8. Variety	4	3	2	1
9. Elegance	4	3	2	1

II. Advertising Approach: _____

How effectively did the group use this approach?	4	3	2	1

II. Overall rating: 4 3 2 1

Give a general statement of your reasons for your overall rating:

_____

_____

_____

_____

PRE- AND POST-TESTING

Evaluation Techniques to Determine Career Awareness in the Elementary Student

I. Testing non-readers and writers for career awareness requires innovation on the part of the teacher. Students often understand more than they can verbalize or write. A student's aversion to testing may be based on lack of reading and writing skills, if such testing has too frequently required the use of these skills.

Pictures can be a very effective means to determine career awareness in students who have lower reading levels. There are two methods that are commonly used with non-readers to determine growth that could be a result of a career education activity:

A. Present your students before and after the activity with various visual stimuli that are representative of the group of workers you will take up. These might include:

1. Numbered pictures of workers performing job duties.

2. Numbered or lettered pictures of tools machines, and/or people that are commonly associated with these workers.

Simple matching and identification exercises can reveal growth in career awareness. Also, since concepts are largely formed by the association of facts, you may be able to determine from the students' abilities to identify and match workers, jobs, tools, and people that the students have the basis for or have formed such concepts as: specialization creates interdependency; work and education are interrelated, etc.

SAMPLE QUESTIONS:

1. Write down the number of the picture that has a pharmacist in it.

2. Write down the numbers of the pictures that have hospital workers in them.

3. Match the right tools with the right workers.

B. Ask your students to draw a picture or pictures before and after the activity that will represent the workers they will study. Compare pre- and post-activity results. Drawings might include:

1. Workers in a given group performing job duties and interacting with other workers.

2. Tools, machinery, and other accountrements associated with the workers studied.

II. Testing readers is a more direct process. Your test may require short answer, multiple choice, and matching exercises. Combining these traditional techniques with some of the above techniques provides a more motivating procedure. In some classrooms students may be of a significantly lower reading level than the rest of the class. In these cases, structure the test so that as little reading or writing is needed as possible, or provide enough flexibility in selected test questions so that the student with a lower reading level may either write or draw his response. The following areas are the most pertinent for grades 3-6 since this knowledge indicates to one degree or another the growth of career awareness into orientation in the higher level student:

1. The kinds of jobs included in the chosen occupational area.

2. What these workers do on the job.

3. Basic education and training requirements. (high school, on-the-job, 2-year technical, college)

4. Tools, machines, and other accoutrements.

5. Necessary skills, abilities, and interests.

6. Job advantages and disadvantages.

III. A third way to pre- and post-test students is to design a role-playing activity dealing with the group of workers you will take-up. Provide a hypothetical work situation before and after you study these workers. Compare the results. This kind of evaluation is best done with very young students, or with students who are accustomed to acting maturely in role-playing activities.

SOME TESTING PROCEDURES

I. Pre- and post-testing puts more responsibility on the teacher than the student in the following areas:

A. Was the activity suitable for the students' developmental levels?

1. Did pre- and post-test results show a significant increase in awareness as a result of the activity?

Pre-test	Post-test	Sign
-	+	+

2. Did the pre-post-test results show a decrease in awareness as a result of the activity?

Pre-test	Post-test	Sign
+	-	-

3. Did the pre- post-test results show no difference in awareness as a result of the activity?

a. The student was not aware before or after the activity.

Pre-test	Post-test	Sign
-	-	0

b. The student was aware before and after the activity.

Pre-test	Post-test	Sign
+	+	0

B. Were the teaching methods, materials, and resources used effective? (refer I., A., 1.-3.)

II. Accepting this responsibility relieves the student from the burden of "testing," and yet, it allows measurement in growth to take place. The following are some ways to help students respond comfortably to such measurement:

A. Remove the word "test" from your vocabulary. You might call the procedure an activity, a measure, or evaluation. To tell students before pre-test administration that it's just a little test, but it doesn't really count, so don't worry about it is a contradiction in terms. Explaining the purpose of the procedure may be more effective. To explain it in terms of physical growth is usually understandable to the youngest students.

Example:

"Do you remember when the teacher weighed you and measured how tall you were last year? This year I weighed and measured you, too. Many of you have grown a lot. The way I found this out was when I looked at how much you weighed and how tall you were last year, you weighed less, and you were shorter. We're going to do pretty much the same thing now. We're going to find out how much you know now about hospital workers, so that later we can see if you know more."

B. Personalize the test as much as possible. Ask your students to indicate which workers and tools they'd like to know more about or they like best. Ask them to draw or color their own pictures. Role-playing is a highly personalized method.

III. Be sure to use the information that is required to show growth in the occupational cluster that will be studied, but do not use the test itself or actual items from the test as a means of acquiring this knowledge until you will post-test the students. Otherwise, the measure will not be a valid indication of growth.

A. Before you make the instrument identify specific, performance-oriented, behavorial objectives that will pin-down the information and/or skills that will result from the implementation of the activity.

B. Make the instrument keeping the above objectives in mind.

C. Pre-test the students with the instrument.

D. Implement the activities that will aid the students in meeting the above objectives.

E. Post-test the students with the instrument.

F. Compare pre- post-test results.

EVALUATING A CAREER EDUCATION LEARNING PACKAGE FOR SECOND GRADERS

Karen McMahon
Activities Writer
N.O.W. Exemplary Program

In Conjunction with a
Unit on Health Careers

Developed by:
Anne Cheney
Grade 2 Teacher

Abstract

This paper is a result of a study done on the effectiveness of a career education learning package in helping second graders increase their awareness about health careers. A ten picture pre- and post-test instrument was developed to determine this. The measure was a three part test:

1. The students identified which of the workers presented on the ten picture cards were involved in the work force of a hospital on the pre- and post-tests.
2. The students identified the visual image of each worker by picture number when given the job title of each on the pre- and post-tests.
3. The students identified two workers by picture number that they would like to know more about. The subjects' abilities to identify these pictures were compared on the pre- and post-tests. The assumption was that the learning activity would increase the subjects' abilities to identify their choices.

Evaluating a Career Education Learning Package for Second Graders

The New Opportunities for Work Exemplary Career Education Program (N.O.W.) began in Lewiston, Maine in the fall of 1970. During the growth of the program, many teachers employed the services of N.O.W. Career Education Specialists to show them how to integrate career education information, materials, and resources into the ongoing curriculum. This was accomplished through inservice teacher training programs and individual conferences.

The N.O.W. Staff conducted one inservice teacher training program specifically for the purpose of developing career education learning packages. Teachers wrote objectives and sequenced career education activities with classroom activities. They were also given the opportunity to develop audio-visual aids and to order materials pertinent to their packages.

The teachers implemented their learning packages during the following school year. Evaluation was a part of the implementation.

One of the participants, a second grade teacher, developed a unit on health careers for her class. Activities included visits from the school nurse and student nurses at a local hospital, role-playing activities, work sheets on hospital workers, and the use of audio-visuals pertaining to health careers.

The N.O.W. Staff and the teacher involved decided to evaluate the package in an effort to answer the following questions:

1. How effective was the learning package in helping the teacher present the material to second grade students?
2. How effective were the materials and resources in acheiving the desired amount of career awareness among the students?
3. How effective were the teaching methods employed during the activity?

Instrumentation

Since elementary level career education activities are intended to increase the student's occupational awareness[1] in a given area, the N.O.W. Staff Activities Writer developed a ten item pre- and post-test instrument that could determine this for health careers and would not be influenced by the reading levels of second grade students. The ten item instrument consisted uniformly articulated, brightly colored cartoons of hospital workers performing various job functions. These included: 1) Nurse's aid 2) Surgeon 3) Electrician 4) X-ray technician 5) Physical therapist 6) Pediatrician 7) Cook 8) General pratitioner 9) Pharmacist 10) Housekeeper.

The ten pictures were numbered and displayed in the above order. The same instrument was used in the pre- and post-testings. Students responded on a three part answer sheet to each test question by circling the number of the picture that represented their answer.

The first exercise required the students to indicate whether or not each of the ten occupations represented on the pic-

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ture cards was involved in the work force of a hospital. Students circled the numbers of the pictures that had hospital workers in them on their answer sheets.

The second exercise required the students to identify the correct picture card when given the title of the occupation. The students identified each picture by number when given the job titles in the following order: cook (picture 7), surgeon (2), podiatrician (6), housekeeper (10), nurse's aid (1), electrician (3), pharmacist (9), x-ray technician (4), physical therapist (5), general practitioner (8).

In the third exercise, the students were asked to identify which two occupations they would like to know more about. They indicated these two by picture number. The assumption in this exercise was that the learning activity would increase the subjects' abilities to identify pictures representing occupations about which they wanted information. The subjects' abilities to identify pictures showing occupations they had indicated a special interest in were then compared on the pre- and post-tests.

Data Analysis

Correct and incorrect responses were recorded for each of the three exercises on both the pre- and post-tests. Appropriate codings were then assigned to enable implementation of the Sign test. The .05 level of significance was selected for rejection of the hypothesis of no difference.[2]

Results

Part I

The data indicate that a significant number of the students increased their awareness of the kinds of workers that work in a hospital as a result of being exposed to the learning package on health careers.

Part II

The data indicate that a significant number of the students were able to identify the correct visual image of an occupation when presented with the verbal stimuli as a result of being exposed to the learning package.

Part III

The data indicate that there was a significant increase in the students' abilities to identify pictures showing their first choice of an occupation, but there was no significant increase in the students' abilities to identify pictures showing their second choice of an occupation.

Discussion

Part I

In general, the data supports the use of the learning package as a means of increasing career awareness about health careers on the second grade level. The results also seem to indicate that the teaching methods were effective in motivating the student to acquire the information therein.

Part II

The fact that the subjects could correctly identify the visual image of an occupation when presented with the verbal stimuli suggests that the students came to understand, in part, the job functions of these workers. Their occupational awareness was increased as a result of the learning package implementation.

These results, combined with the fact that a significant number of the students became more knowledgeable of the variety of occupations found in a hospital, seem to suggest that the students grasped the concept that these workers are highly interdependent (i.e. each worker depends on the specific job functions of other workers in the hospital). This becomes even more apparent when consideration is given to the fact that the students not only identified the visual images of occupations such as electrician, cook, and housekeeper, but also identified them as hospital workers.

The concept of worker interdependence is of significance because at a later time in a student's development, when he has been exposed to additional occupational areas, he may come to assume that: "Specialization creates interdependency."(3) An understanding of this concept is essential in perceiving the relationship of one's self to others in our working society.

Part III

It is difficult to determine why there was a significant improvement in the students' abilities to identify pictures of

their first occupational choice and not their second. However, there are a number of possible explanations why this occurred. One possibility is that the students may have been more motivated to learn about their first occupational choice than their second. This would explain why there was a significant increase in ability to identify the first choice of an occupation on the post-test but no change with regard to the second choice.

The following circumstances may partially account for the marginal significance of the results for Part III. The student could have identified his choice correctly on both the pre- and post-tests, and at the same time, his initial awareness could have increased over and above the knowledge required to answer the test questions as a result of the activity. There would have been no way to measure this with the evaluative tool under these circumstances.

A closer look at the individual tabulations of the students' abilities to identify their first and second choices show that the majority of the students could identify their choices prior to unit implementation. This leads us to believe that the above situation is at least a possibility.

If the majority of students could identify their choices prior to unit implementation, the possibility exists that the majority of the students based their choices on their prior knowledge of those occupations.

This, in turn, supports the need for career awareness on

the elementary level. If the very young student wants to know more about the occupations of which he already has knowledge, and he does not display similar curiousity for occupations of which he is not aware, his occupational choice may he hindered at a later time in his development by his limited knowledge of the total opportunities available. A great variety of occupational information and experiences should be offered. Awareness should be increased beyond the student's limited point of reference.

Holland says:

> Persons with more adequate choices will exhibit greater differentiation and organization of occupational knowledge than will persons of less adequate choices. (4)

We should also consider, however, that the testing instrument may not have been reliable since no attempt was made to assess this.

Summary

This study indicates that student awareness about health occupations was increased, and that the information was appropriate for the students involved, and that the learning activity package was an effective guide for the elementary teacher to use in developing career education activities.

References

1. "The National Standard Career Education Model-Kindergarten through Adult"; Educational Properties Incorporated; P.O. DX, CA, 92664; 1972.

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2. Siegel, Sidney; Non-Parametric Statistics for the Behavioral Sciences; McGraw-Hill Book Co.; New York, New York; 1956.

3. Ibid., 1.

4. Holland, John L.; "A Theory of Occupational Choice"; Journal of Counseling Psychology; 6:1:40; Spring, 1959.

EVALUATIVE STUDY ON LEARNING PACKAGES FOR GRADES 1, 3, 4, 5, AND 6

Karen McMahon
Activities Writer
NOW Exemplary Program

A group of five elementary teachers from a cross-section of grade levels gathered to learn about some new evaluation techniques. The inservice training day was intended to expose these teachers to pre- and post-testing techniques as a means to evaluate units of instruction.

Each teacher chose a career education learning package, and after receiving instruction on evaluation, each made pre- and post-tests for the package. Behavioral objectives outlined in the packages were a basis for each test model.

The teachers' instruction on evaluation consisted of their actual participation in a mini-career education unit on corporate structure. A pre- and post-test was administered to determine the growth in the teachers' awareness concerning job functions and worker interrelationships in a corporate sturcture.

Dr. Robert Nannay and Dave Morrill from the University of Maine, Portland-Gorham, Industrial Arts Department conducted the activity. During the activity, teachers role-played jobs in a corporate structure by actually manufacturing a product. After being exposed to silk-screening techniques by Mr. Morrill, the teachers made greeting cards. Each had an opportunity to experience every step in the process. Afterwards, they took their post-test and compared the results with the pre-test.

During the day, teachers were not only exposed to a new kind of classroom activity, but they also learned something new about evaluation: evaluation can be a humanizing process that allows both the teacher and the student to determine growth as a result of instruction in a more specific and accurate manner.

Results

Grade 1

Maggie Pelletier, a first grade teacher, chose a unit called "Safety Awareness." The workers studied in this unit were community helpers. The students had already been exposed to this cluster of workers earlier in the school year. "Safety Awareness" emphasized the role of community helpers in helping the community and particularly the student. "What do I do in case of fire?", "What do I do if someone is hurt?", and "How and why does a policeman conduct traffic?" are questions students answered during role-playing activities. Students not only experienced what they should do in case of emergencies, but they also realized what community helpers can do.

The pre-test largely consisted of role-playing activities, too. The teacher asked: "Tell me or show me what you would do if an accident where someone got hurt happened."; "Tell me or show me what you would do in case of fire?" She recorded individual responses on both the pre and post-tests.

She then used community helper posters to determine the students' awareness concerning these workers and their role in the community before and after "Safety Awareness."

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The students increased their awareness about emergency situations as a result of the unit implementation. Students would either discuss or do what they would do in an emergency with a greater degree of organization and clarity after participating in the unit's activities.

The test section on community helper awareness indicated that the students had already acheived an adequate level of awareness concerning these workers. The students had probably grown as a result of their previous exposure to community helpers.

Grade 3

Gerry Ricker, a third grade teacher, chose a unit called "Personal Services Occupations." This group of occupations includes such workers as: shoe-shine person, manicurist, cosmetician, beautician, host, hostess, waiter, waitress, chauffeur, butler, maid, cook, housekeeper, gardener, seamstress, tailor, cobbler, health salon operator, and laundromat operator.

Students became more aware of this group of workers and their work roles. Unit activities also enabled students to understand the dignity of this kind of work. The overall concept was to help the student understand the dignity of all kinds of work.

The teacher accomplished this goal by allowing the students to find satisfaction in helping each other with a personal service. Students brought in such items as shoe polish, brushes and rags; combs, brushes, hairpins, and rollers; cloth, needles, thread, and pins; serving trays, food dishes, and silverware. Students then participated in role-playing activities with classmates while using these articles.

Students also became more aware of these workers and their dignity by visiting a local laundromat. They asked the operator many questions about the responsibilities of running a laundromat. They also learned more about the tools and machines with which an operator has to be familiar.

Gerry Ricker's written pre- and post-test was developed to determine the growth in the students' awareness concerning this large group of workers. She asked students to draw pictures of five personal services workers with their tools and uniforms while performing a job function.

She also determined their growth in awareness concerning the ways that these workers can help other people. This was a multiple choice question, and the students circled the appropriate responses.

The students showed an increase in awareness on both parts when pre- and post-test results were compared.

Grade 4

Rachel Billings, a fourth grade teacher, implemented a unit on workers who help supply us with clean water. These included public service occupations and environmental control occupations. This was a rather difficult group of workers about which to find information. The local public works department provided much of the information needed to prepare unit material and the pre- and post-tests.

During the unit the students studied these workers and discovered the many ways that we use and can conserve water.

The pre- and post-test consisted of a set of ten picture cards. Some showed water workers and others did not. The students were asked to identify the pictures that they thought had water workers in them.

The students then identified the pictures when given the verbal stimuli of the job titles.

Both parts of the pre- and post-tests showed a significant increase in student awareness.

Grade 5

Sue Cyr, a fifth grade teacher, decided to do a unit on occupations that dealt with flowers and plants. She used her regular science unit on botany as a basis for the study. Since it was springtime during the unit implementation the students had plenty of opportunity to bring in their own flowers and plants.

Students discovered more about botanists, farmers, gardeners, greenhouse personnel, and flower arrangers in relationship to flowers and plants. The students did this by visiting a flower shop-greenhouse, by sharing their experiences with flowers and plants, and by being exposed to occupational information. Interested students reinforced this activity by actually arranging flowers.

The written pre- and post-tests determined the students' growth in awareness about jobs that have "something to do with flowers and plants." The tests also indicated the increase in awareness about job facts such as required education and training, job duties, tools and objects the workers use, and the ways that flowers and plants can be used.

All areas indicated a significant increase in awareness except

that the students already seemed to have an adequate knowledge of the tools and objects that these workers commonly use.

Grade 6

Richard Campbell, a sixth grade teacher and a part-time short order cook, implemented a unit on the short order cook. Dick's insight into the profession allowed him to deal with some specific skills of the short order cook.

Students were not only exposed to the work role characteristics of this occupation, but they had some hands-on experiences by computing a cook's pay when given the wage per hour, and social security and income tax percentages. They also wrote menus and made orders for food for small and large groups of people. They computed the approximate costs of cooking and serving such meals by calling up a local wholesale food distributer and requesting the costs of the items needed to cook the meals. School skills like math and language arts became occupational skills in these activities.

The pre- and post-test was written. Students responded to such questions as: 1. Check some of the skills and abilities needed to be a short order cook. 2. What are the hours of a short order cook? 3. How much money do you think a short order cook earns? 4. Why is the short order cook an important occupation? 5. What are three job duties of the short order cook? 5. What kind of training does a short order cook need? 6. What other occupations are there in a restaurant?

A pre- and post-test test comparison cannot be made, since the post-test results were incomplete at the time of this writing.

EVALUATION

A Teacher's Report on Unit Implementation: Workers Who Build Homes

Developed and Implemented by:
Geraldine Ricker
Grade 3 Teacher

In Cooperation with the NOW
Staff

This unit was introduced by having the class discuss homes. We used the following questions as a guide for the oral discussion: What is a home? Are they all alike? Why not? What makes homes different from one another? What is your home like? Do you know who builds homes? Does it involve a lot of workers? Who are some of these workers? What are some of the tools and materials used to build a home?

The students then drew pictures of their own homes. We displayed these on the bulletin board.

Next, with the textbook as a guide, the types of workers involved in building homes were discussed in more detail. Pictures of workers, filmstrips from the NOW Program, and library books helped make the children more aware of construction workers and their skills. These workers were studied: architect, contractor, carpenter, bricklayer, electrician, plumber, roofer, laborer, and foreman.

As we studied these workers, we made a classroom chart of them and added this to the bulletin board. Later on, we had a quiz on these workers and their skills.

The children then worked in small groups. Each chose workers they would like to pantomime. Then we had an art lesson to make the necessary costumes, uniforms, and tools for each worker. Students assumed the role of their worker, and we carried on a few days of "role playing" activities.

Our next discussion concerned tools and their value. We discussed the use of each tool and the training involved in trying to use the tool. We also discussed the workers who could use the tool. These were the tools studied: hammer, screw driver, saw, rule, level, square, trowel, and palate.

The children made a chart of these tools and put it on the bulletin board.

This activity was followed by a class discussion on building materials. We added a chart of these materials to the bulletin board: brick, lumber, paint, glass, shingles, concrete, pipe, wire, stone, and nails.

The children began, at this point, to work on individual or group projects. Some made posters of building materials. Some drew pictures of the workers and their tools. Some brought in blueprints of their homes, and the others drew original blueprints of their homes. The blueprint lesson carried over into a math lesson.

We were also fortunate that our school is across the street from a shopping mall which was under construction. One afternoon with the assistance of the student teacher, we went over to the construction site. Having cleared this with the foreman previously,

we were allowed to watch and talk with some workers. We learned a great deal from this fine experience. We were able to watch much of the construction from our school as the year passed.

As a follow-up, the children wrote thank-you notes, and made oral and written reports about their experience.

Before we ended the unit, we also had a class discussion on homes around the world. We discussed how and why homes are different. This led to a discussion on climate, location, and building materials and tools. To reinforce this social studies lesson, the students drew pictures of different kinds of homes around the world.

We, then, summarized what new things we had learned about homes and workers who build homes. We had a post-unit questionnaire on this information.

An Analysis of the Fifteen Career Clusters

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An Analysis of the Fifteen Career Clusters

I. Agri-Business and Natural Resources Occupations

A. Inspection and regulatory services

1. Food and drug inspector
2. Mineral inspector

B. Conservation

1. Soil conservationist
2. Biologist
3. Agronomist
4. Engineering aide

C. Education

1. County agricultural agent
2. Vocational agriculture teacher
3. Instructor, college of agriculture

D. Research

1. Agricultural economist
2. Agronomist
3. Biochemist
4. Engineer, agriculture

C. Forestry

1. Forester
2. Silviculturist
3. Dispatcher
4. Forest fire fighter
5. Sap collector
6. Log grader

D. Land and water management

1. Range conservationist
2. Surveyers
3. Agricultural engineer
4. Reservoir manager

E. Fisheries and wildlife

1. Fish and wildlife specialist
2. Game farmer
3. Fish hatchery man
4. Fish and game warden

F. Mining and quarrying

1. Machinery operators
2. Miner
3. Stone grader

I. Agri-Business and Natural Resources (cont.)

G. Petroleum and related products

1. Geologist
2. Driller
3. Pipe line foreman
4. Oil pumper

H. Productive agriculture

1. Poultryman
2. Dairyman
3. Orchardist
4. Nurseryman

I. Processing and marketing

1. Broker
2. Fruit grader
3. Drier, dehydrator
4. Auctioneer
5. Egg candler

J. Service

1. Chicken sexer
2. Artificial inseminator
3. Veterinarian
4. Farm equipment mechanic
5. Landscape architect

II. Business and Office Occupations

A. Accounting

1. Bookkeeper
2. Accountant

B. Computer

1. Key-punch operator
2. Sorting machine operator
3. Tape librarian

C. Secretarial science

1. Stenographer
2. Legal secretary
3. Medical secretary
4. Court reporter

D. Management

1. Executive
2. Public relations worker

II. Business and Office Occupations (cont.)

E. Personnel

1. Supervisor
2. Recruiter
3. Personnel counselor
4. Administrative officer

F. Finance-Insurance-Real Estate

1. Financial analyst (finance)
2. Bank teller (finance)
3. Insurance examiner
4. Insurance salesman
5. Real estate broker
6. Real estate posting clerk

G. Office (clerical)

1. General office clerk
2. Mail clerk
3. Messenger
4. Typist

III. Communications and Media Occupations

A. Journalism

1. Reporters
2. Copy and proof readers
3. Columnists and critics
4. Editors

B. Motion pictures

1. Producer
2. Writer
3. Artists
4. Camera man

C. Telephone and telegraph

1. Engineers
2. Radio communications translators
3. Managers and supervisors
4. Lineman

D. Recording industry

1. Musician
2. Mixing engineer
3. Dubbing and editing engineer
4. Lyricist

III. Communications and Media Occupations

E. Radio and television broadcasting

1. Production man
2. Announcer
3. Cameraman
4. Transmitter operator

IV. Construction Occupations

A. Wood construction

1. Carpenter
2. Timbering foreman
3. Band-saw operator
4. Asbestos shingle roofer

B. Metal construction

1. Pipe fitter
2. Boilermaker
3. Plumber
4. Sheet metal worker

C. Masonry construction

1. Brick layer
2. Marble setter
3. Terrazzo worker
4. Plasterer

D. Electrical construction

1. Electrician
2. Conduit man
3. Air-conditioning installer
4. Diesel plant operator

E. Finishing

1. Billboard erector
2. Carpetlayer
3. Cabinetmaker
4. Painter

F. Equipment operators

1. Bulldozer operator
2. Dredge operator
3. Crushed stone operator
4. Blaster

IV. Construction Occupations (cont.)

G. Engineering and support occupations

1. Architect
2. Civil engineer
3. Construction inspector
4. Surveyor

V. Consumer and Homemaking Education

A. Food specialists

1. Food and beverage analyst
2. Dietician
3. Consumer service specialist
4. Food processing technician

B. Housing and equipment specialists

1. Electric equipment tester
2. Home service director
3. Color expert
4. Home lighting advisor

C. Textiles and clothing specialists

1. Textile chemist
2. Buyer
3. Sewing instructor
4. Fashion designer

D. Family economics and home management

1. Researcher in home management and family economics
2. Director of consumer education
3. Budget consultant
4. Home management and family economics journalist

E. Family relations and child development

1. Nursery school teacher
2. Researcher in family relations and child development
3. Family and relations and child development journalist

F. Extension service

1. Specialist-in-charge
2. District extension service agent
3. County-home demonstration agent
4. 4-H Club agent

VI. Environmental Control Occupations

A. Pollution prevention and control

1. Water purification chemist
2. Sewage plant operator
3. Water tender
4. Radiation monitor

B. Disease prevention

1. Exterminator
2. Milk sampler
3. Plant pathologist
4. Sanitary inspector

C. Environmental planning

1. Camp-ground caretaker
2. Landscape architect
3. Urban planner
4. Construction engineer

D. Resource control

1. Animal ecologist (zoologist)
2. Fire look-out
3. Aquatic biologist
4. Forest aid
5. Range manager

VII. Fine Arts and Humanities Occupations

A. The visual arts

1. Advertising artist
2. Clothes designer
3. Motion picture artist
4. Product and package designers
5. Painting and sculpting
6. Photography

B. The performing arts

1. Dancer
2. Theater occupations
3. Musicians and related occupations

C. Occupations in writing

1. Literary writer
2. Playwright
3. Poet
4. Technical writer

VII. Fine Arts and Humanities Occupations (cont.)

D. Architecture

1. Architect
2. Urban planner
3. Marine architect
4. School plant consultant

E. Religion and theology

1. Clergymen
2. Director of religious activities
3. Minister of sacred music
4. Parish worker

F. Language and linguistics

1. Interpreter
2. Scientific linguist
3. Translator

G. History and museums

1. Biographer
2. Genealogist
3. Archivist
4. Museum related occupations

VIII. Health Occupations

A. Mental health and mental health services

1. Psychiatrist
2. Psychiatric nurse
3. Psychometrist
4. Social Psychologist

B. Medical and biological science services

1. X-ray technologist
2. Physician's assistant
3. Medical laboratory assistant
4. Blood bank technologist

C. Dentistry and dental science services

1. Dentist
2. Dental hygienist
3. Dental ceramist
4. Dental laboratory technician

VIII. Health Occupations (cont.)

D. General hospital and medical office related occupations

1. Central supply supervisor
2. Nursing aid
3. Receptionist
4. Diet clerk

E. Medical emergency services

1. Ambulance driver
2. First-aid attendant
3. Ambulance attendant

F. Administration of health services

1. Hospital administrator
2. Medical officer
3. Admitting office
4. Accountant

G. Personal and community health services

1. Public health educator
2. School nurse
3. Sanitarian
4. Home health aid

H. Pharmaceutical science and services

1. Pharmacist
2. Pharmacy helper

I. Professional medical supportive personnel

1. Research nutritionist
2. Health physicist
3. Audiologist
4. Chiropractor
5. Musical therapist

J. Medical professions

1. Medical doctor
2. Public health veterinarian
3. Licensed practical nurse
4. Nurse anethetist

IX. Hospitality and Recreation Occupations

A. Commercial and non-commercial travel bureaus

1. Information clerk
2. Lodging facilities attendant
3. Public relations man

IX. Hospitality and Recreation Occupations (cont.)

B. Travel agencies

1. Advertising and publicity personnel
2. Information clerk
3. Hotel representative
4. Travel advisor

C. Transportation

1. Passenger agents and clerks
2. Purser
3. Stewardess
4. Steward
5. Tour conductor

D. Public, industrial, and private recreation

1. Athletic director
2. Acrobat
3. Mime
4. Magician
5. Snake charmer
6. Swimming instructor
7. Ski patrolman
8. Horse trainer
9. Public address announcer
10. Hunting and fishing guide

E. Recreation concerned with natural resources

1. Information center personnel
2. Lifeguard
3. Tourist guide
4. Zookeeper

X. Manufacturing Occupations

A. Management

1. President
2. Vice-president
3. Manager
4. Accountant

B. Scientists

1. Analytical chemist
2. Organic chemist
3. Physicist

X. Manufacturing Occupations (cont.)

C. Engineers

1. Electrical engineer
2. Industrial engineer
3. Mechanical engineer
4. Aerospace engineer

D. Technicians

1. Mathematical technician
2. Metallurgist assistant
3. Quality technician
4. Electronics technician

E. Craftsmen

1. Master mechanic
2. Tool designer
3. Tool maker
4. Master tailor

F. Skilled workers

1. Lithographer
2. Machinist
3. Pattern maker
4. Tinter

G. Semi-skilled workers

1. Mineral-kiln operator, charging machine operator, anodizer
2. Animal and vegetable-cheese blender, candy roller, rice miller
3. Chemical and synthetic-plastic welder, acid extractor

H. Unskilled laborers

1. Mineral-laborer, caster, hopper man, abrasive grader
2. Animal and vegetable-batter-mixer, candy cutter, bindery worker
3. Chemical and synthetic-dry-house man , core extruder, ampoule sealer

XI. Marine Science Occupations

A. Research

1. Aquatic biologist
2. Hydrographer
3. Marine geophysicist
4. Marine meteorologist

B. Chemical and mineral extraction

1. Ocean mining
2. Chemical extraction

C. Off-shore drilling

D. Fishing

1. Clam dredge operator
2. Spear fisherman
3. Sponge gatherer
4. Fish cleaner
5. Shellfish-processing-machine tender

E. Aquaculture

1. Hatchery man
2. Fish farmer
3. Shellfish grower
4. Frog farmer

F. Marine engineering and technology

1. Marine architect
2. Skin diver
3. Marine electronic specialist
4. Diver pumper

G. Surface and on-shore support

1. Motorboat mechanic
2. Dockmaster
3. Laboratory tester
4. Motorboat operator

XII. Marketing and Distribution Occupations

A. Marketing management

1. Retail store owner
2. Store manager
3. Advertising manager
4. Training supervisor

X. Manufacturing Occupations (cont.)

C. Engineers

1. Electrical engineer
2. Industrial engineer
3. Mechanical engineer
4. Aerospace engineer

D. Technicians

1. Mathematical technician
2. Metallurgist assistant
3. Quality technician
4. Electronics technician

E. Craftsmen

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XII. Marketing and Distribution Occupations

A. Marketing management

1. Retail store owner
2. Store manager
3. Advertising manager
4. Training supervisor

XII. Marketing and Distribution Occupations (cont.)

B. Marketing research and analysis

1. Market research analyst
2. Statistician
3. Investigator
4. Systems analyst

C. Purchasing

1. Buyer
2. Broker
3. Jobber
4. Importer

D. Sales promotion and training

1. Product designer
2. Sign writer or painter
3. Model
4. Shopper

E. Selling

1. Salesman
2. Solicitor
3. Auctioneer
4. Routeman

F. Physical distribution

1. Warehouseman
2. Packager
3. Marker
4. Cashier-checker

G. Related business services - people who make arrangements for financing merchandise and services, handle credit, and insurance coverage

XIII. Personal Services Occupations

A. Domestic service

1. Laundress
2. Cook
3. Butler
4. Baby sitter

B. Lodging and related service occupations

1. Boarding house manager
2. House mother
3. Baggage porter
4. Janitor

XIII. Personal Services Occupations . (cont.)

C. Barbering, cosmetology, and related services

1. Barber
2. Manicurist
3. Masseurs
4. Embalmer
5. Cremator

D. Dry cleaning, laundry, and apparel services

1. Laundry foreman
2. Rug cleaner
3. Dry cleaner
4. Hand presser
5. Shoe repairman

E. Stewards, attendants, hosts, and miscellaneous personal services

1. Chaperon
2. Escort
3. Rest-room attendant
4. Chauffeur

F. Domestic animal care

1. Horseshoer
2. Dog groomer
3. Pet-shop attendant

G. Food and beverage preparation and service

1. Wine steward
2. Bar attendant
3. Baker
4. Cook
5. Waiter-waitress

XIV. Public Service Occupations

A. Administration and regulatory services

1. City managers
2. Engineers
3. Bank officers
4. Keepers of public records

B. Urban development

1. Urban planners
2. Environmental scientists
3. Physical scientists
4. Social scientists

XIV. Public Service Occupations (cont.)

C. Education

1. Public school teachers
2. Counselors
3. Librarians
4. School busing

D. Protective services

1. Law enforcement workers
2. Firefighters
3. Military

E. Post office workers

F. Public utility workers-water, sanitary, electricity, gas

G. Public health workers

H. Labor affairs- employment services, employment compensation

I. Public transportation workers

J. Social workers-rehabilitation, correction

1. Social workers
2. Child welfare workers
3. Rehabilitation counselors
4. Lawyers

K. Parks and recreation workersa

XV. Transportation Workers

A. Highway transport

1. Driver
2. Parking lot attendant
3. Meter reader
4. Truck foreman
5. Safety engineer

B. Rail transport

1. Locomotive engineer
2. Conductor
3. Towerman
4. Switch tender

XV. Transportation Occupations (cont.)

C. Airborne transport

1. Pilot
2. Maintenace and repair personnel
3. Weather clerk
4. Plotting board operator

D. Pipeline transport

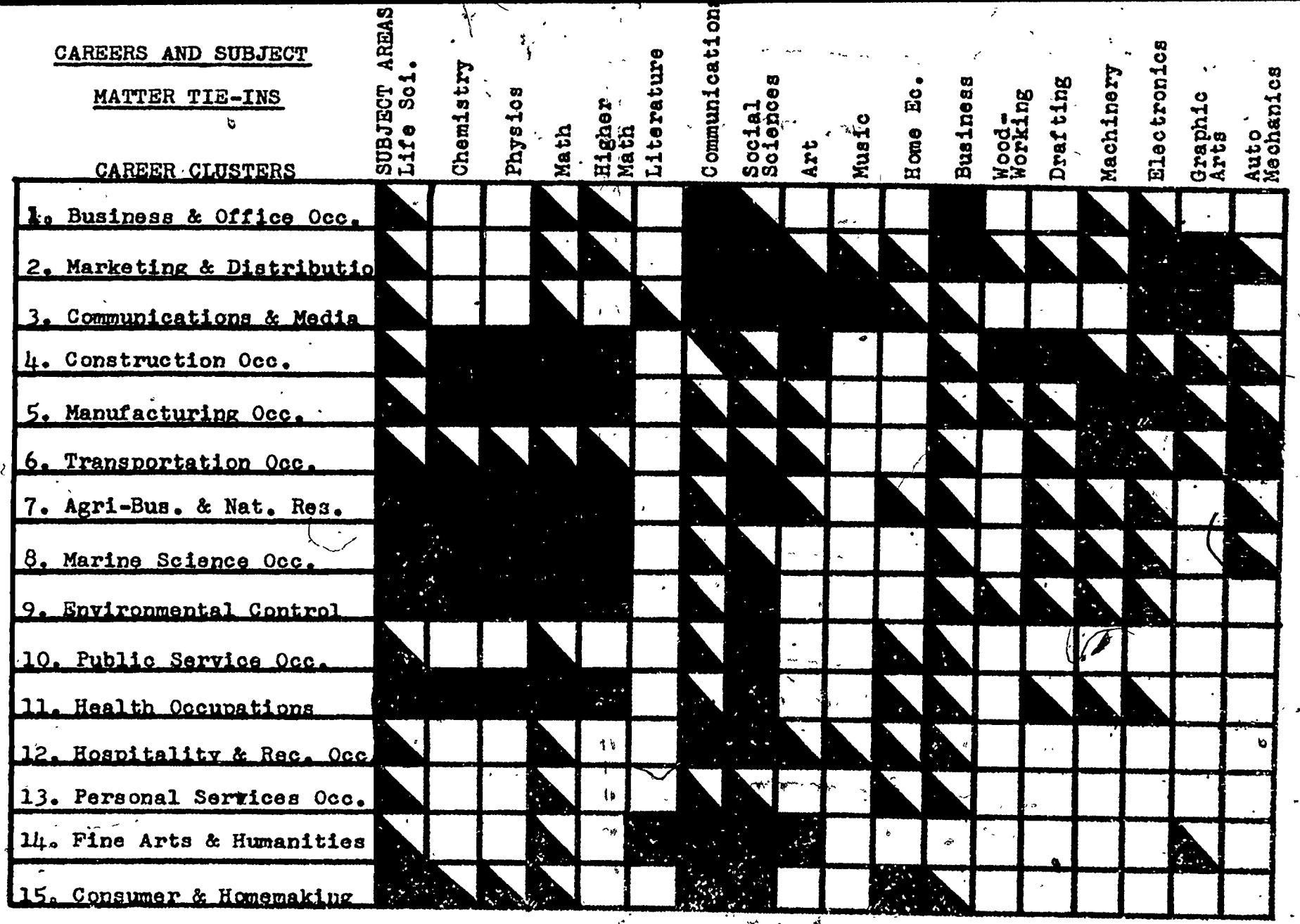
1. Coal pipeline operator
2. Pumpman
3. Dispatching personnel
4. Main line station engineer.

E. Water transport

1. Captain
2. Engineer
3. Ship's crew
4. Freight handling personnel

NOTE: This analysis consists of exerpts from AN ANALYSIS OF FIFTEEN OCCUPATIONAL CLUSTERS IDENTIFIED BY THE U.S. OFFICE OF EDUCATION, prepared at Grayson County College, Sherman/Denison, Texas under a grant from the Texas Education Agency.

CAREERS AND SUBJECT MATTER TIE-INS



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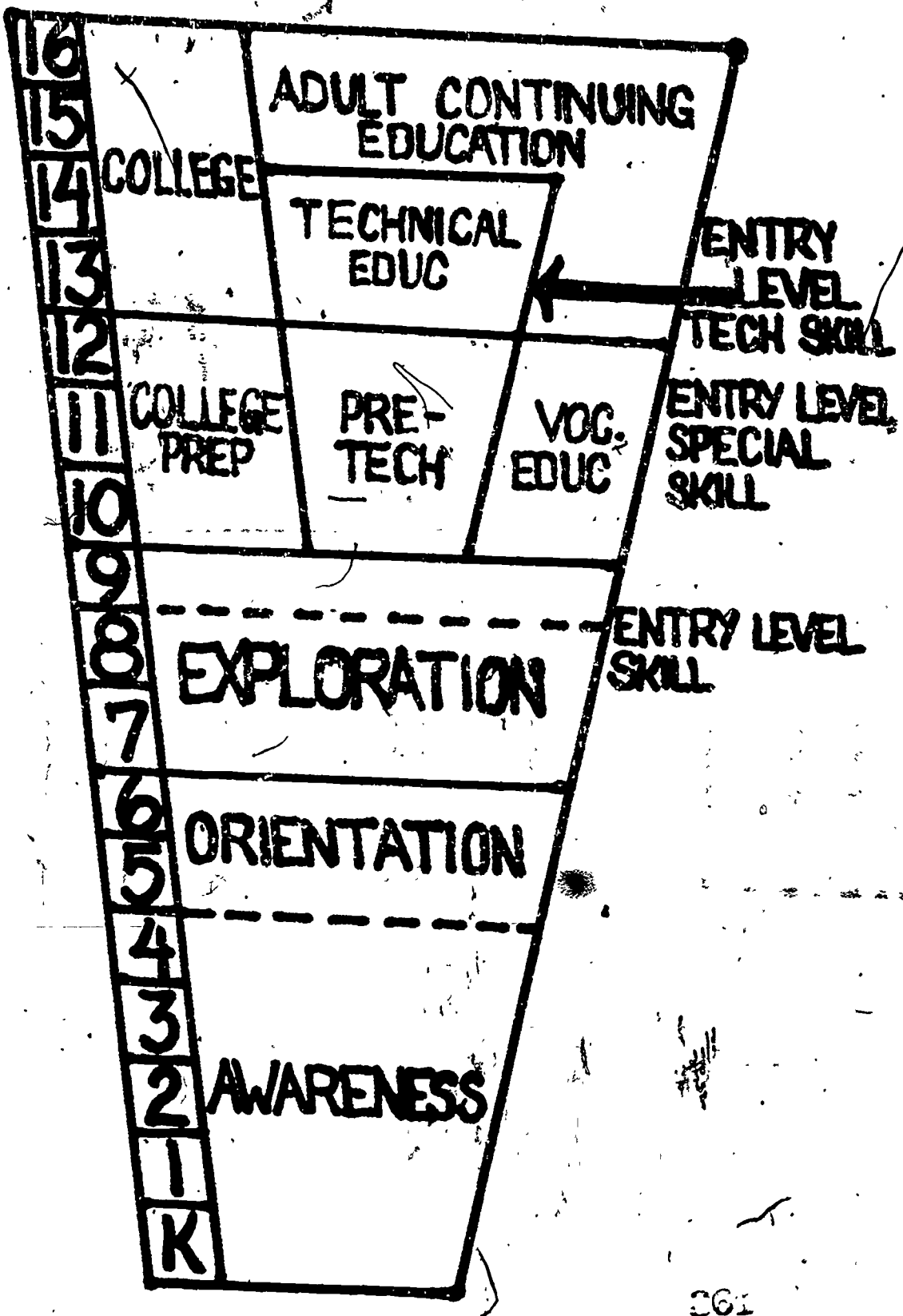
K-16 CAREER EDUCATION SCOPE AND SEQUENCE PARADIGM



ACCESSION NUMBER: VT101441

TITLE: FASHION MERCHANDISING CAREER EXPLORATION LEARNING MATERIALS PACKET. ADMINISTRATOR'S MANUAL, STUDENT MATERIALS.

PERSONAL AUTHOR: PALMER, KAREN

DESCRIPTOR: *INDIVIDUALIZED INSTRUCTION; *CURRICULUM GUIDES; *MERCHANDISING; *SECONDARY GRADES; DISTRIBUTIVE EDUCATION; MANAGEMENT EDUCATION; EVALUATION; *CAREER PLANNING

IDENTIFIER: MINNESOTA; *APPAREL INDUSTRY

EDRS PRICE: MF AVAILABLE IN VT-ERIC SET.

DESCRIPTIVE NOTE: 82P.

ABSTRACT: THE PURPOSE OF THIS INSTRUCTIONAL PACKET IS TO PRESENT REALISTICALLY THE DEMANDS AND CAREER POTENTIAL OF THE FASHION MERCHANDISING AND MANAGEMENT FIELDS. THE FASHION MERCHANDISING PACKET IS DIVIDED INTO FOUR SECTIONS: OVERVIEW, IMPRESSIONS, EXPLORATION, AND PROJECTIONS. THE MATERIAL WAS DEVELOPED FOR STUDENTS IN HIGH SCHOOL AND ADULTS. UPON COMPLETION OF THE PACKET, THE STUDENT SHOULD BE ABLE TO: (1) EXPRESS A KNOWLEDGE OF BASIC FASHION FACTS AND TERMINOLOGY; (2) SHOW A FAMILIARITY WITH THE FASHION STRUCTURE IN OUR SOCIETY; (3) TRANSMIT A COMPREHENSION OF THE FASHION INDUSTRY'S UNIQUENESS; (4) RECOGNIZE SOME OF THE WORKING CONDITIONS IN THE FIELD; (5) IDENTIFY ABILITIES, SKILLS AND QUALITIES IMPORTANT TO FASHION MERCHANDISING; (6) EVALUATE THE DEMANDS OF THE WORK ENVIRONMENT; AND (7) CONSTRUCT A FOLLOW UP TO THE PACKET. AN ADMINISTRATOR'S MANUAL, STUDENT QUESTIONNAIRES, WORKSHEETS AND HANDOUTS ARE PROVIDED. (AUTHOR/KE)

VT 101 441

TO: FASHION MERCHANDISING CAREER CANDIDATES

FROM: FASHION MERCHANDISING EMPLOYERS

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THERE'S SERIOUS STUFF INSIDE

We Hope You'll Consider a Career in Fashion Merchandising

A FASHION MERCHANDISER DOESN'T HAVE TO AGREE WITH PEOPLE'S TASTE, HE JUST HAS TO UNDERSTAND THEM!

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SO YOU'RE INTERESTED IN WORKING WITH US

HERE ARE SOME THINGS TO THINK ABOUT

How would we describe a candidate for employment in the fashion merchandising business?

For beginners, the person must be well-organized, a self-starter, full of imagination and originality. Fashion Merchandising is a people-centered business, so the ability to get along with people is important ——You must like People

Look at it this way——people who succeed in fashion merchandising thrive on competition——they are ambitious, they can make decisions and choose priorities. They're Committed!

HERE'S A "QUALITY" CHECKLIST—

TEST YOURSELF

No Fence-Sitters in Fashion Merchandising

- ☐ I'm able to apply myself
- ☐ I have natural good-taste and flair
- ☐ I have patience in dealing with people and things
- ☐ I am mature, adaptable and outgoing
- ☐ I can organize my time, and even do things "I don't have to."
- ☐ I understand people and their needs
- ☐ I dress well; I like fashion
- ☐ I like competition and can make choices and decisions
- ☐ I am a "Trader" with some mathematical skill

If you could place a personal check in front of that list of qualifications — you're on your way!

WHAT CAN WE OFFER YOU?

For people who are action-oriented, people who are doers —

We offer, in addition to an interesting job,
a changing, vital environment for that job.

We offer a chance to develop, to become a person
who can assume positions of greater responsibility in
the future.

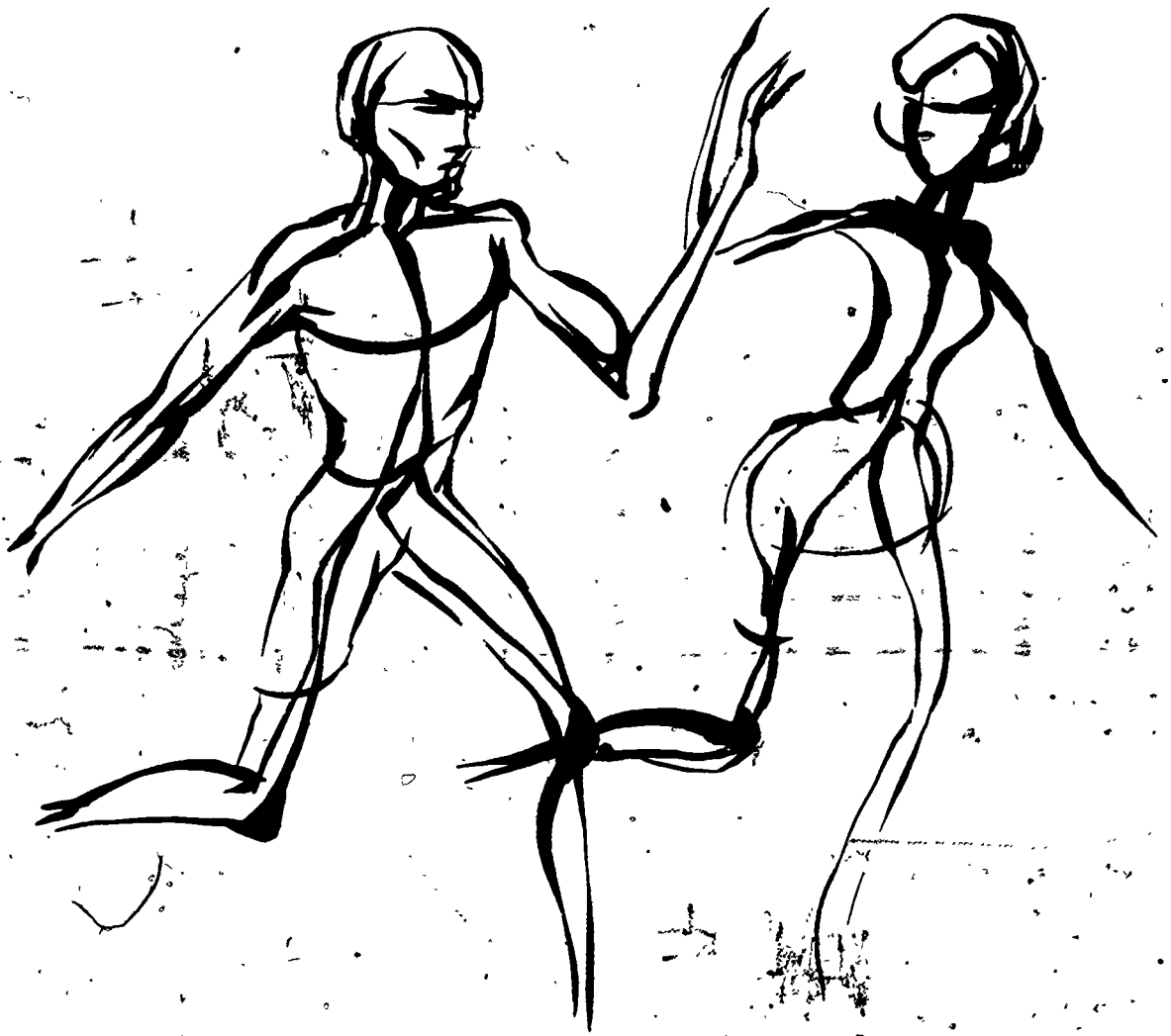
If you are young—We want you. We know what has been done
and what can be done — you know what is going on NOW!

You might think of merchandising as selling work, purchasing, inventory or modelling. It's all of those things and a lot more. If you choose our field, you'll be involved with an exciting, growing, fast-moving, dynamic industry. And you'll also find yourself challenged to become an expert in a lot of areas. A Fashion Merchandiser is sometimes a "Jack of all Trades." We're a serious business filled with opportunities and fun.

STATE OF MINN.

Fashion Merchandising

career exploration learning materials packet



ADMINISTRATOR'S MANUAL

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ED 101 441

PACKET RESOURCES

COMMENTS:

I put my name to this packet because I gathered and edited the material within. The final publication represents a synthesis of the facts and opinions of many students, educators, and businessmen and women. My sincere thanks to the people and firms listed here and to those I unintentionally omitted.

Karen Palmer

Edna Brodie — Fashion Institute of Technology
Betty Glineburg — Dayton's
Jeannette Jarnow — Fashion Institute of Technology
Eleanor McMillen — Fashion Group
Gen Olson — Anoka-Hennepin Independent School Dist. No. 11
Bill Stock — State Department of Education
John Uitermarkt — J. C. Penney
Helen Vassen — former fashion merchandising student
John Young — Sears and Roebuck
Pat Zylla — J. C. Penney

Allied Stores Corp.
Carson Pirie Scott
R. M. Macy & Co., Inc.
Munsingwear
National Retail Merchants Association
J. P. Stevens & Co., Inc.
Wool Bureau, Inc.

The materials in this packet could be more effectively administered if you were able to obtain the following:

HEW Curriculum Guides
for
Textile and Apparel Industries

U. S. Office of Education

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PREFACE TO LEARNING MATERIALS PACKET

AMERICAN FASHION — a complex, moving business; a business once built solely on the art of good taste and selectivity, now expanded to include the technical and financial skills which almost make it a science. The speed and the scope of the fashion industry attract both men and women to a career objective in the production, distribution, or promotion of fashion goods and services. Upon entry into the working world, however, many of these young people are faced with an unexpected identification crises. Due to the limited, and at times, incongruent, career development programs available from kindergarten through high school, these novices are jolted by conflicting career and self-concepts.

The industry and its employees would be greatly benefited if interested persons were given the opportunity to explore and understand the demands of the fashion field before entering it. The purpose of this packet is to present realistically the demands and career potential of the fashion, merchandising and management fields.

FROM THE AUTHOR:

I believe every student should have the right to make a sensible, well-researched career decision. . . But I also believe the educational system has not been able to provide the essential tools for such a decision, up to this point. It is my hope that the career education concept and this Career Exploration Packet will provide many individuals with enough wisdom to answer that very important question, "What will I do with my future?"

Step-by-Step Implementation of Packet

Secure a copy of HEW Curriculum Guides.

Read Packet Objectives.

Read Student Participant information.
Role of Administrator information.
Measurement and Evaluation information.

Read entire student section of packet.

Sign learning contract with student REMEMBER NOT TO WRITE IN THE PACKET OR MANUAL

Administer Student Questionnaire
Keep a record of student's responses as compared to Teacher Response Sheet.
Do not discuss the responses with learner at this time.

Assign student to do Workbook.
Learner may come to you for worksheets and later for corrections. Use Key to Student Worksheets.

View slide-sound series with student and listen to his/her reactions after.

Assign Working Conditions Handout
Values Handout
Personal Profile Handout
Collect handouts upon completion.

Have student read next page, qualification brochure, and next five pages.

Have student read Q/A booklet and take it home to parents. Make sure Q/A booklet is then returned to packet.

Assign some of the outside reading, educational institutions list, and the next page. Then discuss reactions student has had up to this point.

Have student read Decision-Making Process chart and make a chart of his own. Remind him/her to leave the career decision area blank at this time.

Make a copy of Exploring One Field handout for the student. Give him the Working Conditions, Values, and Personal Profile handouts again for reference. Upon completion, have student develop a similar handout (substituting appropriate outcomes) for other fields of interest.

Assign student Comparing Fields Together handout. Make a copy for his/her use.

At this time, make a copy of Exploring One Field and Comparing Fields Together handouts and complete the information (as you view the learner's abilities and potential).

Upon completion, sit down with the student and compare handouts. Explain that your input is more a "leading out" process than a "putting in". The final career decision must be the STUDENT's!!!

Have the student review what he/she has just done by completing his/her Decision Making Process chart.

Direct student to What Next? sheet in packet if he decides to pursue fashion merchandising. Offer him encouragement in another area of interest if he decides against fashion merchandising as a career.

Administer the Student Questionnaire for the last time and discuss any attitude change which has occurred since the administration of the Questionnaire in the beginning.

DESIRABLE EDUCATIONAL OBJECTIVES FOR FASHION MERCHANDISING PACKET

CONTENT AREA	EDUCATIONAL OBJECTIVES
OVERVIEW	Upon completion of PART 1, the Student should be able to —— **EXPRESS** a knowledge of basic fashion facts and terminology **SHOW** a familiarity with the fashion structure in our society
IMPRESSIONS	PART II **TRANSMIT** a comprehension of the fashion industry's uniqueness in our society **RECOGNIZE** some of the working conditions in the field
EXPLORATION	PART III **IDENTIFY** his/her abilities and the skills and qualities important to the fashion merchandising field **EVALUATE** constructively the demands of the work environment in fashion
PROJECTIONS	PART IV **CONSTRUCT** a step-by-step plan for follow-up to this packet involvement

It is important that the parts be administered in sequencial order.

THE STUDENT PARTICIPANT

The material within this packet has been developed for the following audiences:

a) students in high school who have not yet declared a career objective.

b) pupils who have left the formal education system at any point before or after high school graduation and are exploring the demands of various career clusters

c) adults who are working in an unrelated career cluster but who are considering a change of employment to a fashion cluster

ROLE OF PACKET ADMINISTRATOR

The primary responsibilities of any individual who administers this packet are:

1) evaluate student's needs

2) assist in the presentation of materials and activities

3) evaluate student's growth

4) control pace of learning

5) offer constant encouragement

6) help student set realistic plans for future

GOOD LUCK!!

MEASUREMENT AND EVALUATION

Comments: Measurement and evaluation are essential components of any career exploration program and require the development and/or use of evaluative instruments to determine how well the objectives are being met. Review the objectives listed earlier in this manual and examine the measurement instruments included with the packet.

INSTRUMENT	WHAT IT MEASURES OR EVALUATES
Student Questionnaire	measures student's opinions about the fashion merchandising career before he completes packet
Worksheets	measure how much fashion theory the learner is applying
Working Conditions Handout	measures attitudes the student now holds about himself and environment
Values Handout	measures attitudes the student now holds about himself and environment
Personal Profile Handout	measures attitudes the student now holds about himself and environment
Exploring One Field Handout	measures student's ability to analyze the career factors of one field
Comparing Fields Handout	measures student's ability to compare and contrast the career factors of several fields
Student Questionnaire	measures student's opinions about the fashion merchandising career after he completes the packet

NOTE: Permission is granted to administrators to reproduce the measurement instruments for each student learner.

DO NOT WRITE IN THIS PACKET!

CAREER EXPLORATION AGREEMENT

DATE_____

I am interested in learning more about the fashion merchandising field as a career possibility but need more information. By participating in this Packet, I should be able to make a more satisfying career decision for my future. With an administrator's help, I will absorb the material at my own pace and redo any section which is confusing to me. When I feel reasonably sure of myself and the field, I will plan to prepare for fashion employment or commit myself to another career area. Some of the specific things I expect to learn from this Packet are:

_____

_____

_____

_____

_____

Student's Signature

During this student's participation in the Fashion Merchandising Career Exploration Learning Materials Packet, I promise to supervise in the following ways:

_____

_____

_____

_____

_____

Administrator's Signature

ERIC

STUDENT QUESTIONNAIRE

TEACHER RESPONSE SHEET

NOTE TO ADMINISTRATOR: The student questionnaire is a measurement of the student's attitudes and opinions before and after participating in the Career Exploration Packet. Please remember to administer this questionnaire twice and to take note of any change in attitude.

The following responses are held by most businessmen/women in the field:

1. disagree
2. disagree
3. agree
4. agree
5. disagree
6. disagree
7. agree
8. disagree
9. disagree
10. disagree
11. disagree
12. disagree
13. agree
14. agree
15. disagree
16. agree
17. disagree
18. agree
19. agree
20. disagree

ADMINISTRATOR'S KEY TO STUDENT WORKSHEETS

WORKSHEET NO. 1

The answer is correct if the student has considered one or more of the following factors:

a) customers buy certain pairs of shoes because they like how they look and feel over the other pairs available.

b) customers buy eggs because, in most instances there is no other product which can do what eggs do or tastes like eggs taste.

c) shoes continually change in style; eggs do not.

WORKSHEET NO. 2

Read the sentences and check to see that the student has grasped the meaning of each word listed.

WORKSHEET NO. 3

The answers, in order, are:

d
e
f
a
b
c

WORKSHEET NO. 4

The answers are:

Primary	Secondary	Retailing
A	C	E
B	D	F

WORKSHEET NO. 5

The answers, in order, are:

d
b
a
c

WORKSHEET NO. 7

Review this worksheet with the student. Check to see that he/she has a general understanding of the fashion cycle.

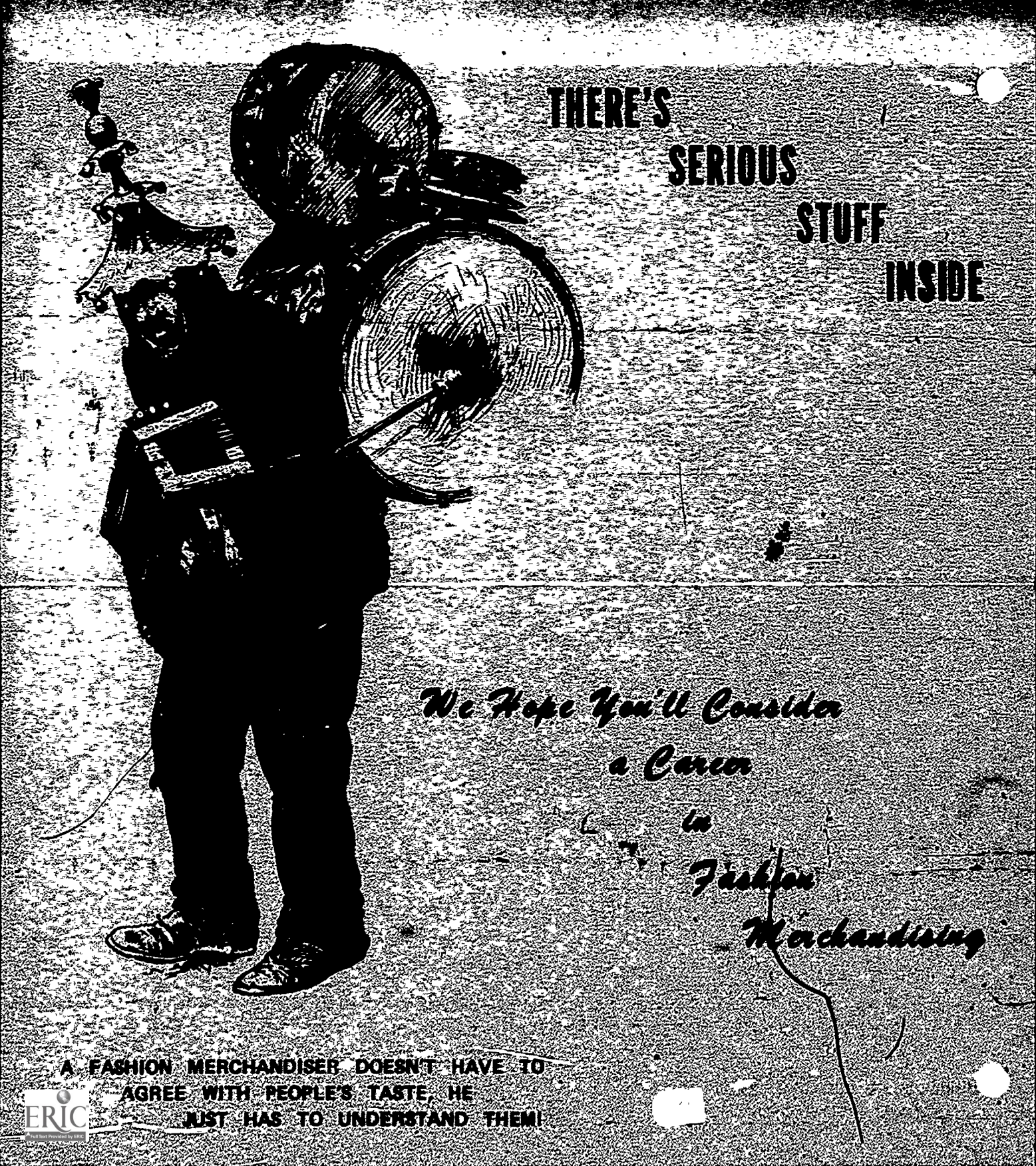
WORKSHEET NO. 8

The answers, in order, are:

d
e
c
a
b

TO: FASHION MERCHANDISING CAREER CANDIDATES

FROM: FASHION MERCHANDISING EMPLOYERS


THERE'S SERIOUS STUFF INSIDE
We Hope You'll Consider a Career in Fashion Merchandising
A FASHION MERCHANDISER DOESN'T HAVE TO AGREE WITH PEOPLE'S TASTE, HE JUST HAS TO UNDERSTAND THEM!

SO YOU'RE INTERESTED IN WORKING WITH US

HERE ARE SOME THINGS TO THINK ABOUT

How would we describe a candidate for employment in the fashion merchandising business?

For beginners, the person must be well-organized, a self-starter, full of imagination and originality. Fashion Merchandising is a people-centered business, so the ability to get along with people is important — You must like People.

Look at it this way—people who succeed in fashion merchandising thrive on competition—they are ambitious, they can make decisions and choose priorities. They're Committed!

No Fence-Sitters in Fashion Merchandising

HERE'S A "QUALITY" CHECKLIST--
TEST YOURSELF

- ☐ I'm able to apply myself
- ☐ I have natural good taste and flair
- ☐ I have patience in dealing with people and things
- ☐ I am mature, adaptable and outgoing
- ☐ I can organize my time, and even do things "I don't have to."
- ☐ I understand people and their needs
- ☐ I dress well, I like fashion
- ☐ I like competition and can make choices and decisions
- ☐ I am a "Trader" with some mathematical skill

If you could place a personal check in front of that list of qualifications — you're on your way!

WHAT CAN WE OFFER YOU?

For people who are action-oriented, people who are doers —

We offer, in addition to an interesting job,
a changing, vital environment for that job.

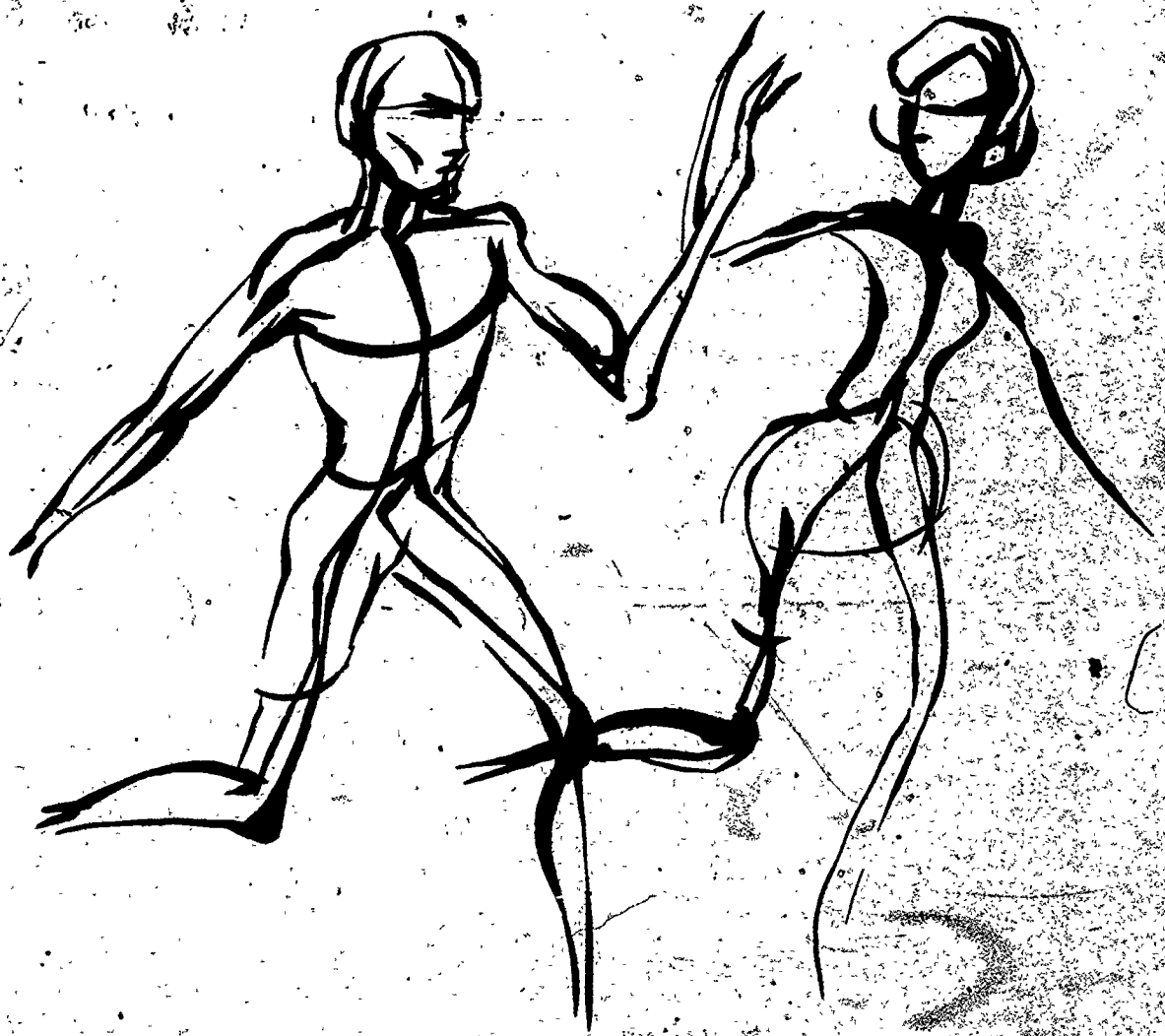
We offer, a chance to develop, to become a person
who can assume positions of greater responsibility in
the future.

If you are young—We want you. We know what has been done
and what can be done — you know what is going on NOW!

You might think of merchandising as counter work, overtime inventory or stock-filling. It's all of those things and a lot more. If you choose our field, you'll be involved with an exciting, growing, fast-moving, dynamic industry. And you'll also find yourself challenged to become an expert in a lot of areas. A Fashion Merchandiser is sometimes a "Jack of all Trades." We're a serious business filled with opportunities and fun.

Fashion Merchandising

career exploration learning materials packet



STUDENT MATERIALS

CAREER EXPLORATION AGREEMENT

DATE _____

I am interested in learning more about the fashion merchandising field as a career possibility but need more information. By participating in this Packet, I should be able to make a more satisfying career decision for my future. With an administrator's help, I will absorb the material at my own pace and redo any section which is confusing to me. When I feel reasonably sure of myself and the field, I will plan to prepare for fashion employment or commit myself to another career area. Some of the specific things I expect to learn from this Packet are:

_____

_____

_____

_____

_____

Student's Signature

During this student's participation in the Fashion Merchandising Career Exploration Learning Materials Packet, I promise to supervise in the following ways:

_____

_____

_____

_____

_____

Administrator's Signature

STUDENT QUESTIONNAIRE

DIRECTIONS: This is not a test! It is a measure of opinions and attitudes. There are no right or wrong answers and you will not be graded on your replies. Read each statement and check the box that most accurately describes your opinion.

OVERVIEW

	AGREE	DISAGREE	NO OPINION
1.			
2.			
3.			
4.			
5.			

1. Fashion only exists in the area of clothing and accessories.
2. Merchandising is the same as designing.
3. Fashion trends can generally be predicted.
4. Fashions go through stages of increasing and decreasing popularity.
5. All consumers have the same fashion needs.

IMPRESSIONS

	AGREE	DISAGREE	NO OPINION
6.			
7.			
8.			
9.			
10.			

6. The only way to get started in the fashion industry is to have a rich uncle.
7. The fashion business is dependent on its ability to constantly tempt customers with something new.
8. Once you're a success in the fashion merchandising industry, you're always a success.
9. Unless you're born with fashion merchandising talent, you'll never make it in the industry.
10. In the beginning, a fashion merchandiser has regular hours and a large paycheck.

EXPLORATION

AGREE	DISAGREE	NO OPINION

11. Fashion merchandisers work only in New York and California.

12. Everyone who enters fashion merchandising should work to become a manager of the people around him.

13. Physical stamina and a pleasant personality are vital in the merchandising field.

14. Experience gained in one type of fashion job is applicable to all job levels in fashion merchandising.

15. One must have a college education to be considered for any fashion merchandising position.

PROJECTIONS

AGREE	DISAGREE	NO OPINION

16. Many factors which affect an individual's career decision are not realistic.

17. All factors in making a career decision are of equal importance.

18. Life styles may vary with different careers.

19. Every field includes some sacrifices.

20. All fashion merchandising jobs require exactly the same skills and abilities.

Note: Upon completion, return this Questionnaire to administrator.

WORKSHEET NO. 1

Review the definitions which were presented in the workbook. Below list two or three reasons why merchandising a fashion good like shoes would be different from merchandising a non-fashion product like eggs.

Reasons:

1) _____

_____

2) _____

_____

3) _____

_____

NOTE: See your project administrator upon completion of this worksheet.

WORKSHEET NO. 2

Several of the terms listed in the workbook are a bit confusing. Below, each of these terms is used in a sentence in order to clarify its meaning. After each sentence, write a sentence of your own using the term.

distribution

Distribution must be focused upon the consumer's demands for merchandise.

merchandising

In deciding how much and what kind of merchandise to offer for sale, the businessman is merchandising his goods.

obsolescence

Some businessmen speed up obsolescence by making customers unhappy with the clothing and furniture they own and offering something more desirable.

trend

Generally, a fashion trend (whether good or bad) cannot be controlled by the apparel industry.

time lag

If the time lag is too long, customers may not want a product when it finally appears on the store racks.

NOTE: Go on to next worksheet

WORKSHEET NO. 3

We qualify the word "fashion" in many ways. Below is a list of fashion terms. To the right is a list of examples. Match the term with the correct example, placing only one letter in each blank.

TERMS	EXAMPLES
a) staple fashion	a polka dot bow tie whose popularity is short
b) basic fashion	racks and racks of jeans produced by a manufacturer
c) high fashion	suit made for you by a tailor
d) fad	underwear
e) volume fashion	traditional raincoat
f) custom fashion	expensive evening gown with a low neckline bought by a few women

NOTE: See your project administrator upon completion of this worksheet.

WORKSHEET NO. 4

ACTIVITY:

The following is a basic list of activities which are performed in bringing a finished coat to you. Place the corresponding letter under the segment of the fashion industry where each activity happens.

A Fabric is designed

B Fabric is woven

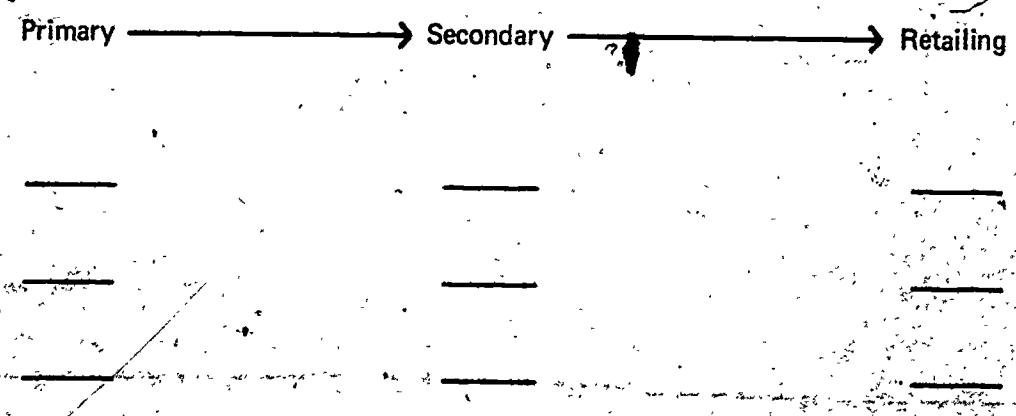
C Fabric is cut and sewn into a coat

D Buttons and trim are sewn on coat

E Store puts advertisement in paper about coat sale

F Coat is put on display in store

FASHION INDUSTRY FLOW CHART



NOTE: See your project administrator upon completion of this worksheet.

WORKSHEET NO. 5

Fill in the blanks with the letter of the correct word or phrase from below.

LUX Company (primary segment) makes outdoor furniture fabric (raw goods).

Jane (_____) sells the fabric to AWNY (_____)

who makes the fabric into foldable patio chairs (finished good).

Bill (secondary merchandiser) sells the chairs to Sears--Roebuck and Company

(_____). Carol (retailing merchandiser) writes a spot for T.V. and

sells the chairs (finished good) to you and me (_____).

Choices:

a) retailer
b) secondary segment
c) ultimate consumer
d) primary merchandiser

NOTE: See your project administrator upon completion of this worksheet.

WORKSHEET NO. 6

DIRECTIONS: Think of the fashion purchases you made last month and list at least five below. Across from your purchase, indicate whether or not you had given the choice a great deal of thought before entering the store. In the last column (only if you wrote "No" in column No. 2) indicate what inspired you to make the purchase at that time.

PURCHASE	PREPLANNED	INFLUENCE
ex. shoes	no	sale-good price

Review your record above. Note that your buying habits for last month cannot be charted into a sensible graph. Did you make purchases when you had money in your pocket?— not always! Did you feel you needed the merchandise both before and after you made the purchases? —— I'm sure you realized later that some of the purchases could have waited, especially when you wanted the $3 or $4 at the end of the month.

Hopefully this activity has helped to show you why it is hard to believe that a machine will ever be able to tell a businessman WHAT we'll like and WHEN we'll like it or WHY we'll like it.

NOTE: Continue with your reading in the workbook.

WORKSHEET NO. 7

DIRECTIONS: Go home today and review the clothes in your closet. Take out those items of apparel which you consider "fashionable". Look at these selected items closer and compare them with the help of the information below.

* *

1. List ten articles which you consider "fashionable".
2. Using the following descriptions for each of the cycle stages, indicate at which stage each fashion is presently.

RISE – You and others are beginning to wear this item and are experimenting with the look.

PEAK – Most of the people around you, your age, own this item and wear it frequently.

DECLINE – You are not planning to buy another item like this now; as it no longer seems appropriate for the times.

	ITEM	STAGE
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		

NOTE: Continue with your [illegible]ding in the workbook.

WORKSHEET NO. 8

DIRECTIONS: The fashion products on the right were produced by various companies in the United States. Match the letter of the product with the market segment for whom it was designed and promoted.

A. elderly	_____ masculine wallpaper
B. homeowner	_____ disposable diapers
C. black women	_____ dark toned makeup
D. single male	_____ nonskid, backed rugs
E. mothers with newborn babies	_____ do-it-yourself plumbing tool

NOTE: See your project administrator upon completion of this worksheet.

GROUP OPTIONS

The Fashion Merchandising Career Exploration Learning Materials Packet has been developed for individual use. If you, as an administrator, would like to incorporate some of the material into your classroom plans, the following suggestions for group activities might be helpful.

PART I
OVERVIEW

GROUP LEARNING EXPERIENCE

* have students bring in articles from newspaper and magazines that exemplify factors which influence fashion. Discuss

* make a tape on what is influencing the acceptance or rejection of a particular fashion at your high school. See if students agree.

* arrange for a field trip to each of the three segments of the fashion industry. Have a merchandiser from each segment answer students' question.

* ask students to write an article for a magazine on the size and the scope of the fashion industry. Use the articles as tools for discussion.

* using the Yellow Pages or an industrial directory as a guide, have the group come up with a list of local fashion firms.

* invite a panel of teachers from your school to answer the class's questions on marketing, retailing, and business careers, in general. Have the students compare and contrast descriptions of jobs in clusters from **Occupational Outlook** and **Dictionary of Occupational Titles**.

PART II

IMPRESSIONS

GROUP LEARNING EXPERIENCES

- develop a taped interview of a local businessman/woman. Record his/her reaction to fashion's uniqueness among industries. "Why I Chose Fashion Merchandising Over Other Careers"

- outline a forum dialogue between one student and a businessman/woman on the concept of "planned obsolescence." Present to the class and ultimately convert into a group discussion.

- organize a panel of representatives from the Interior Design, Textiles, and Clothing and Accessories areas. Ask each to explain the changes he/she has seen in the direction of merchandising for the last five years.

PART III
EXPLORATION

GROUP LEARNING EXPERIENCES

* ask two industry representatives to speak on the topic, "Opportunities in a large Firm vs. Opportunities in a Small Firm".

* take a survey to see what job objectives most of the students in the class have. Develop tapes, interviewing people in these jobs. (Ex. buyer, store manager, fashion coordinator, sales representative.)

* invite a personnel director from a local fashion store to speak to your class on the interview process and qualities necessary for employment in a fashion merchandising job.

* make arrangements for each student to work along side a merchandiser for a day. Have the class report back on their experiences.

* have class research the difference between couture fashion and America's mass fashion industry.

PART IV
PROJECTIONS

GROUP LEARNING EXPERIENCES

* have students talk to two other instructors about their abilities and potential. If they are already employed in a job, have them discuss the merchandising career decision with employers.

* ask class to list three geographical centers where they might like to work. With the aid of resources from the library, have them develop a list of favorable and unfavorable factors about each city.

* make a list of conditions that could change in each student's life

  ex. Accidental death of parents
  Relocation of job
  Goods no longer in demand

  ask student to explain how he/she would adjust to the changes if he/she were pursuing a career in fashion merchandising.

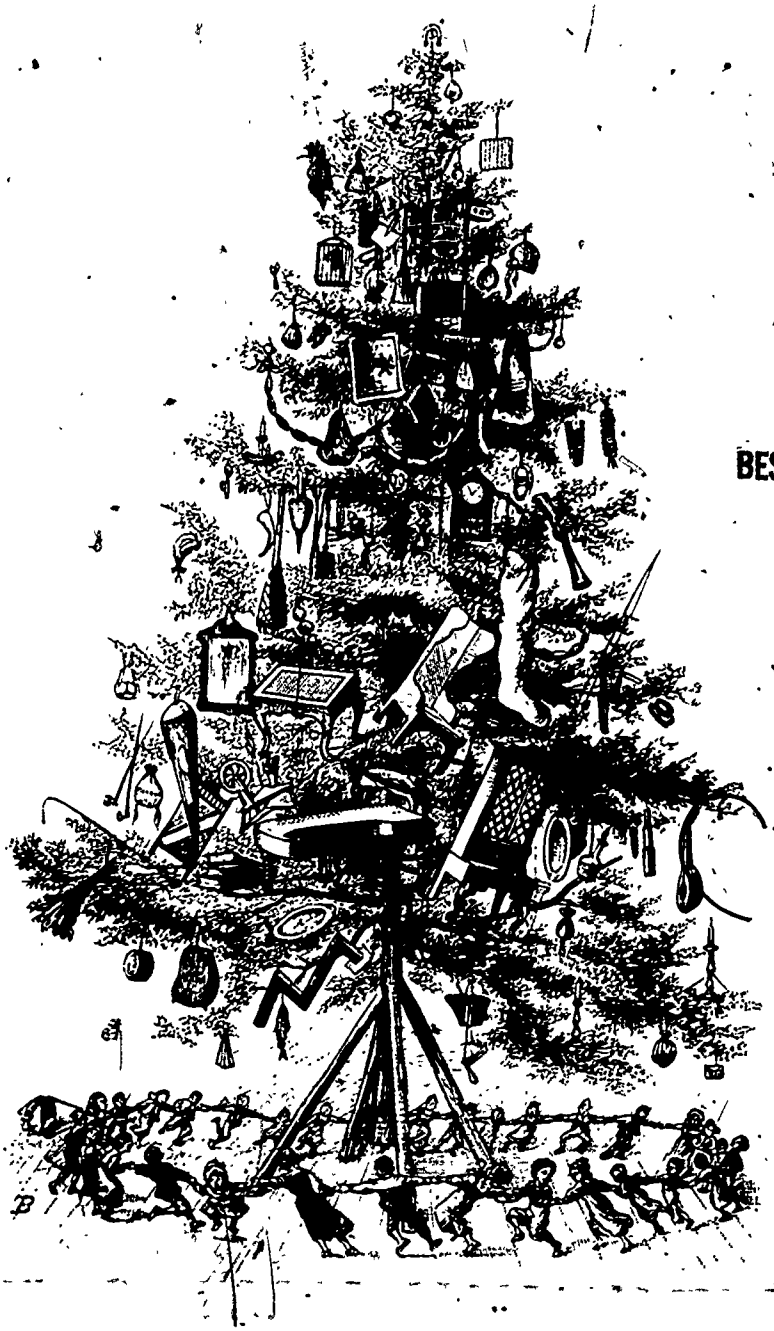
* take time to meet each student's parents and note the parents' reactions to student's interest in a fashion career.

READINGS

Perhaps you would like to read about the fashion industry before or after administering this packet. The HEW Curriculum Guides mentioned earlier include a very thorough bibliography. It would be helpful to explore most of the sources listed in that publication. Below are a few of the major trade publications which provide current technical coverage of specific fashion areas:

AMERICAN FABRICS
APPAREL MANUFACTURER
APPAREL OUTLOOK
CLOTHES
DAILY NEWS RECORD
EARNSHAW'S INFANTS' AND CHILDREN'S REVIEW
FASHION CALENDAR
INTERIORS
INTERIOR DECORATORS' NEWS
INTERIOR DESIGN
INTERNATIONAL TEXTILE APPAREL ANALYSIS
JOURNAL OF RETAILING
MEN'S WEAR
NOTIONS AND HOMESEWING

Overview



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Workbook

PART I

INTRODUCTION:

Someone directed you to this packet because you want to have something to do with people, their needs, and the choices they make.

There are many fields which allow for this--psychology, sociology, medicine, law, and many more. All center around people.

But apparently there is another element that you're looking for in your future work--MERCHANDISE.

Merchandise comes in many shapes and sizes, varies in cost and is used for many different purposes.

But all merchandise starts the same way--as an idea in someone's mind.

Once the idea becomes wood, or cloth, or brick, or paper, someone must make you and me aware of its existance and perform the activities which get the product to a place where we can buy it; at a price we can afford; at a time when we'll want to buy and use it. Someone has to give us reasons why that merchandise should be on our backs or in our homes.

The people who perform these activities are merchandisers, and you have expressed a desire to know more about the work they do--MERCHANDISING. Wonderful!

But I bet the word "fashion" is what has really drawn you to explore this particular fashion merchandising career cluster. RIGHT!! Why? What makes merchandising fashion goods any different from merchandising non-fashion goods?

PERHAPS A LOOK AT THE DEFINITION OF FASHION WILL GIVE YOU BACKGROUND FOR YOUR ANSWER.

The term "fashion" changes in meaning, depending on who is using it.

SOCIOLOGIST: Looks at fashion as a means of providing people with another false security of acceptance.

ARTIST: regards fashion as an expression of the ideas and materials of the times. He is usually very aware of the appeal goods or ideas have on our senses.

DOCTOR: views fashion as good or bad to one's health. Example: high elasticized boots could cause varicose veins; therefore they are a poor fashion item.

BUSINESSMAN: regards fashion as an opportunity to make a profit by having the right goods and merchandising techniques.

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"Fashion is, and always has been an integral part of what's happening, a practical art to express what you are."

Kathleen Yellin, designer

"Fashion reflects what is going on in the minds of America."

Stanley Marcus, store manager

"Fashion is like a mirror that reflects the feeling, the pace, the activities--and most of all the needs of our daily lives."

Tobe' Coller Davis

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A WORKABLE DEFINITION OF "FASHION", FOR MOST FIELDS WOULD INCLUDE THE FOLLOWING POINTS:

A. Fashion involves people (you and me) who are given a **choice** of material goods; ways to behave; thoughts to think.

B. We are constantly asked to accept everything we are exposed to as a part of our life style.

C. Since every person's taste or likes and dislikes are different, everything we are exposed to is not accepted by all of us.

D. If a **majority** does **accept** any one material, good, behavior or thought, though, it is considered a fashion at **that time.**

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Review of fashion definition.

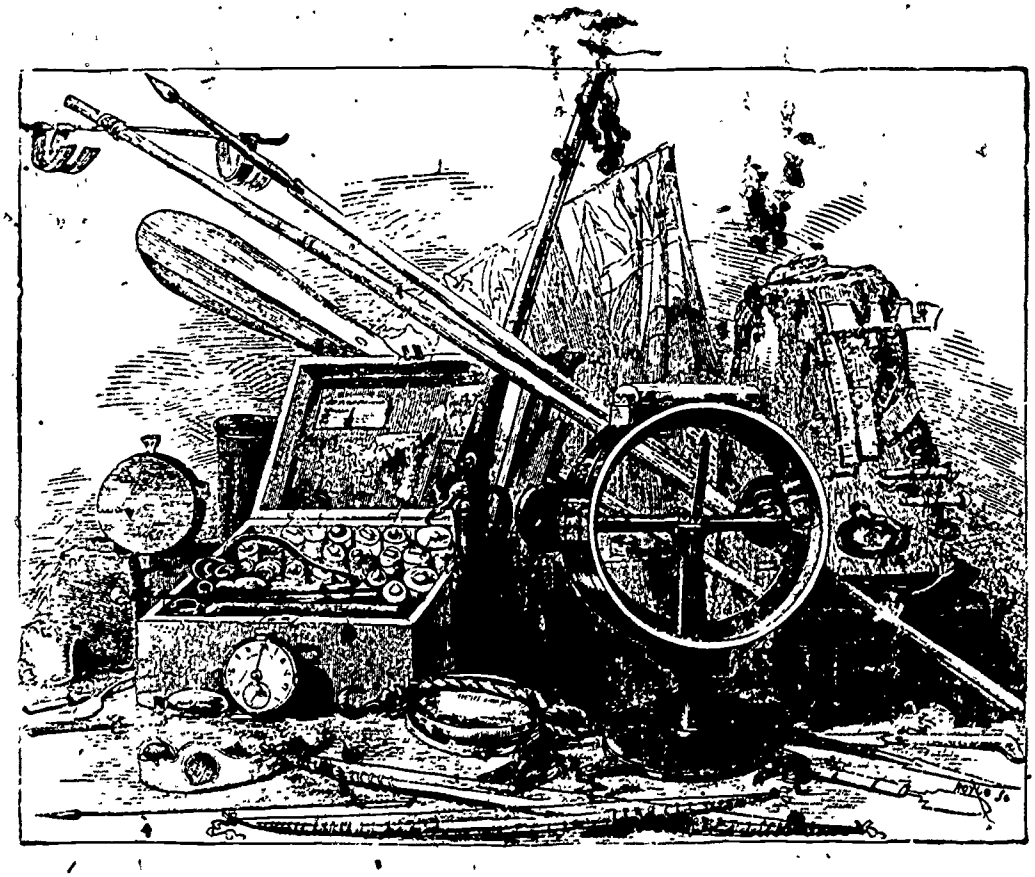
Before seomeone can be said to have purchased a "fashionable" product or expressed a "fashionable" point of view, he must:

1) **be given a choice**
   several ideas or products must be offered to him

2) **be one of a majority**
   a substantial member of the population must be adopting the idea or product with him

3) **be timely**
   his decision must not be too early or too late for present day society.

NOTE: AT THIS TIME, DO WORKSHEET NO. 1.



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Just as an electrician or a beautician has certain words which he/she uses when he/she talks to other electricians or beauticians---so merchandisers of fashion have their own language. One reason for this is **efficiency.** If everyone in a specific area of work is talking about the same thing, it saves time. A second reason is **identity.** People in one career stand apart from other careers in the work world if they are using the language of their field. Familiarize yourself with this list of useful terms. They are frequently used in the fashion business and may help clarify other material in this packet.

BEST COPY AVAILABLE

distribution —— (used generally as a synonym for "marketing" a group of related business activities which get merchandise from the source of production to where the consumer purchases it. within distributions broad scope is the activity of merchandising.

nondurable goods —— items consumed in a single use over a short period of time.

hard lines —— a category of merchandise in retailing which includes appliances, furniture, and equipment.

soft lines —— a category of merchandise in retailing which includes linens, accessories, fabrics, men's women's, and children's apparel, draperies, and domestics.

fashion goods —— goods which go through frequent changes in design. (Note: fashion goods can be found in either the hard or soft line lines categories but there are more frequent changes in the soft lines area.)

staple fashion —— items of fashion which are very necessary for year to year living.

basic fashion —— standard fashion which is accepted by the majority of average customers.

high fashion —— fashion that is new and often daring; usually has limited acceptance.

obsolescence —— process of merchandise becoming less popular, due to a change in design or the invention of a new product.

trend —— direction in which items and ideas are moving in acceptance.

time lag —— period between the time an idea for a piece of merchandise originates and the time the merchandise is finally seen in the store.

fad —— a fashion of short duration, being accepted quickly and with exaggerated popularity and just as quickly disappearing.

volume fashion —— fashion produced and merchandised in mass quantity; meeting many people's needs and requirements at once.

custom fashion —— fashion made to one customer's special requirements.

merchandising —— the action of businessmen and women adjusting merchandise in order to achieve maximum customer acceptance.

NOTE: AT THIS TIME, DO WORKSHEETS NO. 2 AND NO. 3

PART II

Now that's a quick overview of the fashion merchandising business. – Would you like to learn more? It's a real career possibility, but we want you to make your choice with as much information as possible. Right now, you are probably listening to your parents, counselors, and teachers. They're saying something like: "Get into a field that allows you to grow. Right? Well, they have a good point. For who wants to train for a career that may be on its way out by the time you just get into it? If you develop the right talents and skills and work at being a little better than the average, the fashion field will probably always offer opportunities for you. WANT TO GO ON? Let's dig a little deeper into this career cluster we call fashion merchandising ––

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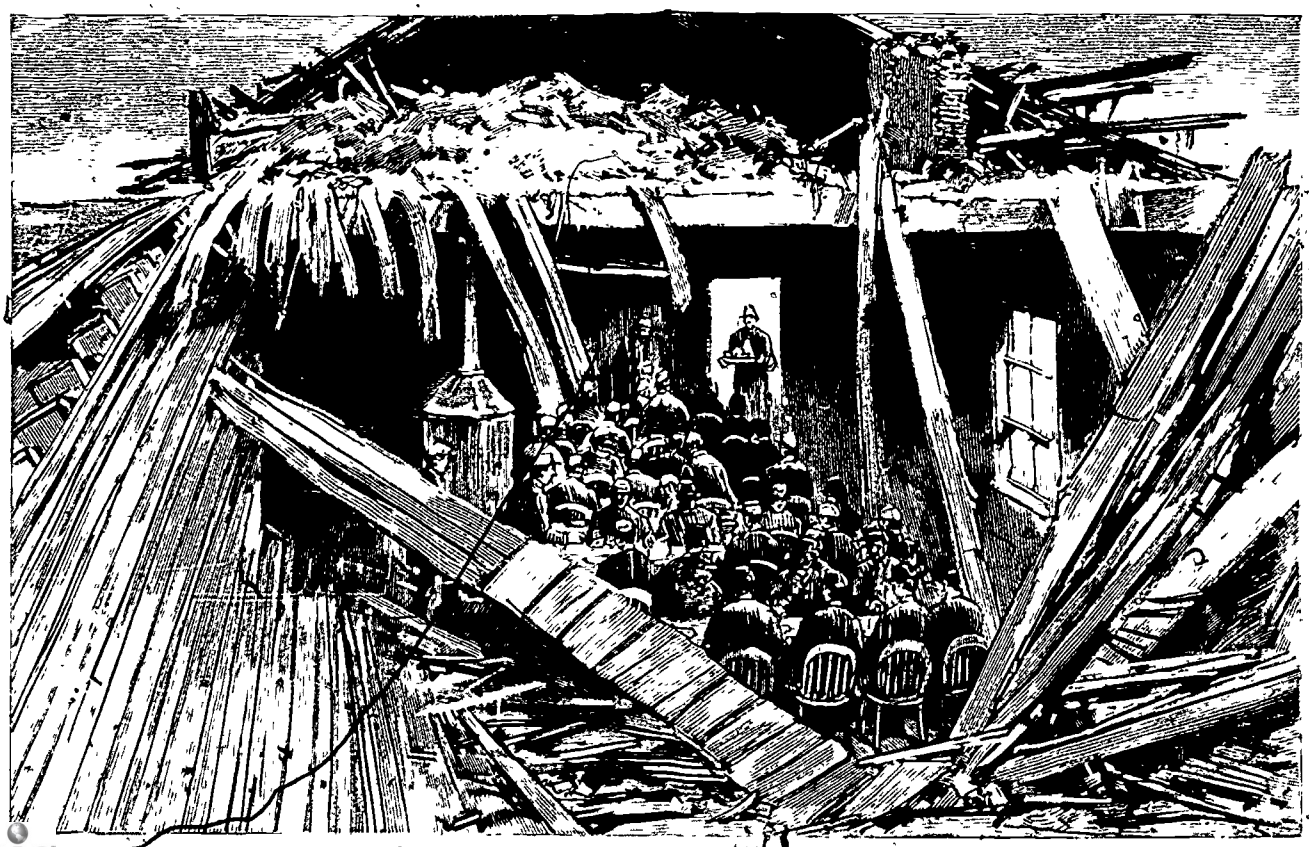

If we really focus in on the fashion industry, we find it is made-up of three major segments and that merchandisers are needed in each segment;

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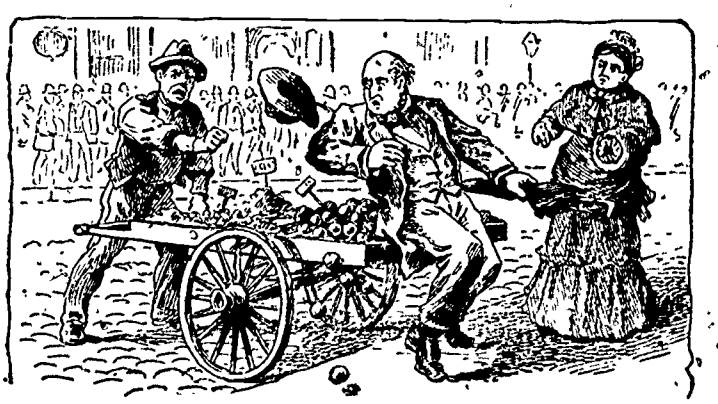
Primary Secondary Retailing

A. Primary——Ideas for merchandising begin to take form here. All the raw materials (such a fabrics, leather, fur, lumber, metal, plastic) are produced at this level.

B. Secondary——The firms in the primary segment then sell their materials to the secondary segment. Here workers shape the materials into finished products.—NOTE: At this point, the merchandise is usually displayed in showrooms.

C. Retailing——This segment is the most familiar to you, I'm sure. It is made-up of stores and firms which deal directly with the consumer. Retailers buy the merchandise from the secondary segment (usually at the showroom) and make the merchandise available for you to buy.

NOTE: AT THIS TIME DO WORKSHEET NO. 4.



Your first job in the fashion industry may lead you to an advanced position within a segment or may give you background for a merchandising position in one of the other two segments. Growth does not always mean upward; it can also mean out-ward.

Although you are mostly aware of merchandising activities in the retail segment, the merchandising activities in the primary and secondary segments are based on the same principles. The only difference between working as a merchandiser in the retail segment and any other segment is the stage at which your merchandise would be developed and the people you would be merchandising to.

MERCHANDISER	STAGE OF MERCHANDISE	MERCHANDISES TO
Primary merchandiser	raw goods	secondary segment
Secondary Merchandiser	finished goods	retailer
Retailing Merchandiser	finished goods	ultimate consumer

NOTE: In all cases, you would still have to remember who would be using the finished good at the end.

NOTE: AT THIS TIME, DO WORKSHEET NO. 5.

If there is any one appeal that the fashion industry seems to hold out to men and women, it is the idea that anyone in its employ will be able to predict the start and finish of a particular fashion. (Isn't this one of the attractions that draws you to the field? Even now?) Oh how simple merchandising would be it this idea were really true.

Perhaps someday a businessman will feed a punch card into an automated machine with the questions:

–Will this particular car be accepted?

–Will the public still buy this chair next month?

–Will this line of cosmetics "go out" before I can sell what I have on my store shelves?

The machine, having analyzed data, might then spit-out answers which would change the industry. But this mechanical projection is highly unlikely to ever occur. Why?

Review the varied definitions of fashion. Note again that fashion reflects our thinking and our living. Can you accurately predict your own reactions to people, places, and things from day to day––year to year? Of course not! So if you can't make predictions about your own thinking, how could (can) a machine predict exactly what you and millions of others besides will think about a piece of merchandise in the future? Fashion cannot become a mathematical formula, because it is made by people's choices and these choices are mixed with emotion and feeling.

NOTE: AT THIS TIME, DO WORKSHEET NO 6.

How then, do people in the fashion industry know what will be "in" next year or how long it will stay "in"? They don't know exactly (and don't ever let anyone make you believe he is the "fortune-teller" of the industry!)

Designers, merchandisers and retailers make, what we call, an educated guess, and if that guess proves correct, they are successful. No businessman in fashion is always correct. There are wrong guesses---even for the best in our field.

With time and experience, though, man has become aware of several tools which are helping him to make a more accurate guess. Some of the major tools are summarized in the next paragraph:

VITAL TOOLS IN FASHION PREDICTION

Fashion Cycle
Past Sales
Trade Publications and Clinics
Observation and Surveys

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FASHION CYCLE:

Every fashion has a life or a series of stages of increasing and decreasing popularity. As one noted retailer explained the concept, "If you have ever sat idly watching the surf you must have noted that each wave rolls in with a come, a crest, and a crash. To me, this general pattern seems identical to that of fashions, which certainly curve, crest, and crash."* No two fashions have the same cycle. One item may have a cycle of eight months--reaching its height of popularity around the sixth month. While another item may just be reaching its peak after two years.

NOTE: AT THIS TIME DO WORKSHEET NO 7.

Just as your "fashionable" apparel exists side-by-side, all in different stages, in your closet, so all fashion merchandise is in a process of running its course in the world around us.

Those in the business of fashion cannot foresee exactly how long any particular cycle will last. So why use the fashion cycle as a tool? The concept has encouraged the designers, merchandisers, and retailers to be more aware of the timing of the consumer's buying decisions.

When you and many others stop buying a look for your wardrobes, they know perhaps the swell in the wave is over. The successful businessman learns, in his own way, how to recognize the signs which indicate a change in the life of a fashion before it happens.

By combining the cycle concept with the other tools to be explained, he is able to prepare himself for the breaking of the wave.

*Kenneth Collins

PAST SALES:

Perhaps the most important single guide for a fashion firm in the primary, secondary, or retailing segments is its record of past sales. Knowing what customers bought last year or the year before aids a businessman in estimating what the customer will buy this year. The past sales records are not a crystal ball to themselves but a starting point for projection.

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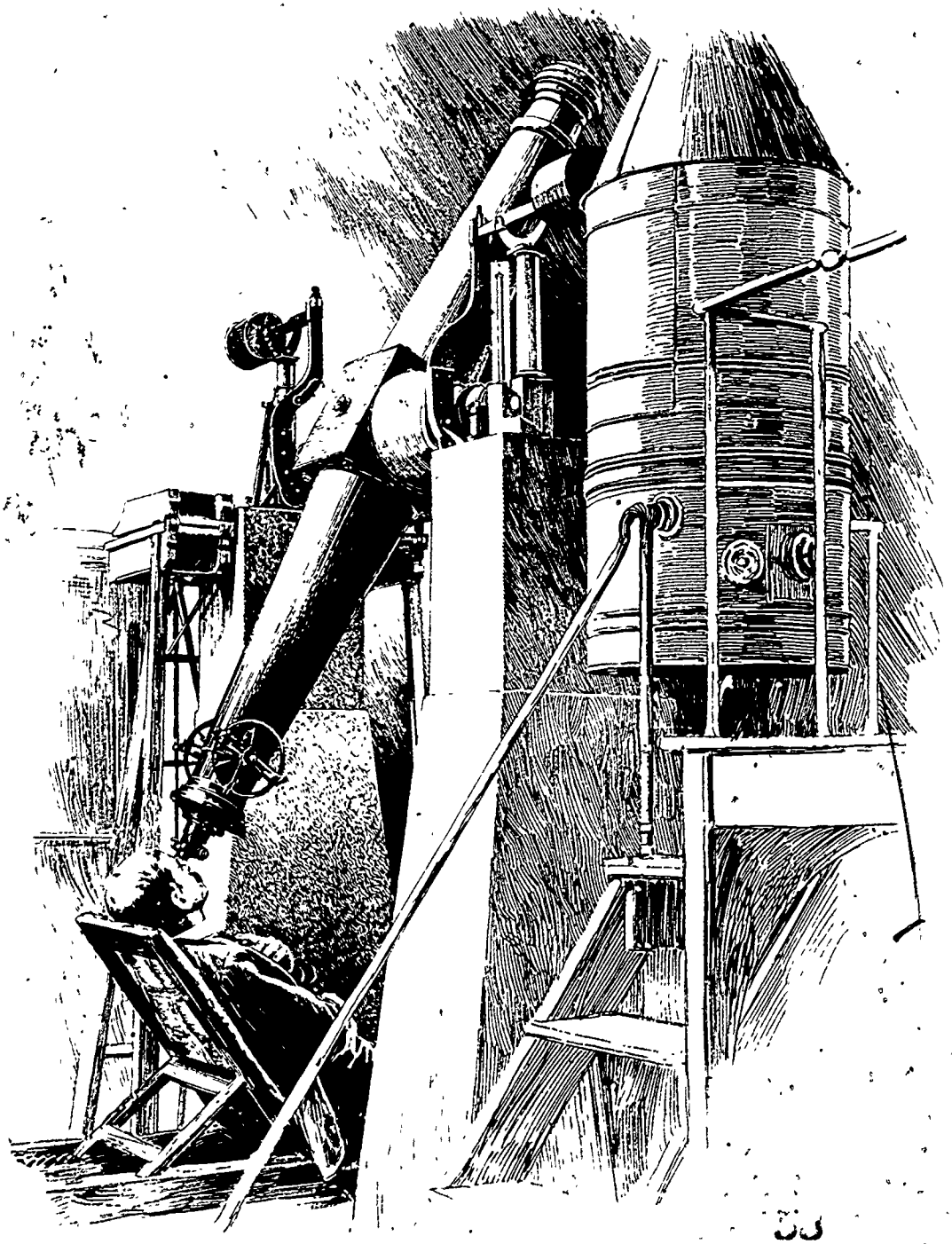

TRADE PUBLICATIONS AND CLINICS:

Every merchant subscribes to important magazines and newspapers in his field. These report the facts and conditions in one or more segments of the fashion industry. Much is learned from a daily or weekly coverage of the specialized publications.

Clinics or seminars are also sponsored as information giving sessions by one segment of the industry for another segment. For example, a fur firm (primary segment) might hold a clinic for a coat firm (second segment) to explain what furs will be important for the coming season.

NOTE: Try to obtain a copy of one of the fashion trade journals from your project administrator. Notice how differently the information is presented as compared to your evening newspaper.

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OBSERVATION AND SURVEYS:

All segments of the industry observe one another and the consumer. If Joe, the trim producer, hears from Gene, the retailer, that young America has been asking for leather trim——he'll probably begin to make more leather for next season.

A sharp set of ears and keen set of eyes are a "must" in this field.

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PART III

Are you getting a better idea of the industry now? You have seen the segments--you have learned that there is no magic crystal ball; you have seen a little of the risk involved in dealing with the American public. Maybe you have even gotten a little insight into the purchases you have made from merchandisers. Still interested in this field? -- in Part III we'll take a look at that strange creature we call the "Fashion Consumer".

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Who buys fashion merchandise once it is produced?

You do

I do

Anyone who is dissatisfied with the realities of his body and the world around him does. "That must mean everyone does," you say, and I guess you are right. Since Eve and the fig leaf, man has never been willing to show himself as he is or accept the world as it is.

His unending desire for change has developed the fashion industry into one of the largest and most complex in the world.

Where fashion once meant a special privilege for an elite class of people, it now means something entirely different. Every man, regardless of his background, has a right to fashion through mass production. About 1900 the producers of fashion were favored by economic and business laws. Today the consumer is favored—for the industry has learned that the ultimate consumer is in command. ("**ULTIMATE CONSUMER**"——person who purchases goods and services for personal or household use.)

If **you** do not buy company A's product, it may make little difference to Company A. But if **you and a large number** of other consumers do not buy the finished product, Company A may go out of business!! All segments——primary, secondary, and retail, must do a favorable job before the final positive vote is cast by the consumer.

When designers sketch a chair, or a coat, or a car on paper, are they trying to please all the consumers in our country? Or, when merchandisers plan a promotion, are they trying to reach all the consumers who have money to spend?

If we look at population figures for this year and several years to come, we can easily see the answer to both questions is —— No.

Obviously there are very few fashion products which could fill the needs and wants of two or three hundred million people all at once.

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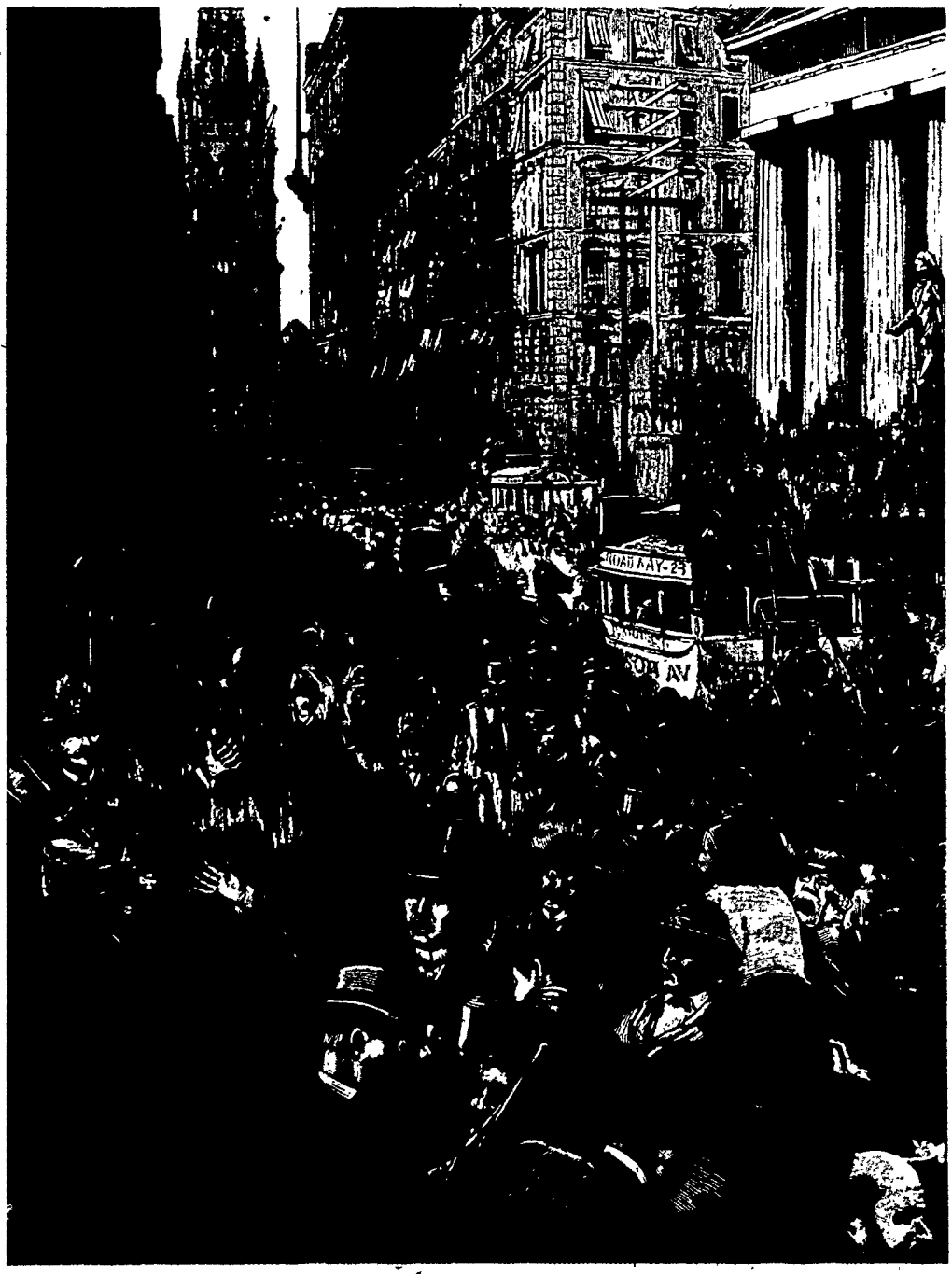

The makers and promoters of fashion goods get a better understanding of consumers by dividing them into special groups. These groups can be made-up of people of the same age or sex or interest or religion or income, etc.

NOTE: The names used in business for these groups is MARKET SEGMENTS.

NOTE: AT THIS TIME, DO WORKSHEET NO 8.

Perhaps the greatest challenge in fashion is the necessity to stay ahead of the consumer's changing needs and tastes. If each segment of consumers remained the same over a period of time, fashion firms would have time to understand needs and tastes fully. But each segment is in a constant state of change.

Let's assume you are interested in merchandising fashion goods for the 15–19 age group. In three or four years (when you have completed your merchandising training and become employed by a fashion firm) these people will be the (20–24) age group and an entirely different group of individuals will be filling the (15–19) segment.

Do you think you could alter your ideas rapidly enough to meet the changed tastes of the teenager of tomorrow? Fashionmakers are faced with this challenge every day.

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You've now completed a quick study of the fashion industry. Hopefully you've gotten a handle on the concepts, and you're beginning to know what it is all about. It's bigger and broader than you thought, right? Many people, taking a look at fashion merchandising see it as a glamorous career. Well, it is that, but it's a lot more. It's a way of life---good times and bad, hard work and pleasure. If you would really like to get behind the scenes, take a few minutes to view the slide-sound series accompanying this packet. Every hour you spend exploring this field will help you to make a clearer career decision in the end.

Impressions

AT THIS TIME

ASK ADMINISTRATOR

TO SHOW YOU

THE

SLIDE-SOUND SERIES.

WORKING CONDITIONS

DIRECTIONS: Below is a list of factors which may affect your happiness on the job. After each word or group of words, comment on what you could and could not tolerate in a work environment.

FACTOR	WHAT I AM LOOKING FOR	WHAT I COULD NOT TOLERATE
financial reward		
security		
duties: nature of— variety		
opportunity for advancement		
social prestige		
travel		
relationships: associates supervisors		
firm image		
work itself: physical mental		
location of job		
work hours		
dress		

Which two factors above will probably be most important to you in a work situation?

VALUES

DIRECTIONS: Estimate the value you place on the things or people listed below. Place a check in the appropriate blank across from each factor.

FACTORS	Very important to my happiness	Sometimes important to my happiness	Never really important
1. family			
2. religion			
3. living accomodations			
4. leisure time			
5. personal possessions			
6. friends			

DIRECTIONS: Life styles vary with different career choices. Re-examine the factors listed above, and in a short sentence describe each thing or relationship as it is now. In the second column comment on how the things or relationships will probably change once you are working in a fashion merchandising career.

	Now	Later
1.		
2.		
3.		
4.		
5.		
6.		

PERSONAL PROFILE

DIRECTIONS: This survey is designed to provide information about your needs and interests. The material will be kept confidential. Please complete statements that apply to you by filling in the blank spaces or checking the word or phrase that most appropriately answers the question.

1. I am ____ male ____ female.
2. I am ____ years old.
3. Paid jobs of people in my family are:

   _____
   _____
   _____
   _____

4. My major area of study is: _____
5. I do ____ do not ____ plan to graduate from high school.
6. After graduation or leaving school, I plan to:

   _____ go to a vocational school
   _____ join the armed forces
   _____ go to college
   _____ get a job
   _____ get married
   _____ other (explain) _____

7. After leaving school, I will get most of my money from:

   _____ a job
   _____ a scholarship
   _____ my parents
   _____ other (explain) _____

8. Magazines and newspapers I read include:

   _____
   _____
   _____
   _____

9. My extra curricular activities include:

   _____
   _____

10. Places my family and I buy merchandise and services from most frequently include:

_____ department stores	_____ supermarkets	
_____ catalog order stores	_____ boutiques	
_____ door-to-door sellers	_____ variety stores	_____ other

11. The way I feel about most of my purchases is:

_____ dissatisfied	_____ satisfied	_____ cheated

12. My reading ability is:

_____ poor _____ fair _____ good _____ excellent

13. My math ability is:

_____ poor _____ fair _____ good _____ excellent

14. My ability to talk to others is:

_____ poor _____ fair _____ good _____ excellent

15. I am a very nervous person _____ Yes _____ No

16. I am even-tempered _____ Yes _____ No

17. People say I am shy _____ Yes _____ No

18. I have an average or above average sense of humor _____ Yes _____ No

19. I have never shop-lifted or been dishonest in my business contact _____ Yes _____ No

20. I would consider my health

_____ poor _____ fair _____ good _____ excellent

21. I feel my greatest talents are:

_____

_____

22. My ability to keep accurate, neat, easily readable records is:

_____ poor _____ fair _____ good _____ excellent

23. I know I am color blind _____ Yes _____ No

24. In general, I am a coordinated person _____ Yes _____ No

25. The nature of my home life is:

_____ pleasant

_____ unbearable

_____ livable

26. My work experience record includes:

FIRM	DATE	JOB TITLE

Two of my favorite responsibilities at work are _____

_____

27. My absence and tardiness record at work is:

_____ poor _____ fair _____ good _____ excellent

28. My absence and tardiness record at school is:

_____ poor _____ fair _____ good _____ excellent

29. My favorite study areas are:

_____

_____

30. I am a ____leader ____follower.

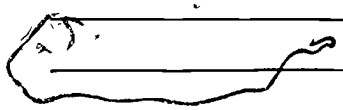
31. I prefer ____to be alone ____to be with a group.

32. I hate sudden changes in my life ____Yes ____No.

33. I believe the fashion industry is:

_____ very "pushy"
_____ doing a service for the consumer
_____ fake

34. Three of my weaknesses as a person are: _____



35. To me, being a success as a person means: (write a short paragraph)

Exploration

TYPES OF EMPLOYERS WHO OFFER MERCHANDISING OPPORTUNITIES*

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PRIMARY FIRMS

- fiber
- yarn
- fabric
- leather
- fur
- plastics
- notions

SECONDARY FIRMS

- men's apparel
- women's apparel
- children's apparel
- accessories
- theatrical costumes
- interior furnishings
- pattern companies (home sewing)

SHOW ROOMS

- fabrics & home sewing items
- men's apparel
- women's apparel
- children's apparel
- accessories
- interior furnishing

RETAIL FIRMS

- discount store
- super market
- national chain
- variety store
- department store
- specialty store

SUPPORTING FIRMS

- newspapers
- magazines
- test laboratories
- advertising companies
- promotional firms
- buying offices

EDUCATIONAL FIELD

- public or private schools
- training divisions of fashion firms

*NOTE: This is not an inclusive list.

CAREER OPPORTUNITIES IN FASHION MERCHANDISING*

- stock boys or girls
- merchandise clericals
- salespeople
- merchandise distributors
- display assistants
- advertising assistants
- comparison shoppers
- heads of stock
- department managers
- assistant buyers
- fashion coordinators
- buyers
- store owners
- market reporters
- sales representatives and assistants
- stylists
- teachers

NOTE: see FASHION INDUSTRY ORIENTATION and EXPLORATION GUIDE, U.S. Office of Education for other career opportunities, job descriptions, and career progression.

*This is not an inclusive list.

MERCHANDISE AND STORE INFORMATION CHECKLIST

Here is an example of the merchandise and company information you would need to know once you were a merchandiser for a manufacturer or retailer:

1. **Do you know the story of the history and development of the goods you sell?**
   - ____ When and where the merchandise was first used.
   - ____ Facts about the process of development.
   - ____ Interesting historical side lights.
   - ____ When and how the merchandise developed into its present form.

2. **Are you familiar with the manufacturers' organizations?**
   - ____ The manufacturer's name and location.
   - ____ Length of time in business.
   - ____ Other products manufactured.
   - ____ Important policies and services.
   - ____ Advertising and selling methods.
   - ____ Size and reputation.

3. **Do you know the important facts about the materials used?**
   - ____ What materials are used.
   - ____ Sources of the materials.
   - ____ Qualities and characteristics of these materials.
   - ____ Points of superiority.
   - ____ Limitations.
   - ____ Nature of the current market in respect to these materials.
   - ____ Exclusiveness of materials used.

4. **Do you know the details of the manufacturing process as they affect the finished product?**
   - ____ Steps in the manufacturing process.
   - ____ Names of and reasons for each of these steps.
   - ____ Patented or special processes.
   - ____ Advantages of each of the processes.

5. **Can you describe the points of superiority of your merchandise as to:**
   - ____ Durability
   - ____ Economy
   - ____ Prestige
   - ____ Convenience
   - ____ Availability
   - ____ Comfort
   - ____ Utility
   - ____ Appearance
   - ____ Fashionableness
   - ____ Service
   - ____ Health
   - ____ Safety
   - ____ Exclusiveness

6. **Are you familiar with the possible objections to your merchandise?**
   - ____ Inherent limitations of the materials used.
   - ____ Natural limitations of the finished product.
   - ____ Limitation in utility.
   - ____ Limitation of service.
   - ____ Difficulties of care.

7. **Do you know the uses and purposes of the merchandise?**
   - ____ Variety of regular uses to which it can be put.
   - ____ Advantages of each use.
   - ____ Where, when, and how used.
   - ____ By whom used.
   - ____ Special or unusual uses.
   - ____ Relationship of its use to other items of merchandise.

8. Do you know the details of the care and servicing of your merchandise?
   ____ How to assemble the merchandise for use.
   ____ Other equipment necessary to its use.
   ____ Desired materials for its proper care.
   ____ Washing and cleaning instructions.
   ____ Replacements of parts.
   ____ Oiling and inspecting.
   ____ Any special care instruction.
   ____ Servicing policy in respect to the merchandise.

9. Are you familiar with the stock carried in your department or section?
   ____ Types of items carried.
   ____ Sizes, prices, styles, colors, etc., in assortment.
   ____ Location of each type.
   ____ Amount of stock on hand.
   ____ Time required for special orders.

10. Do you know what merchandise is carried in the store?
   ____ Actual items carried.
   ____ Location of items throughout store.

11. Are you familiar with your store's advertising, displays, and special promotions?
   ____ Details of the advertisements of your merchandise.
   ____ Location and nature of special displays of your merchandise.
   ____ Special or regular promotions in progress.
   ____ General advertising of the store.

12. Are you acquainted with your store and its services and policies connected with your merchandise?
   ____ History and development of your store organization.
   ____ Delivery services connected with your merchandise.
   ____ Return, exchange, or refund privileges.
   ____ Guarantees.
   ____ Gift or special wrapping service.
   ____ Special shopping aids.
   ____ Regular or time-payment services.
   ____ Merchandise advisory services.
   ____ Price policies (reductions, discounts, etc,)
   ____ Buying policies, (sources of merchandise, use of local manufacturers, etc.)
   ____ Sales policies (special promotions, unadvertised specials, private sales, etc.)
   ____ Personnel policies (unionization, employment of local help, hours and wage levels, etc.)

13. Do you know your competition?
   ____ Where competing items are carreid.
   ____ Nature and characteristics of these items.
   ____ Prices.
   ____ Advertising of competing firms.
   ____ Services, gaurantees, and so forth of competing firms.

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IMPORTANT QUESTIONS

Do you understand the general construction of a garment or piece of merchandise?

Can you concentrate under adverse working conditions?

Can you work under pressure?

Have you a good sense of timing?

Are you well-organized?

Have you a business sense; the ability to make decisions?

Can you take advice and suggestions?

Are you original?

Do you keep abreast of current fashions?

Are you a self-starter?

Can you carry a project through to a conclusion?

QUOTES FROM THOSE WHO KNOW

"The best first step is to work where you can watch people who really know fashion."

—fashion manufacturer

"I thought I knew something about merchandising before I enrolled in the program at school, but there were so many changing ideas about running a successful business that I became much more open to other people's views!"

—graduate from a technical institute

"This is no place for someone who doesn't want to get involved. Either you love it, or you shouldn't be here."

—assistant buyer

"What I like about it is the fact that your performance depends entirely on you. When the year, the month or the day is over, you can look at the figures and see how you did."

—group manager

"In this business, one man's unprofitable item could well be another man's livelihood."

—store owner

DO ALL CANDIDATES FOR A FASHION MERCHANDISING CAREER REACH THEIR CAREER OBJECTIVE?

OF COURSE NOT.

WHY DO STUDENTS LEAVE FASHION MERCHANDISING PROGRAMS?

HOW DO FASHION MERCHANDISING GRADUATES FEEL ABOUT WORKING IN THEIR CHOSEN FIELD?

THE NEXT TWO LETTERS ANSWER SOME OF THESE QUESTIONS. THE FIRST LETTER WAS WRITTEN BY A STUDENT WHO DECIDED TO LEAVE THE FASHION MERCHANDISING PROGRAM AFTER CHANGING HER CAREER OBJECTIVE IN THE MIDDLE OF THE YEAR. THE SECOND LETTER WAS WRITTEN BY A STUDENT WHO IS NOW FINDING FULFILLMENT IN THE FASHION INDUSTRY..

Thursday

Dear Myrna,

Remember how excited I was about taking the Fashion Merchandising course? I really thought it would be neat to learn more about the clothing industry; however, I feel that being a model would offer me a much more enjoyable angle in the fashion field. Fashion Merchandising seemed to gear most of its course objectives toward buying fashion, managing merchandise sales, and promoting merchandise which really didn't offer me any real satisfaction. I guess I can express my feelings for apparel more personally by wearing it rather than trying to manage people and make financial decisions at the same time. Further, I feel fashion merchandising involves too many tedious mechanics which would tend to take away from the appreciation I now have for fashion--(long hours, endless reports, constant use of math, etc).

I thought that by being in the merchandising area I could learn to buy and sell anything, but the truth is that I can't sell a style I do not personally like. My teacher says a good merchandiser learns to appreciate the needs the merchandise will fill in the customer more than the product itself. But my face is a dead give-away if I think a product is ugly! That must be why my Christmas internship went so poorly.

Something else that rubs me wrong in this field is deadlines! I don't like to be pressured and this business is built on the pressures of profit and speed. Hurry, Hurry, Hurry---I never really get time to admire the details the designers wanted appreciated. There are many careers to be found in the fashion industry for those who are interested and all need to be carefully examined. Being as quiet as I am, I never asked enough questions until after I was enrolled (maybe that's another reason why I'd have trouble as a merchandise manager).

Well, I m doing lots of research into this modeling idea as I'm running out of tuition money. Maybe I'll work for a year before I make my next career decision.

Wishing you luck in you future plans--

Always,

JOAN

May 9, 1973

Dear Dave,

I'm glad to hear you're thinking about working in the field of fashion merchandising. I think it's a terrific area of work!! I've been on a retail training program for approximately 9 months with completion of my program in 15–24 months, depending on how accurately and efficiently I can adapt to the company's procedures.

I'm scheduled for a 40 hour, 5 day workweek but, usually put in close to 50–60 hours, depending upon the season (Christmas, Easter, Mother's Day, Sportswear Carnival, Valentine's Day, July Circular, Back-to-school, assortment plans etc.). I find myself coming in on days off to finish an overload of work and working most weekends. Sometimes this is a necessity--since major promotions can be scheduled for those days, or merchandise arrives early or late.

As of now, the pace of work is fast! If you're not able to adapt to 8:00 a.m. - 10:00 p.m. at least twice a week and working continually, with supervisory assistance, using your own creativeness, and enthusiasm--then try something else!

At first, the many new things I had to learn were overpowering! Now I do some of the buying and have been lucky in my predictions. (Of course, I had numerous people to supervise and follow-up on my work.) Just a few planned phone calls to New York, Dallas, Los Angles, Chicago and other important markets provide me with some of the background I need to make good buying decisions.

In your letter, you asked for a few guidelines---well, remember to be an above average salesman and learn to develop and express your ideas in clear, concise statements. Supervisors can measure some of your self-confidence and maturity by what you say and how you say it.

Always try to do your best, even-if you end up doing something you totally dislike. Attitude is probably even more important in the fashion business than skill! I've learned something about myself with each step up and I'm just beginning.

The adjustment from high school to my post high education in merchandising was jolting!! I was so used to having other people think for me and working for a letter grade on my report card. Both of these changed: Teachers expected me to do my own "digging" and research, find my own jobs and solve my own problems. I never even realized I had the ability I do! And they expected me to set my own standards(standards that employers liked) and constantly work toward them. I see now that the fashion business doesn't have time to let all its employees find themselves on the job. I'm glad I made most of my adjustment in school!! News travels fast in the fashion world, especially bad news!

Before I close I want to say that fashion merchandising can be an endlessly fascinating study. If you find it's "your bag" you'll probably be a lifetime student. There's always something new to learn in this field.

Good luck,

Elaine

QUESTION / ANSWER SHEET

Q. **What is the job outlook for fashion merchandising graduates?**

A. Since the job market is in a constant state of change, it is difficult to predict the exact number of employees needed in any one field. There are many supervisory and management positions opening in the fashion field, and the demand for personnel to fill such positions will be even greater in years ahead.

Students with work experience seem to be preferred, since they are familiar with both the disadvantages and advantages of fashion work. The high turnover in management trainees in some companies is often due to the individuals inability to manage, organize, and delegate work. If you become an above average manager, your skills and talents will apply to a wide scope of fashion jobs. (note: *Growing use of computers in large multi-unit organizations will not lessen, but increase the importance of* quality *managers.)*

Q. **Should I be a part of a business which is dependent on its ability to constantly tempt people with something new if I'm not a "pushy" person?**

A. Firstly, it is important that you understand the difference between "pushy" and outgoing. A "pushy" person will pressure a customer into a purchase even if the customer doesn't need or want the merchandise. Such a salesperson and/or manager is found in the fashion business but is not a credit to the merchandising field! An outgoing person is not afraid to encourage the customer to express his needs or likes and offer information about the merchandise. The merchandising field needs more of the latter.

Secondly, it is vital that you understand this concept of "business tempting people." Customers become restless with same-ness and desire change. The fashion industry anticipates this restlessness and tries to produce merchandise in time to meet this desire for change. There are times, though, when the industry has caused change. When this occurs, the customer may feel pressured, because he is not ready to accept the styles introduced. In most cases, sales are lost when the industry tries to push a look or idea onto people who are not ready for the change. If you enter the fashion merchandising field and work for a firm that anticipates, not causes, change you will be tempting the customer when he wants to be tempted.

Q. **How much are beginning employees being paid in the fashion industry?**

A. Wages vary with the company and type of responsibility accepted. Retail sales employees, for example, work for an hourly wage and in some categories of merchandise, a commission. Managers receive a pre-determined salary, which varies according to the profit picture of the comapny. Women executives are not paid quite as much as men by the companies which employ both, but the gap appears to be closing as increased numbers of women are being hired. The initial pay checks of a fashion trainee are low to moderate. If you can borrow money for rent and car payments the first months and produce an above average SIX MONTH EVALUATION on the job, things usually begin to get better.

Q. **"One of my teachers knows I want to go into merchandising and has become very critical of every project I hand in. Is he trying to discourage me?"**

A. If you find someone with some experience in the field and an interest in you, do not close your eyes to the opportunity. A boss, teacher, fellow worker may seem to be stern taskmasters--for whom nothing will seem to please, but a listening, modest attitude and a real desire to learn will probably pull you above other competitors in the long run. It sounds as if he recognizes your ability and just wants you to use every bit of it! Be thankful for people who notice!!

Q. **"Where can I get my education after high school graduation?"**

A. Fashion merchandising programs are being offered by colleges, vocational-technical institutes, junior colleges, and private schools. Your choice of a school will depend greatly on your own preferences, where you live, and the most suitable curriculum for your needs. (space does not permit me to list all of the fine schools in the state, but for a comprehensive list see the enclosed list in this section). Undoubtedly each school has some advantages over a similar school and each may instill a different point of view. It is wise to visit several schools or campuses before making a decision.

College may be an advantage to you in the future. Our society is a highly competitive one and the educational, social, and personal experiences may give you preference over beginners in a tight labor market. This does not necessarily mean you must get all your liberal arts training at once. (Perhaps you could consider evening classes or summer school while you work.)

If you choose a fashion merchandising school or specialized school, remember it will offer a different approach from college. Many students go to college to pass the time. Students who enroll in a professional school are expected to have a serious vocational purpose in mind. The instructors assume you will want to learn everything you possibly can. Many enrollees combine a full-time job with liberal arts courses after graduation.

Q. **"I'm very tired of school now. Could I work my way up in fashion merchandising without a formal education?"**

A. Yes, you could--But fashion has become an educated field. The people with whom you will be dealing are sensitive human beings who have been exposed to strong aesthetic influences for a long, long time. They find their inspiration in travel, history, and in the performing arts as well. You will find that a strong educational

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background puts you in a better position to share and understand their thinking -- and thus helps you to express your point of view to them. If you are tired of school, work for a semester and learn more about the work world first hand.

Q. **What is management? Should everyone in fashion move to a management position?**

A. Management consists of positions in which you are expected to help plan, organize, and control the operations of a company. You usually make decisions and teach people under your supervision how to do their work. Although management classes are valuable to you as a person, every student who completes a management education should not expect or even desire to be a manager in the fashion business. Some individuals are much more effective working under someone else. If you are one of those individuals, realize that there are many positions (which may be more suited to your personality and ability) which do not involve management responsibility. Such positions do not always pay as well, but can offer you a chance to accept duties which might give you as much, if not more, satisfaction.

Q. **How is progress evaluated by employers?**

A. In most companies responsibility for evaluating the progress of the newly hired graduate is assigned to the personnel department. However, in almost all companies, the supervisors and managers play a major role in determining progress and promotion to jobs with more responsibility.

It is common practice to review the progress of the beginning employee six months after employment and again at the end of a year. In some companies, evaluation forms and rating sheets are used, in addition to personal interviews.

It is unrelaistic to assume that good work is always recognized and rewarded. It isn't, although most companies try and do so. In addition to actual accomplishment on the job, the fashion employee is rated on such personal qualities as cooperation, initiative, and willingness to assume responsibility.

Q. **Is it still possible to have your own business?**

A. The desire for independence is probably stronger among students of today than in the past. The possibility of having a business of your own can be an objective toward which to work. Very few graduates can start a successful business venture soon after graduation from a fashion merchandising program because they generally lack two of the most important requirements–experience and capital. It is advisable to "learn the ropes" by working for someone else first, getting a chance to acquire experience and capital, and then perhaps to buy a small business and go into partnership with someone else. Your success would depend upon your ability to offer the customer something your competitor does not and your ability to meet problems with sound, timely decisions.

Q. **Is opportunity in fashion as good for women as it is for men?**

A. In the past, women were earning less than men and were holding a smaller percentage of management jobs. The reason for this was that women were job, not career oriented. They were not willing to work long hours, relocate, or bear the pressure. Now that some women are proving they are just as profitable as men, the biases are dropping. Businesses are viewing employees as people, rather than men and women.

Q. **Is summer job experience or part-time work important?**

A. Employers are almost always interested in how students have spent their summers and weekends. Planned and supervised job experience developed by technical education centers or colleges is rated highly by most employers The most important thing about such work is what you have learned and whether or not your time was spent profitably.

Q. **Do employers encourage continued study?**

A. Almost all companies encourage continued study following employment. Courses which graduates most frequently take after employment are those offered by the Evening Divisions of major universities or technical centers.

Some employers have a program of tuition refund in which all or part of the student's tuition is paid by the company.

Q. **What type of course work should I take in high school?**

A. If you are currently in high school and seriously considering fashion as a vocation, the following high school courses (if offered) will probably prove most useful to you:

salesmanship	*textiles*
marketing	*speech*
retailing	*theatre*
advertising	*clothing*

And by all means try to join Distributive Education Clubs of America!

Q. **Presently I am working as a checkout in a fashion discount store. What a bore! No one notices I'm alive. Should I quit?**

A. Remember--there are other employees who are pushing brooms and unpacking boxes, too! Where you start doesn't matter; the point is you've been Exposed. EXPOSURE is a two-way thing. You are going to find yourself within an arm's
exposed to you and will react to your enthusiasm (because no one can stay unaware of what's around him.)

So--chin up. If things don't look better in a few months, ask the boss for a personal evaluation. He'll notice your work then!

Outside Reading

Behind the Scenes in Fashion Merchandising
by Edith Fletcher Hayter
Pageant Press

Careers and Opportunities in Fashion
by Barbara Brenner
E.P. Dutton and Co., Inc.

Figleaf; The Business of Being in Fashion
by Eve Merriman
J. B. Lippincott Co.

How the Fashion World Works
by Margaretta Stevenson

Is the Fashion Business Your Business?
by Eleanor L. Fried
Fairchild Publications

Looking Forward to a Career in Fashion
by Margot Siegel
Dillon Press

Planning Your Career
by Robert Calvert, Jr.
and John E. Steele
McGraw Hill

The Way of Fashion
by Karlyn Anspach
Iowa State University Press

Your Future in the Fashion World
by the Fashion Group, Inc.
Richards Rosen Press, Inc.

Your Future in Interior Design
by Michael Greer
Richard Rosen Press, Inc.

EDUCATIONAL INSTITUTIONS

Comments: Below is a random list of some of the educational institutions in the area which offer fashion merchandising programs. The list is not complete; there are many other schools. Explore several programs in order to find an institution that will best fit YOUR needs.

FASHION MERCHANDISING AND / OR MANAGEMENT PROGRAMS

University of Minnesota – St. Paul, Minnesota
Duluth, Minnesota
University of Wisconsin – Madison, Wisconsin
Stout State University – Menomonie, Wisconsin
Fashion Institute of Technology – New York, New York
Globe College of Business – St. Paul, Minnesota
Minneapolis School of Art – Minneapolis, Minnesota
Patricia Stevens – Minneapolis, Minnesota
Minneapolis School of Business – Minneapolis, Minnesota
Alexandria Area Vocational – Technical Institute – Minnesota
Dakota County Area Vocational–Technical Institute – Minnesota
Detroit Lakes Area Vocational–Technical Institute – Minnesota
Duluth Area Vocational–Technical Institute – Minnesota
Moorhead Area Vocational–Technical Institute – Minnesota
Red Wing Area Vocational–Technical Institute – Minnesota
Anoka Area Vocational–Technical Institute – Minnesota
Pipestone Area Vocational–Technical Institute – Minnesota
916 Vocational–Technical Instututé – Minnesota

MENSWEAR MERCHANDISING AND MANAGEMENT

Pipestone Area Vocational–Technical Institute – Minnesota

INTERIOR DESIGN

Art Institute of Chicago – Chicago, Illinois
New York School of Interior Design – New York, New York
Fashion Institute of Technology – New York, New York
916 Vocational–Technical Institute – Minnesota
Alexandria Vocational–Technical Institute – Minnesota
Dakota County Vocational–Technical Institute – Minnesota

TEXTILES

University of Minnesota
University of Wisconsin
Stout State University – Menomonie, Wisconsin
Fashion Institute of Technology – New York, New York
Clemson University – Clemson, South Carolina
North Carolina State University
Philadelphia College of Textiles and Science

VISUAL MERCHANDISING DISPLAY

Dakota County Area Vocational–Technical Institute – Minnesota

SOME OF THE COURSES OFFERED IN A POST HIGH FASHION MERCHANDISING PROGRAM

- salesmanship
- marketing
- merchandising planning and control
- sales promotion
- art
- textile science
- buying
- management
- display
- business law
- accounting
- English
- math
- advertising
- store layout
- psychology and human behavior
- communications

OTHER CAREER AREAS TO EXPLORE

- Textile design
- Textile production and technology
- Pattern darfting and design
- Apparel design
- Apparel mass-production
- Textile and apparel maintenance (drycleaning and laundering)
- Distribution and marketing (general)
- Merchandising (general)
- Retailing (general)
- Sales (general)
- Wholesaling (general)
- Auxilliary or supporting services (modeling, photography, public realtions, etc.)

Projection

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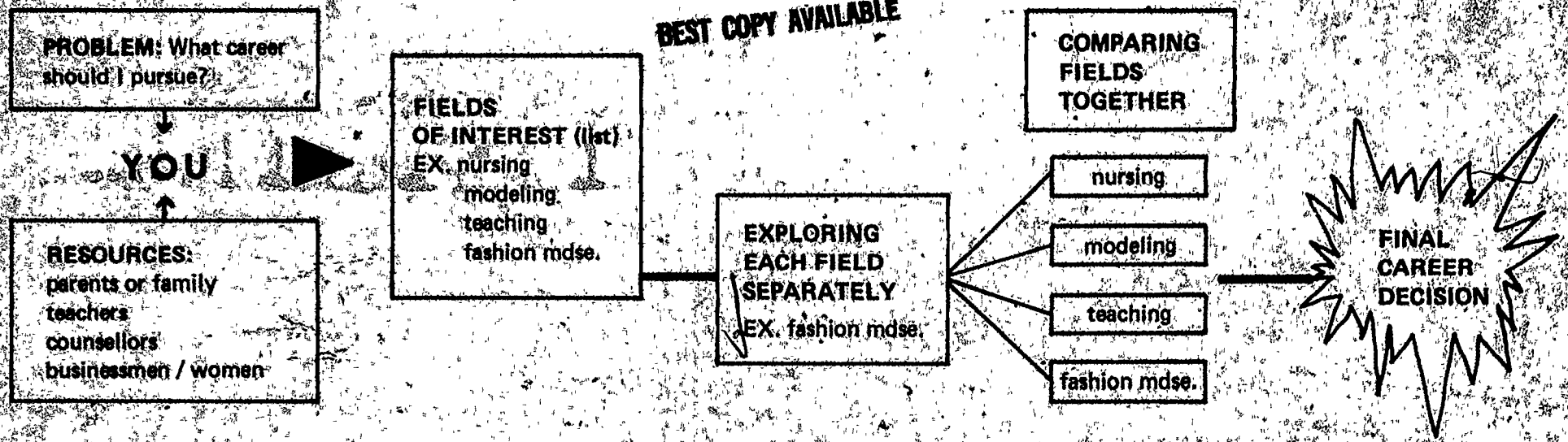

DECISION - MAKING PROCESS

EXPLORING ONE FIELD AT A TIME

Field – FASHION MERCHANDISING

(Complete the information below for each field of interest.)

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DESIRED OUTCOMES NECESSARY FOR ENTRY INTO THIS FIELD	ALREADY HAVE	NEED	CAN BE LEARNED OR DEVELOPED
KNOWLEDGE			
–merchandise values			
–merchandise quality			
–merchandise workmanship			
–merchandise markets			
–communications			
–psychology/sociology			
–economics			
–textiles			
–sales			
ABILITIES			
–make decisions			
–solve problems			
–organize work			
–get along w/ people			
–predict fashion trends			
SKILLS			
–math			
–buying and mgmt.			
–merchandising techniques			
ATTITUDES			
–keen interest in people and merchandise			
–outgoing, pleasant personal ty			
APPEARANCE AND HEALTH			
–neat, stylish appearance			
–physical stamina			

COST TO DEVELOP OR LEARN OUTCOMES

time
money
energy
other sacrifices

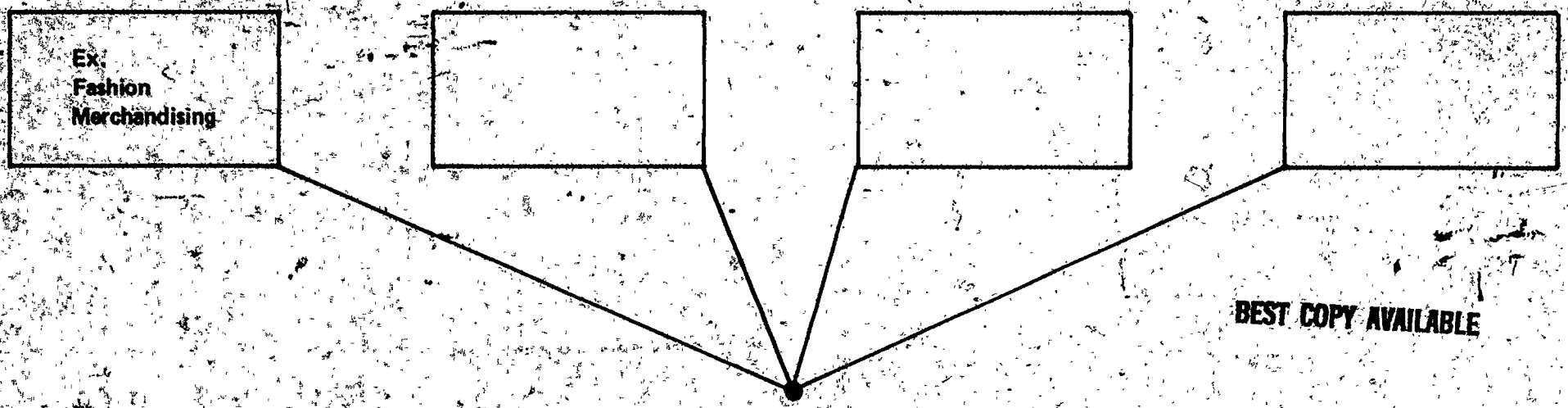
PLACES TO LEARN OR DEVELOP DESIRED OUTCOMES

educational offerings

industry offerings

COMPARING FIELDS TOGETHER

(List the field of interest being considered in each box.)



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Answer the following questions:

1. Which field allows me to be comfortable with myself; allows me to be the "Me" I am or want to be?

2. Which field would give me the greatest fulfillment?

3. Do I have the potential to meet the standards of each field?

4. Do the sacrifices of any field above seem to constantly outweigh the benefits; if so, am I willing to make these sacrifices?

5. How much would it cost to actually be at work for a week in each field?

WHAT NEXT????

Learn more about fashion merchandising by investigating the following sources:

* contact your local high school Distributive Education Clubs of America (DECA) advisor

* talk with your guidance counsellor or placement office. Ask to review career brochures and take aptitude or interest tests

* attend your school's annual Career Day

* check your school or local library for sources on career literature

* make an appointment to visit with a person in the fashion business in your community

* with the help of a teacher from the business or marketing areas, compile an up-to-date resume of your qualifications and work experience. Keep this in your files and revise every few months.

* visit several institutions which offer fashion merchandising programs. Sit in on several classes and examine the texts used and methods of teaching incorporated.

ACCESSION NUMBER: VT101442

PUBLICATION DATE: 74

TITLE: OCCUPATIONAL INFORMATION SERVICE CONTRACT. FINAL REPORT.

DESCRIPTOR: *OCCUPATIONAL INFORMATION; *INFORMATION SERVICES; *VOCATIONAL EDUCATION

EDRS PRICE: MF AVAILABLE IN VT-ERIC SET.

DESCRIPTIVE NOTE: 49P.

ABSTRACT: THE DOCUMENT VERIFIES THE FULFILLMENT OF A CONTRACT TO PROVIDE OCCUPATIONAL INFORMATION SERVICE MATERIALS. INCLUDED ARE STATEMENTS OF SCRIPT REVIEWS; CATEGORIES OF OCCUPATIONS; SAMPLE SCRIPTS OF 15 OCCUPATIONAL CLUSTERS, ONE ADAPTED FOR USE ON THE COMPUTER. LISTS OF SCHOOLS FOR WHICH SERVICES WERE PROVIDED AS WELL AS AN OUTLINE OF A DEMONSTRATION FOR COMPUTERIZING IOWA SCRIPT MATERIALS AND A SOURCE FOR ADDITIONAL INFORMATION. (MU)

INSTITUTION NAME: DES MOINES AREA COMMUNITY COLL., ANKENY, IOWA.; IOWA STATE DEPT. OF PUBLIC INSTRUCTION, DES MOINES.

VT 101 442

VT 101442

OCCUPATIONAL INFORMATION SERVICE CONTRACT

FINAL REPORT

Project Director: Eldon Bergstrom

Institution: Des Moines Area Community College
Ankeny, Iowa, in cooperation with
Iowa Department of Public Instruction

Time Period: March 1, 1974 - June 30, 1974

Length: Four (4) months

101 442

INTRODUCTION

The following pages verify fulfillment of the Occupational Information Service contract. Included are a statement verifying review of scripts, the categorized occupations cross-referenced, sample scripts with CENIS information added, a sample cluster script, a sample of the script adapted for use on the computer, and an outline of a demonstration for computerizing IOWAscript materials. Included in Appendix E is the list of schools for which services were provided as prescribed in component (6) of the contract. Additional scripts and information can be obtained by writing to CISI (Career Information System of Iowa), Department of Public Instruction, Grimes State Office Building, Des Moines, Iowa, 50319.

June 28, 1974

Mr. Eldon Bergstrom
Des Moines Area Community College
2006 Ankeny Boulevard
Ankeny, Iowa 50021

Dear Eldon:

The materials which you submitted to this office in fulfillment of your agreement for development of occupational information service materials by June 30, 1974, have been reviewed. This letter is to verify their acceptability in meeting contract specifications, which was conveyed to you verbally.

The materials include the following:

- Contract Specification No. 2--Categorizing of occupations with cross references
- Contract Specification No. 3--Scripts for the additional occupations listed in Appendix B which were not in the IOWAscript file
- Contract Specification No. 4--Addition of information relative to employment and net demand
- Contract Specification No. 5--Fifteen scripts for each of fifteen clusters

We appreciate the opportunity we have had in working with you in the IOWAscript project over the past three years. The development of the Career Information System of Iowa, to which your work on IOWAscript materials made a very valuable contribution, will provide to students over the entire state current, locally appropriate career information similar to that which you initiated through the IOWAscript project.

Sincerely,

CAREER EDUCATION DIVISION

W. O. Schuermann
Director

WOS/DIB drh

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Memorandum

des moines area community college

2006 ANKENY BLVD., ANKENY, IOWA 50021

PHONE 964-0651

DATE May 20, 1974

TO Erik Eriksen, Guidance Consultant Location State Department of Public Instruction

FROM Eldon Bergstrom, Director Location IOWAscript Project

RE: Agreement for Development of Occupational Information Service

As of this date the following materials have been submitted to the Department of Public Instruction in fulfillment of the agreement with Des Moines Area Community College:

A. The categorized file of 256 occupations as specified in item 2 of the contract agreement.

B. The addition of CENIS study materials to the original 205 occupations as outlined in item 4 of the agreement.

C. The 15 cluster scripts as outlined in item 5 of the agreement.

D. Scripts for 20 of the 51 occupations specified in item 3 of the agreement.

Please acknowledge the acceptance of these materials so it will be possible to complete the agreement within the specifiec time.

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EB/Cc

IOWAscript JOB OCCUPATIONS

	D.O.T. CODE	R. DATE	G CODE
AIR CONDITIONING & REFRIGERATION MECHANIC	637.281	121	001
AIRLINE PILOT - CO-PILOT	196.283	091	001
AIRLINE STEWARDESS	352.878	091	001
AMBULANCE ATTENDANT	355.878	121	001
AUTOMOBILE BODY REPAIRMAN	807.381	121	001
AUTOMOBILE MECHANIC	620.281	121	001
AUTOMOBILE SALESMAN	280.358	091	001
AUTOMOBILE UPHOLSTERER	780.381	121	001
AUTOMOBILE WASHER	919.887	121	001
BAKER	526.781	121	001
BARBER	330.371	091	001
BARTENDER	312.878	121	001
BEAUTY OPERATOR	332.271	091	001
BOOKKEEPER	210.388	121	001
CAMP COUNSELOR	159.228	121	001
CAR HOP	311.878	121	001
CARPENTER	860.381	121	001
CASHIER CHECKER	299.468	121	001
CHILD DAY CARE WORKER	307.878	121	001
CLAIM ADJUSTER	241.168	121	001
CLEANER & PRESSER	369.782	121	001
CLERK-TYPIST	209.388	121	001
COMMERCIAL ARTIST	141.081	121	001
COMPUTER OPERATOR	213.382	121	001

	D.O.T. CODE	R. DATE	G CODE
COMPUTER PROGRAMMER	020.188	121	001
CONSTRUCTION WORKER	869.887	121	001
COOK & CHEF	313.131	121	001
DENTAL ASSISTANT	079.378	121	001
DENTAL LABORATORY TECHNICIAN	712.381	121	001
DIESEL MECHANIC	625.281	121	001
DOMESTIC HELPER	306.878	091	001
DRAFTSMAN (Mechanical)	007.281	121	001
FARM EQUIPMENT MECHANIC	624.281	091	001
FARM HAND	421.883	121	001
FIREMAN	373.884	121	001
FOUNDRY WORKER	519.887	121	001
GROUNDSMAN	407.884	091	001
GUARD (Watchman)	372.868	121	001
HEAVY EQUIPMENT OPERATOR	859.883	091	001
INHALATION THERAPIST	079.368	121	001
INSURANCE SALESMAN	250.258	121	001
JANITOR	382.884	121	001
KEY PUNCH OPERATOR	213.582	121	001
KITCHEN HELPER	318.887	091	001
LINEMAN	821.381	121	001
MACHINIST	600.280	121	001
MAIL CARRIER	233.388	121	001
MAINTENANCE MAN	899.381	121	001
MAINTENANCE MECHANIC (Industrial)	638.281	121	001
MEDICAL ASSISTANT	079.378	121	001

	D.O.T. CODE	R. DATE	G CODE
MEDICAL LABORATORY ASSISTANT	078.381	121	001
MODEL	297.868	091	001
MOTORCYCLE MECHANIC	620:281	091	001
NURSE (Licensed Practical)	079.378	121	001
NURSE REGISTERED	075.378	121	001
NURSE'S AIDE	355.878	121	001
NURSING HOME MANAGER	187.118	121	001
OFFICE MACHINE SERVICEMAN	633.281	121	001
ORDERLY	355.878	121	001
PAINTER	840.781	121	001
PARKING LOT ATTENDANT	915.878	121	001
PHYSICAL THERAPY ATTENDANT	355.878	121	001
PLUMBER & PIPEFITTER	862.381	121	001
POLICEMAN	375.268	091	001
POST OFFICE CLERK	232.368	121	001
PRINTER	973.381	121	001
PRODUCTION MACHINE OPERATOR	609.885	121	001
PSYCHIATRIC AIDE	355.878	121	001
PUBLIC TRANSIT DRIVER	913.463	121	001
REAL ESTATE SALESMAN	250.358	121	001
RECEIVING & SHIPPING CLERK	222.387	121	001
RECEPTIONIST	237.368	121	001
ROOFER	866.381	121	001
SALESPERSON	290.478	091	001
SEAMSTRESS	785.381	121	001
SECRETARY	201.368	121	001

	D.O.T. CODE	R. DATE	G CODE
SERVICE STATION ATTENDANT	915.867	091	001
SEWING MACHINE OPERATOR	787.782	121	001
SHEET METAL WORKER	804.281	121	001
SHOE REPAIRMAN	365.381	121	001
STATIONARY ENGINEER	950.782	121	001
STENOGRAPHER	202.388	091	001
STOCK CLERK	223.387	121	001
STRUCTURAL STEEL WORKER	801.781	121	001
SURGICAL TECHNICIAN	079.378	121	001
TELEPHONE OPERATOR	235.862	091	001
TELEPHONE SOLICITOR	293.358	121	001
TELEVISION & RADIO REPAIRMAN	720.281	121	001
TICKET TAKER	344.868	121	001
TIREBUILDER	750.884	121	001
TOOL & DIE MAKER	601.280	091	001
TRUCK DRIVER	905.883	091	001
TYPIST	203.588	121	001
UPHOLSTERER	780.884	121	001
USHER	344.[illegible]	121	001
WAITRESS & WAITER	311.878	091	001
WAREHOUSEMAN	922.887	121	001
WATCH & JEWELRY REPAIRMAN	715.281	091	001
WELDER	812.884	091	001
X-RAY TECHNICIAN	078.368	121	001

IowaScript

JOB TITLE SIDING APPLICATOR

D.O.T.# 863.884

CLUSTER# 4

MARCH, 1974

THE JOB

Are you thinking of becoming a siding applicator? A siding applicator uses steel, aluminum, and wood sheets to cover the outside of a building in a way that will protect it and make it more attractive.

Do You Know:

*What the job requirements are?
*What training is needed and where you can get it?
*What high school subjects can help you prepare for this job?

If you do not know the answers to these and other important questions, take time to read this IOWAscript.

TO GET THE JOB

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You Should Be Able To:

*Use all kinds of carpentry tools
*Work math problems
*Do accurate measuring and cutting

You Should Prefer To:

*See a job through from its beginning to its end
*Take pride in your work
*Travel

You Should Physically Be Able To:

*Keep better than average strength
*Stay on your feet all day
*Have full use of your hands, arms, and legs
*Be able to bend, stoop, lean, and stretch while working
*Be able to work from high places without being afraid

You Should Know That:

*You easily may be cut or bruised
*You will have to provide your own tools
*You will have to own and drive your own truck to haul tools and materials in
*Work is seasonal

des moines area community college
ANKENY BLVD., ANKENY, IOWA 50021
PHONE 964-0651

an exemplary project in career education developed in cooperation with the iowa department of public instruction

ERIC

EARNINGS

Number of Hours Per Week	Average Starting Salary	Salary Range
40	$175/week	$7,200-$25,000/yr.

ON THE JOB

A siding applicator must have all of the basic skills and knowledge of a carpenter. The tools are almost the same and the needs for accurate measurements and answers to math problems are equally important. In addition to ladders and scaffolding, a siding applicator needs a tool belt, drills, hammers, cutting shears, squares, measuring tapes, staple gun, caulking gun, and a 6' rule. It also is necessary to own a truck in which to carry these things and the siding materials.

In order to put siding on a house the applicator must first carefully measure it and find out if it is level. This will show the lowest point on the house and this is where siding begins. From the bottom up the house is lined, insulated, sided and trimmed around the windows and overhang. Siding must be carefully cut and shaped to fit under the eaves, in gables, and in dormers. These places are up very high, often two or three stories, and in cramped positions. When this is done, the sider seals the siding with a caulking gun and thoroughly cleans up the entire area.

A house usually takes eighteen squares of material. Each square is 100 square feet. Any mistakes in measuring or cutting will cost extra in order to buy a new square. Siders must travel in their work. Each job lasts about two to five days. They usually set their own pace and work under little supervision.

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THINGS TO THINK ABOUT

Advantages:
- *Satisfaction in seeing your work done well
- *All expenses (travel, tools, etc.) are tax deductible
- *You may be self-employed

Disadvantages:
- *Work often relies on the weather
- *The cost of buying your own tools may be about $200 - $400
- *You may have to travel out of town
- *You have to work in high places and cramped positions
- *Work is often noisy and dirty

Advancement:
- *Foreman
- *Supervisor
- *Own your own business

Benefits:
- *Health and accident insurance
- *Sick leave
- *Paid vacations and holidays
- *Workman's Compensation

Related Occupations:
- *Carpenter
- *Painter
- *Bricklayer
- *Plasterer
- *Stonemason
- *Cabinetmaker

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Responsible To:
- *Foreman
- *You must satisfy your customers

EMPLOYMENT OPPORTUNITIES

*Chances for jobs are usually greater in large cities

*The Career Education Needs Information System (CENIS) in Iowa shows a sharp rise in the demand for Siding Applicators.

Iowa
a place to grow

PREPARATION AND TRAINING

*High school graduation is preferred
*Learn on-the-job as a helper
*Training is usually done on-the-job but knowledge of carpentry is helpful

Helpful high school subjects:

*Advanced Math
*Algebra
*Geometry
*Shop
*Industrial Arts

Schools Offering Courses in Carpentry:

Des Moines Area Comm. Coll.
2006 Ankeny Blvd.
Ankeny, Ia. 50021

Western Ia. Tech
3075 Floyd Blvd.
Sioux City, Ia. 51105

S. Western Comm. Coll.
Box 458
Creston, Iowa 50801

Area I Voc-Tech School
142 Main Street
Calmar, Iowa 52132

N.W. Ia. Voc. School
Hwy. 18
Sheldon, Ia. 51201

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WHERE TO GET MORE INFORMATION

*ask your school counselor
*talk with a siding applicator

National Assoc. of Home Bldrs.
1625 "L" St., N.W.
Washington, D.C. 20036

Master Bldrs. of Iowa
221 Park Street
Des Moines, Iowa 50303

IowaScript

JOB TITLE MOBILE HOME INSTALLER

D.O.T.# 806.884

CLUSTER # 4

MARCH, 1974

THE JOB

Are you thinking of becoming a mobile home installer? A mobile home installer takes mobile homes to their locations, levels them, and hooks up the electricity, water, and gas. The installer checks to see that everything in the mobile home is working correctly.

Do You Know:

*What the job requirements are?
*What training is needed and where you can get it?
*What high school subjects can help you prepare for this job?

If you do not know the answers to these and other important questions, take time to read this IOWAscript.

TO GET THE JOB

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You Should Be Able To:

*Connect gas, electricity, and water lines
*Install tie-downs and stairs
*Check for gas or water leaks and shorts in electricity
*Drive a truck

You Should Prefer To:

*Move around a lot in your work
*Work by yourself
*Work without supervision

You Should Be Physically Able To:

*Have full use of your arms, hands and legs
*Stoop, bend, stretch, and lean without difficulty
*Work in all kinds of weather
*Have above average strength

You Should Know That:

*You may need a chauffeur's license
*You may work irregular hours
*You must be a "Jack-of-all-trades"

des moines area community college
ANKENY BLVD., ANKENY, IOWA 50021
PHONE 964-0651

an exemplary project in career education developed in cooperation with the iowa department of public instruction

ERIC

EARNINGS

Number of Hours Per Week	Average Starting Salary	Salary Range
40	$3.50/hr.	$8,000-$12,000/year

ON THE JOB

Mobile home installers flag their trucks and put signs on them saying "WIDE LOAD." They also check the safety lights and safety chain that links the trailer to the cab and will hold the trailer if it should come unhitched. If the installer's load is over 12 x 65, an escort and a permit must be obtained in order to move it through the state. Some of these are annual (yearly) permits and others are supplemental permits.

When an installer gets to the location, the home is checked out and is carefully leveled and blocked on the site. The installer then hooks up the gas, water, and electricity and checks them out for leaks or shorts. It is also necessary to check the pilot light and the plumbing. In addition, the installer must check all of the doors, drawers, and windows for binding. It may also be necessary to apply heat tapes to water pipes.

Installers must always be on the look-out for defects, dents, and scratches. They must also know how to hook up and check out heating and air-conditioning units. Mobile home installers must be more than just truck drivers delivering mobile homes. They must know how to work with their hands, be mechanically inclined and be the "Jack-of-all-trades." They also must always keep up with the latest safety and moving laws.

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THINGS TO THINK ABOUT

Advantages:
*Variety
*Tools and truck are provided
*Truck to drive home

Disadvantages:
*Bad weather makes driving dangerous
*Bad weather makes installation difficult and uncomfortable

Advancement:
*Services Foreman
*Sales Manager
*Have own business

Benefits:
*Health and Accident Insurance
*Life Insurance
*Disability Insurance
*Paid vacation
*Income Insurance

Related Occupations:
*Mobile-Home Repairman
*Appliance Installer
*Cabinet & Trim Installer

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Responsible To:
*Services Foreman
*Your customers

EMPLOYMENT OPPORTUNITIES

May work for company who sells mobile homes
May work for yourself in your own business

The Career Education Needs Information System (CENIS) in Iowa indicates a sharp rise in the demand for Mobile Home Installers.

Iowa
a place to grow

PREPARATION AND TRAINING

*High School graduation preferred
*Training in building trades is helpful
*Most training is done on-the-job

Helpful High School Subjects:

*Shop	*Electricity	*Wood shop
*Industrial arts	*Driver's Ed	*Metal shop
*Auto mechanics		

Where to Get This Training:

Building Trades courses are offered in nearly all of the Iowa Area Community Colleges
Actual installation of a mobile home is learned on the job

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WHERE TO GET MORE INFORMATION

*ask your school counselor
*talk with a mobile home installer

IowaScript

JOB TITLE HATCHERY MAN
D.O.T.# 436.884
CLUSTER # 1

MARCH, 1974

THE JOB

Are you thinking of becoming a hatchery man? Hatchery men work under the supervision of the fish farmer. They stock ponds, feed the fish, and clean the tanks.

Do You Know:
*What the job requirements are?
*What training is needed and where you can get it?
*What high school subjects can help you prepare for this job?

If you do not know the answers to these and other important questions, take time to read this IOWAscript.

TO GET THE JOB

You Should Be Able To:
*Follow instructions
*Work well with people
*Learn a lot about fish

You Should Prefer To:
*Work outdoors most of the time
*Work around ponds and fish

You Should Physically Be Able To:
*Use your hands, arms, and legs easily
*See and hear well
*Lift large nets filled with fish
*Have average or better strength
*Work in water that may be as cold as 60°

You Should Know That:
*Your working conditions will change with the weather
*You will be helping to preserve our natural environment
*You will have to pass a test to get this job
*Hatchery Men work for the State Government

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des moines area community college
06 ANKENY BLVD., ANKENY, IOWA 50021
PHONE 964-0651

an exemplary project in career education developed in cooperation with the iowa department of public instruction

EARNINGS

Number of Hours Per Week	Average Starting Salary	Salary Range
40 with overtime seasonally	$6012/yr.	$6012 -- $8268/yr.

ON THE JOB

A hatchery man works in a fish hatchery under the supervision of a fish farmer or fisheries biologist. Fish hatcheries raise fish for food, pond stocking, and research. The main duties of the hatchery man include feeding the fish by scattering food over the pond or tank water, using steam valves to keep the water temperature of indoor tanks at a certain level, sorting fish by their size, color and type, and using a large net to dip fish out of one tank and into another. The hatchery man also must clean all of the indoor tanks by draining the water and scrubbing the sides with a wire brush. Any dirt, mud, slime, or other debris in the bottom of the tanks must be shoveled out when the tanks are drained.

A hatchery man must like to take care of fish and must be able to follow directions very carefully and correctly. Hatchery men must also be alert and notice any changes in the fish or tanks and report them immediately to the supervisor.

Fish hatcheries help to keep a good balance in our natural waters. They keep ponds and lakes stocked for recreation fishing and provide fish for business and food. Research hatcherys help show us what chemicals from pollution of our natural waters can be harmful to fish and to people who eat these fish. Research may also tell us what types of feed make the strongest, healthiest, best-tasting fish.

Hatchery men may work around unpleasant odors. They work in wet places and much of the time must work alone. Their work is done outdoors in weather that makes the water temperature about 60° as well as indoors around steam-heated fish tanks.

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THINGS TO THINK ABOUT

Advantages:

*After training, hatchery men may work without close supervision
*This is a job that makes the worker feel that the work is worthwhile
*You would be doing a service to the natural environment

Disadvantages:

*You may have to work around bad odors.
*Some of the duties may get routine

Advancement:

*Supervisor
*Fish Farmer

Benefits:

*Paid vacation and Holidays
*Sick Leave
*Accident insurance
*Workmen's Compensation

Related Occupations:

*Fish Farmer
*Fish Researcher
*Fish Researcher Aid
*Fisherman
*Fisheries Biologist

Responsible To:

*Supervisor
*Fish Farmer

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EMPLOYMENT OPPORTUNITIES

There are few opportunities for jobs as Hatchery Men
Hatchery Men may be employed by privately owned fish farms
Hatchery Men may be employed by private or government owned fish hatcheries

The Career Education Needs Information System (CENIS) in Iowa shows no information for the employment outlook for Fish Hatchery Men.

Iowa
a place to grow

PREPARATION AND TRAINING

*A high school diploma or G.E.D. is preferred
*Advancement in research positions is impossible without further education
*Training is usually done on the job

Helpful High School Subjects:
*Biology
*Chemistry
[illegible]
[illegible] Math

Where to get this training:
Training for this job is [illegible]

WHERE TO GET MORE INFORMATION

*ask your school counselor
*talk with a hatchery man

The Wildlife Society
Suite S176, 3900 Wisc. Ave., N.W.
Washington, D.C. 20016

Dept. of the Interior
Fish & Wildlife Service
Game Management
210 Walnut
Des Moines, Iowa 50309

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ARTS & HUMANITIES CAREER CLUSTER

IOWAscript Code No. 6

There are may different kinds of jobs in this cluster. They all involve ideas and feelings. Some jobs express these with words, both spoken and written down. Other jobs express these ideas and feelings in materials--cloth, paper, paint, ink, concrete, and so on. Finally, some jobs involve expressing ideas and feelings through performances in dance, drama or music.

COMMON JOB CHARACTERISTICS

1. Most jobs require a person to express original ideas.
2. Most successful workers require a great deal of drive and self-discipline.
3. Most jobs are very competitive.

EDUCATION NEEDED

1. Education for this cluster can be had in a great variety of ways, formal school, technical training, specialized schools and practice on the job.

JOB FAMILIES

Visual Arts Job Family

This job family includes occupations in art, design and architecture. Some jobs may involve a person working only with his own ideas and feelings; other jobs involve a person working out someone else's idea on paper or in some material.

Job Titles in This Family Include:

1. Toy Designer
2. Photographer
3. Cartoonist
4. Clothes Designer

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To Succeed in this Field, You Must:

1. Be able to think up and use your own ideas.
2. Like to work with shapes, colors, lines and textures.
3. Be able to put your ideas on paper or into materials.
4. Like to draw or work with materials.

Religion & Theology Job Family

To work in this job family, you must have religious faith and a desire to help others. People with jobs in religion usually work in a church of some kind. People who work in theology are involved with the ideas which support a religion. These people are generally teachers or writers.

Job Titles in This Family Include:

1. Clergyman
2. Missionary
3. Director of Religious Education

You Should Have the Following Traits:

1. The desire to help people.
2. An understanding of people's needs.
3. A deep religious faith.
4. The ability to write and speak well.

Performing Arts Job Family

The performing arts include the dance, drama, and music. More people would like to work in these fields than there are jobs available. It is hard, therefore, to find a full-time job in the performing arts. Training for these jobs must begin early and long hours of practicing is necessary.

Job Titles in This Family Include:

1. Musician
2. Dancing Instructor
3. Dancer
4. Actor or Actress
5. Model

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What You Must Be Like to Work in This Job Family:

1. You must like to work long and hard,
2. You must really want to do this kind of job.
3. You must be willing to study and practice for long hours.

4. You must like to do things when people are watching.

Language, Writing & History Job Family

Jobs in this family deal with words. Some involve the study of language and how people use words to express ideas. Some involve helping people who speak different languages talk together. Others deal with expressing ideas in writing. In jobs dealing with history, ideas about the past may be written, spoken or expressed through materials in museums.

Job Titles in This Family Include:

1. Interpreter
2. Poet
3. Historian
4. Museum Technician

To Succeed in This Job Family, You Must:

1. Speak and write well.
2. Be able to express ideas clearly.
3. Know about many different things.
4. Be able to think of and use your own ideas.
5. Like to read and write.

EMPLOYMENT OUTLOOK

Employment in this cluster is generally very competitive. Beginning workers must often start at low beginning wages and prove their ability. Opportunities to earn wages exist but only a few reach the "star" category.

The Career Education Needs Information System (CENIS) for Iowa has no occupations in the Arts and Sciences cluster that are included in IOWAscript.

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JOB TITLE TOOL AND DIE MAKER

DATE OCTOBER 22, 1973
D.O.T.= 601.280
CLUSTER = 09
PAGE 1

T H E J O B

ARE YOU THINKING OF BECOMING A TOOL AND DIE MAKER . A TOOL AND DIE MAKER USES A MACHINE TO MAKE THE MOLDS, FIXTURES, AND DIES THAT OTHER MACHINISTS USE TO MANUFACTURE METAL ARTICLES.

DO YOU KNOW
- *WHAT THE JOB REQUIREMENTS ARE
- *WHAT TRAINING IS NEEDED AND WHERE YOU CAN GET IT
- *WHAT HIGH SCHOOL SUBJECTS CAN HELP YOU PREPARE FOR THIS JOB
- *WHAT THE JOB OPPORTUNITIES ARE FOR A TOOL AND DIEMAKER

IF YOU DO NOT KNOW THE ANSWERS TO THESE AND OTHER IMPORTANT QUESTIONS, TAKE TIME TO READ THIS IOWASCRIPT.

T O G E T T H E J O B

YOU SHOULD BE ABLE TO
- *FOLLOW INSTRUCTIONS.
- *WORK SAFELY AROUND MACHINERY.
- *UNDERSTAND TECHNICAL WRITING.
- *WORK TO EXACT MEASUREMENTS.

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YOU SHOULD PREFER TO
- *CONCENTRATE FOR LONG PERIODS OF TIME.
- *PAY CLOSE ATTENTION TO DETAIL.
- *DO VERY EXACT WORK.

YOU SHOULD BE PHYSICALLY ABLE TO
- *WORK WELL WITH YOUR FINGERS.
- *DETECT THE DIFFERENCES AMONG SIMILAR COLORS.
- *WORK STANDING MOST OF THE TIME.
- *KEEP A STEADY HAND.
- *LIFT THINGS THAT WEIGH 25-50 POUNDS.
- *SEE AND HEAR WELL.

YOU SHOULD KNOW THAT
- *THOROUGH TRAINING FOR THIS TRADE MAY LEAD TO BETTER PAYING JOBS IN THE FUTURE.
- *TOOL AND DIE MAKERS ARE AMONG THE HIGHEST PAID MACHINE WORKERS.

JOB TITLE TOOL AND DIE MAKER

DATE OCTOBER 22, 1973
D.O.T.= 601.280
CLUSTER = 09
PAGE 2

E A R N I N G S

NUMBER OF HOURS PER WEEK	AVERAGE STARTING SALARY	SALARY RANGE
40 HRS.*	$7,500 YR.	$6,800-$18,000 YR.**

*OVERTIME IS AVAILABLE AND PAYS ONE AND ONE-HALF TIME.
**DEPENDING ON THE AMOUNT OF EXPERIENCE AND HOW GOOD YOU ARE.

O N T H E J O B

A TOOL AND DIE MAKER IS A MACHINIST WHO IS SKILLED IN MAKING DIES AND TOOLS AND ALSO REPAIRS GAUGES, JIGS, AND FIXTURES. DIES ARE METAL FORMS THAT ARE USED TO SHAPE OR GIVE FORM TO METAL AND PLASTIC THINGS. EXPERIENCED TOOL AND DIE MAKERS SPEND MUCH TIME DOING PRECISION HANDWORK. AFTER THE PARTS HAVE BEEN MADE OR SHAPED BY FOR ASSEMBLY. THIS WORK INCLUDES SANDING, FILING, SCRAPING AND POLISHING PARTS FOR EXACT FIT. BESIDES THE JIGS AND FIXTURES, THEY MAKE GAUGES AND OTHER MEASURING TOOLS. THE GAUGES AND OTHER DEVICES ARE USED IN MAKING PRECISION METAL PARTS.

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JOB TITLE TOOL AND DIE MAKER

DATE OCTOBER 22, 1973
D.O.T.= 601.280
CLUSTER = 09
PAGE 3

TOOL AND DIE MAKERS KNOW MORE ABOUT MACHING OPERATIONS, SHOP WORK, MATHEMATICS, AND BLUE-PRINT READING THAN THE AVERAGE MACHINIST. THIS ALLOWS THEM TO DO MORE EXACT WORK IN MACHINING OPERATIONS AND HANDWORK. TOOL A DIE MAKERS HAVE A WORKING KNOWLEDGE OF ALMOST EVERY KIND OF MACHINE TOOL PRECISION-MEASURING INSTRUMENT. THEY MUST KNOW MACHINING PROPERTIES OF ALL METALS AND ALLOYS USED IN THEIR TRADE.

THESE WORKERS MAKE THINGS SUCH AS THE TOOLS THAT ARE USED TO MOLD COPPER TELEPHONE WIRES. THEY ALSO MAKE MACHINES USED FOR PRODUCING THE METAL PARTS OF AUTOMOBILES, FARM MACHINERY, TYPEWRITERS, AND MOTORS.

T H I N G S T O T H I N K A B O U T

ADVANTAGES

*THERE IS WORK ALL OVER THE COUNTRY.
*CHANCES FOR ADVANCEMENT ARE GOOD.
*TOOL AND DIE MAKERS ARE NOT USUALLY LAID OFF WHEN PRODUCTION GOES DOWN.
*A DIE MAKER MAY OPEN ONE'S OWN MACHINE SHOP.
*THESE SKILLS CAN BE USED IN OTHER KINDS OF JOBS.

DISADVANTAGES

*IT TAKES FOUR TO FIVE YEARS OF TRAINING TO BECOME A TOOL AND DIE MAKER.
*MOST OF THE WORK MUST BE DONE WHILE IN A STANDING POSITION.

ADVANCEMENT

*ADVANCEMENTS IN THIS JOB ARE TO FOREMAN, TOOL DESIGNER, LAY-OUT MAN, AND INSTRUMENT TECHNICIAN.
*WITH COMPUTER TRAINING, THE TOOL AND DIE MAKER MAY ADVANCE INTO THE COMPUTER CONTROLLED MACHINING OPERATIONS WITH EXCELLENT OPPORTUNITIES FOR PROMOTIONS AND SALARY INCREASES.

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DEMONSTRATION FOR COMPUTERIZING THE IOWASCRIPT

GENERAL DESCRIPTION

Five scripts have been placed on a computer data file by two different methods:

1. Inputting directly on a computer terminal called TEXT.
2. Keypunching the data and inputting to the same data file.

Each script has its own address for storage in the file. Scripts can be easily accessed to view on the terminal screen, to print out a hard copy, to update, or to make a new microfiche.

PROJECT OBJECTIVES

1. Demonstrate that Iowascript can be computerized and retrieved through:
   a. Terminal viewing screen.
   b. Printed on the computer on hard copy.
   c. Microfiche which in turn can be viewed or a hard copy printed.
2. Demonstrate that current staff members can learn to input data with limited instruction.
3. Demonstrate that all scripts can provide up to date career information.

CHANGES AND UPDATING

1. Type of Changes:

   Important changes could occur in job requirements; salary information; employment information; preparation and training data; and references for additional information.

2. Updating:

   Each script is filed by an 8 digit number made up of the Clustr and D.O.T. numbers appearing on each script. The file can be called in, changed, and returned to the file.

   The initial instructions can be learned in less than two hours. Proficiency can be attained through 20 hours of actual input/update experience. Commands (Title--; D-O-T; Page--; and Clustr) have been tailored to simplify the task.

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LET'S TALK TO THE COMPUTER — 3 Minutes — Self-Instruction

RULES:
1. Must be in HDX mode.
2. Can't back up or correct - must hit EOM and start over if there is an error.
3. Can't use the little keyboard to the right.

TRY TO SIGNON	COMPUTER RESPONSE	NOTES
1. Push HDX		
2. Type in $ROUTE.TEXT then push EOM-KEY	ROUTED TO TEXT	
3. Type in SIGNON/08/DPI370 then push the EOM-KEY	OPERATOR ALREADY SIGNED ON OR 08 SIGNED ON, A=(J370A002)	
4. Type in the letters CLEAR and then hit the EOM-KEY	WS CLEARED OR NOTHING IN WS	
5. Type in SIGNOFF then push the EOM-KEY	Operator signed OFF	
6. *Start at instruction 2, and sign on again*		

The purpose of this exercise is to learn the procedure for signing onto text and for clearing a workspace to enter data items.

If the Computer tells you INVALID COMMAND read the instruction and try the Command again.

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INSTRUCTIONS FOR ENTERING IOWA SCRIPT ONTO TEXT — 10-12 Minutes — Self-Instruction

FIND THE FOLLOWING KEYS	WHERE TO LOOK
LOC HDX PWR	Upper Right
EOM SEND STOP	Upper Left
Clear-key	Top Row - Right
Tab Tab-Set Tab-Clear	Top Row
New-Line Key	Middle Row - Right
Home Key	Little Keyboard to the Right
Right Left Up Down Arrows	Little Keyboard to the Right
Delete Character	Little Keyboard to the Right
Delete Line	Little Keyboard to the Right

EXPERIMENT ON YOUR OWN

1. Push the Power (PWR) button until it is lighted. (Push the LOC key if it is not lighted.)
2. Type a lot of nonsense text and then hit the New-Line key. What appears on the screen when you touch the New-Line key?
3. Continue to type and hit the New-Line key again.
4. Fill the screen or most of it and then hit the EOM key. Where does the Cursor go? (the little pointer light)
5. Try the keys on the little keyboard. What happens with each one? What does Delete Character do? Where does the cursor go when you push the Home-key? What happens when you push the Delete-Line key?
6. Try Tab-set, Tab-clear. Does it work just like a typewriter?
7. Push the Clear-key. What happens to the screen?
8. Try instructions 2-7 again to become familiar with the operations.

The purpose of this exercise is to become familiar with the keyboard and the various special keys and their functions.

In this exercise you are not talking to the computer. You can back up, move in any direction, correct, insert, then clear and start over if you wish.

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Let's Talk to the Computer About
Accepting IOWA SCRIPT From Keyboard Input

30 minutes instruction
30 minutes practice

RULES:

1. Use local mode for entering data.
   (So that it can be easily changed before it is sent to the computer)
2. Use four simple commands.
   TITLE-- D-O-T- CLUSTR PAGE--
3. Use up to 72 columns for each line.
   (A signal sound at 72)
4. Push the New-Line key after every line.
   (shows on the screen as a half-lighted "H")
5. Push the EOM key after you have keyed in several lines to send.
6. Push the letter N and New-Line key at the beginning of each set of lines.

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TRY TO KEY IN MATERIAL AND SEND IT	COMPUTER RESPONSE	NOTES
1. Sign on and clear WS (See the 3 minute lesson for instructions.)	Routed to TEXT Operator already signed on OR 08 SIGNED ON A= (J370A002)	
2. Push LOC	No response	
3. Push Clear key	Screen clears and cursor returns to Home position (upper left)	
4. Push the letter N. Push New-Line key.		
5. Enter several lines of print and push the New-Line key after each line.		
6. When several lines have been typed: a. Push the EOM key. b. Check the lines for errors. c. Check to see that a half-lighted H appears on each line. d. Correct any errors. e. Push HDX key. f. Push send key. (no shift required)	TEXT Accepted OR Line Too Long OR Invalid Command	
7. If TEXT has not been accepted, go to Instruction 2 and try again.		
8. If TEXT has been accepted, go to Instruction 2 and enter the next set of lines.		

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Put in Titles and Other Entries

1. Look at an IOWA SCRIPT and find:
   a. Job TITLE
   b. D-O-T #
   c. CLUSTR

2. Go to Instruction 2 above and enter as your first line of print:
   a. Type : TITLE - (Type in the title you found starting immediately after title)
   b. On the Next line:
      Type: D-O-T- (Then type in complete D.O.T.# immediately after)
   c. On the Next line:
      Type CLUSTR (Then type in Cluster Number immediately after) (If it is one digit, supply a leading Ø)
   d. The other lines will follow.
   e. At the end of each document page enter the command PAGE-- on a line by itself. Enter the same command at the end of the document.
   f. Ignore the symbols (:) and (?) (These symbols are not in the set of printer characters. Future needs may call for their inclusion later.)
   g. Ignore underlines.
   h. Insert a blank line after each paragraph.
   i. Sub-Heads - Entered Like a Line
      (1) Move sub-heads to the left
      (2) Allow 1 space between letters
      (3) Allow 2 spaces between words
      (4) Put in 2 blank lines after each sub head
      (5) Except for sub-heads at the top of a page, put in 2 blank lines above each sub-head.

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APPENDICES

Appendix A	Sample Outline of Cluster Script
Appendix B	List of 51 Occupations
Appendix C	Sample of IOWAscript Format
Appendix D	Fifteen Cluster Arrangement of Suggested Occupational Areas
Appendix E	IOWAscript Pilot Schools and Subscriber List

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APPENDIX A

Sample Outline of Cluster Script

Environment Cluster

(This cluster is coded as cluster number 2) The jobs in this cluster deal with protecting our natural resources and keeping the air and water of our environment clean to protect people's health. Most of these jobs have been developed during the past 10 years.

COMMON JOB CHARACTERISTICS

1. Most jobs are with governmental agencies.
2. Most jobs require some science training.
3. Most jobs are out-of-doors part or all of the time.

EDUCATION NEEDED

1. Most jobs require some training after high school.
2. Training for some jobs will be the same as for those in the Agri-Business and Natural Resources cluster.
3. Iowa colleges offering special training for jobs in this field are:

_____

_____

JOB FAMILIES

1. Pollution prevention and control
   Occupations in this family arise from efforts to control the input of undesirable materials into our environment

Specific jobs

Waste Water Treatment Plant Operator

_____

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2. (Three more families would be listed in the same manner.)

_____ _____

_____

EMPLOYMENT OUTLOOK

Employment in this cluster will depend a great deal on State and Federal legislation. Employment with private companies should increase as environmental control becomes more strict, but most employment will still be with governmental agencies.

The Iowa Career Education Needs Information Survey showed a _____ need in _____ occupations surveyed.

160.288	Accounting Technician
168.287	Agricultural Commodities Inspector
730.281	Band and Orchestra Instrument Repairman
639.884	Bicycle Repairman
977.781	Bookbinder
219.388	Clerk, General Office
309.878	Clothing Maintenance Specialist
160.288	Cost Estimator
529.132	Custom Feed Mill Operator
079.588	Dietary Technician
298.081	Display Man
001.281	Draftsman, Architectural
005.281	Draftsman, Structural
168.287	Environmental Control Technician
356.381	Farrier
185.158	Fashion Coordinator
096.128	Feed and Farm Mgmt. Adviser
520.885	Feed Mixer
044.384	Feed Research Aid
436.181	Fish Farmer
864.787	Floor Layer
763.884	Furniture and Hardware Assembler
436.884	Hatchery Man
354.878	Home Health Aide
321.138	Housekeeper, Institutional
141.081	Illustrator
012.288	Industrial Engineering Technician
789.884	Leather Worker
323.887	Maid
010.104	Manager, Farm
163.118	Manager, Sales
289.158	Manufacturers Representative
806.884	Mobile Home Installer
078.381	Nuclear Medical Technician
712.281	Orthopedic Appliance Technician
070.108	Physician's Assistant
730.381	Piano Tuner
809.381	Press Operator (punch press, etc.)
019.281	Quality Control Technician
334. 878	Reducing Salon Attendant
185.168	Retail Store Manager
289.358	Salesman, Industrial Products
185.168	Service Station Manager
863.884	Siding Applicator
195.298	Social Services Aid

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529.138	Supt., Grain Elevator
785.261	Tailor
861.781	Tile Setter
639.381	Vending Machine Repairman
356.874	Veterinary Assistant
662.781	Woodworking Machine Operator

APPENDIX C

IOWA Script
a career
information service

JOB TITLE: CARPENTER

D.O.T.# 860.381

July, 1972

THE JOB:
Are you thinking of becoming a carpenter? A carpenter uses wood to build everything from houses and docks to cabinets and window frames.

Do You Know:
*What the job requirements are?
*What training is needed and where you can get it?
*What high school subjects can help you prepare for this job?
*What the job opportunities are for a carpenter?

If you do not know the answers to these and other important questions, take time to read this IOWAscript.

TO GET THE JOB

You Should Be Able To:
*Read and understand blueprints and diagrams.
*Work math problems quickly and accurately.
*Skillfully use many kinds of hand and power tools.

You Should Prefer To:
*Build things from drawn or written plans.
*Follow directions and instructions from others.

You Should Be Physically Able To:
*Climb, stoop, grasp, and crouch while working.
*Maintain better than average strength.
*Work high above the ground without fear.
*Use your eyes, hands, and arms together.

You Should Know That:
*Carpenters often suffer minor injuries such as cuts and bruises.
*Maintenance carpenters are usually employed on a year-round basis.
*You may be asked to join a union.
*Usually carpenters provide their own hand tools.

des moines area community college
2006 ANKENY BLVD, ANKENY, IOWA 50021
515 - 964-6611

an exemplary project in career education developed in cooperation with the iowa department of public instruction

EARNINGS

Number of Hours Per Week	Average Starting Salary	Salary Range
40 hrs.	$5.06 hr.	$4.50-$6.85 hr.

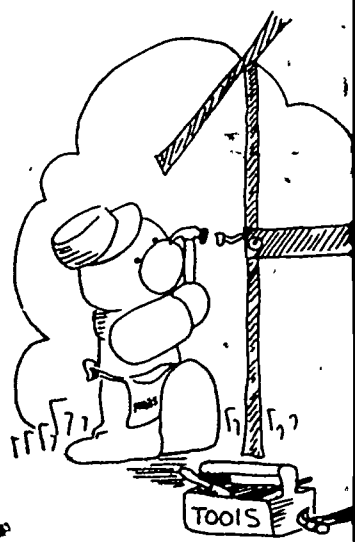
ON THE JOB

Carpenters are the largest group of workers in the building trades. They construct the wooden framework of buildings. When the building is ready for trimming, carpenters install molding, wood paneling, and cabinets. They also put in window sashes, door frames, doors, and hardware, and they build stairs and lay floors. When doing the finishing work, carpenters are concerned with the appearance as well as the accuracy of the work.

Carpenters also install heavy timbers used in constructing docks, railroad trestles and similar installations. Some of them build forms needed for concrete decks, columns, piers, and walls. These are used in the erection of bridges, buildings and other structures.

Carpenters use nails, bolts, screws, or glue to fasten materials. Their tools are hammers, saws, chisels, and planes. They also use power tools such as portable power saws, drills, and rivet guns.

To begin a job, a carpenter must be able to read and work from building plans. The carpenter must be able to size up a job, decide what to do, how to do it, and what materials and tools to use. A carpenter must measure and cut the lumber to proper size, and fasten the materials with nails, screws or glue. Because of the wide variety of work some carpenters prefer to specialize in one part of carpentry. Some do rough outside work; others lay floors and build stairs. Still others do trim work and cabinet making.



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THINGS TO THINK ABOUT

Advantages:
*Carpenters work indoors and outdoors.
*Carpenters can learn much about other jobs in the building trades.
*There is satisfaction which comes from producing a finished product.

Disadvantages:
*A carpenter's work is often seasonal.
*Construction work is sometimes dangerous.
*Work is often noisy and dirty.
*Carpenters are often on their feet, sometimes in high places and in cramped positions.
*A carpenter's tools may cost $150.00 to $200.00.

Advancement:
*Carpenters may be promoted to foremen or supervisors.
*Carpenters have a better chance for advancement to general construction foremen than most general building craftsmen because they are familiar with the whole construction process.
*Opportunity for self-employment is very good.

Benefits:
*Paid vacations and holidays
*Health insurance
*Retirement benefits

Related Occupations:
*Bricklayer
*Stonemason
*Painter
*Cabinetmaker
*Plasterer
*Plumber
*Paper Hanger
*Millworker

Responsible To:
*Foreman

EMPLOYMENT OPPORTUNITIES

*Opportunities are generally greatest in large cities.
*Employment of carpenters is expected to increase slowly.
*Increased use of prefabricated and precut materials may lessen the number of people needed.

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PREPARATION AND TRAINING

*A high school diploma is preferred.
*Training is available through union apprenticeships.
*Apprenticeships usually consist of four years of on-the-job experience and related classroom instruction.
*Many journeymen have "picked up" their trade by working as helpers. In areas where unions exist, these workers often do not receive recognition as journeymen and may be limited to jobs paying low wages.
*Many trade schools give good training which can shorten the apprenticeship period.
*Trade school programs provide helpful training for those who cannot have a union apprenticeship and who otherwise might not receive classroom training.

Helpful High School subjects:
*Math
*Drafting
*Shop

Schools offering Carpentry courses:

Des Moines Area Community College +
2006 Ankeny Blvd.
Ankeny, Iowa 50021

Western Iowa Tech +
3075 Floyd Blvd.
Sioux City, Iowa 51105

Southwestern Community College +
Box 458
Creston, Iowa 50801

Area I Vocational-Technical School +
142 Main St.
Calmar, Iowa 52132

Northwest Iowa Vocational School +
Hwy. 18
Sheldon, Iowa 51201

+Approved for training by Veterans Administration

WHERE TO GET MORE INFORMATION

*Ask your school counselor
*Talk with local carpenters in your area.

National Ass'n. of Home Builders
1625 "L" St., N.W.
Washington, D.C. 20036

Master Builders of Iowa
221 Park St.
Des Moines, Iowa 50303

United Brotherhood of Carpenters & Joiners of America
101 Constitution Avenue, N.W.
Washington, D.C. 20001

Cg

APPENDIX D

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Fifteen Cluster Arrangement

Fifteen Cluster Arrangement

Service Group

consumer and homemaking
public services
personal services
hospitality and recreation

Business Group

business and office
manufacturing
marketing and distributing
transportation
construction

Science Group

health
environmental control
agri-business and natural resources
marine science

Communication Group

communication
fine arts and Humanities

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I. OPERATIONS - FOR ALL CLUSTERS

A. Management
   1. Planning and Policy Administration
   2. Data Interpretation
   3. Personnel and Labor Relations
   4. Communications

B. Mid-Management
   1. Operations and Analysis
   2. Data Handling
   3. Task Analysis
   4. Communication Skills

C. Supervision
   1. Operational Procedures
   2. Processing Techniques
   3. Personnel Relations
   4. Communication Skills

D. Personnel
   1. Personnel Practices
   2. Communication Skills
   3. Skill Development
   4. Career Orientation

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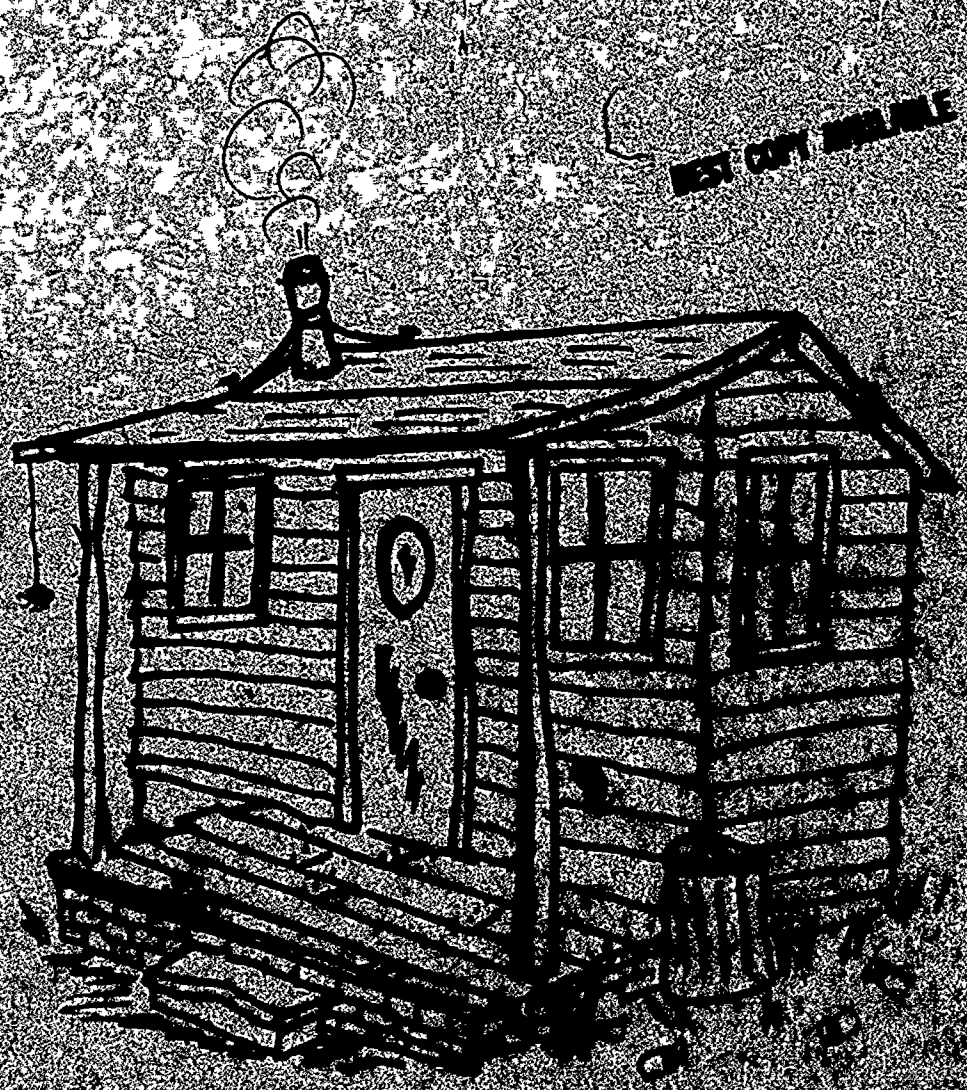

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BACKGROUND FOR BUILDERS

-RELATED SCIENCE AND TRADE INFORMATION FOR THE BUILDING TRADES

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January 1975

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UNIT I

A Message from Professor Kool Rock

This pack of science lessons is written and dedicated to the forgotten persons called students. That's right, *forgotten persons* – because everybody keeps saying that school should be fun, but nobody does anything about it.

Well, this pack of lessons is different, because it goes easy on the science facts by throwing in some fiction, humor, and cartoons. Don't let this mixture shake your tree, because whether you are an A, B, or C student – or just a friendly guest – you will be able to separate the facts from the fiction.

There is always a small, vicious group of persons who are "agin" book-learning and who like to burn books. These are the folks that say "O.K, it's different – but who needs it?" Well, you book-burning smart alecks, let-me tell you who needs it.

Everybody needs it! The building industry is the largest single industry in the United States and employs more persons than any other. The Building Industry involves the mining, manufacturing, and processing of every product under the sun. Advertising, product sales, real estate, manufacturing, distribution, transportation, and you name it – depend directly or indirectly on the building industry. Thus, your chances of being employed directly or indirectly in the building industry are excellent. So the folks that knock it lack some smarts.

What's the largest single investment that you will probably make in your lifetime? A heap of metal with four on the floor? Wrong. You can snap up a car by trading a few seashells, bottle caps, or a used guitar. Your very own pad will probably start at $30,000 – and by the time you reach the last lesson, inflation may change it to $40,000.

Suppose you never buy, build, or live in a house or apartment, but you prefer caves – can you still use the science lessons? Yup, you will still need science to heat your cave, supply power for your electric guitar, provide lights so you won't step on a snake, and even pump water. Even if you don't drink water, you will need at least a few drops to unglue your eyelids – so you can dodge the bats. You say that you're still not convinced?

Well, read the lessons anyway. How can you intelligently hate something you don't really know about? There is nothing worse than a person who hates something without a good cause. Remember that everybody today needs a cause. So if you ain't got a good cause, use this handy package.

(P.S. You really didn't expect a pack of lessons on cave-building – did ya?)

Signed –
Professor Kool Rock

Professor Kool-Rock

Importance of Planning – Ten Important Factors Lesson 1(A)

Objective:

At the end of this lesson the student will understand ten important factors in planning to build a house.

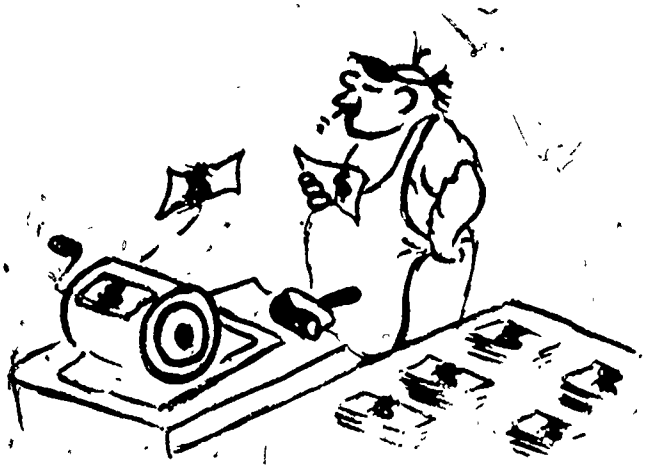
Related Information:

Many, many years ago, before shoes and sneakers were invented, nobody worried about planning to build a house. Finding a cave to hide in was the big thing before some dinosaur or monster snapped you up.

Then science stepped in and underarm deodorants and monster repellents came on the scene. Now, man could safely leave his cave and really plan his pad. That's what this lesson is all about –– planning a pad.

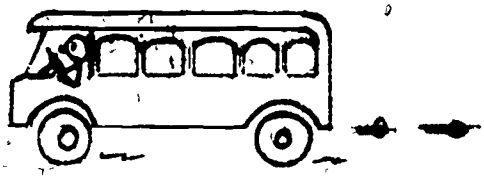
The best piece of advice in planning a house is to have a notebook and keep a record of "do's" and "don'ts". The following are some important questions you should consider in planning a house.

Why should persons called students be concerned about planning a house? Because . . . .some day you're going to break out of this high school, and you have to plan your escape. Furthermore, students in the building trades should be smarter than other people when it comes to planning houses, because houses are like bread and butter to them, or maybe meat and potatoes.



HOW MUCH MONEY DO YOU MAKE?

1. Money. What can a guy and gal afford to spend in cash and in mortgage payments? In other words, how much "loot" is there in the bank or under the rug? How much do they earn and what are their current expenses?



2. Transportation. Is public transportation available and reasonable in cost? Will transportation be convenient to work, school, shopping, recreation, etc?

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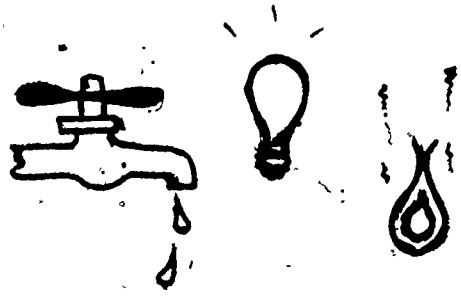
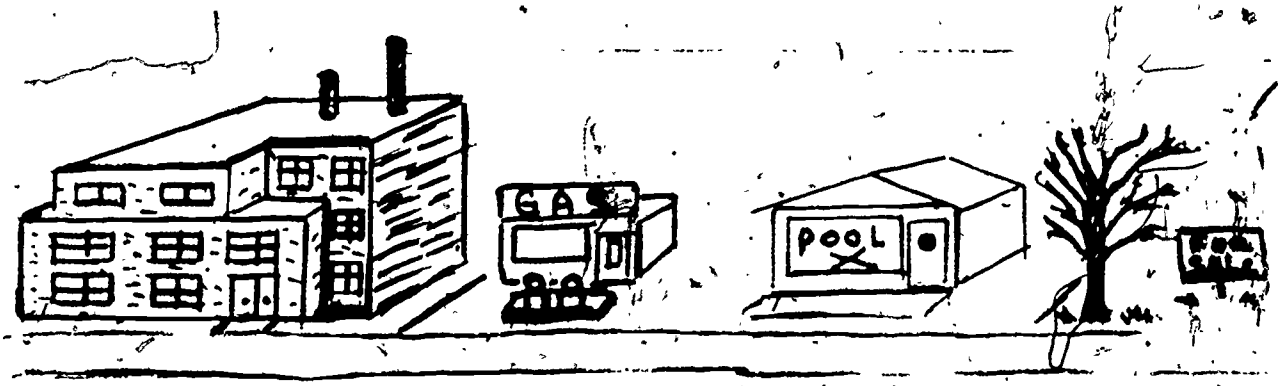
3. Employment. Is the area conveniently located with an ample supply of job opportunities? Suppose the owner changes jobs?

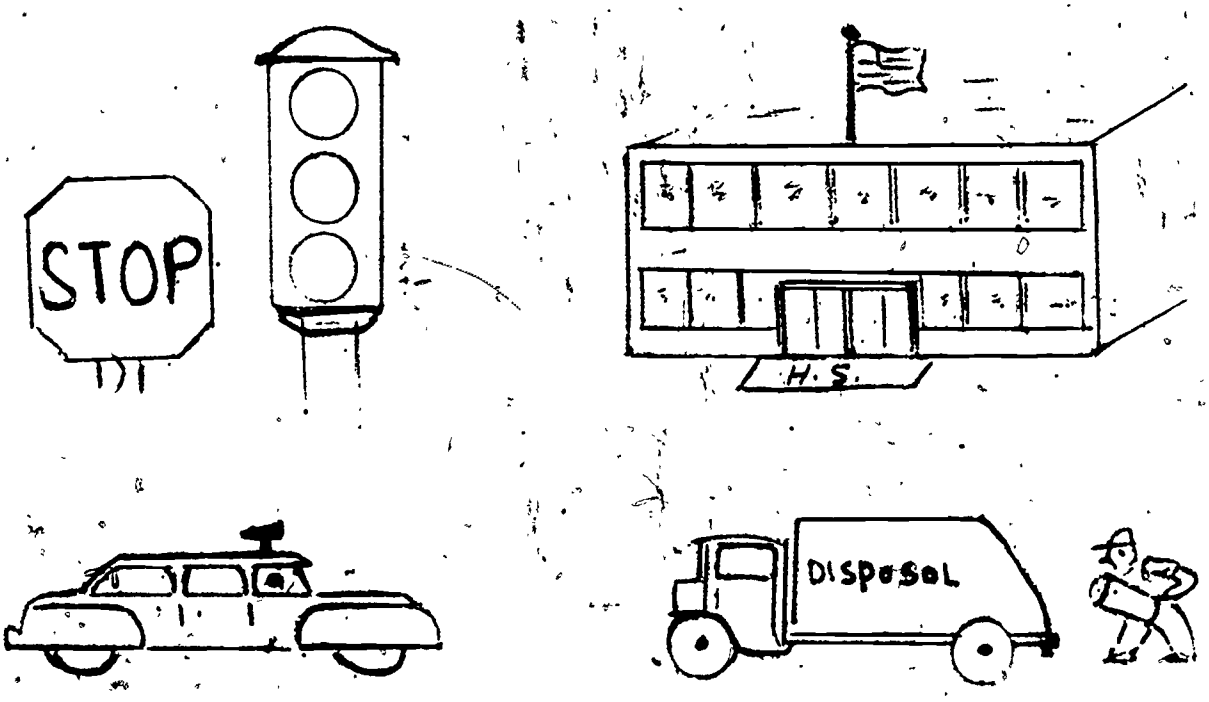


4. Utilities. Are water, gas, sewers and electricity available? Lack of utilities can be expensive initially or later when they become available. Homeowners are frequently assessed for such improvements as roads, sewers, sidewalks, and curbs, etc. For example, a tiny thing such as the distance between the house and the nearest fire hydrant or firehouse can increase insurance rates.



5. Characteristics of the neighborhood. Consider the future as well as the present character of the neighborhood. The actual construction costs are about the same, whether in a cheap site or a top residential area. Most communities are *zoned* – not only for residential, commercial, and industrial areas, but also for *quality grades*. Watch out for areas that lack zoning. You might find out the next-door neighbor will be a factory, gas station, pool parlor or – the worst of all –– a school!

6. **Drainage.** Is the site selected in an area with a high water table or subject to frequent flooding? Floods can do tremendous damage in residential areas. Pick the wrong spot and the home-owner will be raising mosquitoes, frogs, lizards, and other varieties of fish bait in the cellar or backyard.



7. **Taxes.** Will the taxes provide such benefits as good police and fire protection, schools, recreation, refuse disposal, etc.? Remember, an initially low tax rate may later turn out to be high when these services are added.

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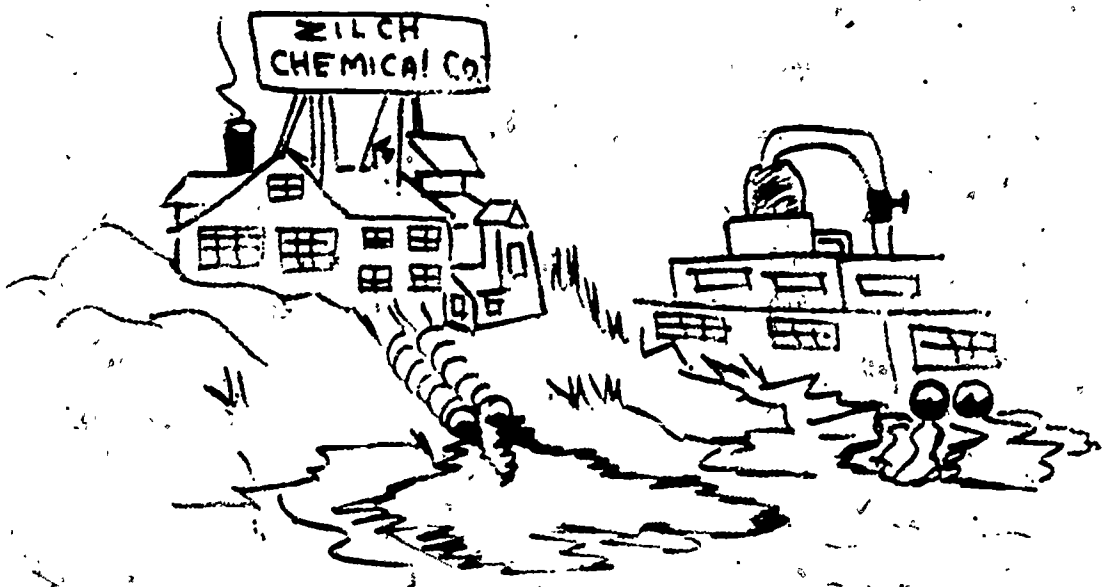
8. Economy of design. Does the plan consider standard-size units, and will it be designed to minimize waste? Will room arrangement consider economy in plumbing and heating? And how about maintenance costs and provisions for future expansion?



9. Pollution. What safety or health hazards exist or might arise in the future? Pollution of air and water are real threats in modern living.

10. Resale value. Will the design be too modernistic, fancy, or "different" to a point that selling the house would be difficult? "Overbuilding" is a frequent mistake, especially in a poor location.

Assignment

The following are 10 important areas that are important to planning a house. They are worth remembering. Take this checklist and neatly enter it in your notebook. Add any interesting notes that result from class discussion.

1. Money
2. Transportation
3. Employment
4. Utilities
5. Character of Neighborhood
6. Drainage
7. Taxes
8. Economy of Design
9. Pollution
10. Resale value

Importance of Planning – Basic Needs Lesson 1(B)

Objectives:

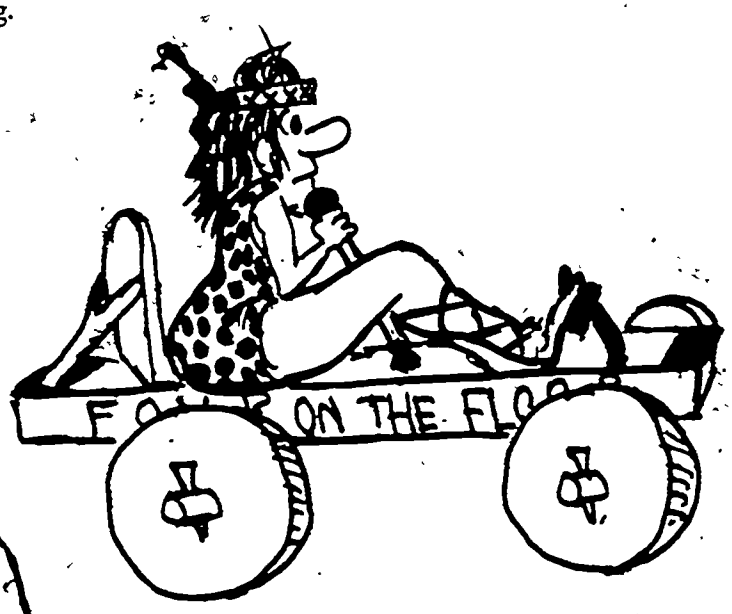
1. At the end of this lesson the student will understand that planning should first consider the four basic needs of all people.

2. The student will also realize that planning must be personalized to fit a person's way of living.

Related Information:

Students have only two big problems when they are in school – getting a driver's license, and buying their first heap. Now, how about planning for your future? Some day you will graduate, and get out into the real world of work and play. Whether or not you go into the construction field, you need to know about housing. Not everyone builds houses, but most people live in them. So perk up and pay attention.

Building a home is one of the most important things a person does in his lifetime. It represents probably the biggest investment a person will ever make, and so it requires careful planning.



In plain talk, it is not a snap decision, like buying four wheels with bucket seats at some used car lot. Buying a "four-wheeled mistake" is no sweat. All you have to do is buy some wax, new wheel covers, and floor mats, and then sell it to your best friend.

Mistakes in building can be mighty expensive, and so planning might require several months or even a year. In planning it is advisable to use the professional services of a realtor, surveyor, architect, lawyer, banker, and building contractor.

Another good source of help can come through family, friends, and neighbors, based on personal experience. These non-professionals should not be overlooked, as you can profit by their mistakes.

First, your design or layout should consider the basic needs that everyone has. What are basic needs? To answer this question let us examine your daily routine.

1. You eat	you need a cooking and eating area.
2. You sleep	you need sleeping quarters.
3. You relax	you need a living, family, or recreation room.
4. You keep clean	you need a bathroom.

Your planning must also consider the number of present and future occupants. Thus, privacy, convenience, and traffic patterns should be planned. Why plan traffic patterns? Well, suppose you have a house full of kinfolk, two big dogs, and a visiting fat friend, and some fool yells "lunch is ready." A guy could get bitten, crushed, or stomped to death without a well-planned traffic pattern. Thus, planning should go beyond your basic needs, depending on your life style.

Lot Survey

Lesson 2

Objectives:

1. At the end of this lesson the student will understand what is meant by a lot survey.

2. The student will also learn how important a lot survey is from a legal point of view.

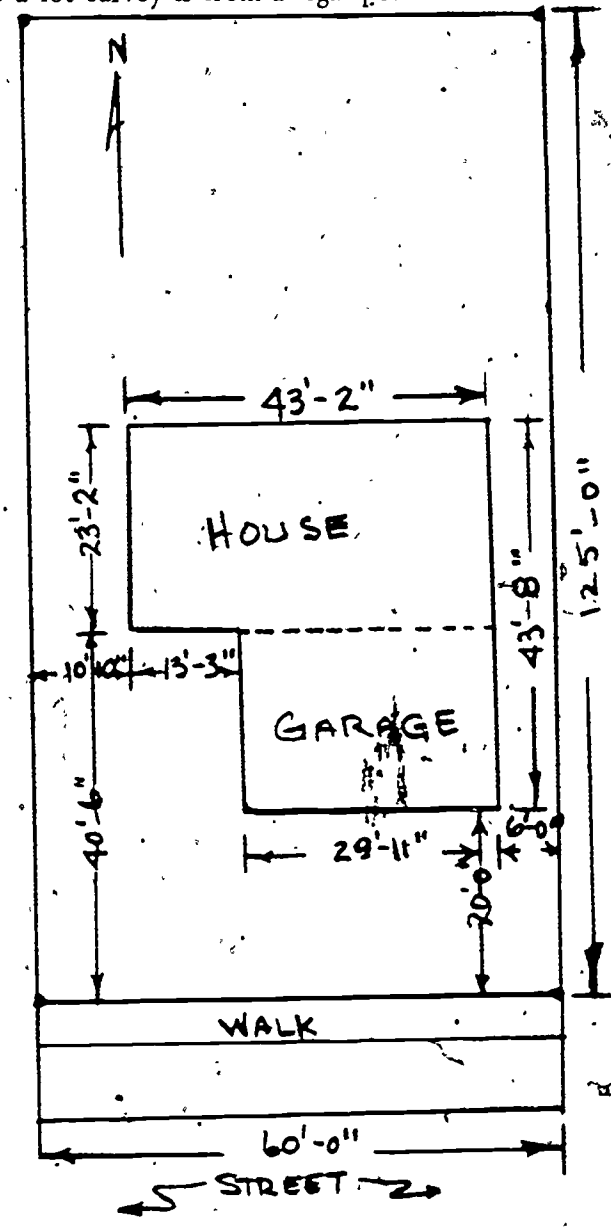
Related Information:

A lot survey is a top-view drawing of a given lot, drawn to scale on a piece of paper. Thus a lot survey is really a birds-eye view of what the lot looks like.

This drawing is prepared by a registered land surveyor or civil engineer, based on recorded surveying facts, plus on-the-spot measuring of angles and distances.

The lot survey shows the boundary lines and land characteristics, such as exact shape, size, and contour of land. Any trees, brooks, utility lines, or other land characteristics are included. The surveyor must also check legal descriptions and make necessary corrections. He then certifies the survey as to its accuracy.

There are three mighty important reasons for an accurate lot survey. It acts as a guide in placing the *right house* on the *right spot* on the *right lot.* Without a certified lot survey you could waste "lots" of time and "lots" of money.



Plot Plan
B. Slick - 46 Easy St., Fuddsville, N.J.
Scale 1"=20'-0"
A. Crook, Architect

The lot survey has the following important uses . . . so fix your eyeballs on them hard.

1. A survey prevents costly legal problems in the future.
2. Banks and mortgage companies require a certified lot survey before *authorizing* a loan of money to build the house.
3. Building inspectors require a certified lot survey before issuing a permit to build the house.
4. The architect needs a lot survey to place your building on the most advantageous place in the lot that still conforms to street set-back and side-line requirements of the zoning laws of the community.
5. The builder needs a survey to guide his workmen and to use as a check on the accuracy of his work.

Building Codes – Definition and Purpose

Lesson 3 (A)

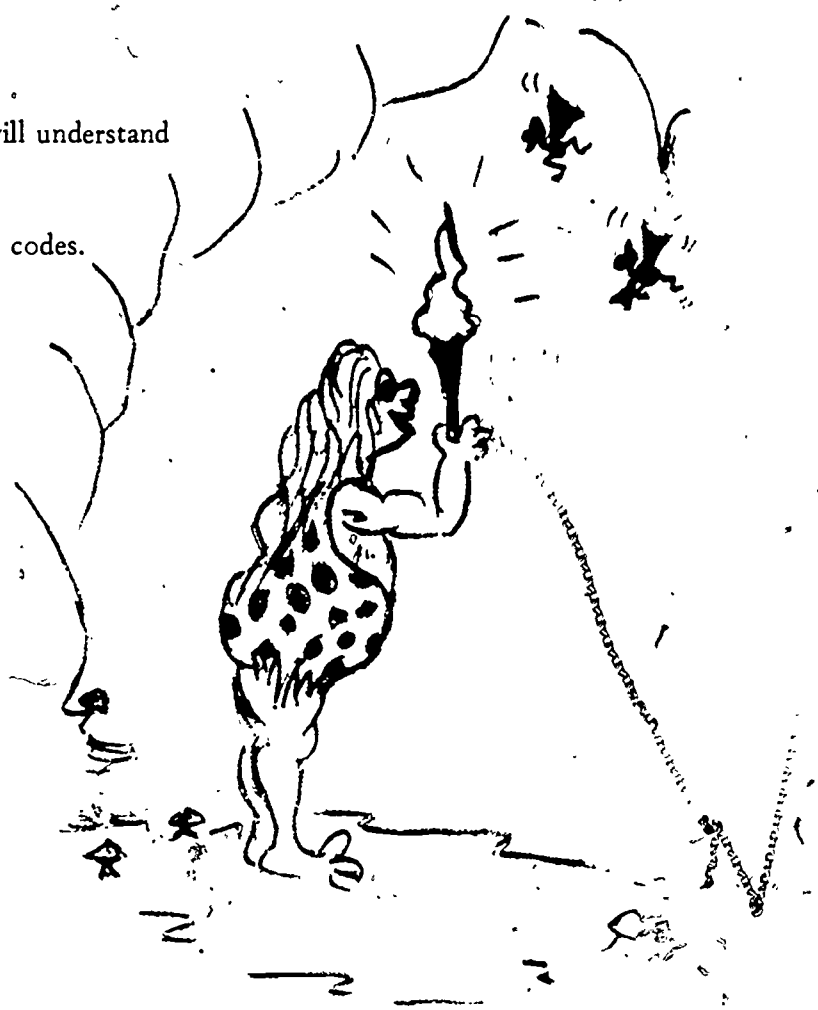
Objectives:

At the end of this lesson the student will understand

1. what building codes are;
2. the purpose of establishing building codes.

Related Information:

In the beginning, when everybody lived in caves or trees, building codes had only two requirements, and the enforcement was spotty at that. The building inspectors were mainly concerned in spot-checking your cave for winged bats and poison mushrooms. Thus the cave code was uptight on two key points: (1) that all cave entrances be tightly fitted with aluminum combination doors to keep out winged bats; (2) that all cave floors be covered from wall to wall with grass sod or inlaid moss to discourage mushroom growth.



Early Building Inspectors inspected only for Bats and poison mushrooms.

Then some whiz invented shoes out of tough-eating animal hides, and people stomped out of their caves in droves. They wandered to points west like Point Pleasant, Dallas, San Francisco, and other barren wastelands that were completely void of caves. Now they had to build on top of the ground, and they started crowding log cabins and split-levels in reckless abandon. That did it! Congressmen got steamed and added building codes to the bottom of the Constitution, and now we are stuck with them. Now, let's get serious and answer two questions on building codes so that we can pass the course.

1. *What is a building code?*

   Answer –
   A building code is a set of written rules and regulations that control the methods of construction and materials. It sets forth the rules that determine the size, shape, and composition of materials, plus accepted methods of construction at all stages. The code specifies the size and spacing of framing members and all the materials attached. The code presents a *minimum* standard for all houses in the community; however, you may exceed the standards or improve the quality.

2. *Why does a community enact a building code?*

   Answer –
   Without specific rules and regulations, the health, safety, and beauty of a community could never be controlled. Thus, early in the organization of a community, a group of citizens is selected to establish rules and regulations.* The local officials establish the code guidelines and from time to time review any additions or deletions proposed to improve the code. Then they incorporate any changes into the local law.

Even though they are at times burdensome, these rules and regulations are designed to serve the best interests of the majority and to promote the general welfare.

The code sets standards for fire prevention, ventilation, and sanitation by stating safe and accepted practices. Thus, electrical, plumbing, heating, and structural work must conform or the construction will be stopped and violations prosecuted by law.

Minimum lot sizes, setbacks of houses from the street, sideline and backyard minimums, and the uses of various buildings are set forth in the community's zoning ordinances, and must also be observed in every respect.

* In many states a state building code is used as a model.

Building Codes – Enforcement and Assistance Lesson 3(B)

Objectives:

At the end of this lesson the student will understand

1. who enforces a building code;
2. how to get assistance with questions concerning the code.

No. 5763 _____ 19___

FLEABURG TOWNSHIP

CANINE COUNTY, NEW JERSEY

BUILDING PERMIT

Permission is granted to _____

_____

at _____ Lot No _____ Block No _____

Nature of proposed work _____

Total Sq. Ft. _____

_____ Zone _____ as per Application

and Ordinance _____

$ _____ $ _____ _____

Fee Estimated Cost Building Inspector

IMPORTANT NOTICE

INTERPRETATION OF FLEABURG TOWNSHIP ZONING ORDINANCE
"SECTION XI–I," CERTIFICATE OF OCCUPANCY

When the building for which this permit has been issued is completed and BEFORE it is used or occupied, you are REQUIRED to have it inspected by the Building Inspector, who will issue a Certificate of Occupancy certifying that the building has been constructed in accordance with the requirements of the Zoning Ordinance and in compliance with the plans and specifications submitted with your application for this permit.

Failure to comply will subject you to prosecution for a Violation of the Zoning Ordinance.

WHEN YOU COMPLETE THE BUILDING FOR WHICH THIS PERMIT HAS BEEN ISSUED *NOTIFY THE BUILDING INSPECTOR.* (Call or Write)

Related Information:

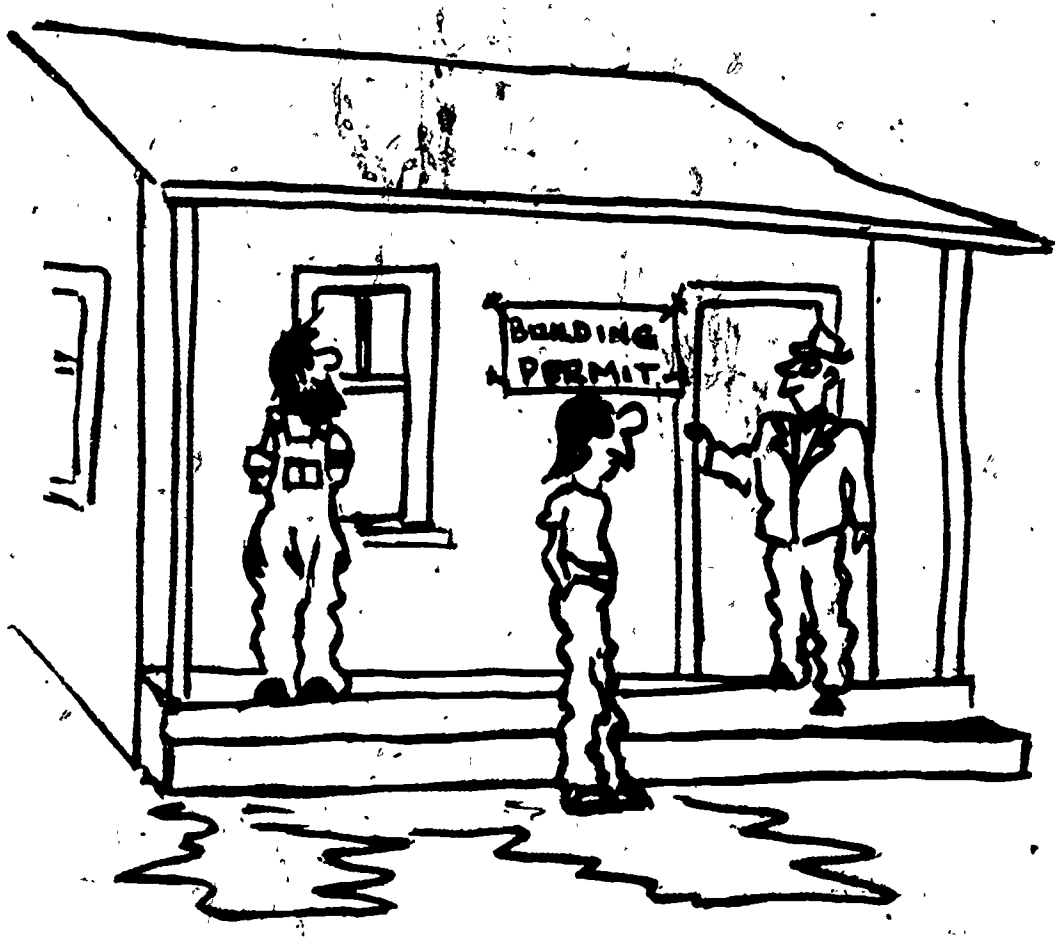
3. *Who enforces the building code*

Answer –

The community employs a building inspector whose duties are inspection and enforcement of the zoning and building codes. The inspector reviews all plans, authorizes construction, issues a permit, and makes field inspections. If he discovers any work that is in violation in any way, he stops the construction.

The inspector must be furnished with the plot plan, a set of blueprints, the specifications, and an estimated cost of construction. Once satisfied that the application conforms to all legal requirements, the inspector collects a permit fee and issues a permit.

In many communities inspectors make four field inspections. The construction must meet with his approval at each inspection before you may proceed to the next step. A plumbing and electrical inspector are also employed; they inspect and approve of work in their respective fields.



First inspection: When excavation is complete and the forms are ready for the concrete, an inspection is made. Approval is based on the size, location, and proper installation of the forms prior to pouring concrete. At a later point, a certified copy of the quality of the concrete delivered must be filed.

Second inspection is usually made when all the framing is complete and the rough stages of plumbing and electrical work have been inspected and approved. Normally these two trade inspectors affix an inspection sticker, which the building inspector checks. If framing and electrical work and plumbing are all satisfactory, a sticker is issued, and the walls may be insulated and enclosed.

Third inspection: This inspection is frequently made at random to spot-check materials and construction methods for violations.

Fourth inspection: This is the final inspection before an occupancy permit is issued. This inspection requires that all plumbing, electrical, and utility connections are made and are satisfactory. In some area, such items as sidewalks, driveway, landscaping, and decoration must also be completed.

Note: "Utilities", as used above, refers to water supply. sewer or septic connections, and gas and electrical tie-ins.

4. *Who can explain the building code to you and help you to understand it?*

Answer –

The building inspector is an excellent source, but one seldom used. People feel that he is just another policeman put in their path to say "No, No." Forget it .... the inspector can be your best friend, so by all means seek him out.

A licensed architect is one of the best qualified by training and experience, but he is frequently too busy for petty questions. The builder is also well qualified, but not all builders are cooperative. Seek the advice of more than one builder. You're sure to find a nice, friendly, ex-vocational school product.

Last, but not least, is your old buddy the teacher. Although your teacher may be your best friend, don't drive him crazy with questions because his advice is free. Use the local library and the building department for technical questions.

Above all, be fearless ... grab all the free information you can get. Put facts into your notebook. After all, your skull can hold only so much.

Building Codes – Violations

Lesson 3 (C)

Objective:

At the end of this lesson the student will realize that building code violations can be expensive.

Related Information:

5. *Can building code violations be expensive?*

Answer –
You can bet your flea collar and grass skirt it can. The following is a true story, so judge for yourself.

A certain builder had just completed two homes and requested a final inspection to obtain his occupancy permits. The inspector arrived as requested and during his inspection noticed from the grade markings that the roof plyscore was an unapproved type––a sure violation.

To correct the violation, it would be necessary to remove all the roof shingles, tar paper, flashing, and plyscore, to the last piece.

The builder tried to plead his case, but the officials refused to budge. Thus, the builder had one of two choices: rip off and replace the entire roof, or fight his case in court. The builder decided to comply with the code and avoid costly delays and legal expenses. The complete changeover cost the builder about $3000 plus some delay.

The builder did not intentionally violate the code; it was just an oversight on his part. The building code had been changed to read "exterior-type plywood" only two years previously, when the code was updated. How was the builder supposed to know? It's the builder's responsibility to know the code and be alert to code changes. The code should have been checked prior to construction. Ignorance is no excuse.

Could something like this ever happen to you, your paw, or kinfolk? You can bet your sweaty headband and corroded beads it can. So stay alert and keep notes. You will avoid ripping plywood off your tree-house, barn, or home.

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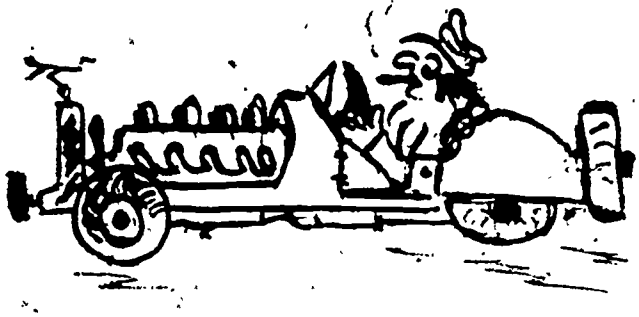
Building Codes – Quiz

Lesson 3 (D)

Assignment instructions:



A. Answer these questions correctly and you're sure to drive big cars with four on the floor and smoke expensive cigars.

B. Don't answer these questions and you will spend the rest of your life hiding in the tall swamp weeds when the building inspector calls.

1. Is the building code a written set of rules and regulations that never change? (Explain your answer).

2. Who determines what the rules and regulations of the building code should be?

3. Why are building codes legal requirements that are enforced?

4. If a building code seems burdensome, what are the reasons for the provisions that may seem unfair to the builder?

5. In what ways does the building code protect your health?

6. What does the building inspector require before issuing a permit?

7. What is an occupancy permit, and why is it necessary?

8. When are building inspections made?

9. Name all the sources you know of for getting help with the building code.

10. How can violations be expensive? Can you cite an example from your own experience or from the experience of someone you know?

Blueprints – How They Are Made Lesson 4 (A)

Objective:

At the end of this lesson the student will understand how blueprints are made.

Related Information:

Once the preliminary planning is completed, the architect assembles all the information and ideas and makes a master drawing. The master drawing is usually made in black India Ink on transparent linen cloth.

This drawing shows, in picture form, the details, dimensions, materials, and style that reflect all the items the owner has planned. The original drawing is too valuable to give away. It is needed to make numerous copies for the many tradesmen who will use it. It is kept as a copy *master.*

Copies are made by using a special paper which is chemically treated to be sensitive to light. The master tracing and the sensitized print paper are placed together in a frame and are exposed to a bright light. Then after a specific time exposure to light, the sensitized paper is removed and thoroughly rinsed with water.

If properly processed, the coated surface of the sensitized paper will be a clear, deep blue. The drawing lines will come out white against the blue background.

Summary:

Blueprints are used because:

1. The original master can be kept intact and filed for future reference.
2. Copies by this method are fairly inexpensive to reproduce.
3. Copies are easy to produce in large quantities.

Note: Blueprints are also called *working drawings.* Both terms are correct and acceptable.

Research Project:

There are two other methods of reproduction that use chemicals. Research them in your school or local library and prepare a short report on each.

Blueprints – Drawing to Scale Lesson 4 (B)

Objective:

At the end of this lesson the student will understand the term "scale" and how it is used to draw and read blueprints.

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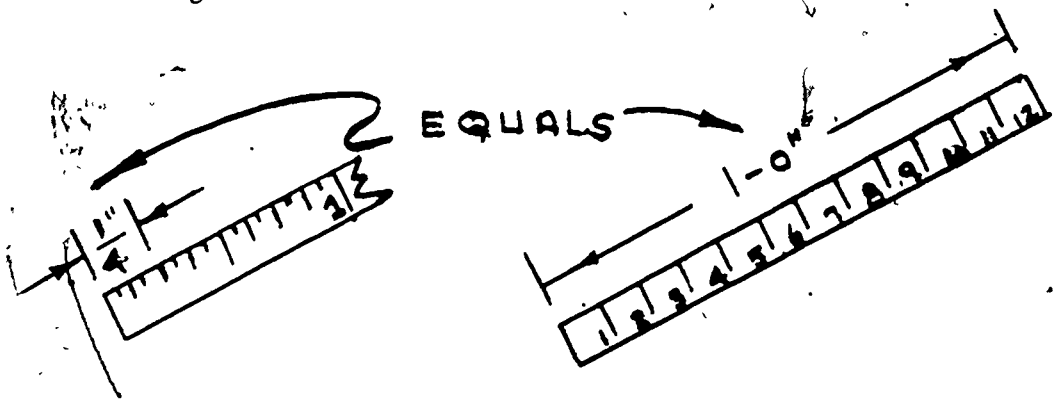
Related Information:

Maybe it was a caveman who first said; "A picture is worth a thousand words." How true it is. The caveman wasn't much for words, but his drawings on cave walls were things to behold.

Well, that's what this lesson is all about . . . lines or drawings that "talk." That's right. Drawing is a language that explains things with pictures. Thus, blueprints or drawings are used to give workmen a picture of what the finished house should look like. . .

Full-sized drawings of a house would be expensive, impractical, and virtually impossible to draw. An architect, therefore, makes drawings to scale. "To scale" means drawn to a smaller size that is easier to draw and handle. For example, many trains, cars, and planes are drawn *to scale* and made in *scale* models. The scale model is exact in every detail to the real-life thing, but much smaller.



¼" Scale

In house drawings, one foot is usually used as the basis of the scale. Thus, a house drawing is often made so that every ¼" of length on the drawing is equal to 1 foot on the actual building (¼" = 1 foot). This means that every dimension of the house, be it length, width, wall thickness, or window, when measured with a ruler can be converted into feet.

Drawings made to a ¼" scale are convenient and easy for tradesmen to read, since most tradesmen use a carpenter's ruler. In special cases where the buildings are very large, it may be necessary to draw blueprints to a 1/8" scale. In any case, a blueprint will always indicate the scale to which it was drawn.

Detail drawings are frequently added to show an enlarged view of a complicated part. A 1½" scale is frequently used for these. Thus, if 1½" equals one foot, a line that is 3" long would represent two feet. Got it?

All blueprint drawings, regardless of what scale is used, must be exact to the last inch, because an error in the drawing would create an error in the construction of that building.

Learning to read blueprints is easy——all you need are some old blueprints to mess with. Get your dedicated teacher to get some. Any old prints by George Washington's grandfather would be worthless; anything from the Civil War on would be fine.

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The Story of How Blueprints Were (Not) Invented — Lesson 4 (C)

Objective:

This is a lesson primarily designed to relax students and give them a change of pace.

Un-related Information:

The following information will take you on a sneaky trip back through the moldy pages of history. To explain the history of working drawings, the entire story is based on fiction and an assorted pack of lies.

Once upon a time everybody, including teachers, lived in caves and there was no demand for buildings or plans. These cavepersons were a simple and happy lot until their kids started to hot-rod and drag their rock carts. These wild kids started "burning" their rock wheels and kicking up heaps of dust that made the eyes of the "old rock snappers" smart something fierce.

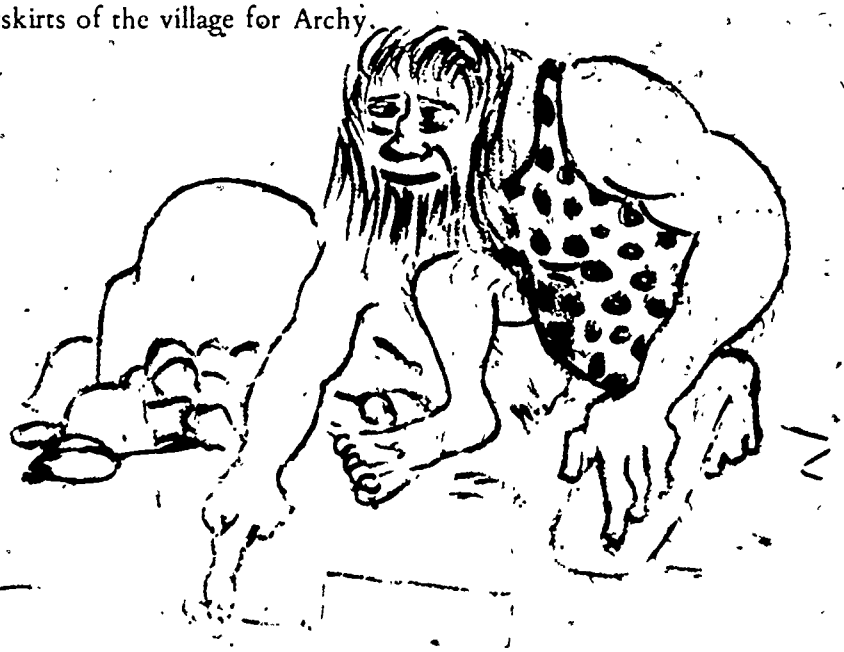
Well, that did it. There was a big generation gap even in those days, and so the old rock snappers called a secret meeting to scheme out the problem.

The meeting actually turned out to be history's first recorded conspiracy against kids. At the meeting, the snappers decided to build a vocational high school, so they could get their kids off the dusty streets.

The cave folks started the first building in history, and folks were piling up rocks everywhere. The rock piling really "got" crazy--you might say that some of the folks "got" carried away--because that's what really happened.

Then out of the confusion a shrill voice shouted, "Stop! We need a plan before we kill ourselves!" Then another voice shrieked, "Let's get Archy to draw something." The cave crowd seized on this beautiful idea and shouted in a chorus "Oh! Joy". Then they promptly sent a runner to the outskirts of the village for Archy.

Archy Tect was a poor village artist who needed work badly, and so he accepted the offer quickly (mainly so that he could eat again). As soon as Archy appeared on the scene, he squatted on the dusty sand and started to make groovy signs in the sand with his big finger. The crowd became excited and started to scream and stomp with every groove ... and, so, the first working drawing began.



The pushing and the stomping finally got out of hand, and Archy's drawing was messed up time and time again. Then to make matters stickier, a rock fight started up in full swing.

Rocks were flying all over the place. when suddenly a stray rock bounced off of Archy's skull. Archy promptly assumed a flat position. face down, pointing in a position of north by northeast.

This "rock festival" was really getting out of hand, when just in the nick of time a slick young chick saved the day. The cool chick stomped out of a big cool cave and shouted. "Stop it ... Let me show you folks the way out." Then quick as a wink this gal whips out an eyebrow pencil, leans over Archy, and starts to draw the floor plan on Archy's back. At last the cave folks had a permanent, portable working drawing that could withstand a lot of stomping.

Archy, naturally, took a mighty dim view of lying face down until the school was finished. But a few well-placed rocks made Archy cooperative. However, a bad case of sunburn on Archy's back resulted in switching to animal skins, and finally to composition paper.

Finally the school was finished, and the "young rocks" started to learn all kinds of trades. Rock-carving, rock-throwing, and rock-painting became the backbone of the curriculum, and soon many other courses were added. The old rockers went back to chasing dinosaurs, lizards, and lions, and Archy Tect became famous as a cave- and school-designer.

The whole deal wound up on a happy note, because Archy finally won the cool chick's hand and everybody lived happily ever after – except the students and the principal.

The principal's main beef was that Archy left out the teacher's lounge, detention room, and a maximum security spot for the real rough rocks. The principal claimed that Archy must have been stoned to come up with such poor "working drawings."

UNIT II – PLANS

Blueprints – General Functions Lesson 4 (D)

Objective:

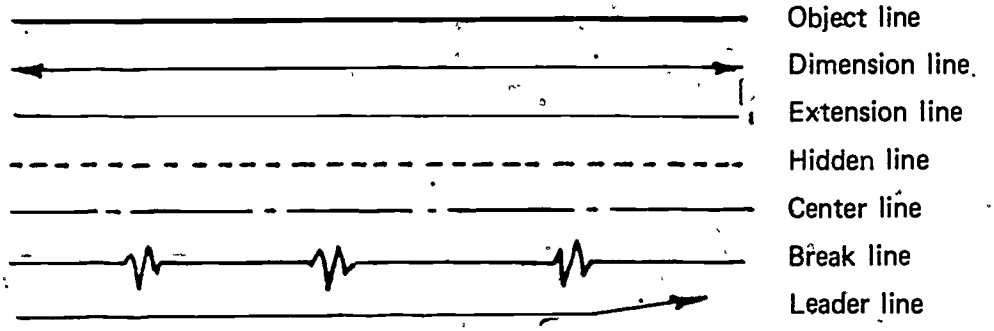
At the end of this lesson the student will understand the functions of blueprints in house construction.

Related Information:

Working drawings are pictures of a proposed house that clearly show you all top, side, and cross-section views. They give the design, details, dimensions, and materials to be used.

These drawings use a simple, basic language of lines and symbols that tell a construction story. Imagine that . . . a drawing language that can be understood *anywhere* in the United States and, with a few minor changes, *anywhere* in the world!

Let's use a simple comparison. You can build countless words in the English language by using the alphabet; in working drawings you "build" all sorts of objects by using an alphabet of lines. The tradesmen in construction learn this special alphabet and can communicate with one another easily.



Alphabet of Lines

Thus a blueprint or working drawing can supply all the information necessary to build anything from a dog house to a skyscraper.

Remember that blueprints are the end result of a great deal of preliminary work. The final drawings have to consider income, availability of utilities, basic and personal needs, zoning, and even weather.

UNIT II – PLANS

Blueprints – Specific Functions Lesson 4(E)

Objective:

At the end of this lesson the student will understand the specific functions of blueprints.

Related Information:

To be considered complete, good blueprints should cover the following areas.

1. Lot plan. – This is a drawing that shows the top view of the lot. The drawing uses a scale and dimensions, just as the main drawings do. It shows the boundary lines of the lot and gives the exact location of the house on the lot. The drawing is drawn to the owner's preference, but must conform to building and zoning codes.

2. Floor plans. – These drawings usually consist of three plans: (1) masonry, (2) first floor, (3) second floor. This gives the workman a top or birdseye view of each level.

3. Elevations. – These drawings show the outside view of all exterior walls in the same scale as the floor plans, and they are usually labeled: (1) front elevation, (2) rear elevation, (3) right side elevation, (4) left side elevation.

4. Details. – Detail drawings are blown up or enlarged views of certain parts of a house in a larger scale than the main plan. This enlargement is necessary for accuracy and clear perception.

5. Section views. – A section view is a cutaway view exposing a particular area of construction to a clearer view. It gives an accurate idea of the size, shape, and materials involved.

   Imagine how hard it would be to explain what a watermelon is like to an Eskimo. However, if you cut the watermelon in half (cutaway view), then the texture, moisture, seeds, and rind would present a clear picture. Well, that's what section views do--they give you a clear picture.

6. Roof plan. – This plan shows the roof framing detail and is especially helpful when framing is complicated.

7. Electrical plan. – This shows the proposed location of all switches, outlets, appliances, power panel, etc.

SURVEY FOR WILLIE & MILLIE HOMESTEADER
LOCATED IN BOROUGH OF SAGEBRUSH
CACTUS COUNTY, TEXAS

BUTCH CASSIDY
ENGINEER
4TH MAIN ST. GULCH CITY
DATE Dec. 1, 1849

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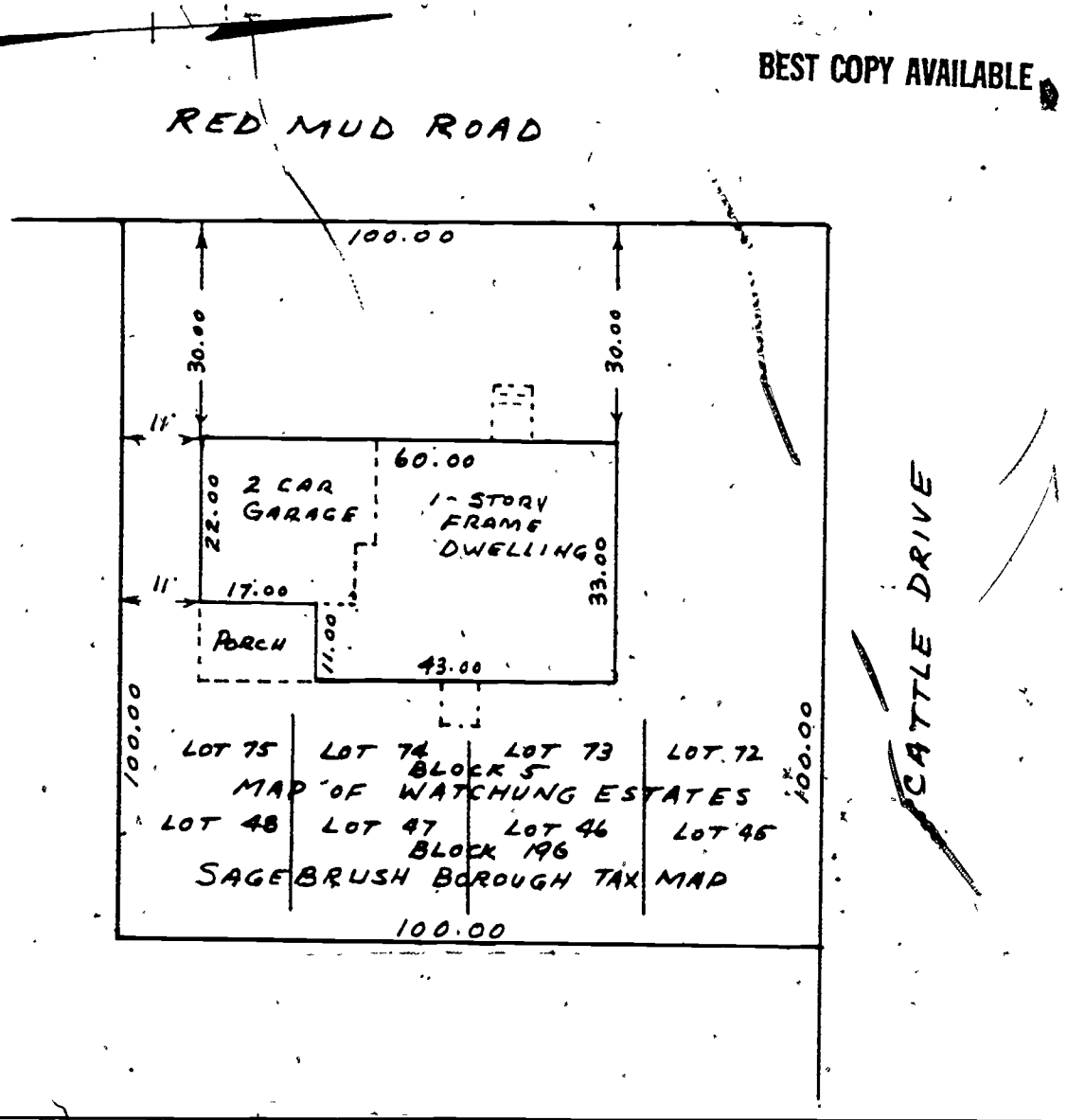

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8. Heating plan. – This plan shows the type, location, and size of the heating system, plus other important installation details.

9. Plumbing plan. – This plan shows the location of plumbing fixtures in the kitchen, bath, basement, or utility room. It usually shows some details of the septic or sewer connection.

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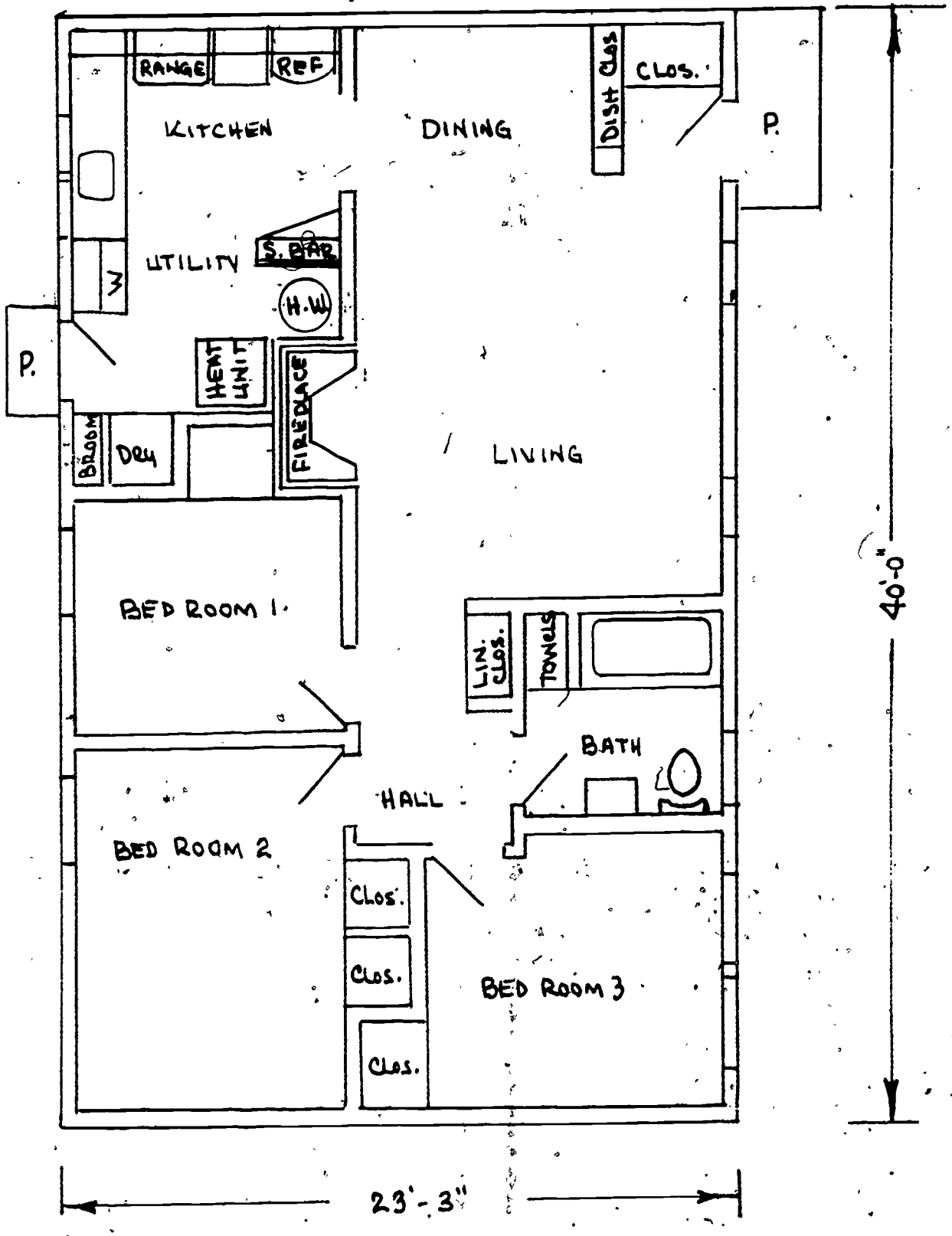
RANGE
REF
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UTILITY
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3
H.W
P.
HEAT UNIT
FIRE PLACE
BROOM
DRY
LIVING
BED ROOM 1
LIN. CLOS.
TOWELS
BATH
HALL
BED ROOM 2
CLOS.
CLOS.
CLOS.
BED ROOM 3
40'-0"
23'-3"

FLOOR PLAN

The Role of the Architect — Lesson 4 (F)

Objective:

At the end of this lesson the student will understand how the architect serves the owner and builder.

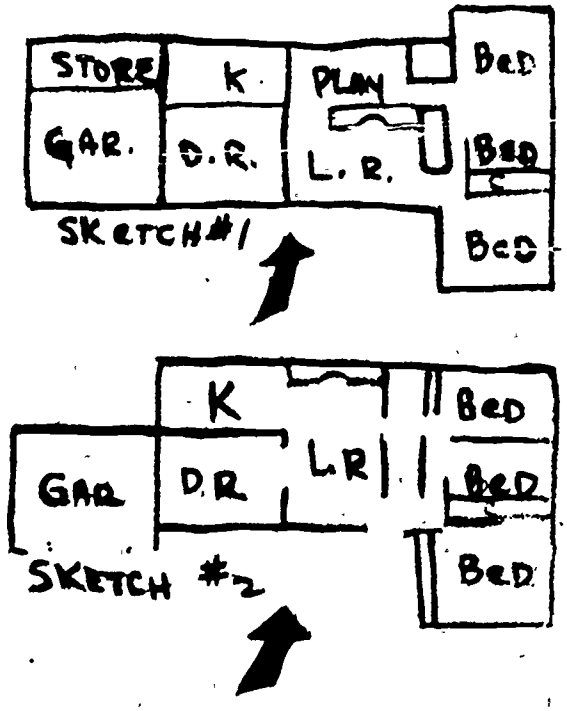
Related Information:

To understand the role of an architect, assume that you are building a house, but your knowledge of construction is limited. Then your best bet would be to hire an architect for a set fee. The fee usually depends on the size of the job and the extent to which you use his services.

Thus with very little or no construction background, you could hire an architect to handle the construction from start to finish. The architect would get from your description a mental picture of your dream house. The architect would first draw preliminary sketches based on your ideas. To accomplish this, the architect would have to consider the following.

1. Basic needs of occupants
2. Appearance and style, based on preference and location plus lot characteristics.
3. Climate conditions
4. Materials available
5. Costs (available funds)
6. Building code

ROUGH SKETCH



The preliminary sketches are usually free-hand drawings made somewhat in proportion, but not to exact scale. Sketches can be studied and considered and modified to meet your expectations.

The next step is to draw up final plans, estimate the costs, prepare specifications, and submit plans for bids. The architect can also act as supervisor during the cost of construction. The duties would be to make inspections during all phases of construction and protect your interests. The architect would consult with you and the builder from time to time on economies, substitutions, changes, and the quality of labor and material.

Hence, in a nutshell ... the architect acts as artist, designer, inspector, advisor, estimator, and judge in disputes. The fee can vary from 5% to 15% of the total cost. The extra cost is well worth it, if you are not qualified to do it yourself. The architect can also be hired to just draw up plans with no responsibilities for supervision.

Specifications

Lesson 5

Objectives:

1. At the end of this lesson the student will understand what specifications are and how important they are.
2. The student will also understand how specifications cover each trade in detail.

Related Information:

Specifications in construction are a lot like instructions for a cake recipe . . . well, almost. Because, if you don't use the proper ingredients and follow the recipe instructions, you're not going to have a good cake.

Construction specifications work pretty much the same way. Ignore the specifications and you're sure to build a poor house. Specifications are written descriptions that explain the drawings. They *specify* the work to be performed, the degree of workmanship expected, and the extent of the work. In addition, they set forth the quality and the quantity of the materials.

Specifications are necessary because it would be impossible to put all the complex details of construction on a blueprint. If all the important data of construction were to be put on the blueprint, it would be so confusing it would defeat the purpose of the drawing.

The specifications are an important part of the contract. In many cases they have priority over the drawings in authority and importance. The drawings can have additions, corrections, or deletions made. However, once the contract is signed, the specifications cannot be changed without proper consent. They can only be changed by mutual consent of builder and owner by an addition called an addendum.

The architect prepares specifications that completely cover the proposed construction and divides them into general clauses and special clauses. The general clauses apply to almost every portion of construction to some degree and affect all grades. (See following pages) The special clauses refer to the quality of the materials, construction details and special details not covered by the general clauses. For example, here are a few special clauses:

1. Excavation

   (a) Excavation is based on normal conditions with standard excavating equipment. Hence any rock formation encountered that requires special equipment or blasting would be at the owner's cost.

   (B) Removal of excess fill, stumps, or trees will be at the owner's cost and a separate agreement must be made.

2. Carpentry

   (A) Owner will furnish special exposed oak beams for family room at his cost. Installation costs are included in contract cost.

SPECIFICATIONS FOR CONSTRUCTION OF HOME

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BUILDER Joseph P. Lucas

APPLICANT Same

____ Proposed Construction X Under Construction

1. FOUNDATION

Wall footing size 16" X 8"; Col. or pier footing size 24" X 24" X 12" thick.

Foundation wall material. Below grade Cinder Block Thickness 8"

Above grade " " Thickness 8"

Top course " " Thickness 8" Solids

Columns: Material and size 4" Steel conc. filled Number 7

Girders: Material and size 6 x 10 Built up (wood)

Foundation treatment Cement plaster - tarred below grade

2. FIREPLACES: Quantity 1 Description Used Brick - Flagstone hearth

3. EXTERIOR WALLS:

Frame: Material Douglas Fir Const No #1 Stud size 2 x 4

Stud spacing 16" o. c. Sheathing: Kind ½ plyscord Thickness ½"

Siding Red Cedar Shakes

15 lb. felt paper under siding. X Yes ____ No

Exterior painting: No. coats 2 Material Dutch Boy Lead & Oil

Gable wall construction. X Same as main walls ____ Other.

4. FLOOR FRAMING:

Joists: Material Douglas Fir Const #1 First floor size 2 x 10 Spacing 16" o. c.

Second floor size — Spacing — o. c. Bridging ____

Concrete on ground: Mix and thickness 12.4 4" Thick Steel Trowel finish

5. SUB FLOORING: First floor size and material ⅝" plyscord

Second floor size and material —

Kitchen ⅝" plywood over Sub floor Bath ⅝" plyscord over ⅝" sub floor

6. FINISH FLOORING. First floor, rooms Oak floors except kitchen, fireside, & bath

Species Red oak Grade No #1 com strip, ____ T & G. - 25/32

Second floor rooms — Species ____ Grade ____

All oak floors are end matched. yes Finish 2 coats floor lacquer

7. CEILING FRAMING:

Joists: Size 2 x 6 Spacing 16" o. c. Material Douglas Fir Const No. #1

Bridging: 5/4. x 3 Spruce

8. ROOF FRAMING: Size 2 x 6 Spacing 16" o. c. Material Douglas Fir Const #1

Roof slope 5" 12" Knee braced Yes Collar braced Yes

9. ROOFING: Sheathing size and material ½" plyscord. Staggered Joint.

Shingles Material and grade 215 4 Asphalt Strip JM or Equal

Underlay material and grade 15# felt

10. GUTTERS and DOWNSPOUTS: Material Clear Fir Treated Gutters 4 x 6" Leaders 2" x 3' Alum - Alcoa

11. INTERIOR WALLS: Size and material ½ Sheetrock U.S.G.

X Taped X Cemented X Sanded

12. INTERIOR DOORS AND TRIM: Doors: Type Flush Material Birch

Thickness 1 3/8" Finish Natural Paint ____ Stain X

Trim: Type Pine - Natural Finish Varnish

13. WINDOWS: Type Double Hung Material White Pine Thickness of frame 1 3/8"

Thickness of sash 1 3/8" Make Susser - Bylevel Line Corp

Weatherstripping Aluminum full Jamb weatherstrip

Cellar windows 4 - Prefit. Weather Strip Deluxe.

14. EXTERIOR DOORS: Main entrance door: Material White Pine thickness 1 3/4"

Other entrance doors: Material Fir thickness 1 3/8"

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15. EXTERIOR DETAIL. Exterior millwork. Painted X Stained ____ no. coats 2

16. CABINETS AND INTERIOR DETAIL: Cabinets, material Red Birch

Lineal feet wall cabinets 14' base cabinets 14'.

Counter top: Formica 4/5" Back Splash

17. STAIRS: Basement: Material Fir 2 x 10 Risers 2 x 10 Treads

Main. Material — Risers — Treads

Rec. room: Material — Risers — Treads

18. SPECIAL FLOORS AND WAINSCOTS

Floors.	Location	Material description	Underfloor
	Kitchen	Vinyl Asbestos	
	Bath	Ceramic Tile (Main Bath)	
	Fireside Room	Vinyl Asbestos	

Walls.	Location	Material description	Height
	Bath	Ceramic Tile (Mosaic)	4' all walls, 5' over tub

19. PLUMBING.

	No.	Location	Make	Special Equipment, etc.
Sink	1	Kitchen	Amer Std	21 x 32 Double Bowl
Lavatory	2	Baths	" "	Bath - Cast Iron in Color
Water closet	2	Baths	" "	
Bath tub	1	Baths	" "	
Stall shower	0	—		
Tub shower	1	Main Bath	" "	
Laundry trays	1	Cellar	" "	

Water supply X Community system ____ Individual system for this home.

Sewage system X Community system ____ Individual system for this home.

Water piping: Material Copper tubing

Water heater: Size, how fired, make 30 gal. gas fired - 10 year warranty

20. HEATING: Hot Water ____ Baseboard ____ Cast Iron Baseboard ____

Loop System ____ With Main ____

Make ____

Warm Air X Forced ____ Perimeter ducting ____

Make G.E How fired Gas Storage capacity ____

Air Conditioning. Yes - G.E or Equal

21 ELECTRIC:

Service: Overhead No. of boxes 50 Fixture allowance $100

Built in equipment. Built in Tappan Oven & Range

Special details. Exhaust fan for kitchen & ½ Bath

22. INSULATION: Roof: Material ____ Thickness ____

Ceiling. Material Rock wool Thickness 4"

Exterior Walls. Material Rock wool Thickness 2"

Other: ____

23. LOT, EXCAVATION, BACKFILLING, ROUGH GRADE, FINISH GRADE, SEEDING, DRIVEWAY, ETC. ____

Description: Crushed Stone - Crushed Road Stone Driveway

24. PERMITS, INSURANCES, SPECIAL PLANS, ETC. By owner builder

MISCELLANEOUS: Attached 2 car garage, fireproofed and wired Two foot overhang front & rear of house Bilco door.

The specifications are written for each trade and in the order that the construction will be performed. Thus, they would start with excavation and continue with masonry, carpentry, roofing, plumbing, heating, air conditioning, electrical, painting and decorating, and other trades the owner might wish to include (driveways, landscaping, etc.)

The specifications help to simplify the job of the contractors in estimating costs, ordering materials, etc. They usually indicate to the builder what alternatives or substitutions he is allowed in certain areas. Thus, the cost of the labor and materials can be more accurately established.

Finally, specifications, once accepted, are legal documents that protect the interests of the owner, builder, and architect.

Summary:

1. Specifications explain the drawings with regard to extent of work, workmanship, quality of materials.
2. They prevent misunderstandings and disputes.
3. Estimating is simplified and has greater accuracy.
4. General clauses cover all areas that might overlap or be overlooked.
5. They protect the interests of all parties concerned
6. They clearly spell out what substitutions, if any, can be made.

The Written Contract Lesson 6

Objective:

At the end of this lesson the student will understand the important role of the written contract.

Related Information:

Did you ever hear the expression "talk is cheap"? Well, it's true, and that's why the written contract is so important.

Every science teacher knows that when John Wayne and other good guys were settling the West, a man's word was his bond. Guys used to trade horses and steers on a mere handshake – until the Big Depression. Then everybody got sneaky and started to lie and cheat, and that's how written contracts took hold.

Written contracts bind all parties to deliver their services and materials in the quality and the quantity and method agreed upon.

Written contracts in building are advisable as follows:

1. With the purchase of land (with the seller of the land)
2. With the architect
3. With the builder
4. With the material suppliers
5. With other contractors (not covered by builder's contract)
6. Some agreement with surveyor and attorney

Competitive bids can be accepted or rejected. The decision to choose one over another is made after consideration of the integrity, ability, performance record, and financial responsibility of bidders. The lowest bid may not always be the best, and the best appearance does not necessarily indicate the best contractor.

Contracts should be prepared by an attorney familiar with or specializing in building and real estate. Stock legal forms are available at stationery supply stores, but a "do-it-yourself contract" can be a dangerous gamble.

Why a contract is so important

The language of the contract should be clear, nothing of importance should be omitted, and clauses should be included regarding delays due to labor, weather, strikes, etc.

Loan applications depend on contracts, so that the true value of the construction is known. Lending institutions require a copy of the plans and specifications plus estimated value before they will issue a firm letter of commitment.

Note: A letter of commitment is a written legal commitment that the lender (bank) will lend a specified amount of money. It stipulates the terms of the loan--mainly as to how much money is to be released at certain stages of construction.

Warning:

1. Avoid verbal agreements.
2. Read a contract carefully before signing.
3. Have a lawyer to protect your interests.

UNIT III – EXCAVATION

Review of Matter — Lesson 1

Objective:

In this lesson the student will lay his own foundation for understanding the nature of soil and its relation to excavation. He will know about several of the properties of matter.

Related Information:

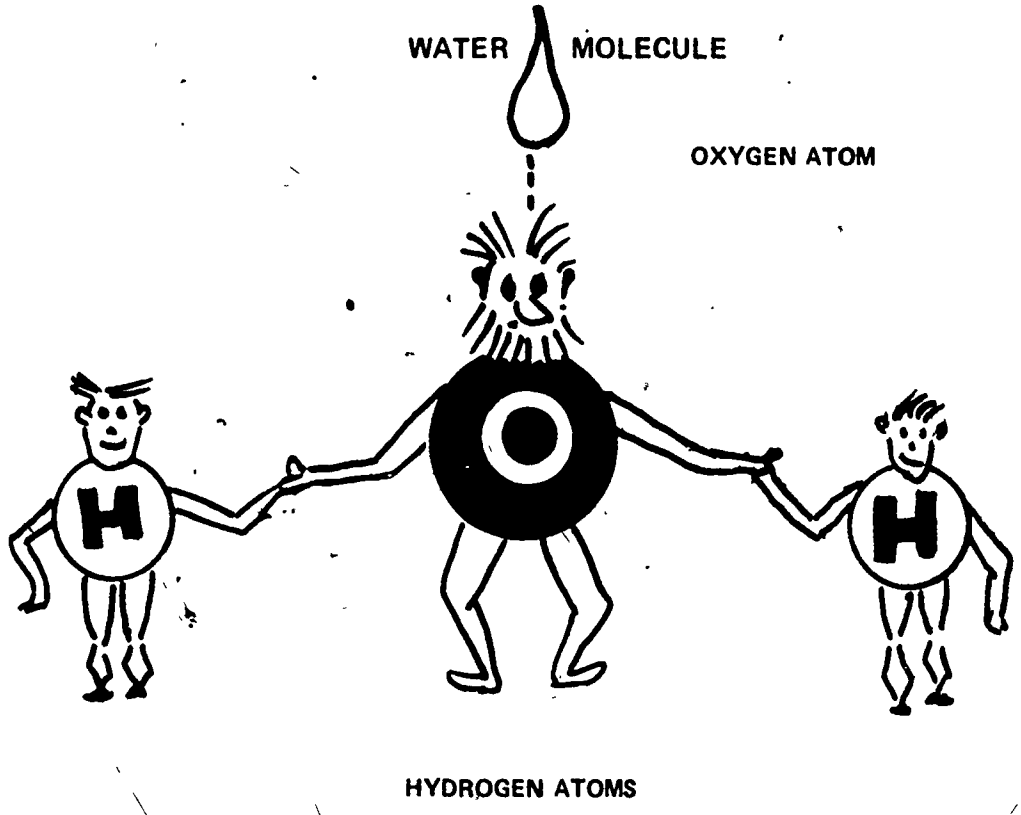
The type of "matter" that a house is set on determines the type of foundation. For example, the soil in many parts of Florida has water just below the surface, making a cellar impossible or at least impractical.

The purpose of this lesson is to make a swift review of matter to clear up any confusion. Yes, there is confusion. Too many students have been running around the school asking "What's-a-matter?" School principals take a mighty dim view of students running around with fuzzy concepts, and naturally blame science teachers.

. . . . . And so, by popular request (mostly principal's), we will review "What's-a-matter."

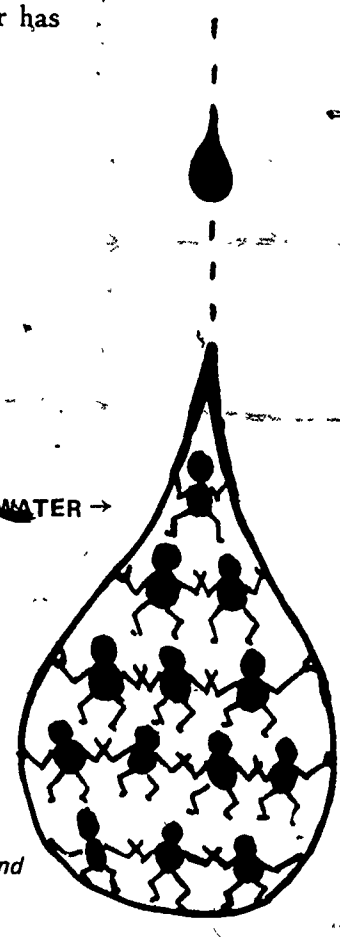
A. WHAT'S-A-MATTER. Matter is anything that occupies space and has weight. It is found in three forms – solid, liquid, and gas. (Perfect example: a lazy student. "It" occupies space and has weight.)

B. STRUCTURE OF MATTER All matter is composed of very small particles, called atoms and molecules. Each *molecule* represents the smallest piece that a material can be reduced to and still retain its properties. For example, water (chemically, H_2O), when reduced in size beyond its smallest speck (a molecule) will divide into hydrogen and oxygen *atoms* – it will no longer be water.



C. PHYSICAL PROPERTIES OF MATTER. Matter has certain characteristics:

1. Mass and weight
2. Density
3. Volume
4. Adhesion
5. Cohesion
6. Porosity
7. Impenetrability
8. Inertia



COHESION:
Like Molecules
Attract each other
With strong force

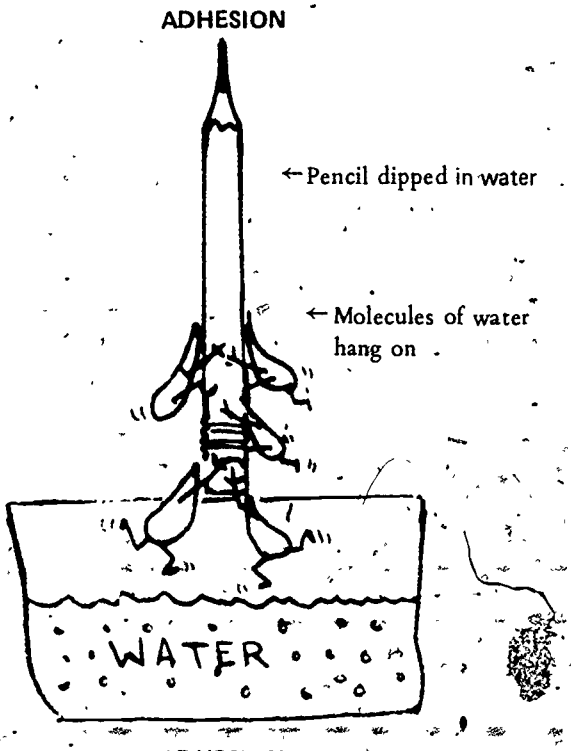
Cohesive force of molecules is what makes drop of water round

In this lesson we will review four of these, leaving the other four to show up in other lessons.

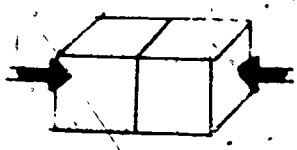
Cohesion: The tendency of molecules of the same material to attract one another (to stick to *like* molecules).

Cohesion Like molecules stick together

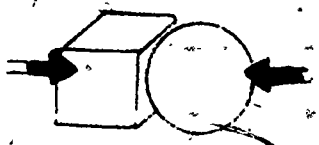
Adhesion: The tendency of *unlike* molecules to attract one another.



Unlike molecules stick together

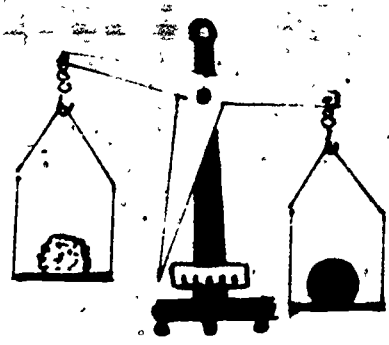


Cohesion:
Like molecules



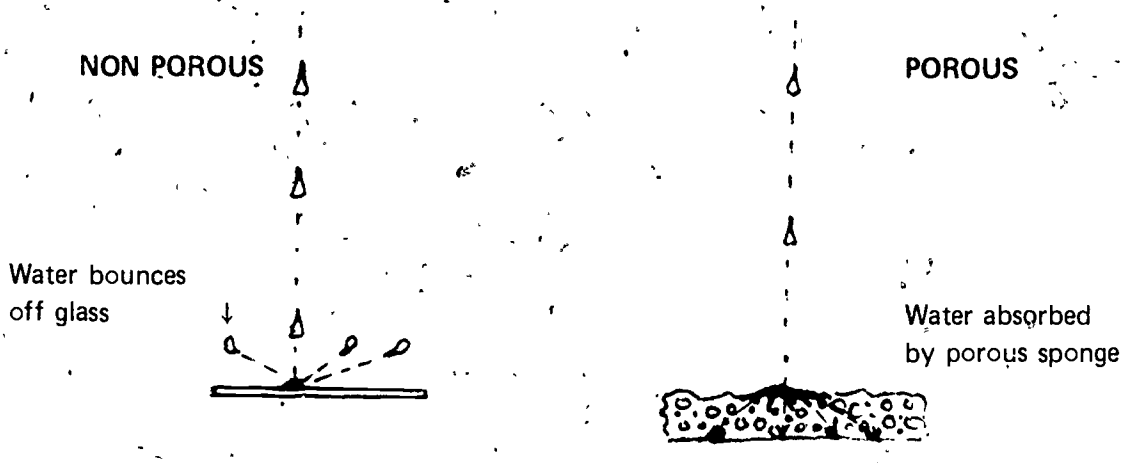
Adhesion:
Unlike molecules

Density: Matter is often classified as light or heavy. This comparison is based on the weight of a material in proportion to its size. For example, a cubic inch of lead is much heavier than a cubic inch of meatball. So we say that lead has greater *density* than meatballs (or is *denser*.)

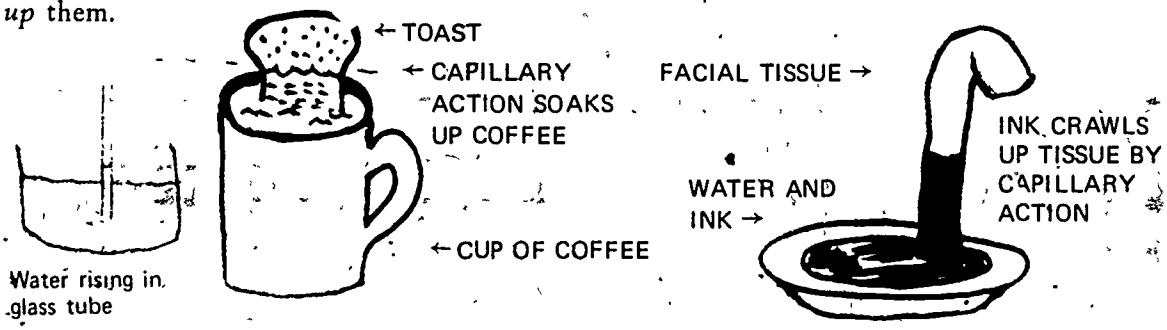


Meatball Lead ball

Porosity: Matter is said to be *porous* when it has large air spaces in it. For example, a sponge and a paper towel are very absorbent – water can take the place of the air pockets – so they are described as porous.



Capillary action: Liquids seem to defy gravity in many situations in the building trades, and this is due to a tendency called capillary action. It seems that a liquid in a narrow tube will pull itself up by a combination of the forces of adhesion and cohesion – first clinging to the walls of the tube and then evening out; then clinging, then evening out; and so on. The spaces in many materials in effect *form little tubes,* and so liquids crawl *up* them.



CAPILLARY ACTION

Capillarity in house construction can be useful or troublesome, depending on what it is doing. If it is pulling moisture through the foundation or walls – that's mischief, and it's bad. If it's helping a preservative sink into wood and preserve it – that's good.

D. THE THREE STATES OF MATTER. Note: The forces between molecules determines the state of matter.

1. A solid – is matter in which the molecules vibrate, but still are tightly packed together by the attractive force between them. A solid keeps its shape pretty well.
2. A liquid – is matter whose molecules have enough motion of their own to overcome some of the attraction between them. A liquid takes the shape of its container.

3. A gas is matter whose molecules have no attraction for each other but are in constant motion. Thus, the molecules of gas can wander off (evaporate) because the cohesive force is weak. If in a container, a gas takes the shape and volume of the container.

COMING NEXT..... The next lesson explains how the science of matter relates to house construction. Don't miss it.

UNIT III – EXCAVATION

Purpose of Excavation — Lesson 2

Objective:

At the end of this lesson the student will understand why excavating is necessary.

Related Information:

HISTORICAL FICTION, OR "HOW THE WEST WAS SETTLED"

Many years ago, when the original settlers came to America and landed at Seaside Heights, a terrible thing happened. There was a terrific housing shortage due to a rich clam-strike that brought prospectors from everywhere. There wasn't a single cave to be rented, leased, or bought, and so the settlers were forced to build.

Science books were very hard to come by, and so the settlers – with no science books to back them – started to build houses without excavating for foundations. They just placed the houses on four rocks.

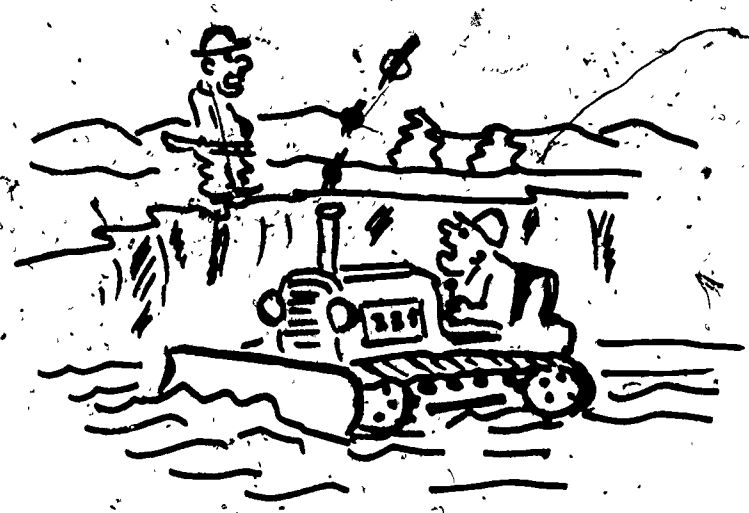
Well, each year when the northeast storms hit, the buildings would move a whiz. The winds would sweep over the Garden State Parkway something fierce, which made the houses move west faster. The houses kept moving until they crossed the Rockies. And that's how the West was settled.

Naturally, this was a terrible shock to these "foreign folk," and so they kept prodding their kids to study science. That is why folks today are very science-conscious now and keep asking one another, "Do you dig it?"

The primary purpose of excavation is to reach a sound base for the foundation, so as to support the load of the house. In cold climates a sound base would be deep enough below ground level to be protected from frost action. The local building codes establish a safe and accepted level to guide builders.

Excavation can serve other purposes as well:

1. It can provide storage space.
2. It can provide secondary living space.
3. It can protect the foundation from damage by man or nature.
4. It can avoid settling that results in cracks in the structure.



A good builder will check the subsoil conditions before excavating. Checking can be accomplished by:

1. Test borings by builder (soil samples)
2. Commercial drilling companies
3. The city engineers
4. Other government agencies
5. Or information may be available from neighbors.

UNIT III – EXCAVATION

Factors Affecting Excavation — Lesson 3

Objective:

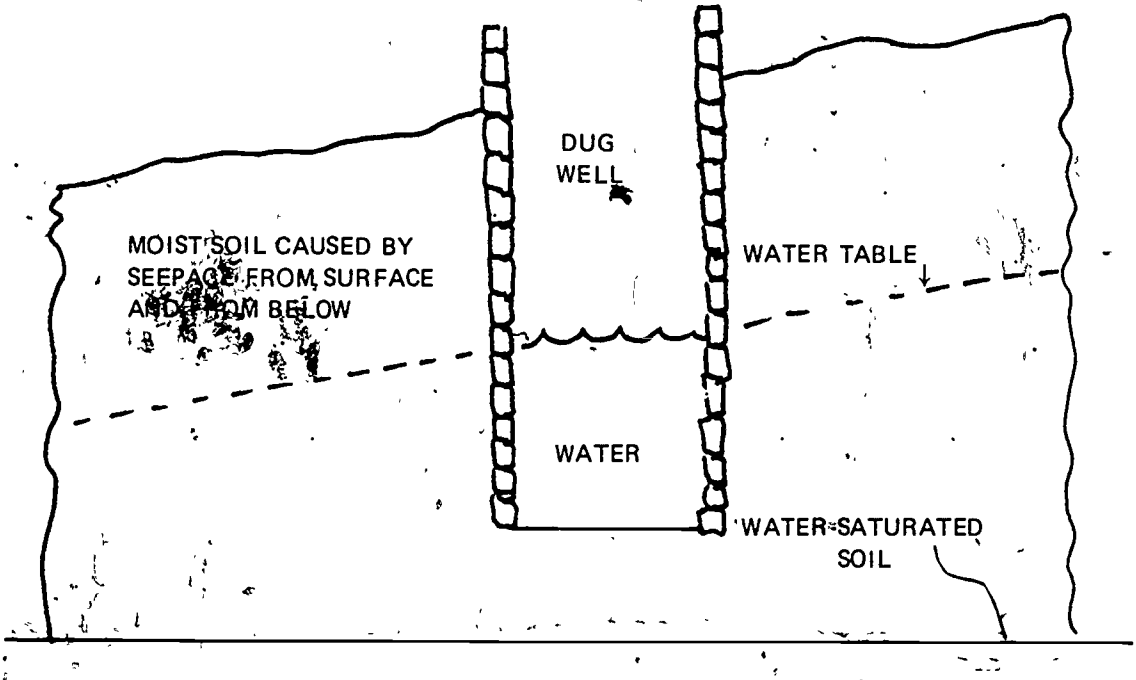
At the end of this lesson you will understand what the different problems are that affect the depth of an excavation.

Related Information:

From the previous lessons we know that soil is a solid state of matter. Due to the force of cohesion which certain soils have in great measure, excavating in these soils presents extra problems to the builder. Let's see what the builder may encounter when he sets out to dig a foundation:

Clay: Clay has a very fine, powder-like texture, like flour or bath powder. This type of soil is quite cohesive, which means it sticks together well. In fact some clay soils stick together so strongly that they are as hard to excavate as solid rock.

Rock: Rocks can vary in size from pebbles to boulders to solid-rock formations. Huge boulders or solid rock require special equipment and sometimes blasting. Removal of rock also creates soft voids that can require expensive reinforcement rods to offset instability.



The Water Table

Hard Shale: Shale is layered rock that is extremely difficult to excavate with the average power shovel or dozer. It can frequently require blasting and special machinery. As a result it is usually costlier to build on shale than on soil.

Sand: Sand is relatively easy to dig but provides a loose-base. Machine tracks in the final cutting loosen the base, which should be compacted before pouring footings.

The water table also affects the depth of the excavation. You are familiar with the moisture in the surface level of the soil. It comes from the rain and snow that fall and also from the water table below, by capillary action.

The water table consists of underground rivers and lakes. This water generally follows the contour (shape) of the land in a current – sort of like a trout stream. This natural ground-water line may be very close to the surface or it may be quite deep. Excavation calls for good judgment Going below this water table can create problems in excavation, installation of foundation, waterproofing, and drainage. Since conditions can vary so greatly, only an experienced excavator or engineer should make excavating decisions.

Climate affects construction in many ways. For example, the depth of frost in the ground depends on the climate. And every good would-be builder knows that sound footings should be below the frost line. Other climatic factors affecting excavation include the likelihood of hurricanes or tornadoes, and the average amount of rainfall. Hence a knowledge of prevailing climate is necessary for accurate decision-making in excavation.

Air and water also affect soils. Most soils are affected by water and will swell when water is added and shrink when it is removed or dried out. Clay, for example, is composed of tiny, fine particles like dust that have a great cohesive pull. Water can affect clay soils in many ways: the soil may swell, shrink, or turn into a semi-plastic, jelly-like mass, or it might lose strength. Water can also, by its freezing action, cause soil to expand or swell; then, as it melts, the shrinkage may cause a drop in grade level.

Because of the effect of air on soils it is advisable to postpone final trenching of footings until the time to pour the concrete. Some soils will become soft if exposed to air, and certain clays will lose their strength by the drying action of air.

The effects of air and water on soils should be borne in mind by a builder. If he has any doubts about the particular soil he is dealing with, he should consult an engineer. When necessary, soils can be scientifically analyzed as to stability and density in a laboratory.

One other factor influencing the depth of excavation is the design of the structure. The overall size and weight of the structure must be considered in deciding the depth and extent of the excavation. For example, residential construction loads are relatively light, and excavation need only reach a sound base below the frost line. A high-rise apartment or industrial building might require additional excavation and footings – and in extreme cases driving pilings to support the structure.

Now we can summarize the different factors that need to be considered when planning an excavation:

1. General type of soil and any particular characteristics
2. Depth of the water table
3. Design of the structure
4. Climatic conditions
5. Cost (blasting might be too costly).
6. Utilities (depth of street sewer line)

THIS LESSON ENDS WITH A QUESTION . . . . . Is it important to remove guesswork as to the nature of soil before building?

THIS LESSON ENDS WITH THE ANSWER . . . . . Yup!

Without this lesson, folks will have to go through life performing the "stomp test" for soil. The stomp test requires that you "stomp" the proposed excavation site in your bare feet. You jump as high as you can in the air, waving your arms like a windmill, and shout "What's the matter?"

HOW TO INTERPRET STOMP-TEST RESULTS . . . .

Solid ground – very little bounce, making your feet smart.

Clay – faint prints of heel and toes and fallen arches.

Swamp – you disappear into the bog and have to be rescued; or your friends tell your widow.

Laying Out the House Lesson 4

Objective:

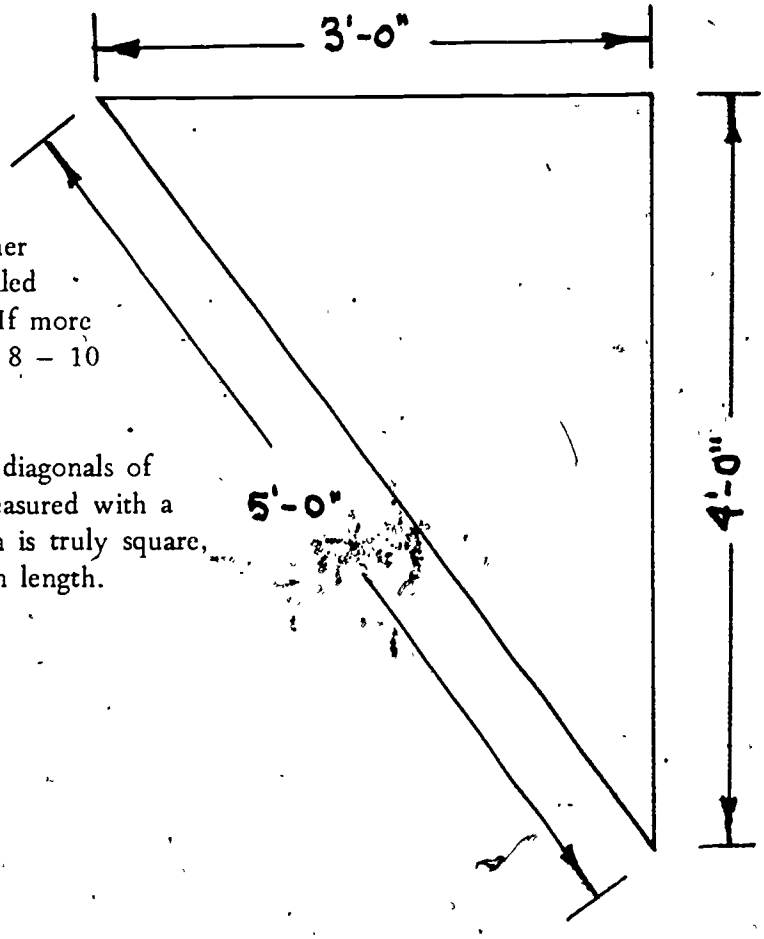
At the end of this lesson the student will understand how a house is placed on a lot.

Related Information:

The first step is performed by a registered surveyor, who sets up guidelines for the excavator, mason contractor, and builder after the site has been cleared.

The surveyor establishes the corner markers of the lot by means of an instrument called a transit, a tape, and calculations. The surveyor will further lay out oak stakes with nails, indicating the outside lines of the foundation walls. On request, the surveyor will offset the stakes 5' on each corner, thus allowing the excavator to work his machine without disturbing the stakes.

The science of mathematics should be used to assure square corners on the foundation. To do this we use the fact that, in a triangle where one angle is exactly a right angle, we can lay off 3 units along one edge, and 4 units along the other edge, and the line connecting these two points will be exactly 5 units long. If it is not, we must adjust the corner angle until it is. This is called the 3 – 4 – 5 method. If more convenient, measure off 6 – 8 – 10 units; it works just as well.



As a further check, the two diagonals of the foundation should be measured with a steel tape. If the foundation is truly square, the diagonals will be equal in length.

Purposes of the Foundation Lesson 1

Objectives:

1. At the end of this lesson the student will know why a foundation is necessary.
2. The student will also understand that a poor foundation will affect future repairs and value.

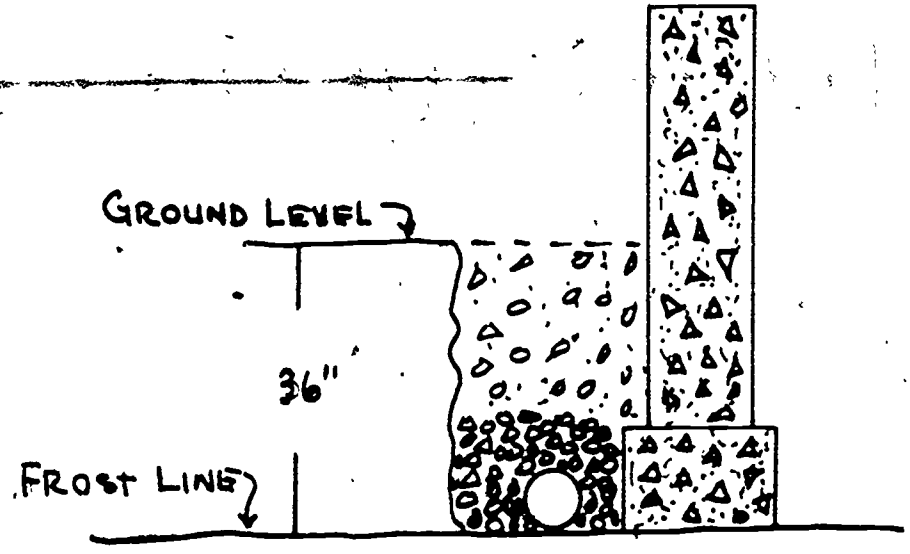
Related Information:

Did you ever hear the expression, "The buck stops here"? Well, it was an expression first used by President Harry Truman. It means that passing the blame on to someone else, eventually comes to an end at the President's desk. This same thought can be applied to foundations.

The successful construction of any house depends on the soundness of its foundation . . . You can't "pass the buck."

The following are some functions of a foundation. You will see why proper design, good materials, and professional workmanship are so necessary.

1. *Foundations provide support.* The foundation walls carry the weight of the entire structure above it – walls, floors, ceilings, and roof. All parts of a house depend to some degree on other parts, and eventually the foundation supports them all. The quality starts here . . . there is no "passing the buck."



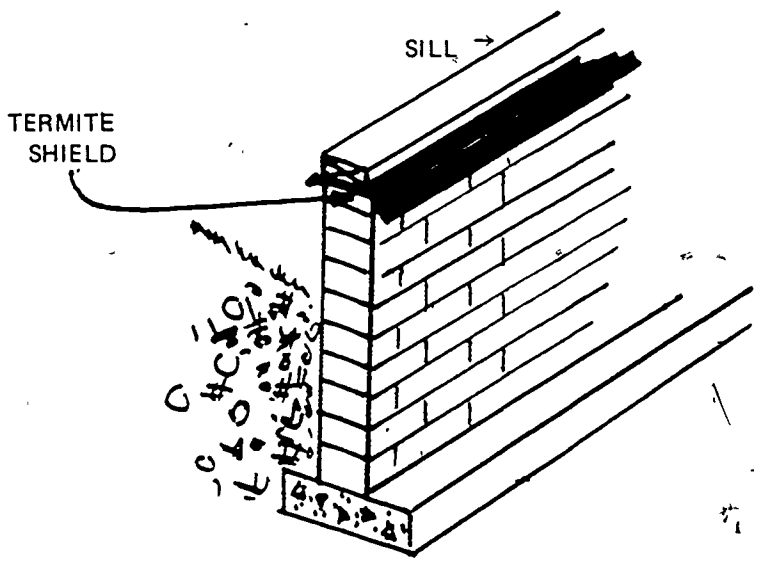
• *Footings must be below frost action*

2. *Foundations protect against action of frost.* To understand why this is so, let us see what happens when water freezes. Materials on freezing change from a liquid state to a solid state. Most materials contract or shrink during freezing, but water *expands* when frozen into ice. This expansion is due to the rearrangement of the molecules, that now require more space as ice than they did as water.

Thus we can easily understand that soil containing moisture will expand as it freezes. As soil freezes, it needs room to expand. Since there is less pressure from above, this causes the ground to push upward, which is called *heaving.* Then as it thaws, it settles again. This up-and-down motion would cause cracks and other serious structural defects to a building resting on the soil. The only way to protect the building is by using a foundation to extend below the level of frost action.

3. *Foundations can provide storage, utility, and living space.* Foundations form an underground enclosure for basements and a protection against soil and water pressure. A dry basement can supply storage areas and areas for recreation, laundry, and heating units.

4. *Foundations can provide protection from insects.* In many parts of the United States, termites, ants, and other wood-boring insects can eat away parts of the structure. The foundation acts as a first line of defense by keeping wood away from direct contact with the soil.



Mini-Facts

Termite shield – a protective shield made of a non-corrosive metal that fits over the foundation like a metal hat. It is also placed around plumbing pipes to keep out those little rascals –– termites.

Termites are whitish wood-devouring insects that resemble ants in appearance and in habits – by living in colonies in the soil – but they really are a different breed of critter. They cannot stand exposure to light and air. But certain termites are so determined to get a good meal that they make mud tunnels on the outside of masonry to provide a pathway from ground to wood.

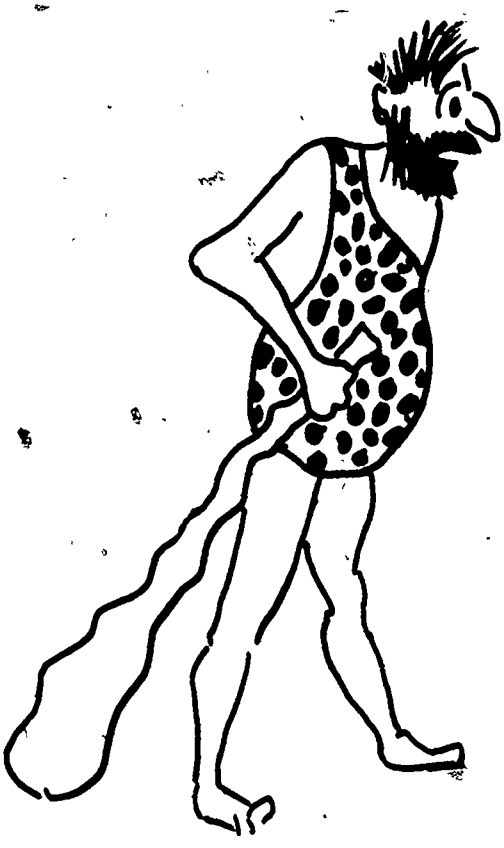
Termites as pets – Many, many years ago before riots and demonstrations were popular methods used by rebellious students, the kids would use the "termite trick." Mean, vicious students would raise and train termites to snap up school desks and seats. The destruction was so terrible that classes had to be called off, and soon every school had "termite days" –– similar to our present "snow days." Well, dedicated science teachers cured that by developing a termite cocktail. An imitation-wood sponge would be soaked with cocktail juice, of which the termites would partake. The termites would get silly (stoned) and couldn't tell wood from steel. They would ruin their molars on the metal and die. Science triumphs again!

Kinds of Foundations

Lesson 2

Objective:

At the end of this lesson the student will know the most popular foundation types and the advantages of each.



Related Information:

Once upon a time when George Washington was just a kid, a fierce classroom debate decided the importance of lessons on foundations. A kid named Brute asked the teacher, "What do persons called students need with lessons on foundations?" Well, normally the teacher would ignore such class participation, but this kid happened to be very tall and very large and so he got an answer. This is that historic reply . . .

"Today's students are tomorrow's homeowners with big mortgage payments. This is when a good foundation is important. A dry, waterproof basement is especially important to male persons when they lose an argument. Some marriage counselors claim that some husbands spend as much as fifty percent of their married life in the cellar. These experts highly recommend dry cellars to protect male persons on those days that they lose."

Now, the real facts . . .

The type of foundation depends on the soil conditions, building codes, climate, and the load to be carried. It also depends on whether a basement is desired. Where there is a full basement, the foundation forms the basement walls. If a house is to be built over a crawl space, the foundation may be a masonry wall, or (to save money) the house may be simply set on piers. Again, in areas where the soil does not permit a foundation as usual, then pilings may be driven into the soil to support the building.

There are two basic kinds of foundations that can be used. The choice depends a great deal on the availability of labor and materials, plus the consideration of costs:

1. Poured Concrete Foundations. – This type is normally considered the best because it tends to crack less and leak less. The entire foundation is poured at one time; thus it becomes a single, solid unit. It also costs less for labor, since the forms can be placed and the concrete poured with unskilled labor. The poured foundation can withstand greater soil and water pressure and is usually watertight. The density of the material is greater, and it resists abrasion and deterioration better than block foundations. The disadvantage is that it is not too flexible for changes or additions.

2. Concrete Block Foundations. – This type of foundation is widely used and highly satisfactory if carefully built. Since the blocks are large units, the foundation can be speedily erected. This type is especially useful where concrete is unavailable, too expensive, or impractical because of lack of access.

A "True Story" About the Origin of Footings

Lesson 3

Objective:

At the end of this lesson the student will know the truth and the whole truth about the origin of footings – the facts that most history books are afraid to tell.

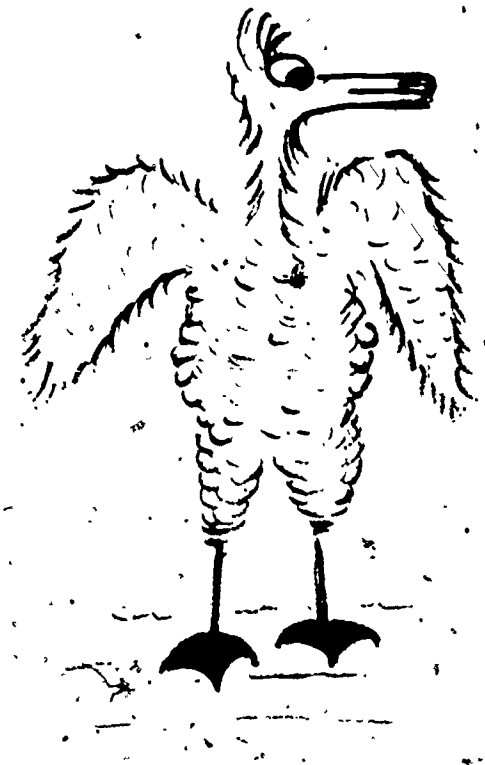
Related Information:

Many, many years ago, everything with feathers that could fly was called foul. Chickens were often classified as "real foul." In a sense there was some justification to this label, because their feet were always covered with sticky mud from the barnyard. But this mean, vicious label caused some of the chickens to rebel. These were the "concerned" birds, concerned about ecology (pollution, environment and community health).

This concerned group was worried about barnyard conditions, especially the wet spongy soil condition and its effect on safe footing. These birds formed a study group, that started from scratch and developed the first scientific theory on footings.

This in-depth study revealed that many serious foot ailments, such as athlete's foot, arthritis, water on the knee, and gout were all caused by poor footing. This group found that chickens' feet were poorly designed to carry the chicken-and-egg load. This poor design caused chickens to sink up to their kneecaps in barnyard mud. The concerned group now had a mission –– to improve shaky balance and squiggly footings. But how?

The concerned group recommended that flaps be sewed between the toes. The object was to distribute the load so that birds could walk on mud and mire with ease and stability. The first design was a smashing success. No longer did muck squirt or ooze between their toes, and stable footing was now possible.



The concerned group went wild with joy and decided to split with the old uptight birds (who preferred things as they always had been). The first thing they did was to change to mod feathers and greasy kid stuff to waterproof their feathers. They next decided to go all out and change their name to "ducks." Thus they created a new scene.

To this day web-footed ducks with greasy feathers run circles around the plain chickens, because they can navigate on any type of soil.

During all this commotion, architects and builders were hiding in the weeds, making careful observations and taking notes. This sneaky group decided to copy the ducks, and the first thing they designed were devices to improve their own footing.

One of man's first footing problems was to walk on snow, and so he designed snowshoes. Snowshoes worked just like ducks' feet – they spread the load and distributed the weight. The next problem was to travel in muck and mud, and so man started to place flat boards and rocks to keep from sinking.

Then man extended his ideas on distributing the load to paved roads, and now wagons and trucks were able to meet their delivery schedules.

At last man applied the idea of spreading the load to his houses, schools, saloons, and other places of rest and recreation.

He devised the idea of a wide platform under the base of foundation walls so the buildings would not sink down and perhaps disappear from the face of the earth in a bad rainstorm.

Just think – if it wasn't for footings you would still be living in caves, and there would be no schools. Isn't that a horrible thought!

Importance of Footings — Lesson 4

Objectives:

At the end of this lesson the student will:

1. Understand why the guess-and-mess method of making footings will not do.
2. Apply tried-and-true methods based on science.
3. Follow a set of proven rules to avoid future problems.

Related Information:

A footing gives a house the same stability as a duck's foot in mud or a pair of snowshoes on a hunter's feet. They all *distribute the wieght of the object,* providing stability and preventing sinking. Therefore, if you want to avoid basement leaks, building cracks, or sticking doors or windows – install the footing properly. The footing of a house is the concrete pad or snowshoe on which the foundation and the house rest. So let's go.

1. *Ye Olde Guesswork Method.* – Sloppy, shaky, unstable footings are easy; all you have to do is eliminate common sense. The trick to this method is to start off confused and maintain this way-out state all the way. First, select any spot on the lot and start digging like a madman. Be sure to ignore the depth of the excavation, the type of footing, and the size. Footing forms? Who needs them! Then order concrete, but don't specify the mix, and refuse to give the concrete company the delivery address. This keeps everybody guessing. If the truck does arrive through some error, let the driver add water until the mixture is like soup. It spreads more easily that way. By using this method, whoever lives in the house will "bless" your name for ever and ever.

   Exaggerated, you say? Sure, but guesswork and carelessness will produce disaster every time.

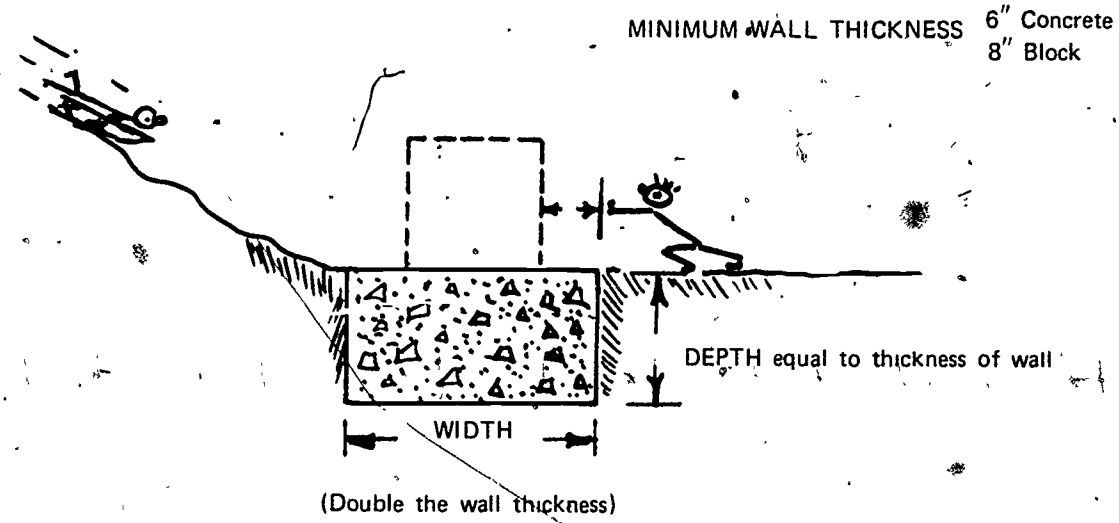
2. *Right Method – Based on Science*

   a. **Soil Conditions.** – Normal conditions would consist of a hard-pan type of soil or very firm, well-drained soil. Should you encounter a filled-land situation, the footings should go deeper and reach undisturbed solid ground. Any abnormal soil conditions, such as loose sand, clay, fill dirt, or water require special treatment. Then the footings should be made either wider or deeper or have special reinforcements added.

b. **Weather.** – Footings should extend far enough below the frost line to protect against heaving and settling. This is not only practical from the point of view of science but is required by most building codes. Most codes in New Jersey for example, require a minimum of 3 feet below grade.

c. **Compressive Strength.** – These are fancy words, for sure, but mighty important, so hang in for translation to student language. Adequate compressive strength means that the weight of the load (house) on the concrete footing will be supported without failing or crushing. For example, a certain footing placed on solid, bearing soil will withstand a load of 2,000 pounds per square inch without failing or crushing. Hence 2,000 pounds per square inch is its *compressive strength.*

d. Tensile Strength. – This means the ability of a footing to resist being torn or broken apart. Concrete by itself has very little tensile strength. Therefore, if the soil conditions are poor, you need something to improve it. Steel rods or reinforcement have an excellent tensile strength and so should be added. Now, the concrete "borrows" the tensile strength of steel, and the footing strength is regained.



Determining Size of Footings

e. **Size**

To determine *width* of footings – double the width of the wall.
To determine the *thickness* – measure the width of the foundation wall and use that measurement.

(Note: This is a simplified method, based on firm soil conditions.)

Example:

Proposed foundation wall is 8" thick and 8' high.
Width of footing = 2 x 8" = 16"
Thickness of footing = 8"

3. *Do's and Don'ts*

a. Footings should be made of poured concrete.

b. Follow recommendations of building codes and concrete suppliers as to type of mixture and weight-bearing ability of concrete.

c. Concrete footings should be poured continuously. No load should be placed on the footings until the concrete is properly firmed up.

d. Avoid excessive water in the mixture. It may make it easier to spread, but it will weaken the footing. Footings should be poured fairly stiff.

e. When in doubt as to thickness of footing, use this rule: *Never make thickness of footing less than thickness of wall.*

f. Footing width should be designed to bear the load. Under normal conditions make it at least twice the width of the wall it is to support.

g. Never use fill dirt if the trench is too deep in spots. Use additional concrete – it may cost a little more now, but it is cheaper in the long run.

Form Construction for Footings

Lesson 5

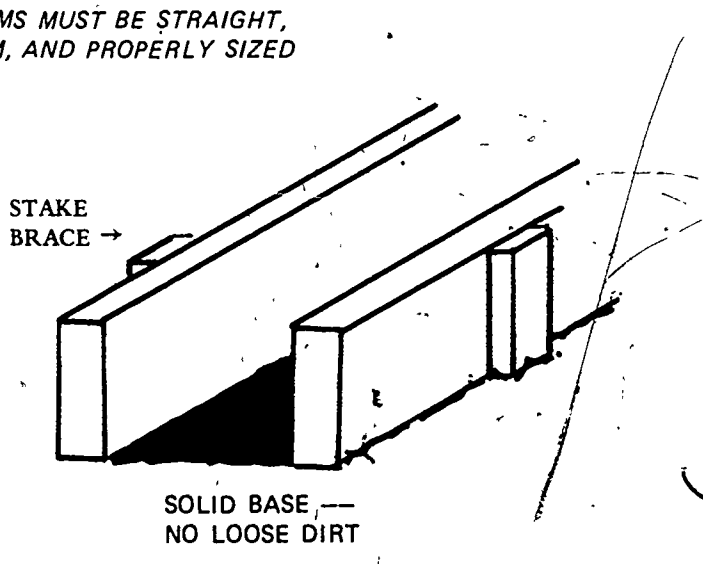
Objective:

At the end of this lesson the student will understand the use of forms in making footings.

Related Information:

The main purpose of this lesson is to learn how to build proper forms for residential homes (or how to keep concrete out of your shoes). You may never have to build a form in your life, but at least you will know good from bad. Sneaky contractors will avoid you as they do taxes, and you will live a long, happy life.

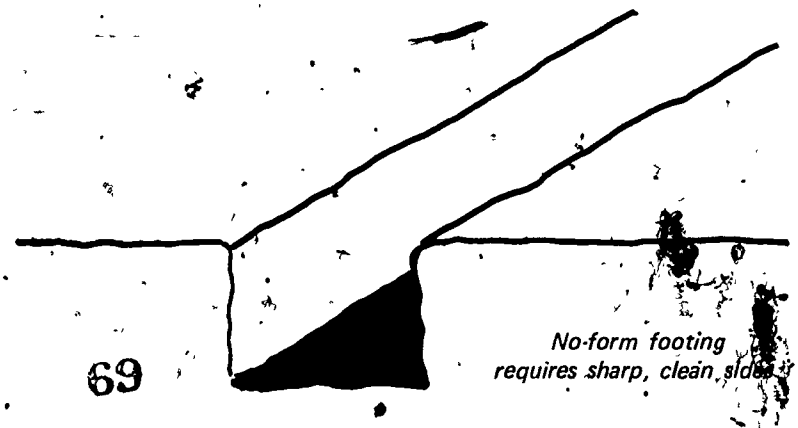
Simple concrete forms for residential construction can be constructed from rough materials or less-expensive framing lumber. Form stock should be selected from clean, straight, and strong lumber, like 2 x 8's or 2 x 10's in long lengths.



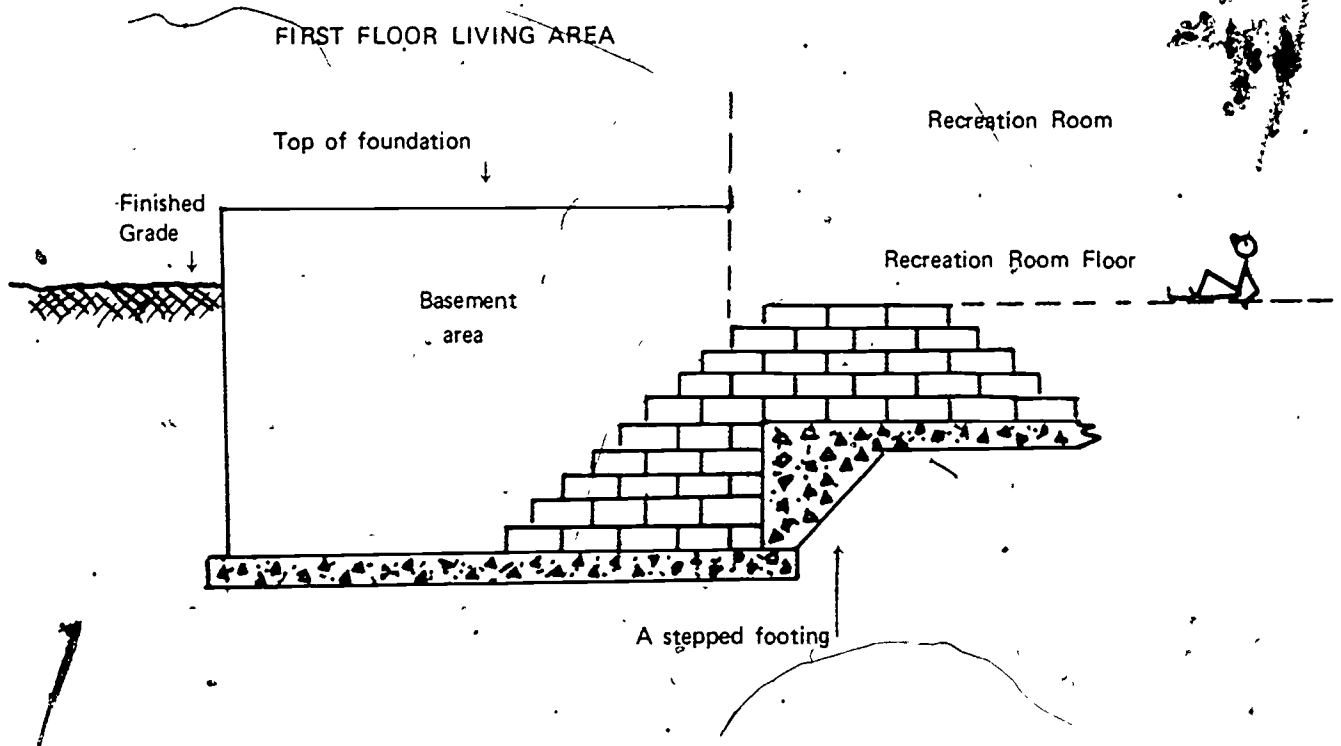
After the forms have been properly built to desired measurements, they should be leveled, braced, and the entire unit squared. The next step is to oil the forms to prevent the concrete from sticking to them, which makes removal difficult.

Concrete exerts great pressure, and forms must be strongly braced and tightly constructed to avoid bulging or leaking.

Leveling and squaring are an absolute must – unless you like crooked houses. If you're fond of crooked houses, then save all your old textbooks so that you can level the furniture and appliances.



Some footings can be installed by cutting and excavating a clean trench. However, the earth must be firm and solid, and good weather is necessary to avoid damage. This method can conserve time and labor, but the soil must be firm, solid, and not too porous.



In some cases a footing must be stepped or set at different levels. The slope of the land, obstructions, or the design of the house may require a stepped footing. The basic principles remain the same – the rest is common sense.

UNIT IV – MASONRY

Code Requirements — Lesson 6

Objectives:

1. At the end of this lesson the student will understand that building codes are part of the law and *must* be followed.

2. The student will also understand that building codes regarding masonry provide quality and safety safeguards and *should* be followed.

Related Information:

When our country was a young teenager, there was no need for building codes. After all, there was just so much you could do with a log cabin or sod house plus an outhouse. However, as the person-population increased, persons not only stomped on one another's feet, but they built all sorts of buildings, some of which endangered life and limb. Sagging houses, leaky plumbing, and overflowing septic tanks caused tempers to flare, and so building codes were developed.

Most building codes cover every phase of construction, including such items as excavation, masonry, framing, electrical work, sanitation, etc. These building codes are based on the type of soil, climate, and structure. In general, all plans, specifications, and construction methods must meet or exceed the established code.

Most masonry codes include the following major points:

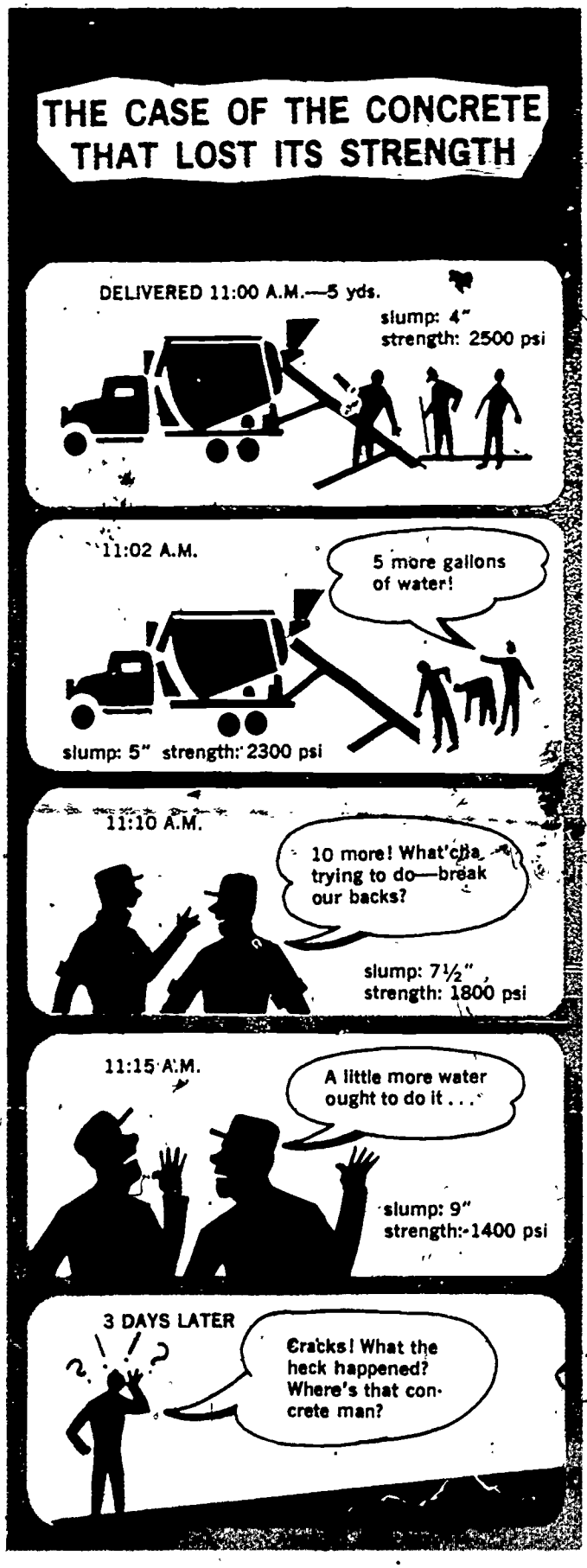
1. Climate: In cold climates the masonry base or footing must extend below the frost line. This protects from heaving and thawing, thus avoiding movement and cracks.

2. Soil conditions: Soil conditions vary from area to area, and footings must be designed accordingly. The footings must support the building weight effectively and evenly, and thus codes require they be set on solid ground. Other than solid ground requires special footing design, reinforcement, or construction methods.

3. Temperature: Temperature plays a vital role before, during, and after pouring concrete. Most building codes prohibit work at below-freezing temperatures. Thus a good rule to follow is: Don't pour concrete when the temperature is below 33°F. and getting colder. Masonry that is completed should be covered with insulating materials to keep it from freezing; and most codes require this.

4. Forms: The sizes of footing and wall thickness, width, and design should comply with local codes. Forms must be accurate, neat, and well braced in most cases before permission to pour is given.

5. Concrete: Concrete must meet specifications of the local code, based on the load-bearing ability. The load-bearing ability, usually measured in pounds per square inch (P.S.I.), depends upon the concrete-mix ratio of sand,



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cement, and gravel. The mixing must be done on the site, and the addition of extra water is not permitted by code. The delivery ticket specifies the mix ratio, water to be added, and pound test of mixture.

Note: In general, the building inspector enforces the code and must inspect and approve of all phases of construction. This includes inspection of the depth of the excavation, the footing forms, and periodic on-the-spot inspections of the work in progress.

What Is Cement? Lesson 7

Objectives:

1. The student will learn a hazy, hysterical history of cement – the Rock Age Scene.

2. At the end of this lesson the student will understand what cement is, how it is used, and the advantages.

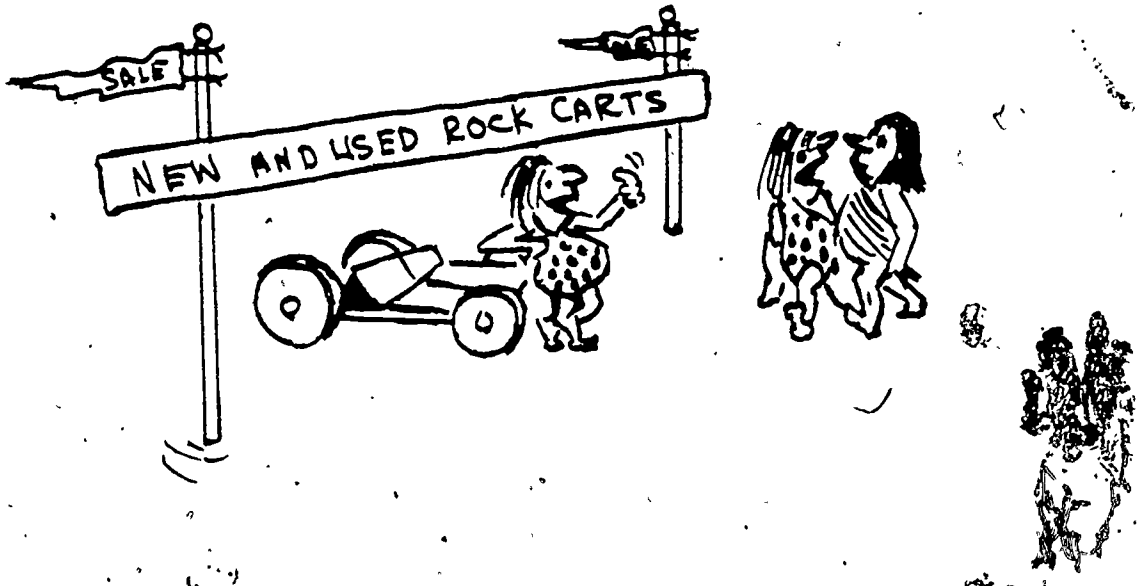
Related Information:

Masonry materials are used in construction because of the following advantages:
1. Strength – they have the ability to support heavy loads.
2. Toughness – they have the ability to withstand soil pressure, water pressure, etc.
3. Durability – they have the ability to withstand wear and tear for long, long years.
4. Economy – they are inexpensive, plentiful, and practical.

Beautiful advantages! But how do you *combine* masonry materials – make them stick together – to make a construction that has the strength, toughness, durability, and economy that masonry materials are capable of?

Well, this explanation belongs to the history department – not the science department. So, let's check the blurred pages of history – the coke stains make it the "real thing".

1. Rock Age Scene (Hazy History, Vol. I). – Folks called "rock snappers" in the Stone Age provided vocational education for rock diggers, rock rollers and rock and roll groups, but somehow they forgot "rock joiners" (as the masons of the day were called).



What made the scene worse was the condition of the rock market. The rock market was really in bad shape. It had taken a big tumble. All the used-rock lots weren't moving a thing – except small, compact "foreign pebbles" here and there.

Then along came some folks called Egyptians, and their kinfolks the Romans and the Greeks – a real rock set. Well, this group really got the rocks rolling, and to this day folks call them the "rolling stones".

They started to put the rocks together with lime and plaster of paris. That's right – by using this natural cement they threw up the Colosseum, some pyramids, a number of aqueducts, and – some folks claim – Yankee Stadium too! They also used this stuff to keep false teeth in place and to give soda water that real thing – flavor. (As a matter of fact, cola with cement added is the "real thing".)

With all that use, the excess rocks were taken out of the market, a scarcity developed, and many a used-rock dealer became a millionaire. Their wives went around with large rocks cemented to bands on their fingers.

2. Pure Honest Science. – People kept searching for a better way to bind things together when building. They experimented with various materials. Finally, they found that special types of stones and lime, if ground, combined, and heated, produced an excellent cement. This product was called portland cement (after the Isle of Portland, in England). Thus from about 1800 on, portland cement has been used with excellent results.

Facts about portland cement:

1. Portland cement is not a trade name; it only means a certain type of cement.
2. Portland cement is sold in bags of 94 lbs. each. This is exactly equal to one cubic foot of powdered cement.
3. All portland cement is hydraulic. This means it will harden or set under water.
4. Portland cement acts as a binder when mixed with water. Water and cement when combined form a chemical combination, creating hard crystals that adhere to sand and stone and thus bind them together.

Types of Cement Lesson 8

Objective:

At the end of this lesson the student will know about a number of different types of cements and their uses.

Related Information:

1. Ordinary Portland – normally used for general construction work such as buildings, bridges, roads, sidewalks. In other words, for average work.

2. High Early Strength – used where higher strengths are required at early periods. The strength of cement depends greatly on how fine it is ground. High-early is ground superfine. Thus it not only is stronger to start with, but it takes less water and hence is stronger and faster in setting and hardening. Hence, when a structure has to have excellent strength and go up fast – high early portland is the best buy. It also reduces the time required for protection in freezing weather. Yup – they use it for schools.

3. Sulfate-Resistant – used in construction where the structures are affected by waters with high concentrations of sulfates, such as sea water, water in certain manufacturing plants, or on certain ground areas with sulfates. Sulfate-resistant cement will not be weakened under these conditions.

4. Aluminous-Type Cement – used especially where concrete has to be used right away. Examples – sewers, airport runways, water mains, telephone installations or any other installation where repairs must be made as quickly as possible. This cement is made highly resistant to injurious ground- and sea-water by eliminating free lime.

5. Air-Entraining Portland – contains small quantities of a chemical which produces millions of tiny, well-distributed air bubbles. The addition of air improves the workability and increases resistance to thawing, freezing, and the bad effects of salt. It is used mainly in industrial construction.

SPECIAL-PURPOSE CEMENTS

1. Mortar Cement – usually made by combining normal portland and high-calcium limestone, or, simply stated, adding a small amount of lime to make the cement buttery, hence easier to work with. Mortar cement can be bought prepared or can be made by adding 10 to 15% lime to portland cement.

2. White Portland Cement – similar to regular portland in all aspects but color. It is made from specially selected ingredients to produce a pure white finish. It has the same strength as regular portland but has beauty in addition.

Concrete Lesson 9

Objectives:

1. To understand the difference between cement and concrete.

2. To learn that cement makes possible a great variety of building products.

Short review:
In the previous lesson we learned that cement is a material that, when combined with water, will bind things together. Simply stated, *cement* paste is a *binder*.

Concrete is a combination of ingredients: a paste of portland cement and water, combined with sand and either gravel or crushed stone. The sand and stone (or gravel) have no ability in themselves to stick together; they are used merely as fillers. Once the cement paste is added, a chemical action transforms the mixture into concrete. This solid, hard mass all depends on the binding action of the cement paste.

Cement is such a versatile binder that a tremendous variety of building products is available – cement block, cinder block, brick, and structural, floor, and roof tile. Concrete poles for road signs, road tile and pipe, fence posts, septic tanks, lawn furniture, sidewalks, highways, curbs, bridges, ramps, walls, etc. – all are made with cement.

On your way home today, see how many different concrete products you can see.

Concrete Advice Lesson 10

Objective:

At the end of this lesson the student will understand more about concrete and how to handle it.

Related Information:

Once you have learned how to handle concrete, you will be the object of envy on the part of ordinary people. You will also be able to advise your "paw" how to install watering troughs for cattle, to weasel-proof hen-houses, build foundations for dog houses, footings for wine cellars, or a cement pit for sheep-dipping or barbecues. Win the admiration and friendship of your "pop" – act as his advisor.

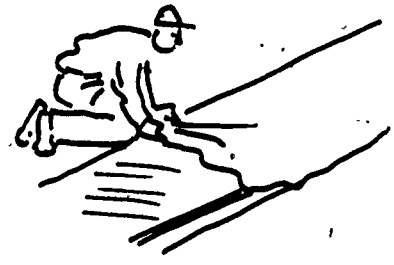
1. Effect of air temperature on concrete

Low temperatures retard concrete's chemical action (hardening) and also cause concrete to lose strength.

Extreme cold or freezing almost stops hardening altogether and can ruin footings.

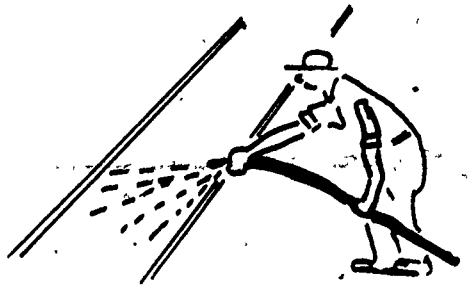
Best air temperature should be between 50°F and 70°F. If higher or lower, use protective measures (or don't do the job).

To prevent the soil and the footings themselves from freezing, use some protective insulating materials before and after pouring. Examples – straw, salt hay, other insulating materials, or some form of artificial heat.



Protect footings from freezing

Avoid rapid evaporation of water from concrete. If water evaporates too quickly, hydration (hardening) will not be complete. Wind, air temperature, and humidity all affect proper "curing." Conditions must be as nearly ideal as possible. Protect newly poured concrete from the hot sun. Dampen subsoil and forms and cover them. Slow evaporation of moisture is absolutely necessary for curing.



Protect concrete from drying too fast

2. Using chemicals

The chemical calcium chloride is sometimes used to speed up the setting time of concrete. It should not exceed 2 percent by weight. Chemicals *will not* prevent concrete from freezing. There is no such thing as a concrete antifreeze. The best advice is *Do not pour concrete in freezing weather.* If you must, then use every possible precaution before, during, and after pouring to keep it from freezing.

3. Curing

"Curing" means proper hardening (hydration). Proper curing depends on proper temperature and moisture. Unless you *absolutely* control these factors, the concrete strength is sacrificed.

4. Placing concrete

(Note: The word "pouring" is not used, as concrete should be used as stiff as possible). Mixes should be stiff, chutes should be smooth, and the concrete should drop no more than 3 or 4 feet. If the concrete drops from too great a height, stone "pockets," sand streaks, and separation of materials result.

5. Water in concrete

The principal function of water is to bring about hardening (hydration). *It is absolutely essential to avoid excessive water in mixing.*

Water for concrete must be clean and pure. A good rule to remember is – if it is fit to drink, it is fit to be used. Excessive impurities in the water can affect the strength, stability, setting time, and ability to withstand discoloration and deterioration.

Controlling Surface Water — Lesson 11

Objectives:

1. At the end of this lesson the student will understand why surface water collects next to a house.

2. He will know some common-sense remedies for this.

Related Information:

Controlling surface water around the foundation of a house is a perplexing problem to many homeowners. Let us make some simple observations in house construction and clear up any misunderstandings about this.

First Observation:
In excavating for a foundation, the excavation must be made larger than the size of the foundation. This is done to allow room for the forms and drain tiles, and also to allow room for the masons to work – installing the walls, waterproofing, and whatever.

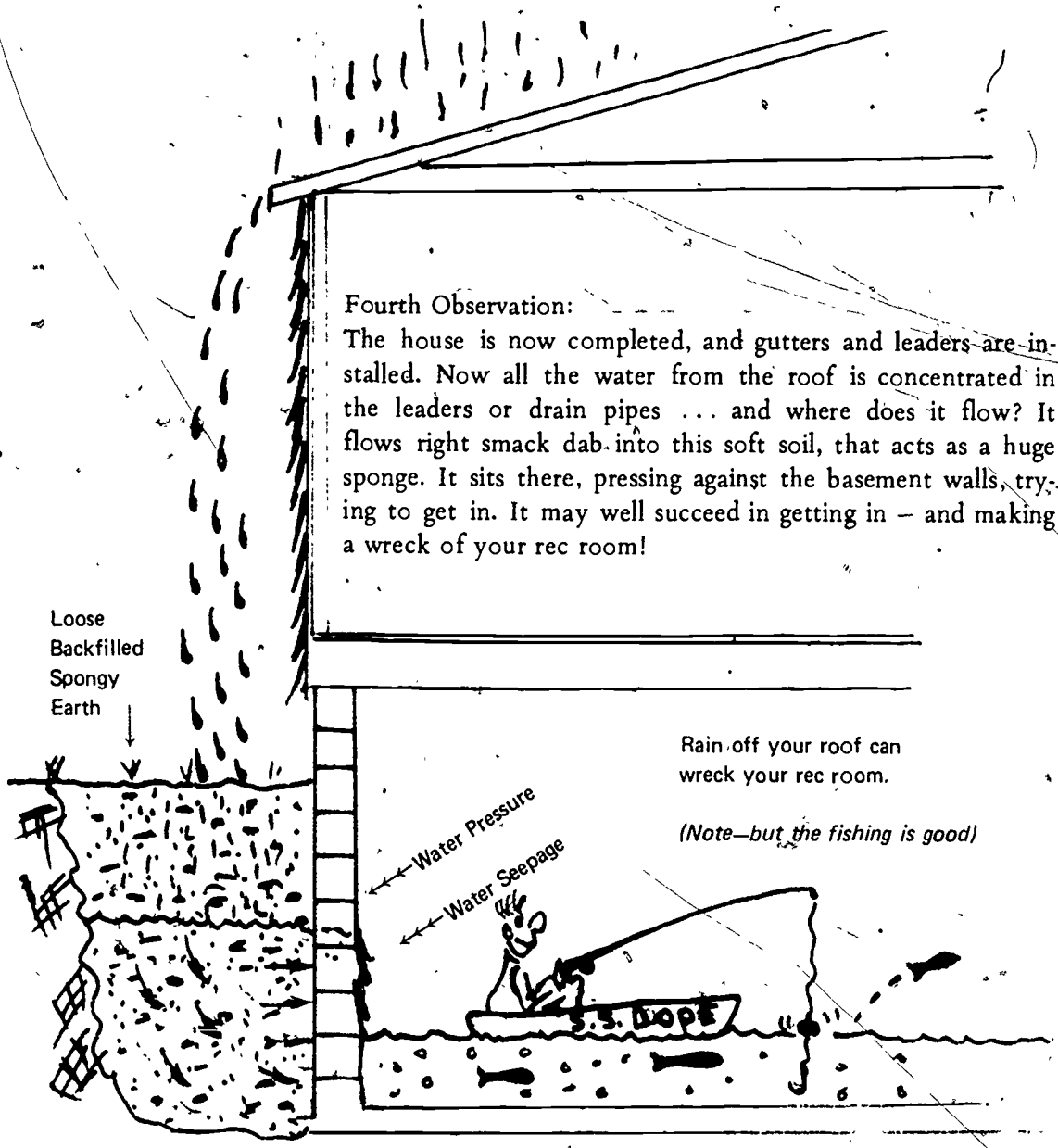
Example:
An excavator using a bulldozer usually digs from front to back. Thus he must create a ramp or slope going in and going out, in order to keep digging deeper. Further, he must cut away the sidewalls of dirt at least 2 feet, to allow room for the workmen.

Therefore, huge volumes of earth are heaped about that are now well mixed with air and hence are less compacted.

Second Observation:
The original foundation site was solid, settled ground that nature had compacted for years.

A huge excavation is made in this solid ground, and a foundation is installed. When the foundation is complete, the dirt is pushed back (backfilled).

Third Observation:
Now we have a foundation surrounded by soft, spongy, air-trapped soil. The surrounding, unexcavated ground is firm, compacted soil.



What's a feller to do? Well, Buster, the first thing to do is to *bridge the soft, spongy gap* between the drain pipe and the solid soil, which we trust is properly sloped to drain the water away from the house. To bridge this gap – which may vary from 3 feet to 12 feet – you need a *conductor* of some type. This requires a trough or some type of pipe at least the same diameter as the drain or larger. A 24" or 36" cement splash-block or a flagstone is a *joke!*

The next consideration is how to compact this loose fill without waiting 30 years or so. This can be accomplished to some extent by soaking or tamping this ground or both. This is to accelerate the work of nature. However, caution must be used, as water and tamping can create a pressure that could crack the walls. Soil should be added as the earth settles, to provide a slope for drainage away from the house.

A Do-It-Yourself Observation:

During or after a rain, check the drainage around your own house. Is it running off or collecting?

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Waterproofing the Foundation

Lesson 12-(A)

Objectives:

1. At the end of this lesson the student will understand the reasons for waterproofing a foundation.

2. The student will also understand some methods of waterproofing.

Related Information:

Soil is frequently damp or wet at normal foundation depths. The amount of water present around a foundation depends on many factors. For example, it depends on the amount of rainfall, the location of streams and lakes, the existing water table, and the composition of the soil.

Ordinary foundations, whether they are poured concrete or built of masonry units, are not absolutely waterproof. Some water can seep through the best constructed foundations. Therefore an ordinary basement can become a beautiful swimming pool.

The time to take preventive measures is when the foundation is being built. Waterproofing is relatively simple during construction, but extremely difficult after the house is finished. Thus, waterproofing is really preventive insurance that is well worth the extra cost.

The material density of poured-concrete or block foundations is limited. And even with the addition of waterproofing cement additives, the masonry is porous. Thus, this porous surface must be coated to seal it against moisture.

1. Poured concrete foundations Poured concrete foundations are superior in density and strength to block foundations, but still require waterproofing. One of the simplest forms of waterproofing for concrete is hot tar or asphaltum. Heated tar expands and flows easily, making application a snap. Remember — hot tar not only sticks to concrete but also to shoes, clothing, and human hide. It smarts, too, so be careful.

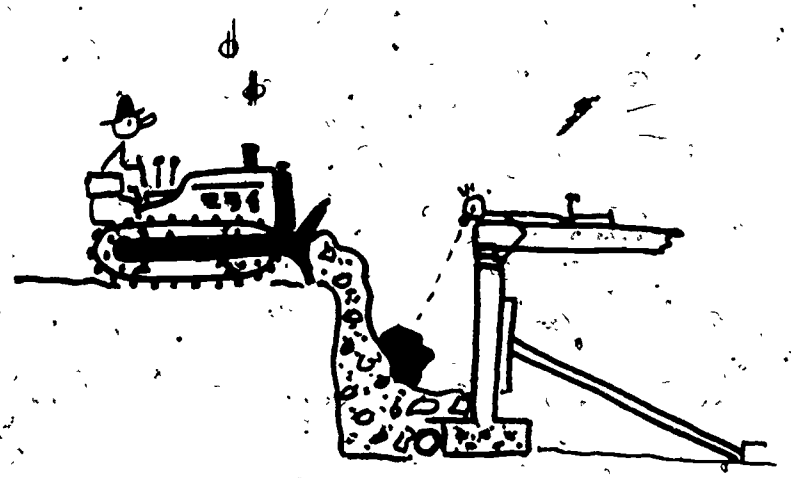
2. Concrete, cinder, or composition block. The foundation constructed of these materials requires greater precautions. Block construction involves numerous joints and the blocks themselves are a more porous material. (The wise student reads on and absorbs the facts; the fool is in hot and cold water all his life).

Block joints should be neat, tight, and strong, and then a cement-plaster coat is applied as further sealing protection. A good job consists of two coats of plaster, so that the final thickness is about ¾ of an inch thick.

The most critical point is where the foundation walls meet the footing. This juncture must be absolutely clean and be free of dust, mud, cement droppings, and debris. A cement cove or slope of fresh cement mortar should seal this juncture.

Once the wall has been plastered and properly coved at the base, you are ready to waterproof. Now you can apply hot or cold tar by brush or spray. Hot tar is better because it is more flexible and sticks better.

If the water conditions are excessive, you can apply rolled tar paper (felt) to the tarred wall and recoat again with tar. The amount of tar and the number of layers of tarred paper depend on the existing conditions.



Note: The best job of waterproofing can be undone by careless backfilling of dirt. Rocks and other objects can strike the tarred surface and break the seal. You don't have to be a scientific genius to see how important it is to do a good backfilling job. It's just common sense.

In recent years some builders have used a plastic sheet of polyethylene on the foundation instead of tar paper. It's like wrapping your foundation in a plastic bag.

Waterproofing the Foundation

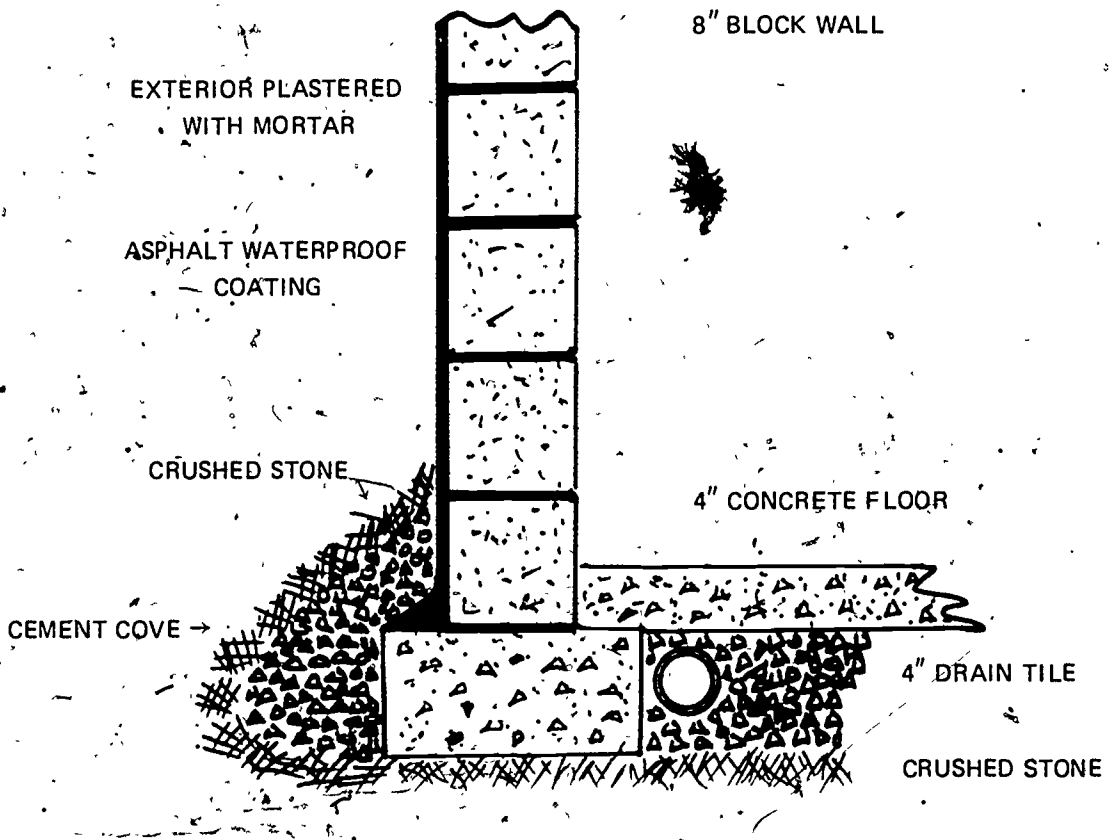
Lesson 12-(B)

Objectives:

At the end of this lesson the student will know why and how to use drain tile.

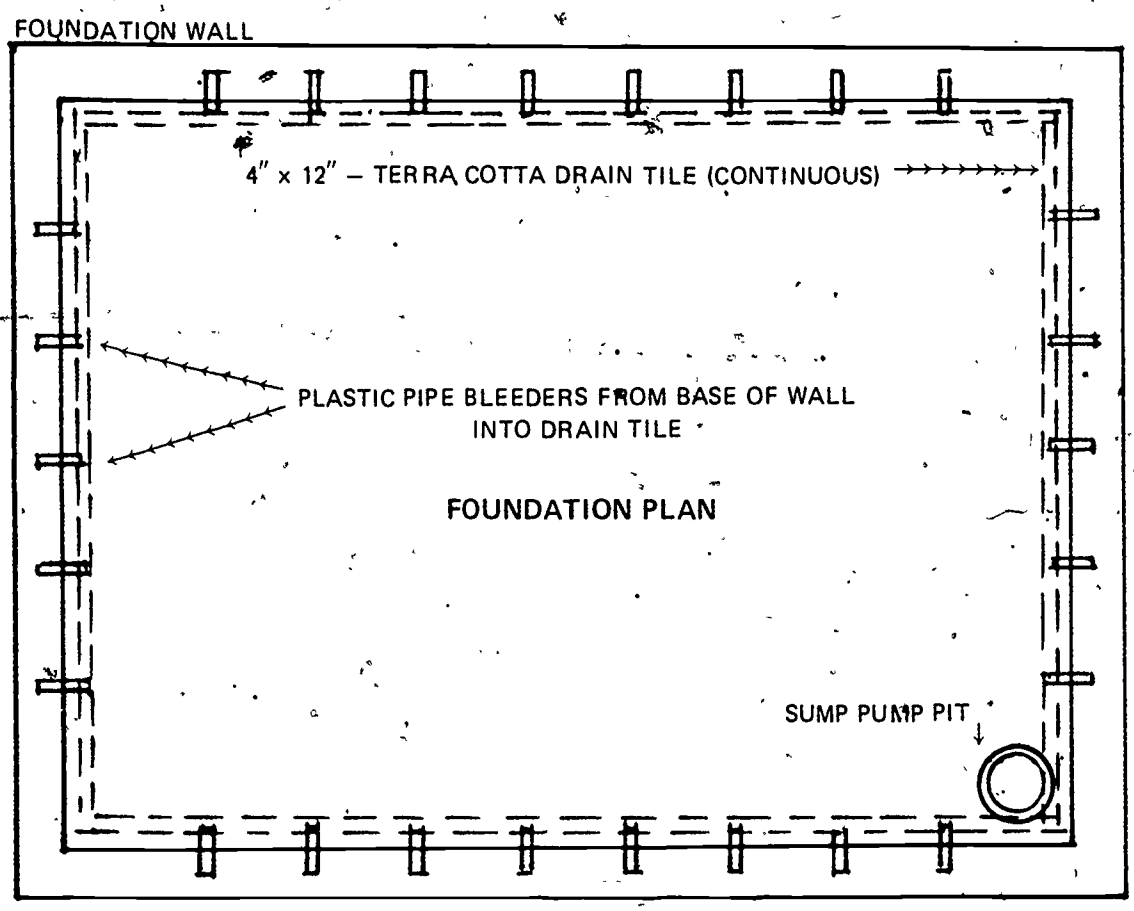
Related Information:

Are drain tile really necessary? That's like asking if boots or rubbers are necessary. Sure, they're not if the sun is shining – but suppose it's raining!



Well, the same with drain tile. You may not need them every day. Maybe never. But, aren't they nice to have around "just in case"? Installation depends on the existing conditions and expected future problems.

You do not have to be told that water will always flow toward a low spot if it gets half a chance to do so. Where it is possible to run off accumulated water to a low point or a sewer, the drain tile should go on the outside of the foundation. As the drain tile are installed around the outside, they should follow a downward slope to take advantage of gravity. Thus the exit point should slope or pitch away from the bottom of the foundation, just as the surface area around the house should slope away from the house.

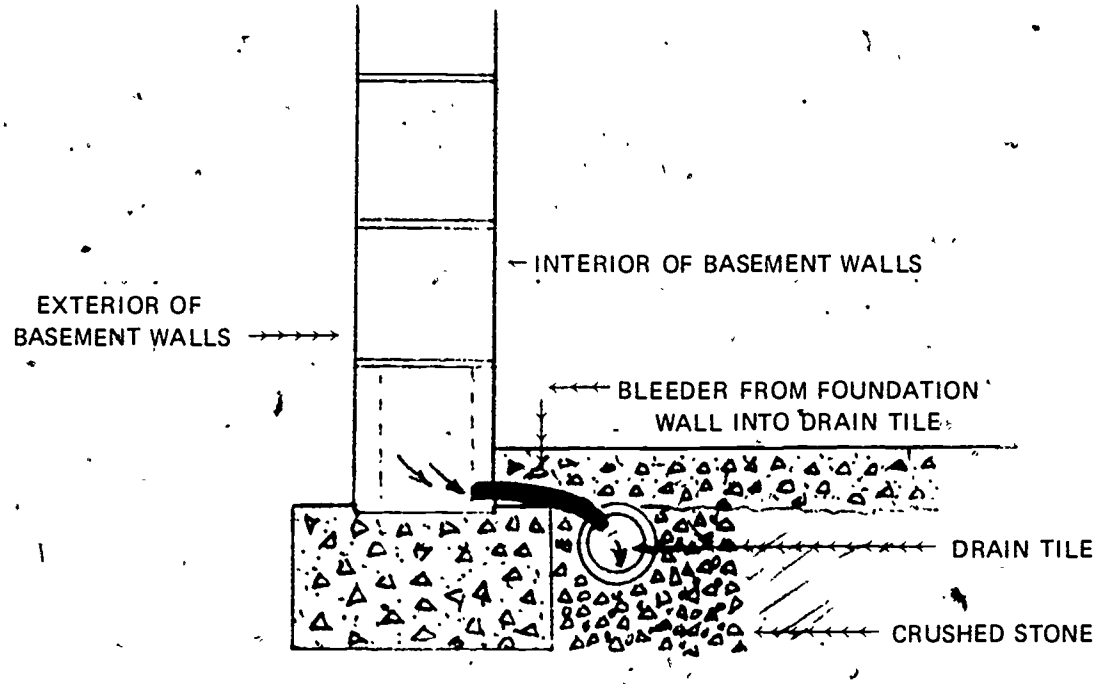


If the foundation is below the sewer level or the drainage point, the tile can be put either inside the basement or outside. Remember, water can't run uphill, and so a pump is required. Thus a sump pit and a pump must be installed at the low point or exit of the drain tile. Most pumps are automatic and contain a switch and a float. As the water rises in the pit, it raises the float, which in turn activates the switch.

Folks with weak heads pump the water out of their foundations through a short pipe in the wall. Thus, as the pump expels the water, it flows right around the foundation and back in! The right way is to extend the pipe so that, as water is expelled, it will run off and away from the foundation.

A commonly used drain tile is a hard red clay tile called terra cotta. The best size is about 4" in diameter and about 12" long. These tile should be laid in or around the perimeter end to end, leaving a small gap between tiles. The gap is provided so that water can enter so that it can be channeled off. The tile should be laid on a bed of gravel or crushed stone at least 4" in depth. The tiles should not be placed above or below the concrete footing but on the same level. The tiles should be pitched toward one low point, and the joints covered with tar paper strips. The strips prevent cement or mud from getting in, but still permit water to seep in.

Drain tile placed on the interior perimeter should have short lengths of bleeder pipes spaced about every two feet. They should lead through the base of the foundation wall into the drain-tile system.



Reinforcement Materials Lesson 13

Objective:

At the end of this lesson the student will be able to understand why and how reinforcement materials are used in concrete.

Related Information:

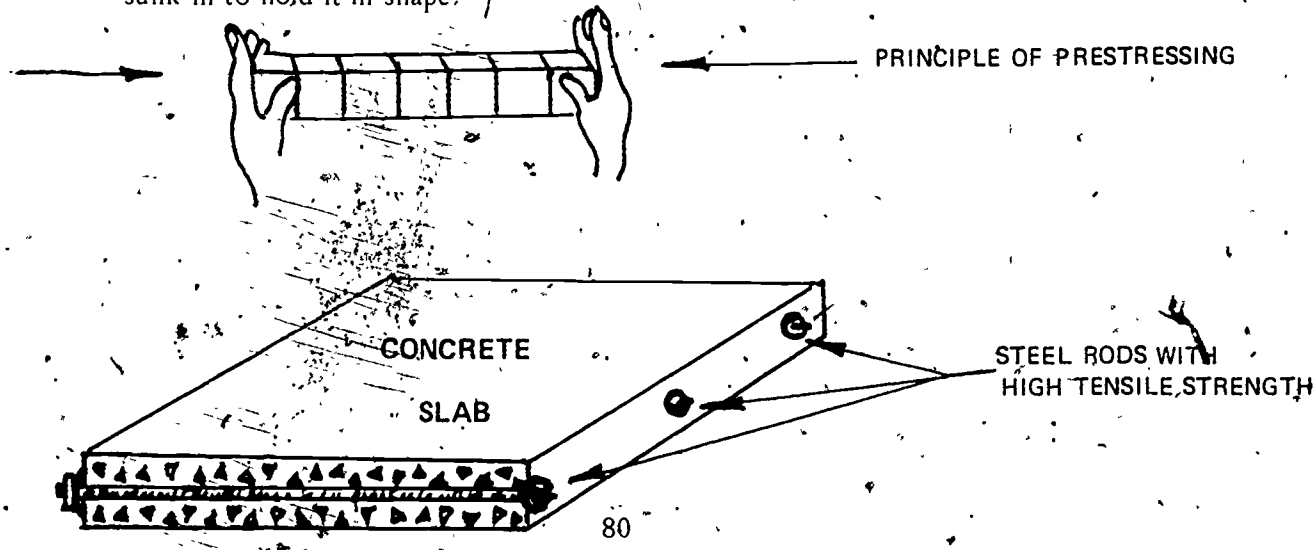
Concrete is a lot like a student – it has strengths and weaknesses. The trick is to offset the weaknesses and get both to work – and this calls for reinforcement! Let's investigate the weaknesses of concrete first.

Concrete is much tougher than chicken feathers. It can withstand tremendous pressures and has a high resistance to crushing. Earlier, we called this compressive strength. But concrete has not too much tensile strength – it is a pushover for pulling apart or breaking, and that's where reinforcement comes in. To offset this weakness you have to add something that can withstand a lot of tension and stress – and what's better than steel? Yup, steel has high tensile strength and, when added to concrete, it gives concrete a high resistance to bending or pulling. Thus steel in various forms is added to building beams, bridge beams, floor beams, and slabs.

Reinforced concrete comes in a wide variety of forms, such as:

1. Architectural concrete. This is steel-reinforced concrete, cast in special shapes such as girders, roof decks, posts, and slabs. They actually combine beauty and strength and can be used indoors or outdoors without any further treatment. If you don't believe it, then play hooky and fly out to California and see for yourself.

2. Pre-stressed concrete. Some science teachers say it's like a woman in a tight girdle, but that's a poor example. It's really more like used chewing gum with big steel nails sunk in to hold it in shape.



Remember when you played with wooden blocks? Well, by putting a series of wooden blocks end to end, you could lift the whole bunch by squeezing them together. Pre-stressed concrete uses the same principle. A wire cable is stretched, positioned, and anchored into a form by hydraulic jacks. Next the concrete is poured around the cable and left to set. The cable anchors both ends and never lets go – just like squeezing the blocks.

3. **Reinforcement mesh.** This is a pre-formed wire mesh that a guy could use for eagle cages because it's so big. Well, it's imbedded in concrete slabs that are used as roads, sidewalks, runways, etc.

Foundations for Porches — Lesson 14

Objective:

At the end of this lesson the student will appreciate the proper procedure in building on porches.

Related Information:

This lesson is important because poorly constructed porches are one of the main sources of a homeowner's headaches. How many times have you seen a porch pulling away or separating from the main foundation? Have you ever wondered why?

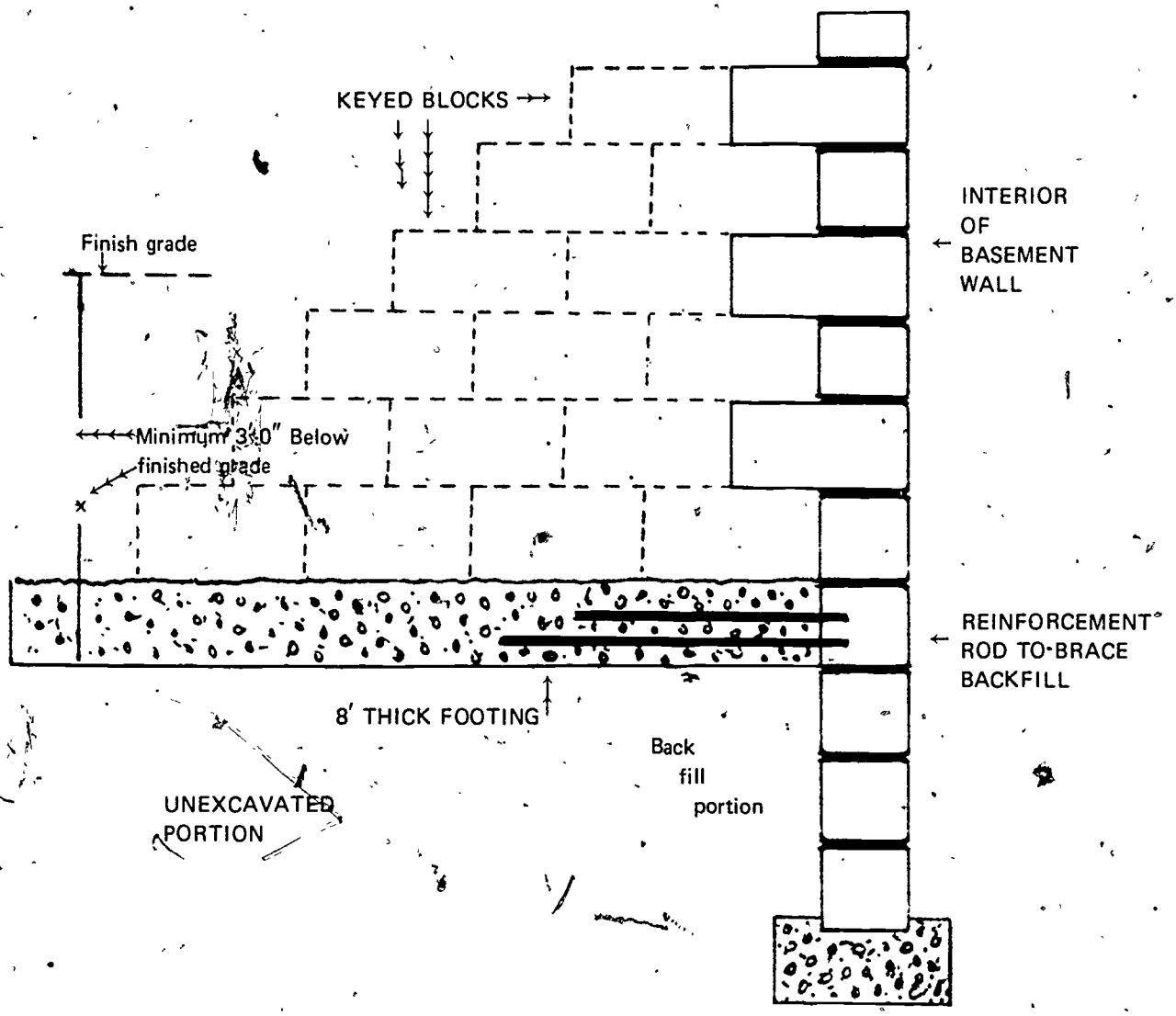
Well, this lesson will help explain some of the causes. So if you hang in, your porch will hang on. There's nothing worse than having your porch pull away while you're sitting on it.

Porches and masonry additions are constructed in two ways. Let's examine both methods.

A. Partially attached. This type of addition does not start at the main foundation level but begins slightly below the frost-line level (about 36" below grade). The mason inserts a block at right angles to the main wall where the planned porch begins and ends. He will repeat this procedure on every other row of blocks on the main wall. Thus a series of blocks juts out at the porch location, to act as a future key. The porch area is excavated and a U-shaped footing the size of the porch is installed. Blocks are then laid to interlock with the wall keys and – presto! you have the rough outline of a porch. When completed, the porch consists of a series of steps and a hollow platform. This platform is usually filled with dirt, and the porch slab is poured and set. Naturally, precautions are taken to settle the dirt, and reinforcements are inserted into the porch slab.

B. Totally attached. This method requires that all additions start at the same footing (base) level as the main foundation. Thus the main foundation and any porches, etc., become one big continuous footing.

The foundation walls of the porches are erected in one continuous fashion with the main foundation, and it makes a super job. This one-piece interlocking masonry unit is then cement-plastered and waterproofed. Its chances of pulling away are mighty slim. Usually an opening is provided in the main foundation, providing an access for additional storage room. This little room makes an ideal wine cellar or a place where students can hide from their parents.



Study the chart that follows and see the advantages and disadvantages of each method. Knowing these facts can help you considerably in any future building plans or even in repairing existing problems.

METHOD A	METHOD B
Requires less material.	Requires more material, but very little more.
Requires more work — trenching, footings, backfill.	Faster and cheaper to prepare because excavation is all done at once.
Tendency for fill dirt to settle, creating repair problems.	Requires no fill dirt.
Can break off and pull away. Footing defects and difficulty in interlocking.	Continuous, interlocking walls eliminate pulling or breaking away.
Filled-earth porch a constant problem with termites, insects, and rotting.	Virtually termite proof.
Difficult to properly waterproof.	Not affected by surface water or weather to any appreciable degree.
Effective repairs are very difficult.	Provides additional storage space.

Note: With all costs considered, the two methods cost about the same.

To Do: Select the method you think is better and write down the three reasons you think are most important for your choice.

UNIT IV – MASONRY

Interdependence of Trades — Lesson 15

Objective:

At the end of this lesson the student will understand that masonry is everybody's business, and that all trades should learn the basic facts.

Related Information:

A basic knowledge of masonry is helpful to all tradesmen, as each trade depends to some degree on another. There are many occasions where you have to know something about another trade to accomplish your own. The following are some honest-to-goodness examples from real-life experiences.

Example 1. A carpenter, for example, must know how to erect forms for footings and walls. Other tradesmen, such as electricians, plumbers, heating men, and others, must frequently go under, through, or over masonry units. They must know something about masonry because the building code or safety require that structural strength must be maintained.

Example 2. Piping for water, gas, and sewer must pass through or under masonry units, and the tradesmen involved must know right from wrong. A few simple errors can affect the structure for its entire life.

Example 3. Carpenters must attach wood sills to anchor bolts on the foundation, girders to piers, and other wood to masonry joints. Thus, some knowledge of masonry is necessary to avoid errors or damage.

Example 4. Air-conditioning and heating mechanics must at times install controls, piping, and duct work on, over, and through masonry units. Thus, despite all the plans and specifications in the world, tradesmen must know some masonry facts to communicate and cooperate with each other.

Summary: Just picture the many things in a house, such as windows, doors, appliances, supports, anchors, or bases that involve masonry Another point – workmen from all trades are advanced to positions of supervision. Thus a masonry background is very helpful.

Now, there are some persons that dislike all types of dement and water and are slightly antisocial to boot. This type is only friendly to masons when they want to swap lunches or borrow a steel trowel to slice some salami or cheese. Now masons are a tightly knit group and are honor-bound to stick together like cement. They can pass the word down, and then, Buster, watch out! Suddenly lunch pails, shoes, pockets, and other hollow objects get filled with stuff called concrete. *It pays to be friendly and cooperative.*

Masons are a closely knit group

UNIT V – FRAME CONSTRUCTION

Following the Plan — Lesson 1

Objectives:

1. At the end of this lesson the student will realize the importance of following the plan.

2. The student will also realize that errors occur and know how to use good judgment if they do.

Related Information:

Planning is an essential ingredient of almost every human activity. For example, a simple thing like a trip to the store requires some plan. Without planning your route you could take the wrong road, and you might wind up throwing rocks at some teacher's house.

Building a house requires that you follow the plan, so that the finished product is an exact reproduction of the drawing. If you want to nail a bunch of boards together for squirrels to run up and down looking for the nut that built it – *don't* follow the plan.

Now, as your leader I'm telling you to follow the plan. Because the entire structure is dependent upon the accuracy of the lay-out of the floor, walls, room partitions, and roof. Inaccuracy would cause confusion in every trade that follows, and it would result in a hopeless mess.

Perfection, on the other hand, is sometimes impossible to reach. Thus tiny errors are common, and this margin of error must be recognized.

For example, the spacing between studs or floor joists might vary a whiz. Wherever possible the errors in measurement should be corrected. In other cases, where the error will not basically alter the design or strength, it may be allowed to stand. A serious error must be corrected, because all that follows will only extend the error, and the design or strength is affected.

Innocent Student: "You mean that folks can make mistakes and get away with it?"

Truthful Teacher: "Yes, minor mistakes that can be corrected or do not affect design or strength are allowed. Remember that we can learn through mistakes. Most folks except teachers make mistakes. Teachers never make mistakes, and don't you ever forget it."

Innocent Student: "Yup"

To minimize mistakes in layout, you should use a steel tape and a sharply pointed pencil. Do *not* use a 6-foot rule and keep sliding it. This can cause you to gain or lose, and the error can be substantial when you reach the other end of the house. The steel square must also be accurately spaced off and measurements marked with a sharp line to avoid errors that may add to each other. Check all dimensions against building plans for accuracy. Errors do occur in building-plan dimensions; if you find any, notify your supervisor or architect.

When the decision is entirely yours, decide which area would gain most by the gain or loss. Determine how to make the correction where it would least affect design, strength, or other trades to follow.

Errors in critical areas such as the bathroom can be serious. For example, errors can lead to a bathroom door's not being able to open fully. The door may strike a fixture and create a problem for entry and exit.

Once upon a time a foolish person did not follow the plan and created a large error. The only way you could get into the bathroom was through a laundry chute in the wall. The door was not a complete loss, because it was used as a bulletin board, but entry to the bathroom was mighty inconvenient.

Carpentry Specifications Lesson 2

Objective:

At the end of this lesson the student will know that specifications are of extreme importance and why they are.

Related Information:

Specifications are necessary because it is virtually impossible to include all the tiny carpentry details and explanations on the plan itself. If all details were included, the plan would be so confusing that even the fellow that did it wouldn't understand the plan.

Thus carpentry specifications act as extra explanations in writing that spell out all the small details impossible to include on the plan. They supply the information on grades of lumber, type of lumber, spacing of members, etc. They also include the quality of work to be performed. Specifications add to the blueprints as follows:

1. Supply additional information to fully explain plan.
2. Detail the grades, sizes, quality, and even (sometimes) brands of materials. They eliminate mistakes and guesswork regarding all of these.
3. Help in estimating costs of labor and material.
4. Help prevent disputes between owner and builder.
5. Serve as a guide for all trades (no passing the buck).

When your teachers give verbal or written instructions, they act as specifications, and you are aware of what is expected. It's hard to swallow sometimes, but it's good training for on-the-job requirements in any trade. Would you want to live in a house built any old way, or in one that was designed to fit your needs? It's as simple as that.

Building specifications usually give information as regards permits, insurance, liabilities, contract payments, changes, substitutions, and supervision. Specifications are an important part of the contract, and in most cases more important than the plans. This is true because plans can be changed or corrected, but specifications cannot be changed without breaking the contract. Most folks think the plans are the most important part – the bible of the building trade. No way – it's the specifications.

Types of House Framing Lesson 3

Objective:

At the end of this lesson the student will know the difference between the two basic types of framing.

Related Information:

The frame of a house consists of a collection of lumber with special names, such as sills, floor joists, girder, studs, rafters, and braces. When these framing members are placed and secured in a certain way, they form the skeleton of a house.

Guess who invented house framing? Would you believe it was a bunch of cave kids? Well, it's true, but history books have never been kind to kids, and so it's a little-known secret. Here, revealed at last, is the true story - one that until now parents and teachers have managed to keep out of the history books.

Once upon a time a bunch of kids got together and started to build a tree house. It wasn't perfect, but it beat playing in the damp, dark caves they lived in. The construction went on for several days before it was noticed by one of the parents. Then, just by chance, a parent looked up and spotted this framing beauty. He turned to his wife and said "Hey, maw, I think the kids have got something!" And that's how it all started.

There are two main types of framing generally used: the platform or western construction, and balloon framing. The earlier balloon-type framing relied on the available wood science of that time. It was known that the greatest wood shrinkage occurred in width and thickness, and the least amount of shrinkage in length. Hence, early framing relied on vertical supports with elaborate bracing. This vertical framing was so rigidly braced that sheathing was not relied upon for bracing.

Modern science, a demand for more housing, and a demand for safer working conditions helped to bring about platform construction.

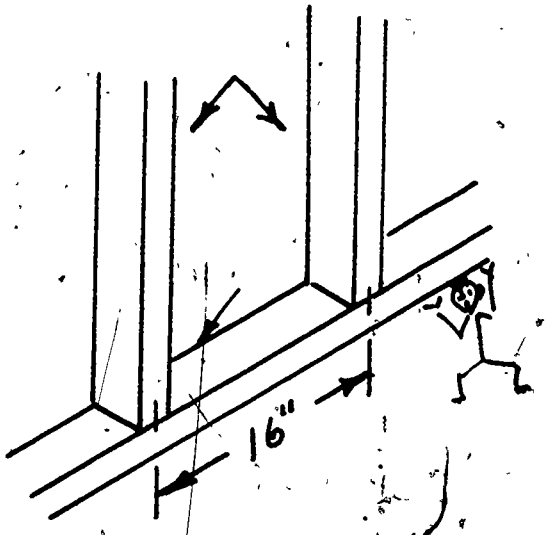
Wood science rapidly improved the growing, cutting, drying, and the variety of wood products. Wood technology improved methods of cutting logs, producing stronger and better lumber. Drying out excessive moisture in wood was now controlled by huge ovens instead of open-air drying. Thus lumber was dried faster, increasing both quality and volume.

This new lumber technology made platform framing possible. Now framing could be horizontal, because the shrinkage could be better controlled. Uniformly spaced vertical studs replaced the heavily braced vertical framing, and modern sheathing compensated for the reduced bracing.

Thus platform framing permits more uniform settling and shrinkage. It also simplifies material sizes and provides a stronger, safer, more fire-resistant framing.

Basically, platform framing consists of a large, boxlike platform that resembles a movie stage. The exterior and interior walls are erected as separate frames on this stage and raised into place. Then structural members called celling joists are uniformly spaced on the raised walls. This acts to tie in the whole upper portion and also provides a nailing base for the ceiling. Finally, roof rafters are added to form a sloping frame.

Most framing is uniformly spaced 16" on center, which means from the center of one framing member to the center of the next.



Characteristics of Wood

Lesson 4

Objectives:

1. At the end of this lesson the student will understand how important wood is in construction.

2. The student will also understand how and why lumber is seasoned, and which variety is most widely used in the East.

Related Information:

Wood has been the basic construction material from the dawn of history. In all parts of the world, trees, logs, branches, and leaves have been used to shelter man. Early settlers in this country used wood in the form of logs as the basic construction material for their log cabins. The big question is – why was it used in early times and why is it still used?

First of all, wood has always been plentiful and always readily available. All a guy needed was a strong back and a sharp axe. Wood also was popular because it could be easily cut, shaped, drilled, and fastened; in other words, the workability of wood has made it one of the most important basic construction materials.

Wood is not only plentiful and easily worked, but it also possesses great strength, durability, and beauty. Each type of tree produces wood with certain characteristics, and man by trial and error has been able to identify these qualities. Thus, as different woods vary in strength, texture, grain, and workability, they vary in their use.

The versatile nature of wood makes it adaptable for use as heavy beams or tiny bits of house trim and everything in between. Just picture the uses – framing, flooring, siding, roofing, paneling, plywood, trim, etc.

Wood in standing trees contains a great deal of moisture; it must be dried to prevent warping or shrinking. Wood used for framing and rough purposes does not need as exacting drying as does wood used for interior-finish lumber.

There are two methods for drying or seasoning lumber – air drying and kiln drying. Air drying takes about a year, because the temperature and moisture vary so much with the weather. The lumber is stacked in layers separated by wood strips, to allow air to circulate and dry it. It must also be protected from rain and from direct sunshine. Too-fast drying results in warping or checking, and so air drying must be slow and uniform.

Kiln drying is a quick way to season lumber. A kiln is a specially built room in which the temperature and humidity can be controlled. The first step in kiln drying is to expose the wood to live steam, so that all the wood has a uniform moisture content. Then the room is heated to between 140 and 160 degrees Fahrenheit for several days or a week.

Drying of any type reduces the tendency to warp, twist, or shrink. Drying reduces the weight of lumber up to 50%, thus making it less expensive to handle and ship. All framing lumber should be well seasoned and should have a moisture content not above 19%. Trim and millwork must be kept below 10% moisture content.

Many different types of wood are used for framing, but Douglas fir is the most popular on the Eastern Seaboard. It's fairly light and extremely strong and durable. In proportion to its weight Douglas fir is the strongest wood for framing purposes. The structural grades of Douglas fir have a tendency to check or split, but once the frame is covered it holds up well. The outer portions of the Douglas fir tree make the finest grades of lumber for siding, door frames, ladder rails, and interior trim.

Grades of Framing Lumber

Lesson 5

Objective:

At the end of this lesson the student will know how framing lumber is graded.

Related Information:

Lumber is a lot like kids – it comes in a great variety of sizes, shapes, textures, and strengths. When you observe kids up close, you will see that they come in different colors, shapes, and sizes. Some folks called teachers even go so far as to say that they differ in their ability to do different kinds of work.

Selecting the right type of wood and the proper grade will save money and turn out a better job. This lesson is a shortcut course on the basic types and how they are used. The following report was submitted by a vocationally trained carpenter who graduated in the top third of his class, so pay attention.

Lumber in the forest is generally divided into two categories – softwood and hardwood. All trees that have needles or scalelike leaves – like pine, cedar, spruce, or fir – are classified as softwood. The hardwoods come from the broad-leaf trees such as oak, maple, ash, etc.

Softwoods are used most for general construction, and the hardwoods are generally used in cabinets, trim, moldings, and furniture.

All lumber is graded according to standards set up by an industry-government group. Grades vary greatly in quality and price. The following is a thumbnail sketch. – the rest you will learn through shop and practical experience.

(A thumbnail sketch)

Lumber as it comes from the sawmill is divided into three main groups: yard lumber, structural lumber, and factory and shop lumber.

Yard lumber is lumber primarily intended for general building purposes. Yard lumber is less than 5" thick and is used for house building and light commercial structures.

Structural lumber is lumber 5" or more in thickness and width and is used primarily for heavy construction—bridges, ramps, barriers, and industrial structures.

Factory and shop lumber is lumber intended for further manufacture. It usually contains large defects that make it unsuitable for house framing, but bad spots can be cut out and it is suitable for many manufacturing purposes.

Since we are concerned with building, this part of the lesson will deal with yard lumber. Pay attention and get double benefits – high marks and keeping splinters out of your hide.

1. Select lumber – Select lumber is high-quality lumber of good appearance and finishing. Quality varies, and so it is classified into the following grades:

   Grade A – Practically free of defects and suitable for natural finishes. Used as exterior and interior trim or finishing material.

   Grade B – Allows a few small knots, but generally clear. Suitable for high-quality natural finishes.

   Grade C – Allows a limited number of defects that can be covered by paint.

   Grade D – Allows any number of defects which can be covered with paint without detracting from appearance.

   Note: Select lumber can be used in house construction where good appearance and finishing are desired, especially for trim or decorative purposes.

2. Common lumber – A type of lumber that is suitable for general construction and utility purposes. It can be identified by the following grade names:

   No. 1 Common – This type is suitable for use without waste. It is sound and tight-knotted stock where the size and number of defects are limited.

   No. 2 Common – Allows large and coarse defects but is same general quality as No. 1. Used for framing, sheathing, etc. where stress and strain are not a great factor.

   No. 3 Common – Permits greater waste. Has greater number of defects and hence has limited use. Used especially for form work, rough flooring, etc.

   No. 4 Common – Low-quality, permitting coarse defects, decay, and holes. Very limited use in construction if used at all. Used for roof and sheathing boards and for boxes and crates.

   No. 5 Common – Not recommended for construction. Used for boxes and crates.

Starting the Framing — Lesson 6

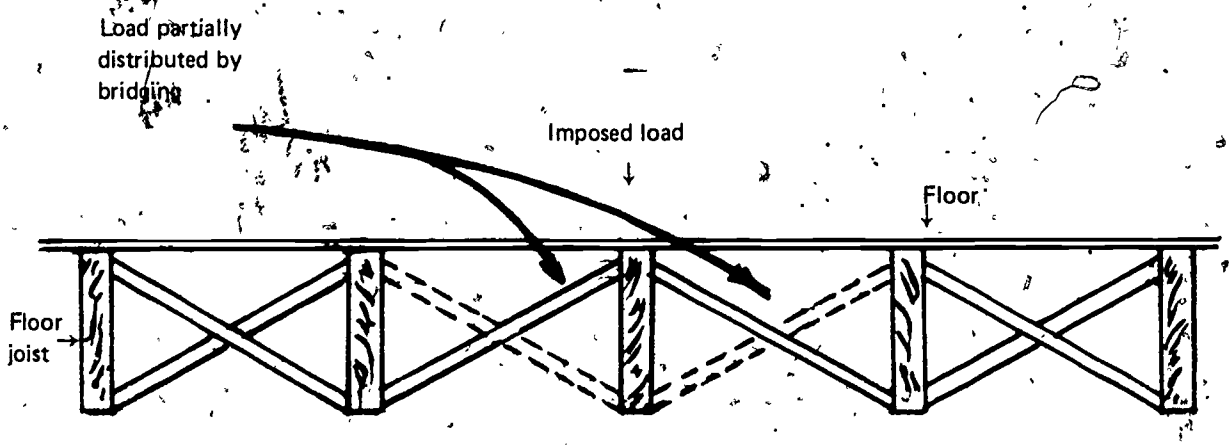
Objectives:

At the end of this lesson the student will be aware of many important rules used in constructing a platform.

Related Information:

Any kid that has built a treehouse with snitched lumber knows that you have to start with a sound platform or base. Well, a house that people live in has to start the same way, only much more so. To be sound, platform construction must follow certain rules:

1. The platform must be perfectly *level* to keep the rest of the house from leaning, twisting, or distorting. In place of *shims* we use a bed of cement or some material of a permanent nature. Wood or similar shims will only rot or crush and fail to level the load.
2. *Iron bolts* must securely fasten the wood to the masonry, to keep the house fastened to the foundation.
3. A large support of wood or iron called a *girder* must take the place of a supporting wall for the floor joists on long spans. The girder also supports the weight of the structure, plus any loads placed on the floor. Thus, the factors of stress and loads must be considered at all points. The girder alone actually supports one-half of the weight of the floor. The foundation walls together support the other half. Thus the girder carries a critical load.
4. Framing members called *floor joists* are spaced 16" on center to help distribute any load. The building code or a framing guide will recommend the proper size joists for a given span. It is necessary to double all floor joists around all openings and also where the partition walls above run parallel to the joists. This is a reinforcement for all points of stress.



CROSS BRIDGING

5. Small pieces of wood called *bridging* are placed diagonally between the joists to distribute the load imposed on one joist to the joists on either side.
6. *Plywood* is frequently used for the rough floor or deck because the cross-lapped layers are highly resistant to swelling or shrinking. Thus, plywood furnishes a strong, smooth surface and keeps the platform distortion at a minimum. Plywood minimizes the number of joints and is stronger than separate floor boards. Lumber, like most other things, shrinks when it dries out. It does not grip nails so tightly that were driven in when it was green. Tests show that nailing in green lumber has 25% less holding power than nails driven in dry lumber. Thus *kiln-dried lumber* not only minimizes shrinkage but permits stronger nailing.

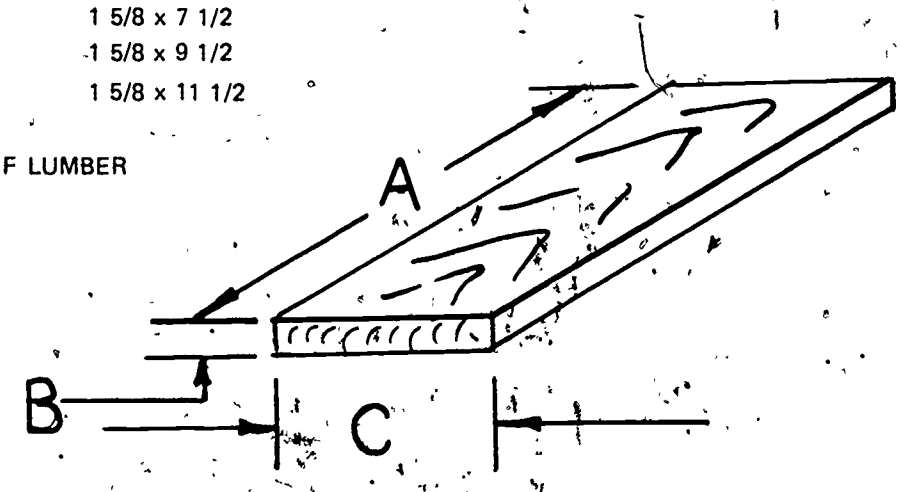
Other Facts About a Platform:

1. Plywood sheets are always lapped at joints to give added strength.
2. Plywood uses exterior types of glue for binding so that the plies resist separation.
3. Plywood's built-up layers provide greater nail anchorage than conventional lumber.
4. Special nails with a rosin coating are used for nailing down plywood, as the extra friction of the rough coating makes the nails hold super-tight.
5. Only a good grade of dry lumber should be used for platform construction, to avoid excessive shrinkage, distortion, and deterioration. Lumber should be protected in transit and on the job from rain and should be stacked so as to permit free circulation of air.

SPECIFIED SIZE	ACTUAL SIZE
2 x 4	1 5/8 x 3 5/8
2 x 6	1 5/8 x 5 5/8
2 x 8	1 5/8 x 7 1/2
2 x 10	1 5/8 x 9 1/2
2 x 12	1 5/8 x 11 1/2

NORMAL SHRINKAGE OF LUMBER

A — No shrinkage
B — Little shrinkage
C — Greatest shrinkage



The Purpose and Design of Exterior Walls Lesson 7

Objectives:

At the end of this lesson the student will know the basic function and design of frame walls.

Related Information:

Exterior walls have many functions, so let's examine a few and see if you agree with all of them.

1. An exterior wall should have *structural strength* so that it can support the load of ceiling and roof framing, plus the added weight of water and snow.

2. The exterior walls must also act as a *framework* so that covering materials such as sheathing and siding can provide a weatherproof covering.

3. Exterior walls also provide *privacy* for the folks who live in the house.

4. Exterior walls are necessary so that the necessary *wiring, piping, duct work,* and *insulation* can be installed within them.

5. The exterior walls also provide a structurally braced frame that can provide *strong openings* for windows and doors.

6. Exterior walls furnish a framework for the attachment of *interior wall-coverings* that make a house "livable."

Standard construction for walls

Residential construction consists of a wall made of 8′ lengths of 2″ x 4″ lumber, which are usually spaced 16″ on center. Why should we use 8-foot 2x4's spaced 16″ on center?

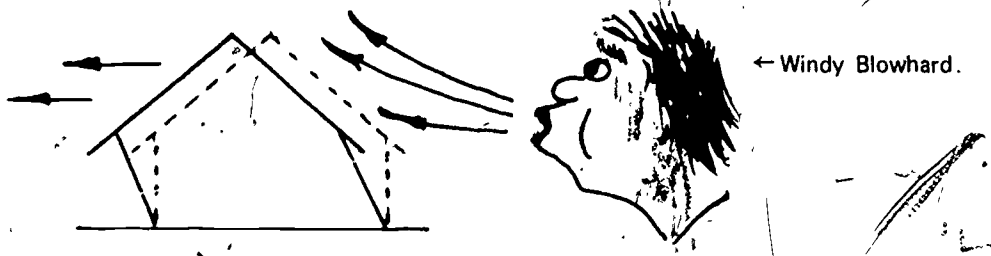
Well, smart-aleck kids have been asking this question ever since detention and report cards were invented. This is where kindly and friendly teachers fill the education gap – so sit up straight and pay attention – or else!

Both by trial and error and by scientific testing, the 2x4 stud has been found to be both safe and economical for framing. The 2x4 studs spaced 16" on center can support the load and provide a strong framework.

The 16" spacing permits the use of standard widths and lengths of sheathing materials and siding. The stud spacing further provides for insulating, electrical, plumbing, sheet-metal and heating materials. The 2x4 wall system thus provides strength and convenience, plus the important factor of speedy erection.

And Furthermore . . . . .

A most important point: we must *distribute all loads to framing members capable of bearing them.* Thus, an opening in the wall for a window or a door must be compensated for by using a header and doubling the studs. In that way no strength is lost despite the opening. Braces are used to rigidly maintain plumb (a true vertical position). Walls that can be twisted or distorted by the wind or the imposed load are never truly safe. Try balancing a ruler on your finger when your finger is not on dead center. The same applies to studs and walls.



STRUCTURE WITHOUT BENEFIT OF BRACING CAN BE DISTORTED BY WINDS

STRUCTURE WITH DIAGONAL WIND BRACES RESISTS DISTORTION

In Summary:

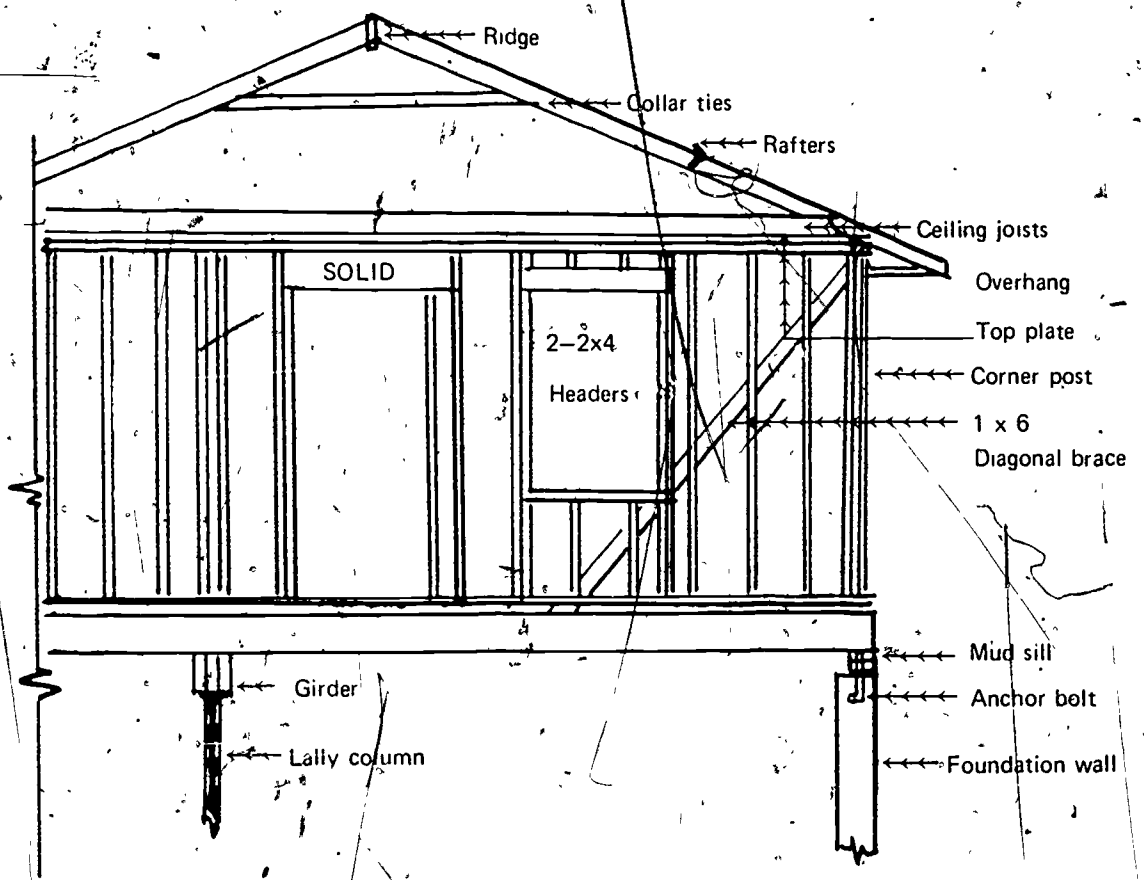
Framing on 16" centers and using 2x4's provides an adequate and safe vertical framing to support the house load. Anything less might prove deficient under stress.

UNIT V – FRAME CONSTRUCTION

The A B C's of Building a Wall — Lesson 8

Objective:

At the end of this lesson the student will know the A B C's of framing a wall.



Related Information:

To build a typical frame wall you would need the following materials:

A. 3 Plates (2x4's cut to length of wall)
B. The required number of precut studs
C. Wood header (for door or window opening)
D. Jamb studs
E. Plan (drawing or written instructions)
F. Diagonal bracing (1x4)

A. Plates. – A top and bottom plate are used so that the studs can be properly spaced and held secure. This is absolutely necessary. The top plate is usually doubled. This straightens and stiffens the wall. The uppermost plate is lapped at each corner, which further adds rigidity.

B. Studs should be reasonably straight, strong, and dry. They should be uniformly spaced to distribute the bearing load to avoid points of excessive stress.

C. Headers are used to span window and door openings. They compensate for the missing studs and distribute the load. As the span increases, the depth of the header must increase to take the extra load.

D. Jamb studs act as additional support at an important point of stress. They are installed in one piece from the header to the bottom plate. They thus act as a double stud and support the load placed on the header.

E. Diagonal braces are installed in each corner and oppose each other. They keep the frame correct and stiff and further protect against wind and other external forces.

Note: Throughout the framing is the underlying principle of *equal distribution of stress and strain.*

Assignment:

1. Using a wall kit, label each framing member. (Note: refer to sketch for proper labeling).

2. Start to assemble wall kit as per layout marks and as per sketch.

Bearing and Non-Bearing Partitions

Lesson 9

Objective:

At the end of this lesson the student will know the basic difference between a bearing and a non-bearing partition.

Related Information:

Partition walls are any walls that divide the inside space of a building into rooms. There are two types of partition walls: the bearing wall and the non-bearing wall. The bearing type of partition supports the ceiling joists and any weight placed on these joists. In the case of a two-story structure, the bearing partition carries the weight of the second-floor joists and the weight of the structure above it. Thus a bearing partition is a critical area because it carries a load placed upon it. The bearing partition is usually placed in the center of a building or reasonably close to a supporting girder.

You can see, therefore, that the bearing partition must be constructed with the greatest accuracy possible. The studs should be strong and straight and be accurately spaced. All openings must have proper-sized headers, and all openings must be double-studded.

Thus, properly constructed, the bearing partition will carry an evenly distributed load. Any shortcuts in the construction or installation of a bearing partition may result in wall cracks, sticking doors, and uneven settling of other framing parts.

A non-bearing partition supports only itself. Nevertheless, care must still be exercised in framing it. Partitions that run parallel to the floor joists place their entire weight along one line. Thus floor joists should be doubled under all partitions that run parallel with the joists below.

Thus the science involved in constructing these two types of partitions amounts to common sense. There is a load or weight factor, and it must be compensated for. Failure to recognize this simple fact will shorten the life of the building or require extra expense in maintenance.

The mighty "if" can also affect the structural strength of any partition:

1. *If* the studs vary in length, due to careless cutting . . .
2. *If* the nailing splits the wood or fails to firmly hold . . .
3. *If* the studs are not perfectly plumb . . .
4. *If* the headers for openings are poorly designed, constructed, or installed.

Summary: You can supply the finest materials that money can buy, but unless you supply the simple know-how involved, the structure will always lack quality.

Cutting and Drilling Through Framing Members

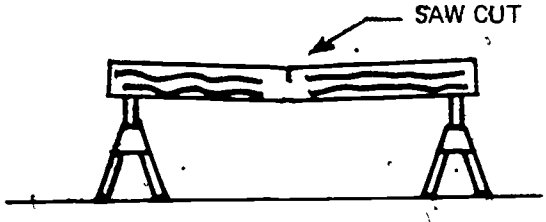
Lesson 10

Objectives:

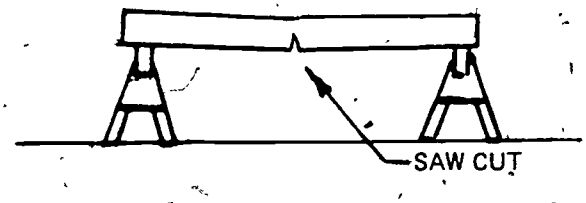
At the end of this lesson the student will know where cutting and drilling of framing stock will reduce strength the least.

Related Information:

If you placed a 2x4 edgewise on two saw horses and started cutting it in the center, the saw would soon bind. This binding is due to a *compressing* force at the top of the 2x4. However, if you cut the bottom of the 2x4 instead, the cut would open because the *tension* would pull it apart.



Board binds on top
(Top is in compression)

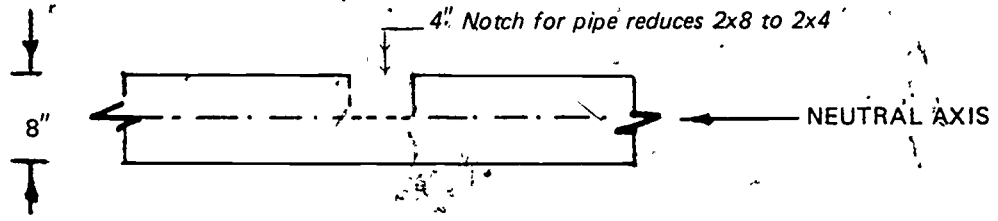


Tensile strength is lost

Thus the top of the 2x4 is in compression, while the bottom is in tension. However, there is a neutral point between the top and bottom of rectangular wood. Scientific investigation reveals that if you cut a hole in the center of the beam it will have very little effect on the strength of the beam. But hold it, Buster – science also reveals that the hole should not exceed one fourth of the total width of the beam. Make a bigger hole and you are in for trouble, because you are cutting the important fibers at the top and bottom that are affected by compression and tension.

Weight is also an important factor, so avoid cutting holes near the center of the board *span*. It is at the center that the weight of the beam exerts the greatest downward force. Thus try to make any holes closer to walls than to the center of a horizontal member.

Bathroom joists carry an extra load, because they carry the weight of plumbing fixtures plus tile. As before, cut holes as near as possible to the neutral point and avoid the center of a span. Should notching in the top of a beam be required – for a large pipe, for example – be prepared to do some extra framing to compensate. You should realize, for example, that if a 2x8 joist is notched 4" deep, it is no longer a 2x8 but a 2x4.



Bearing partitions are another critical area where you just can't hack away. Drill or notch the absolute minimum, and here again try to stay in the neutral zone. Excessive cutting will have to be compensated for by installing steel mending plates or special framing supports.

Cutting or weakening any structural framing member may weaken the frame. Apply the science you have learned, use some common sense, and ask questions That way you are bound to do the right thing.

Reviewing the Scientific Principles in Frame Construction — Lesson 11

Objective:

At the end of this review lesson the student will have reinforced the scientific principles covered so far.

Question 1: Why must lumber used in construction be dry?

Answer: Moisture, when excessive, causes warping, twisting, and distortion. Green lumber can cause cracks in walls, sticking windows and doors, gaps in interior trim and floors.

Question 2: Isn't green lumber easier to nail and less likely to split?

Answer: True. But it's also true that nails in wet wood have less holding power when the wood dries (up to 25% less).

Question 3: What are rosin-coated or cement-coated nails and why are they used?

Answer: Rosin or cement coating gives nails a tacky film that creates extra friction. Thus they will not loosen, back out, or pull out easily. They are used to create a strong nailing bond.

Question 4: Why is plywood sheathing stronger than plain boards?

Answer: Plywood has several layers, which are glued in opposing directions. Since the strength of wood is greatest in the direction of the grain, this gives great strength in at least two directions. Plain boards have only the one layer and only one direction of maximum strength.

Question 5: What other advantages does plywood have that makes it superior to regular sheathing?

Answer: Plywood is faster and easier to apply and minimizes waste. It adds strength to floors, walls, and roofs when used for sheathing. Plywood is also subject to minimum swelling and shrinking, thus eliminating twisting and distortion of framework.

Question 6: If small errors are found on the plan, can the worker contact the foreman or boss and get permission to make a correction on the spot?

Answer: Yes, small errors can be corrected with proper appfoval.

Question 7: Can you change specifications or make substitutions without permission?

Answer: No, specifications cannot be changed at will without breaking the contract. Changes must be in writing and approved by the owner.

Question 8: Why is platform or western construction so popular?

Answer: Because it is stronger, faster to erect, cheaper, safer, and more fire resistant. It also permits a more even and uniform settling and shrinkage.

Question 9: Why is framing spaced 16" on center?

Answer: By numerous structural tests, 16" centers have proven to furnish safe and economical spacing for framing. Further, the 16" spacing permits the use of standard widths and lengths of sheathing materials and siding.

Question 10: Why is diagonal bridging installed between floor joists?

Answer: Diagonal bridging acts as a load distributor. Rather than one joist's taking the full load, bridging permits an equal distribution of the load to adjoining floor joists.

Question 11: Why is wood used so widely in construction?

Answer: Wood is plentiful, relatively inexpensive, easily worked, and has great strength, durability, and beauty.

Question 12: What's the difference between air-dried and kiln-dried lumber?

Answer: Kiln-dried lumber is oven-controlled drying. It is faster and more accurately controlled than air-drying. Air-drying takes longer and involves more handling and storage space.

Question 13: Can lumber dried by air or ovens take on additional moisture from the time it leaves the mill until the time it is used?

Answer: Yes, wood is cellular and hence very spongelike. It can absorb moisture in shipment, either from rain or from moisture in the air. Hence lumber should always be protected from the weather.

Question 14: Why is Douglas-fir framing lumber rated high as framing lumber?

Answer: Douglas fir is fairly light, extremely durable, and strong. In proportion to its weight, it is the strongest wood.

Question 15: Is Douglas fir used for anything besides framing in the construction industry?

Answer: Yes, it is very versatile and can be used for window and door frames, doors, flooring, steps, the manufacture of ladders, and many other uses.

Question 16: Is common lumber used for framing graded?

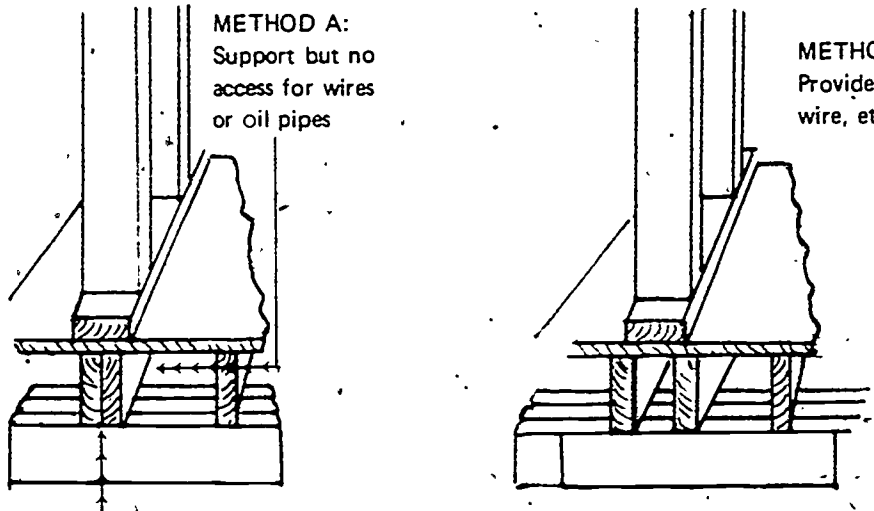
Answer: Yes, common lumber is graded from one through five. No. 1 and No. 2 common are frequently used for framing. No. 3 and lesser grades have serious structural defects and are only used for component parts or very rough work.

Question 17: Why should a sill be leveled with a bed of cement? Why not use wood shims?

Answer: Cement is firm and stable and should last the life of the building without deteriorating. Wood can be compressed or rot, which would cause cracks and other structural flaws in time.

Question 18: Why should floor joists be doubled under all partitions that run parallel with the joists, and also be doubled at all openings?

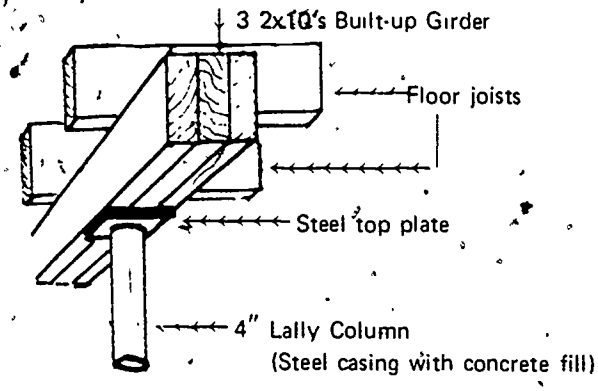
Answer: These points offer critical areas of stress by an imposed load or by omission for openings, hence the joists should be doubled.



DOUBLE JOISTS

Question 19: What's the purpose of a girder?

Answer: A girder takes the place of a wall to help support the floor joists and the imposed weight of the structure.



How a built up girder supports the floor joists

Question 20: Why is a girder so important?

Answer: A girder usually carries twice as much weight as a foundation wall. It carries about 50% of the total building weight.

Question 21: Why are headers used for framing over all doors and windows?

Answer: They compensate for the omitted studs by distributing and supporting the imposed load.

Question 22: Why are studs doubled at all openings?

Answer: Again as compensation for the omitted studs - adding to the structural strength by supporting the headers.

Question 23: Why is the top plate doubled on walls?

Answer: A double plate strengthens and stiffens the walls and acts as a tie in corners and junctures.

Question 24: What is the difference between a bearing and a non-bearing partition?

Answer: A bearing partition carries the weight of floor joists plus any structural weight above it. A non-bearing partition carries only its own weight.

Question 25: Explain where compression and tension take place in a framing member.

Answer: Compression is the force acting on the top edge, whereas tension is the force on the bottom edge.

Question 26: In cutting floor joists for pipes, etc., is there a safe cutting area?

Answer: Yes. There is a neutral point between compression and tension where neither force is too great.

Question 27: What is the maximum size of hole permitted in a floor joist?

Answer: A hole equal to one-fourth the total timber width can be cut in the neutral zone without creating structural damage. Any hole cut larger will require supporting framework.

Question 28: Suppose you cut a notch 4" deep in a floor joist to get some necessary plumbing in – what could happen?

Answer: The floor joist would no longer be a 2x8, for example, but a 2x8 minus 4" or a 2x4. The beam may sag unless you compensate in the framing.

Question 29: Suppose you have to cut through a bearing partition?

Answer: If you do you must compensate by steel mending plates or additional framing.

Question 30: Are there scientific principles that you must follow in every phase of framing?

Answer: No, many framing problems can be solved by common sense and experience. However, knowledge of scientific principles provides safety and security in many instances.

Sheathing Materials Lesson 12

Objectives:

1. At the end of this lesson the student will know the purposes of sheathing.

2. The student will also learn about the various types of sheathing and their qualities.

Related Information:

"Sheathing" refers to the external covering that is nailed to the exterior framing. It provides bracing strength, insulation, and sound absorption, and acts as a base for finish sidings.

Good sheathing should have the ability to hold nails, so that the finishing materials can be firmly held on. Sheathing should also supply a good degree of bracing ability, because modern methods of framing require it. Finally, sheathing should provide good insulation and be able to keep out wind, dust, and weather.

Sheathing materials can be in the form of boards, plywood, or a variety of composition materials. Wood sheathing is the strongest and most popular, and so let's consider the qualities of wood sheathing first.

Plain boards free of major defects can be used for sheathing but must be at least ¾" thick and should not exceed 12" in width. To supply rigidity and bracing, board sheathing should be applied diagonally, and joints should occur over studs.

Plywood sheathing comes in large sheets and is easy and fast to apply. One of the main advantages of plywood is that it has good strength either with or across the grain. Plywood consists of layers in which the grain runs in two directions at right angles. The glueing of opposing layers of wood grain actually prevents swelling and shrinkage. These advantages give plywood a rigid quality for bracing, plus a greater impact-resistance to blows or damage. The glued layers provide excellent nail-holding qualities, and nails can be used close to the edge without splitting the plywood. Plywood can also be cut and drilled with no appreciable loss of strength.

Composition sheathing, commonly known as building boards, may be made of several different types of material.

Sheathing boards are manufactured from wood, sugar cane, or asbestos fibers. Sheathing made from fibers comes in two types. One type has both surfaces and edges coated with asphalt, and the other has the fibers impregnated with asphalt during manufacture. Both types are used where moisture is a factor and insulation and sound control are more desirable than rigidity.

Composition-type sheathing requires diagonal corner bracing and has limited uses. For example, it presents a nailing problem with wood or asbestos shingles – the nailing of the siding must occur over the studs.

Research Project: See how many other composition materials are used for exterior sheathing. List them and give the advantages of each type.

Roof Framing Lesson 13

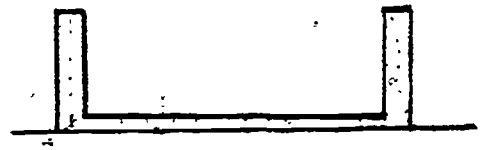
Objectives:

1. At the end of this lesson the student will learn about the forces that roofs are subject to.
2. The student will also learn how geography influences roof design.

Related Information:

Part I – The Almost-True History of the Beginning of Roofs

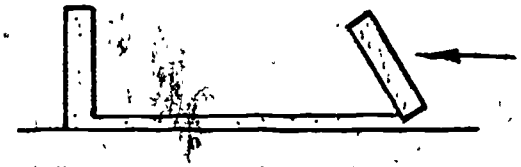
The first man-made roof was probably an animal-pelt hat, which was supported by his ears. The first hat effectively kept the dust, rocks, rain, and snow off man's bald head and kept the sun out of his eyes. This sure protected the top of the head and the eyes, but gave no protection to the nose and teeth, which were burned and cracked by the sun. And so man widened the overhang to protect his gums, teeth, and nose and started wearing the big-brim job. That's right, the big brimmed hat and the early beginnings of roof framing started in Texas – where else?



Without a roof, a structure is not complete

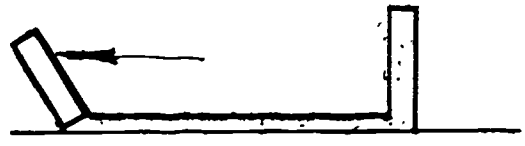
PART II – THE REALLY TRUE STORY

The first man-made roof was probably a lean-to roof supported by poles somewhere in New Jersey.

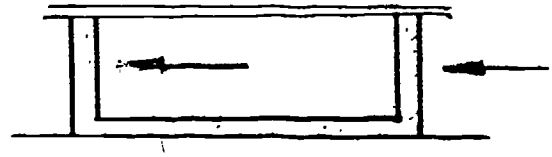


Walls alone cannot resist outside forces

As building became larger and more complicated, the same became true of roofs. Thatched roofs and tree branches were now not enough to keep out the rain, snow, and sun.



Walls alone cannot resist forces from inside



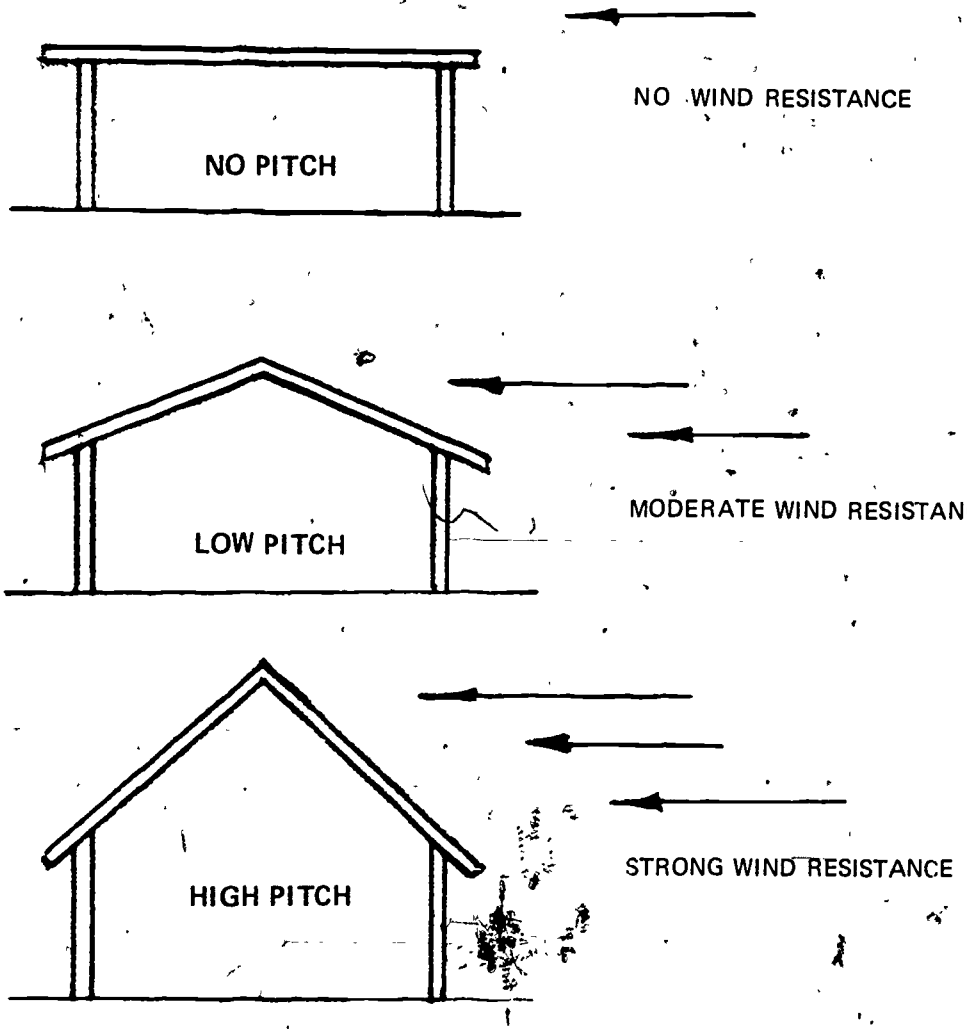
With roof on, walls can resist forces better

Thus as the size of roofs increased, the size and types of roof framing had to change to cover the span and support the load. The size of overhangs was increased also, to give more shade, and so started a whole new ball game.

Most buildings must have their walls firmly attached to both a ground support and a roof to be structurally sound. Hard to believe, but it's true. The walls of a building cannot resist the external and internal forces placed on them without some horizontal support at the top of the walls.

Roof framing in turn must be properly supported by the exterior walls. In the case of large spans, the framing must rest on load-bearing partitions plus the outer walls. Thus walls need roof-framing, and roof-framing needs walls. To keep from forgetting this, remember it's just like romance – boys need girls and girls need boys.

Roof-framing must carry two important weight loads and hence it must be structurally sound. The first load is referred to as a dead load; it consists of the weight of shingles, sheathing, and rafters.



The second type of load is the live load; it consists of the wind and snow loads that act upon the roof. Snow loads bear straight down and produce a force in a vertical position. Wind loads are forces in a horizontal direction. Hence roof pitches must consider the live loads present in a particular geographic area. For example, homes in New England need high-pitched roofs to withstand the heavy snow loads. Homes in Florida need very low pitched roofs or flat roofs to keep wind loads at a minimum.

Thus the selection of framing materials, sheathing, roofing materials, and the pitch must apply construction science or face possible failure and waste of money.

Students in past classes who fell asleep had the roofs blown off their houses – so stay awake and keep your roof on.

Roof Covering Materials Lesson 14

Objectives:

At the end of this lesson the student will know the most common types of roofing, and where they are used, and their advantages.

Related Information:

The exposed outer roof covering protects the building from wind, rain, snow, and cold. In the summer it keeps the heat out and in the winter keeps the heat in. Many materials are used to cover pitched roofs, such as asphalt shingles, wood shingles, and asbestos shingles. Heavily framed roofs can be covered with slate or tile. Flat or low-pitched roofs can use roll roofing, sheets of metal, glass, plastic, or any combination of these materials.

Sloping roofs are most generally covered with some type of shingle. Roof shingles are commonly made of asphalt or wood. The wood sheathing is usually covered with overlapping layers of tar-impregnated paper, frequently called "tar paper" or "felt." The shingles are then applied so that they overlap at least one-half their depth. The shingles are nailed with galvanized or non-rusting nails that are covered by the succeeding overlapping shingle. Thus nails are not exposed to deterioration, which might cause leaks.

The modern-day asphalt strip shingles are usually interlocking or have self-sealing edges. The self-sealing shingles seal their exposed portion to the shingle below, thus forming a sort of one-piece roof. This sealing feature keeps rain and snow from getting under the exposed tabs.

Asphalt shingles are made from rag felt that is saturated with asphalt, and the finish surface is covered with ceramic-coated mineral granules that are pressed into the hot surface. The tiny granules provide a fire-resistant surface.

Wood shingles, usually made from western red cedar, are an expensive but popular roofing material. Cedar shingles have a fine, even grain usually quite free of distortions, knots, or blemishes. The expansion and contraction of cedar shingles is so low that moisture conditions do not present a problem. They are extremely light, relatively free from cracking, and because of their cellular nature are an excellent insulator.

Flashing can consist of a waterproof fabric or a rust-resistant sheet metal. In most cases flashing consists of aluminum, copper, or galvanized metal and is used where different surfaces of the roof intersect. The most common areas needing flashing are the ridge, valley, hip, or chimney junctures of a roof.

The actual method of installing flashing is best left for shop instruction; however, like most roofing materials, it should be lapped at the joints.

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Finished Exterior Wood Sidings Lesson 15

Objective:

At the end of this lesson the student will have a general knowledge of some of the many types of siding available and their characteristics.

Related Information:

Finished siding adds good appearance to a house just as clothes add to the appearance of people. But sidings, like clothes, must do more than just add beauty. Let's make a quick checklist we can use as a guide to the qualities that a siding should have.

1. Siding should be able to hold paint or other finish.
2. Siding should be reasonably resistant to weather, normal wear, and abrasion.
3. Siding should add a good insulating factor.
4. Maintenance costs should be low or reasonable.
5. Siding should be reasonably permanent, because replacement can be expensive.
6. Siding should be free of blemishes and defects such as splitting, knots, checking, or distortion.

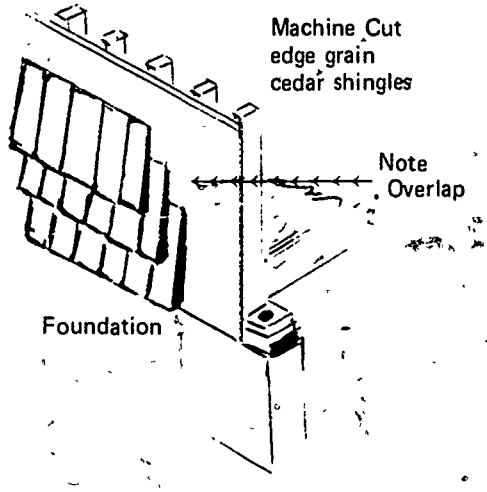
Let's take a look at the principal types of wood sidings.

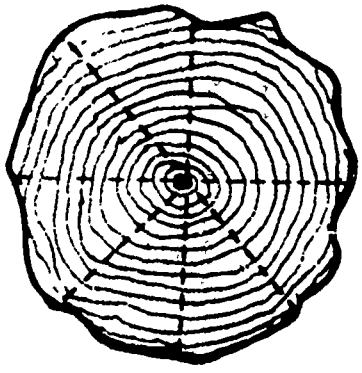
1. Horizontal-type siding. Several species of wood are used to make horizontal siding, but redwood and cedar are the most common. Both redwood and cedar come in a variety of shapes and sizes.
   Redwood is an extremely durable wood that can take a paint or stain finish well. It is highly resistant to moisture and decay and has a good insulating value.
   Cedar siding is made from western red cedar and has the least shrinkage of any softwood on the market. Because cedar is such a stable wood its size and joints are not greatly affected by humidity, and its great stability keeps it relatively free from cupping, twisting, or pulling loose from nails. Cedar has one of the highest insulating values of all the soft woods and can take paint, stain, or varnish exceptionally well.

2. Vertical Siding. Board-and-batten sidings are usually made of cedar, redwood, fir, or cypress. They come rough-sawed or smooth and are applied to the walls vertically. Then narrow strips of the same material are nailed over the vertical joints. A variation of vertical siding uses boards with a tongue and groove, with V-joint grooving.
All species of cedar and redwood can be painted, stained, or varnished and hold up extremely well. Fir siding, however, is a harder species and is more subject to checks, splits, and small defects. Cedar and redwood have the highest insulation rating, followed by cypress and fir in that order.

3. Wood shingles. Wood shingles are made from pine, redwood, and red cedar. Red cedar leads the list in quality and sales. Red cedar is a fine, evenly grained wood with a uniform texture that can't be beat. Cedar has a cellular structure that makes it extremely light, and yet it possesses unusually high crushing strength. The expansion and contraction of red cedar is minimal, and thus it can change from wet to dry with very little splitting, checking, or shrinking.
Red cedar shingles, properly installed, will normally outlast the life of the building. As a matter of fact they weather so well that they can go without paint, stain, oil, or varnish and still hold up!
Thus for beauty, durability, insulation, and maintenance, cedar shingles represent one of the best choices.

Red cedar shingles are made in several grades, depending on the degree of perfection. For example, No. 1 grade shingles are all edge-grained, absolutely clear from butt to tip, and contain no sapwood.

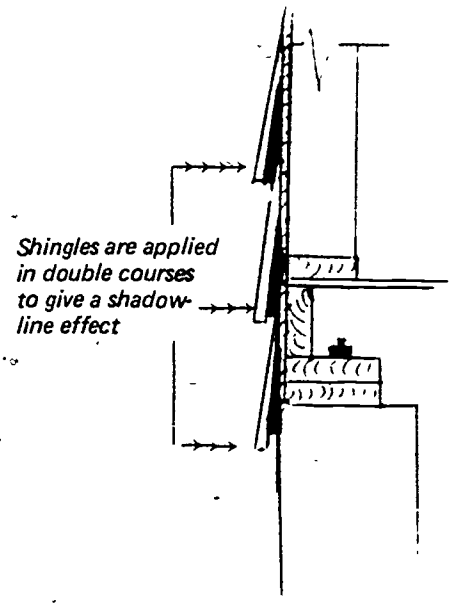




Quartered, split, and requartered until they get to proper size

Cut up shingle block

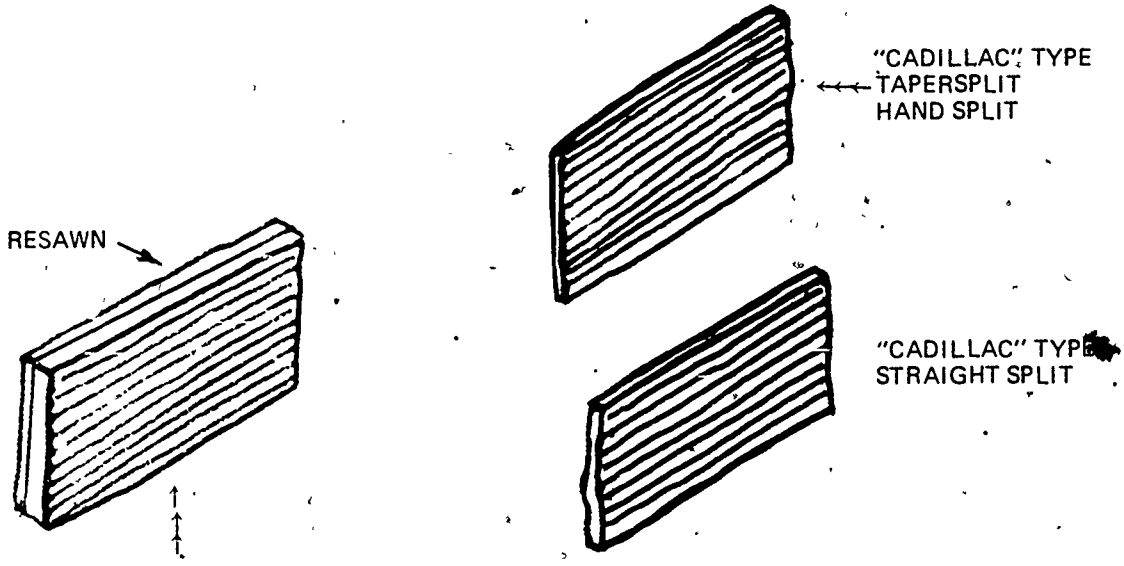
Finished machine-cut # 1 grade shingle or shake



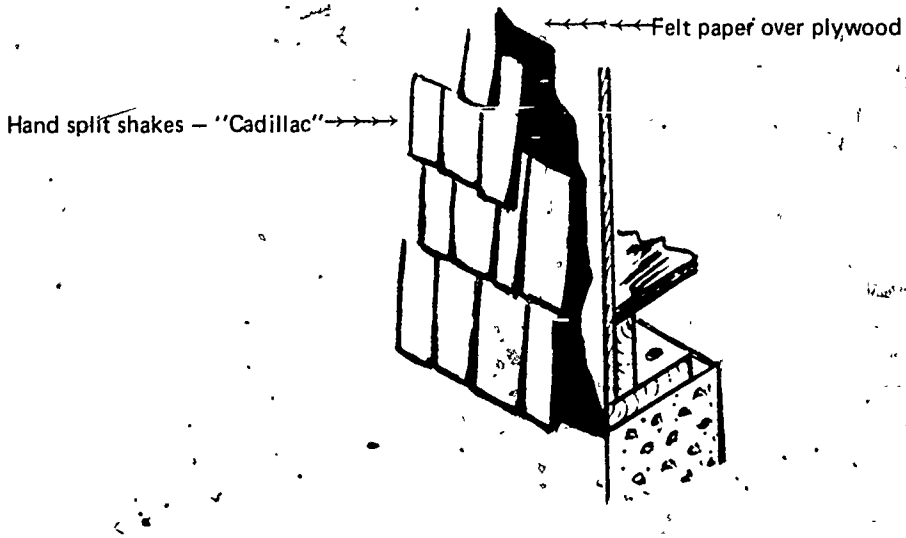
Shingles are applied in double courses to give a shadow-line effect

Red cedar shingles also come in a variety of shapes that differ in application. For example, a machined wood shake (shingle) is made that comes machine-sanded or grooved. This shake is prime-painted or stained and is even applied in a different manner from an ordinary shingle. This shake is a cheaper shingle with poor grain structure, knots, or blemishes and is used as an undercoating. The finished shake is then applied with a wide exposure, creating a shadow-line effect, and is face-nailed with galvanized nails. Conventional shingles use a concealed nailing method.

There is finally a "Cadillac type" shake that may be (1) hand-split and resawed, or (2) straight-split, or (3) taper split. They have a rustic beauty but are very expensive. These shakes are clear and are made from 100% heartwood and must be literally perfect. The selection of only the finest heartwood sections of red cedar plus the additional labor to manufacture this type are what makes them so expensive. However, they are used for siding and roofing with excellent results.



Hand split shakes give a rustic, rugged appearance



Other Finished Exterior Sidings Lesson 16

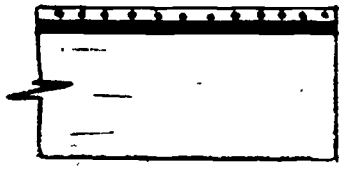
Objective:

At the end of this lesson the student will know about several types of siding other than wood.

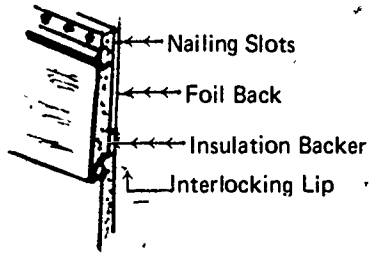
Related Information:

New siding materials are constantly being developed and used. They compete with each other in attractiveness, durability, application, and cost. It would be difficult to select one type and say it's the best. Therefore we will only list the types available without trying to make a comparison.

1. Aluminum siding is formed from aluminum sheets and is available in various thicknesses, patterns, textures, and colors. This comes either in single-thickness metal or with a rigid-type insulation backer such as Styrofoam. There is vertical as well as horizontal siding. It is made in various widths and usually in 12' lengths. Aluminum siding is sensitive to temperature changes; thus nailing should be through slotted holes and at only moderate distances because of expansion and contraction. Price is usually based on thickness, which runs from 0.02" to 0.025". Aluminum siding's best feature is the durability of its finish. Thus appearance and minimum maintenance are its strongest selling points.



ALUMINUM SIDING



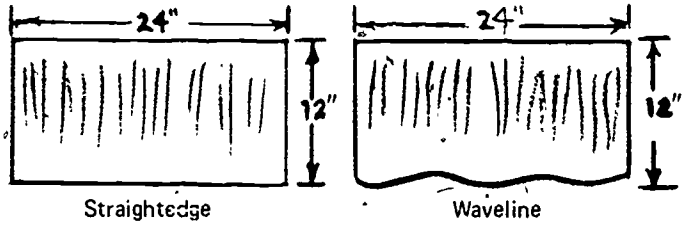
2. Steel siding is similar in appearance and application to aluminum. Consisting of a rust-resistant alloy, it is stronger than aluminum.

3. Vinyl siding is also similar to aluminum siding in appearance and application. Although durable and good looking, it presents more problems in application. It is sensitive to temperature changes.

4. Insulating fiberboard siding is made of a ½" fiberboard base. The finish face is covered with asphalt and has finely crushed slate imbedded. It is made in patterns to imitate brick, stone, and wood grain.

5. Composition board. This type of siding is manufactured from wood fibers and wood chips and is formed into boards and panels resembling wood. It may be applied as lap siding, board and batten, or vertical siding. It comes prefinished and can be applied with nails or adhesive. Available in textured or in hard-board form, its advantages include freedom from splitting, checking, and cupping.

6. Asbestos-cement siding and shingles. Asbestos siding boards are made in horizontal strips, 12" wide, 48" long, and 3/16" thick. They have a smooth surface and straight edge and are applied with soft-head, rust-resistant nails.



ASBESTOS SHINGLE

Asbestos shingles are 12x24 inches and are available in straight or wavy exposed edge. They usually have a wood-grained pattern and are available in a variety of colors. Application is through pre-punched holes, and asphalt strips are provided for weatherproofing the joints. Asbestos shingles are very moisture-resistant when first installed, but as they get older they have a tendency to fade and get porous. Despite the manufacturers' claims, they do have to be painted or treated when they get old and porous. Newer types of asbestos shingles have an improved glazing.

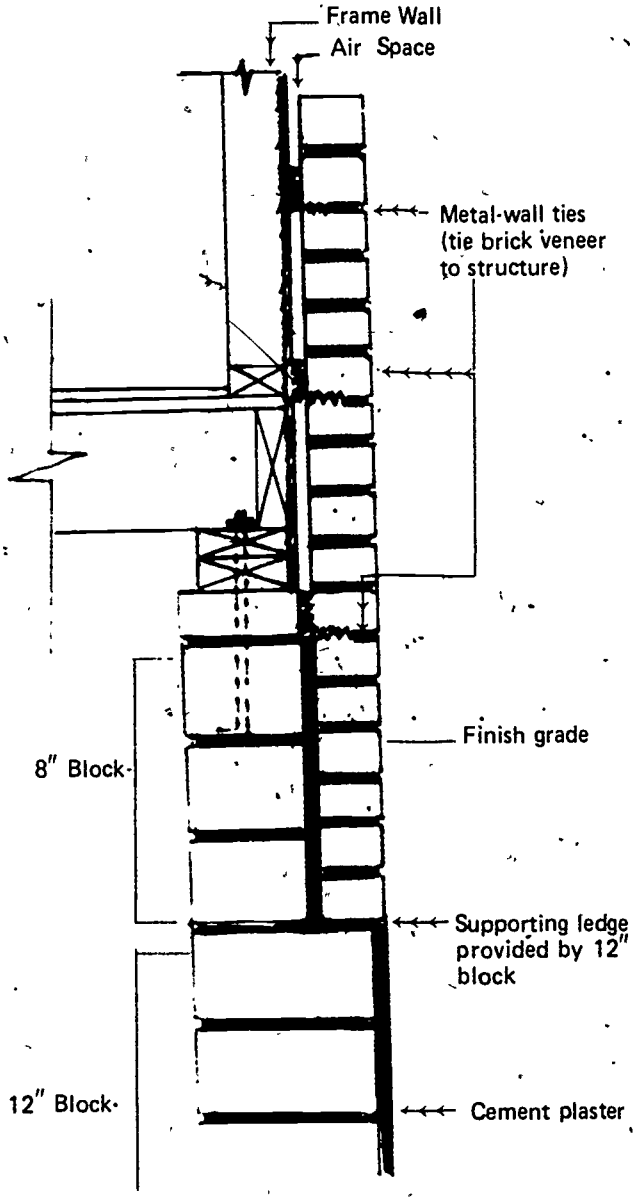
7. Brick veneer means a brick facing that forms an exterior finish over either wood framing or masonry construction. There are two types of brick veneer that are used over light frame construction.
(1) The first method uses brick having a 4" thickness, which are laid up over the wood sheathing. This method requires a firm base and hence must start either on a supporting ledge in the foundation masonry or at the footing base.

The supporting-ledge construction is more common (see illustrations.) The foundation masonry consists of wider blocks below grade (usually 12") with narrower courses of block (8") starting just below the finish grade. This forms a solid 4" ledge for firm support.

The brick thus furnishes a finished brick exterior over a wood-frame base, combining economy and beauty. The brick is kept about 1" away from the wood sheathing to provide an air space. This air space is vitally important because it acts as both an insulator and moisture-control feature. The air prevents the transmission of heat and cold by conduction (See Unit VII). There is some circulation of air; this prevents the moisture and humidity problems that affect insulation in situations where the air does not circulate.

The brick veneer is anchored to the wood frame by metal wall ties that are nailed to the studs and bent into the brick wall as it is being laid up. The metal ties appear at least in every fifth course and are spaced about every four feet. However, wall ties can vary with building codes or specifications.

(2) The other method is to cover the studs with paper-backed wire mesh. Thus the bricks are applied to wet mortar, just like wallpaper. However, this type is used mostly in California, and so who cares. Folks in the East do their own thing.



BRICK VENEER
OVER FRAME CONSTRUCTION

The Need for Health Codes Lesson 1

Objectives:

At the end of this lesson the student will understand why health codes for plumbing are necessary.

Related Information:

In the good old days when saloons, schools, houses, and caves were spaced far apart, folks didn't have much need for health codes. Your 10-acre spread of weeds, poison ivy, and gopher holes was your own, and your "paw" was the law.

Then saloons, schools, and houses started to move closer together – creating a need for health codes. Now, garbage thrown out the window was hitting a neighbor's house, and folks needed laws and codes to protect the citizens from each other's waste products.

This togetherness or close living was creating serious health problems with regard to drinking water and sewage disposal. So the "old fuzz," or city fathers, became concerned about pollution and the environment.

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They formed a government and, in their haste, named it "Us." They slapped together some health codes and hired three unemployed colonial hippies named Washington, Lincoln, and Paul Revere to enforce them. That's exactly how health codes got started!

Thus, any student can plainly see that protection of the health, safety, and lives of people is a government obligation and rightly so. The supply of drinking water and the safe disposal of sewage vitally affect public health and hence must be regulated. Therefore plumbing systems cannot be installed in any old way, but must conform to established health and safety standards. Most communities have established health codes, and the kinfolk of Washington, Lincoln, and Revere are still enforcing them.

The enforcement of these health codes is controlled by a system that requires permits and inspections. The permits are issued and approved on the basis of plans and specifications submitted. The work is inspected while in progress and on completion. Usually a rough plumbing inspection is required before the walls are enclosed. This is to insure that all piping is properly sized, fitted, vented, and tested for leaks. An inspection is required for sewer or septic systems and their tie-in connections. Septic tanks and sewer-line excavations must be left uncovered until inspected and approved. The inspections are usually made by a licensed master plumber who is employed as a plumbing inspector, or by a sanitary engineer.

Unfortunately, codes vary from community to community at present; there is a real need for standardization of health codes. State regulations go part of the way in establishing uniformity but are limited to their boundaries. There is presently, however, a cooperative effort of state and Federal governments, manufacturers, engineers, and architects to standardize plumbing codes.

In rural areas where local plumbing codes are not strictly enforced, the property owners should comply with state codes. Information on the installation of a safe water supply and sewage disposal is available from the Federal government. Thus even the most remote areas have access to information on health codes and safe installations.

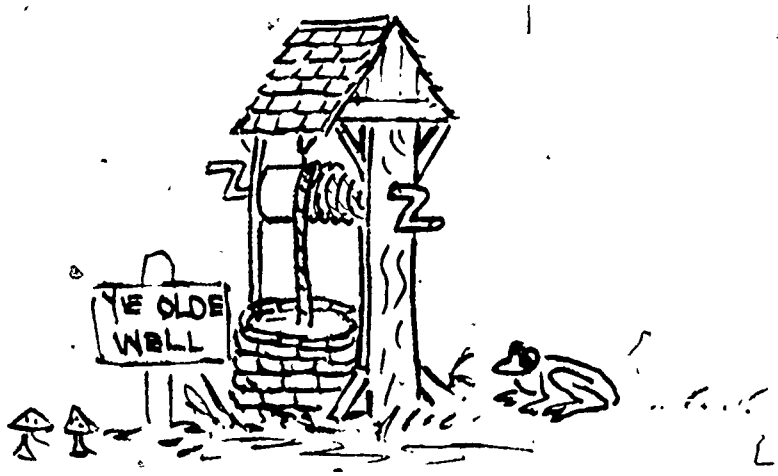
Basic Purposes of Plumbing Lesson 2

Objective:

At the end of this lesson the student will know the two basic purposes of a plumbing system.

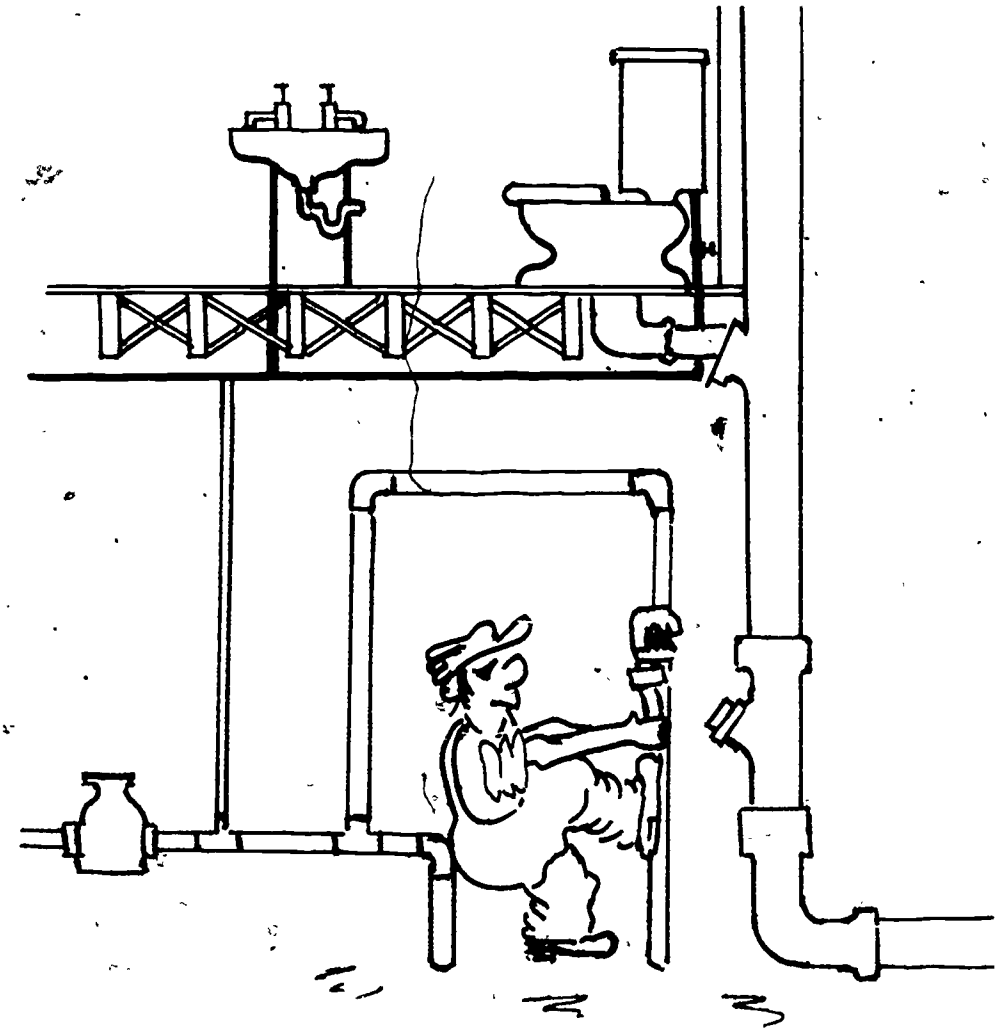
Related Information:

Americans are responsible for the highly developed system of modern plumbing. Modern plumbing is available to practically every home in America, a convenience and luxury unequaled in any other country in the world.



Imagine the feeling of security we Americans enjoy. We don't have to worry about firecrackers in the outhouse or frogs and snakes in ye olde well. We really don't appreciate our dependence on plumbing until the sewer backs up or the water supply is threatened by pollution.

Plumbing actually refers to a double system. One system supplies and distributes water under pressure for drinking, cooking, bathing, cleaning, and other uses. The distribution of water under pressure to the various fixtures in the home permits a high degree of personal hygiene.



The second system of plumbing furnishes a safe and efficient means of disposing of waste water, solid wastes, and sewer gas. This second function of a plumbing system is just as important as supplying water – if not of greater importance. The drainage system carries off bacteria-laden kitchen wastes, cosmetic and household chemicals, and both internal and external body wastes. External body wastes include hair, sputum, sweat, body oils, and just plain dirt.

The American public has a strange sense of values. For example, ask any American who developed the hydrogen bomb, and everybody knows it was Dick Tracy and the Lone Ranger. Yet who has ever used a hydrogen bomb except for a few college radicals or a handful of mean grammar school kids?

Yet ask anyone who invented the toilet, and nobody knows – not even teachers. They know it's called a john, but John *WHO?*

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Distribution of Water in the House Lesson 3

Objective:

At the end of this lesson the student will know about three important factors that affect the efficiency of a water system.

Related Information:

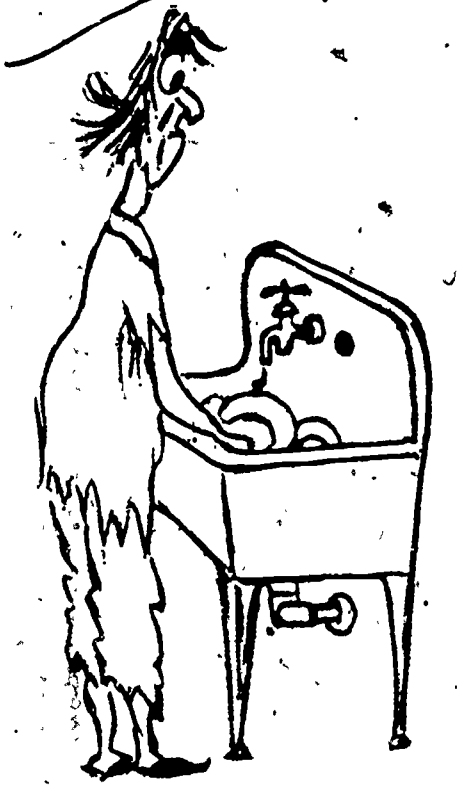
The adequate supply of water and its distribution used to depend on two rotten kids called Jack and Jill. These two spoiled kids would go up the hill to fetch a pail of water and the whole town had to wait until they came back.

Jack and Jill

Jack and Jill would run around the hill for hours, throwing rocks, frogs, and coke bottles into the old well. They would finally charge down the hill with half a pail of water. This was not exactly adequate – no way! Obviously there was need for a change. Thus the thirsty, dirty, and irate citizens schemed out a better way, and this led to the first practical system for the distribution of water within a house.

The adequate supply of water at the fixtures now depends on pressure. Water pressure in turn depends on three important factors, as follows: (1) size and distribution of pipes; (2) friction; (3) obstructions.

The proper sizing of pipe for the main line and the fixtures will insure an adequate flow of water and pressure at the fixtures. Improper sizing will cause a pressure drop and in turn a poor system. Generally the main line for a small house should not be less than a ¾" pipe.



No Water Pressure

To maintain pressure and proper distribution, the domestic supply system is divided into two units: (1) the basement supply lines; (2) the fixture supply risers. The main line usually extends full size under and parallel to the floor joists to the hot water storage tank. Then from the water heater it should branch into two supply lines, one for cold water and another for hot water. These two supply lines then branch out with fixture risers of cold and hot water connected to the fixtures above. Branch lines for individual fixtures are generally ½" pipe, and for very short runs such as a lavatory or toilet a 3/8" pipe is sufficient. This graduation of pipe sizes insures adequate pressure in the system.

Friction developed in the piping system creates a resistance that can also seriously affect the pressure. Friction is produced by the contact of flowing water with the interior surface of the pipe. This water friction is further increased by the resistance between the water molecules themselves. The only practical way by which friction can be overcome is by pressure.

One practical way of maintaining pressure is by keeping friction to a minimum. Every sharp turn, pipe fitting, and stop added to the system creates resistance and results in a greater pressure loss. Thus adequate pipe sizing, as straight and direct as possible, and only the necessary fittings, insure a good working system.

Another factor that affects the efficiency of a water system is hard water. Mineral deposits from hard water build up inside the pipes and reduce the pressure. Wherever possible water should be tested and a water softener installed to eliminate hard water. Other factors affecting pressure are extremely long runs, and just too many fixtures on the line.

The Establishment Strikes Again

Free Information 4

Objective:

At the end of this story the student will realize that a huge conspiracy exists to stomp on kids and their rights.

Once upon a time, a long-suffering plumber-type teacher was comparing water distribution to education when he discovered a tremendous similarity. This fine old geezer, after many years of in-depth study, reasoned that the flow of knowledge was dependent upon pressure. His theory, stated formally, was that *the flow of knowledge into the noodles of students is proportional to the pressure applied.* He further reasoned that the pressure had to be applied by parents, teachers, and kinfolk. Further investigation showed that the flow of knowledge was greatly restricted by mischief, sleeping and day dreaming in class, and playing hooky.

Every mean person in the world agreed that these sources of friction restricted the flow of education. But parents and other dedicated enemies of students such as teachers could not agree on how to reduce the friction or increase the pressure.

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Finally, after many disagreements about the methods available, they got into a big fist fight. The violence was something fierce. The police finally had to come on the scene and wow, were they confused. They didn't know how to cool it. It wasn't a race riot, a strike, vandalism, armed robbery, or playing on the park grass. They finally decided to call it adult delinquency, and they forced this weary mob into compulsory mediation. And this is how the first PTA was formed.

Some of the most popular recommendations after the first meeting were shipping sticks, police dogs, electrical shock sticks, and having retired teachers patrol the class aisles. Unfortunately, when these things were tried, they did not appreciably increase the flow of knowledge in the students' noodles.

Could it be that the whole theory was wrong to start with? That this fine old teacher was barking up the wrong pipe? What do you think?

As a concerned person, what would *you* recommend to reduce mischief, sleeping and day dreaming, and hooky? Remember that someone, somewhere, in a moment of weakness once said, "Even students have rights."

Right on.

The Drainage System — Lesson 5

Objectives:

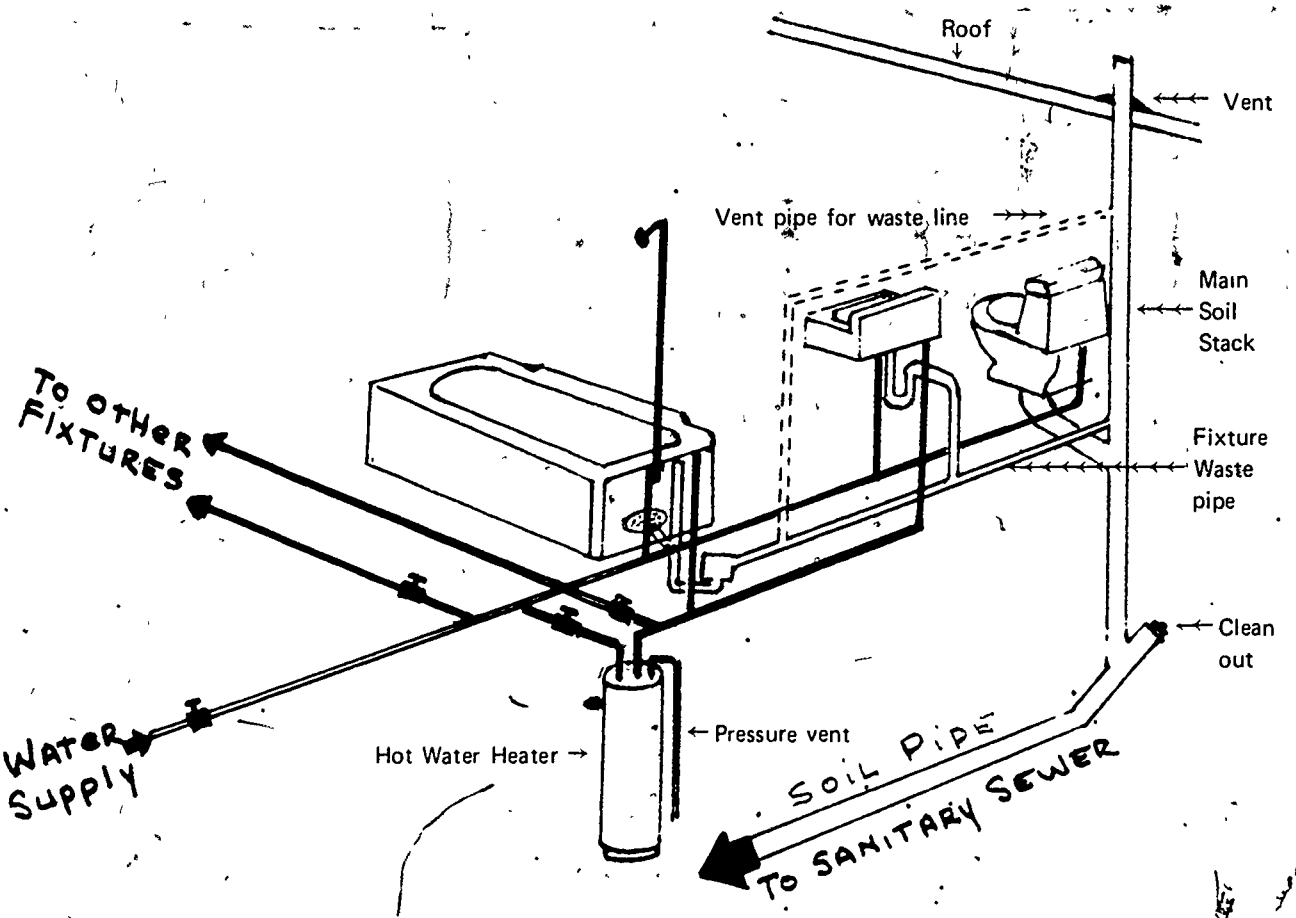
1. At the end of this lesson the student will know what the two basic parts of a drainage system are.

2. The student will also know what other parts a drainage system includes.

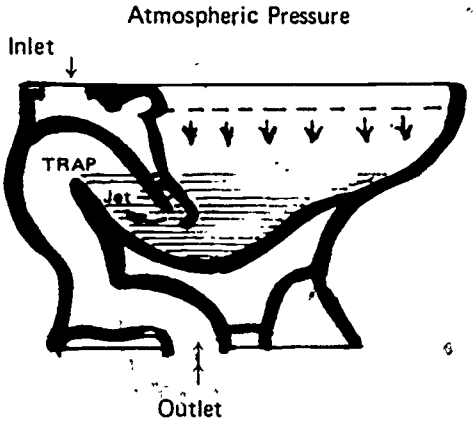
Related Information:

The two basic parts of a drainage system are the house drains and the soil stack. These two main parts consist of (1) a network of pipes that carry off the liquid and solid wastes and (2) other pipes that ventilate the system.

Those pipes carrying liquid wastes from sinks, lavatories, and bathtubs are called waste pipes. The pipes that carry toilet wastes are called soil pipes. Both sets of pipes empty their contents into the large, vertical, main soil stack, that connects to a large horizontal house drain. The house drain is pitched so that the wastes flow by force of gravity into the city sewer or the septic tank.

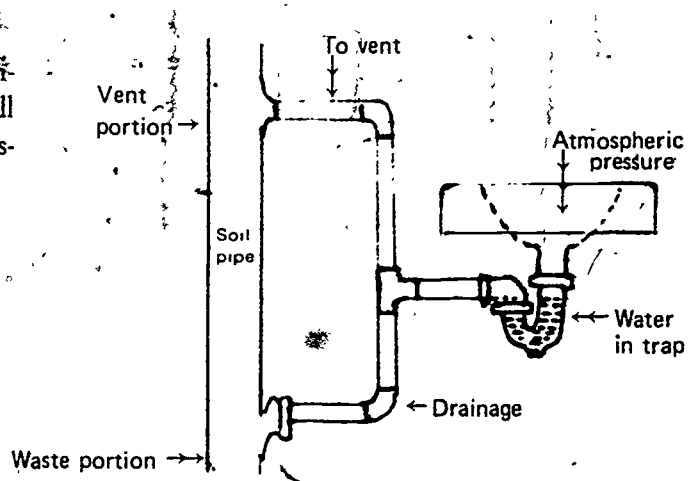


The soil stack travels vertically through the house walls and emerges through the roof. Thus the lower portion carries off the solid wastes, and the upper portion carries off the gases that form in the wastes. Every fixture must be vented to the air in some way. Vent pipes should be extended *above the highest fixture* and then connected to the main stack.

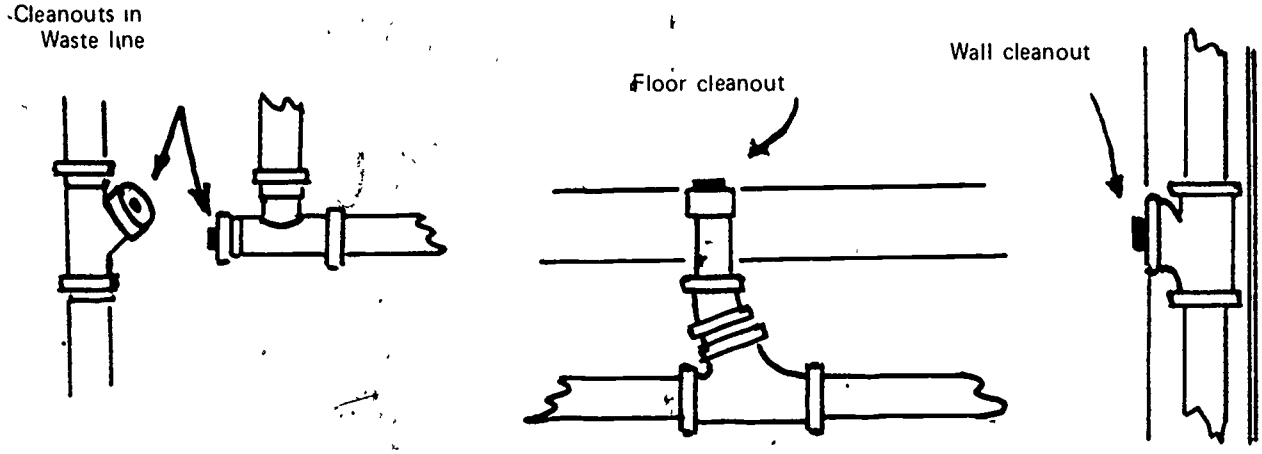


Traps are extremely important parts of a drainage system, because they prevent the sewer gas from backing into the house. Water in the trap acts as a seal to prevent a sewer-gas back-up. Atmospheric pressure helps to maintain this water level in a trap. Each plumbing fixture should be provided with a trap. Even the "john" has a built-in water trap.

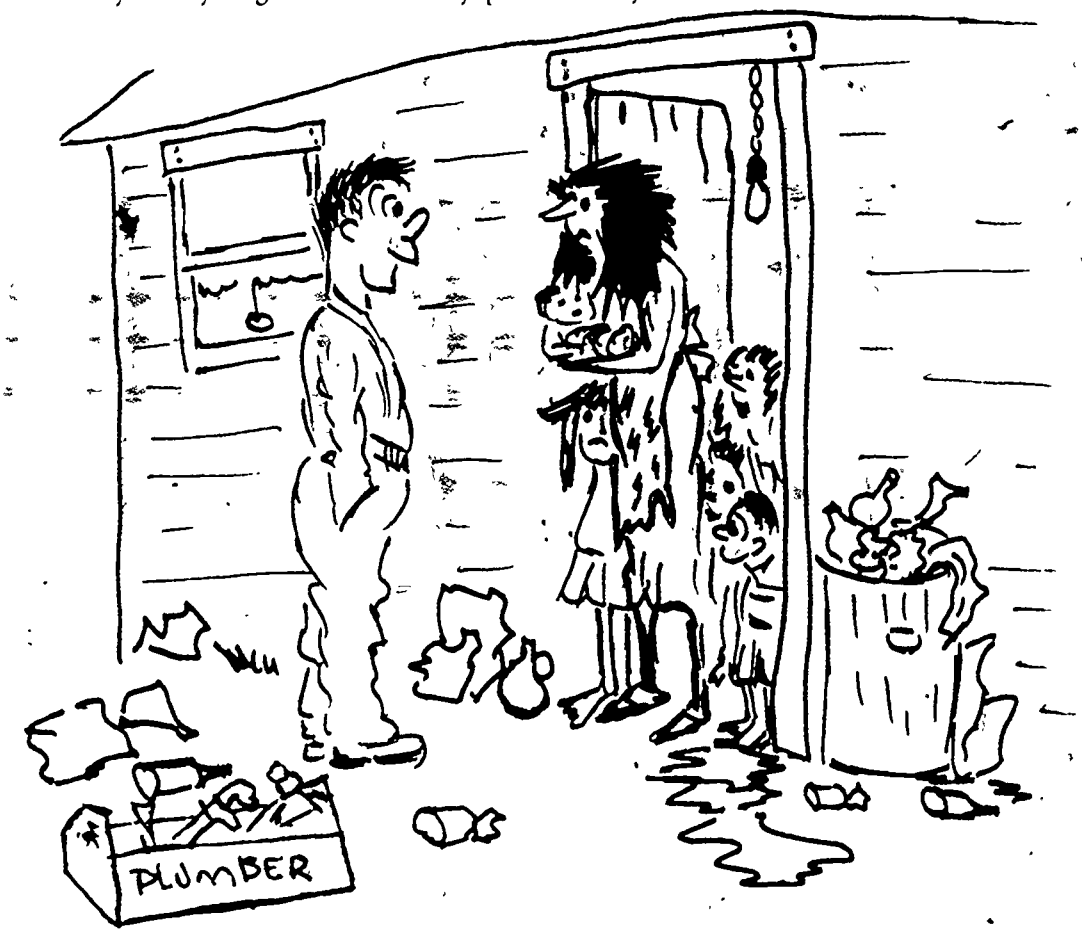
The vent pipes are just as important as the traps, as you will see in the next lesson after we discuss ventilation in the system.



Wash basin water acts as water trap to prevent gases from backing up



Finally, the drainage system must provide cleanouts for access. Cleanouts are threaded plugs that can be removed so that grease and solid obstructions can be taken out or dislodged from the pipes. Cleanouts would not be necessary for big persons called adults, but nasty, mischievous kids vandalize the system. They throw combs, lollipop sticks, wads of gum, beer caps, and even rocks into sinks, etc. It's a case of using cleanouts or more discipline – and as usual the kids win. That's why plumbers always ask you, "How many kids you got?" before they put in the system.



"HOW MANY KIDS YA GOT?"

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UNIT VI – PLUMBING

Ventilation — Lesson 6

Objectives:

1. At the end of this lesson the student will know how ventilation can prevent three major plumbing problems.
2. The student will also understand that an understanding of the principles governing atmosphere pressure is necessary to understand plumbing.

Related Information:

Science teachers for the most part are kind, non-violent, dedicated persons that rarely loose their cool. However, science teachers have one weak spot that causes them to flare up and stomp on pieces of chalk. They insist that students respect scientific principles at all times. So don't question the value of science and its application to ventilation in plumbing. Please the teacher and keep the peace.

The purpose of ventilation is to maintain *atmospheric pressure* within the drainage system so that it will work properly. Proper ventilation prevents three major plumbing problems, namely, *retarding the flow of waste, material deterioration, and loss of seal at the traps.*

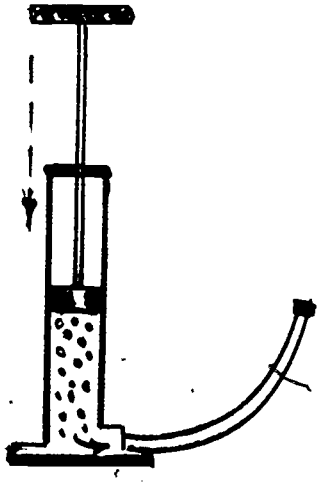
Every science student in the world knows the following facts about atmospheric pressure, but let's review them just to please the teacher.

The atmosphere is that big ocean of air that forms the outer layer of the earth. Air has weight, and so the closer this layer of air is to the earth, the greater the pressure. This ocean of air extends outward for hundreds of miles and becomes thinner and lighter as the altitude increases.

This atmosphere exerts a pressure of 14.72 pounds per square inch at sea level, under average weather conditions. This air pressure is exerted on every square inch of earth, whether liquid, solid, or gas, and in all directions – down, up, and sideways.

We are not conscious of air pressure because it is pressing on us equally in all directions. If the pressure on one side of anything is lessened or removed (as by sucking on a straw in a bottle of soda), the air pressure on the *other side* will make itself felt immediately. (It will push the soda up into your mouth.) This is the principle of the *siphon.*) If you don't believe that air has pressure, try emptying a narrow-necked bottle of catsup.

There the catsup sits, and nothing happens. You'd think it would be heavy enough to drop right out, but it doesn't. What holds it in? The pressure of the air is exerted upwards against it, and there is very little air inside to press down and push the catsup out. You can only get it to come out by giving it a good, swift kick in the rear!



Air can be compressed or it can be withdrawn. Anyone that has pumped up a bike tire knows that air can be compressed. Anyone that has squeezed an open rubber ball (as on a medicine dropper) created a partial vacuum that causes air to rush in when his hand is released. Thus air pressure can be minus or plus the 14.72 pounds per square inch that is normal. That's where science enters the plumbing picture.

In plumbing, the ideal condition is to have air pressure on the fixture side equal to the pressure on the venting side. Unequal atmospheric pressure can cause a fixture trap to siphon out the fixture's water-seal directly or indirectly. Direct siphoning is caused by unventilated traps, and indirect siphoning by the momentum of water rushing past a trap.

Thus proper ventilation is necessary in a properly working drainage system. The main soil and waste vent that extends through the roof furnishes this ventilation. The main soil vent is not only the source of air pressure in the plumbing system, but also carries away objectionable gases and odors.

Now you see several reasons why vent pipes are so important in plumbing systems (1) They prevent the water seal in traps from being sucked down, either by a siphoning action or by the momentum of the discharge flow of water; (2) They carry sewer gases away; (3) They prevent back pressure from forcing water out of the trap through the fixtures.

There are other reasons too. The wastes flowing through a plumbing system contain many elements that can combine to create acid compounds that can deteriorate pipes and fixtures. Hydrogen, which is a component of all acids, is found in large quantities in the drainage system. Hydrogen is present both in a free state and combined with other elements and should be eliminated by adequate ventilation. Otherwise it might cause a fire or even an explosion.

Furthermore, the flow of wastes can be retarded in a drainage system if atmospheric pressure is improper due to insufficient ventilation. The flow of water in an improperly ventilated soil pipe can compress the air in a soil line to be greater than atmospheric pressure. This excess pressure will retard the flow of water unless the air is permitted to escape.

It's hard to believe that ventilation is so important in a plumbing system, but that's what the teacher says. And as any student that has served detention knows, teachers are never wrong – no way.

V45

Sewage Disposal Lesson 7

Objective:

At the end of this lesson the student will know that the conversion of raw sewage from harmful to harmless depends on bacterial action and oxygen.

Related Information:

Sewage disposal is necessary to avoid contamination of water and also the spread of disease.

The disposal of raw sewage in a municipal system requires a thorough knowledge of science, and is entrusted only to licensed sanitary engineers. The health and welfare of every citizen in the community could be affected by improper handling of sewage.

The municipal system consists of large sewer pipes, pumps, and a treatment plant. The raw sewage does not handle just human wastes but includes all kinds of materials from industries as well.

The main sewage plants use a variety of methods to treat the sewage, but the basic science is the same. The primary purpose is to convert the raw sewage by bacterial action to harmless substances. Raw sewage contains a large percentage of *anerobic* bacteria (those that do not need oxygen to live); they produce a foul odor. By introducing air or oxygen into the raw sewage, other types of bacteria, called *aerobic,* take over. The aerobic bacteria are oxygen-users and cause a rapid decay of sewage. These are the same kinds of bacteria that cause decay of all dead plant and animal matter; we couldn't live without them. The raw sewage is exposed to oxygen in open tanks or has oxygen forced through it under pressure.

The sewage is also treated by chemicals to cause coagulation and to kill harmful bacteria. Treatment also includes removing the objectional gases that form, and the huge amounts of water. When completely treated, the dried remains, or sludge, is harmless and may be used for fertilizer. However, many treatment plants do not do a complete job, and then the solids must be dumped in the ocean or elsewhere, where they may still be a hazard to man.

A *septic system* is used as a private sewer disposal where city sewers are not available. The septic systems used today come in a variety of designs, shapes, and sizes, but their primary function is to convert waste solids into harmless liquid wastes by bacterial action. The system usually consists of a steel or masonry storage tank and a dry well or drainage system to dispose of the liquids by a leaching action (Seepage into the soil).

A well-planned septic system should be installed according to the following guidelines:

1. The site should consist of sandy or gravelly soil for good drainage.

2. The unit should be planned to use the slope of the land to take advantage of gravity flow.

3. The system should stay reasonably close to the surface, because aerobic bacteria are only available to about a 5-foot depth, below which there is not enough oxygen.

4. The location should not endanger well water, streams, etc.

Two other important tips about septic systems:

1. Never dump wastes such as grease, oils, chemicals, or acids into a septic system. They are resistant to bacterial action and some may even destroy the useful bacteria that break down wastes.

2. Working in a septic tank sounds like a big joke, and yet some people must do this. This work is extremely hazardous and the workman should be cautious.

A septic tank is usually poorly aerated and there is a shortage of oxygen. The tank may contain harmful or dangerous gases that can kill. It may also contain inflammable gases, which could be ignited by a cigarette or an improperly insulated electric cord.

Young, inexperienced workers can be easily placed in a hazardous situation such as this by a careless boss or friend. If it happens to you, stay alert and remember what you have learned.

Water Impurities

Lesson 8

Objectives:

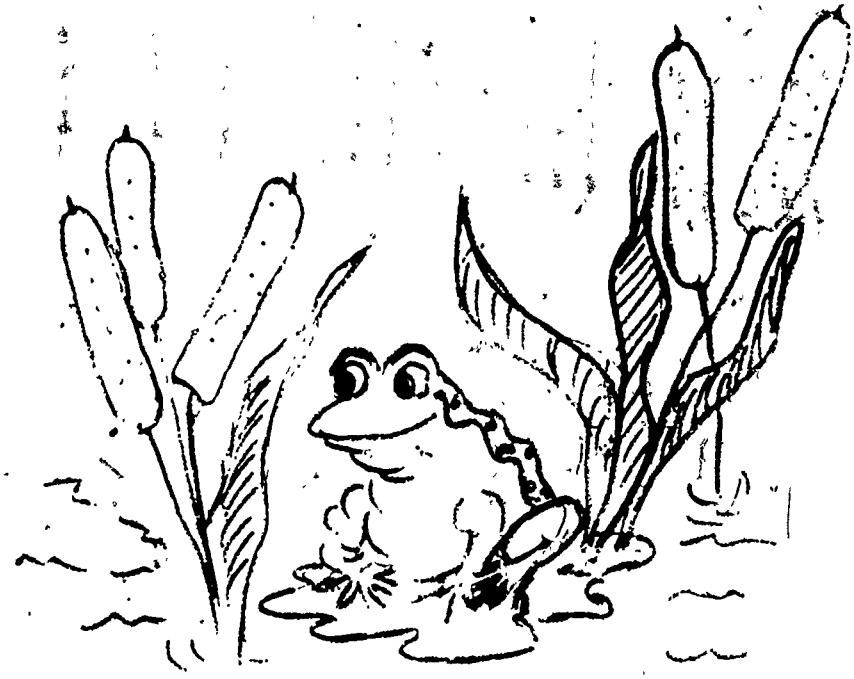
1. At the end of this lesson the student will know that water in its natural state is never pure.
2. The student will also know that the primary concern of communities and public health officials is to furnish water that is safe to drink.

Related Information:

Water that we use to drink, cook with, and bathe with comes from one of two sources. It can come from the water that falls to the earth and is found in lakes, streams, ponds, and rivers. Many communities collect, store and distribute this water to their residents for domestic use.

Other communities get their water from deep artesian wells. Here again the water is collected, stored, and distributed to the homes in the community.

Thus it is easy to understand that water in its natural state is never pure. Surface water contains organic impurities, including germs from decayed plant or animal matter, plus minerals. Surface water can also contain dissolved gases, sand, clay, and manufacturing wastes.



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Well water can contain minerals such as calcium, magnesium, sulphur, iron, chlorine, and dissolved gases. Back in the good old days before high schools were invented, the well was a big hole in the ground with an old wooden bucket, a rope, and a well wheel to pull it up. The open well was an open invitation to all kinds of mischief: frequently ye olde wooden bucket contained frogs, goldfish, old shoes and other goodies.

If this lesson on water turns you off and you decide to quit drinking water and taking baths, nobody will get mad. This country of ours is facing a critical water shortage and you might be considered a national hero.

The communities that supply your water and the health officials are primarily concerned with making your water supply "fit to drink." Their primary concern is to destroy harmful bacteria in the water and remove objectional odors. (This also includes removing the frogs, goldfish, old shoes, and tree stumps.) The purifying is done by filtering, aerating, and the use of chemicals.

The purified water you use, however, can still contain minerals, sand, silt, and dissolved gases. These substances may affect your cooking, bathing, cleaning, and even water pressure; however, the water is safe to drink.

Hard Water Vs. Soft Water — Lesson 9

Objectives:

1. At the end of this lesson the student will know the difference between hard and soft water.

2. The student will also learn how hard water affects plumbing and cleaning.

Related Information:

"Hard" water refers to water that contains mineral deposits. The water becomes hard by dissolving minerals as it passes through the soil and rocks. Hard water does not clean too well because it does not lather with soap. It also causes the "ring" around the bathtub.

Hardness does not make water unsafe to drink, but it creates all kinds of mischief in cleaning and cooking and in heating and plumbing systems. Water can be temporarily hard or permanently hard, and so let's clear up this point first.

Temporary hard water can be "softened" by boiling. It contains some calcium and magnesium salts. Boiling changes the dissolved compounds that make water hard into others that are insoluble. The new compounds settle out as tiny solid particles, and the water itself becomes soft.

These insoluble particles cause scaling to form on the insides of cooking utensils and in water pipes. Did you ever see the hard white scaling on the inside of cooking utensils and in water pipes? Did you ever see the white coating left in a pot when all the water has boiled out? Well, if you find white coatings or scale in your pots, it's not water dandruff, brother, it's calcium carbonate.

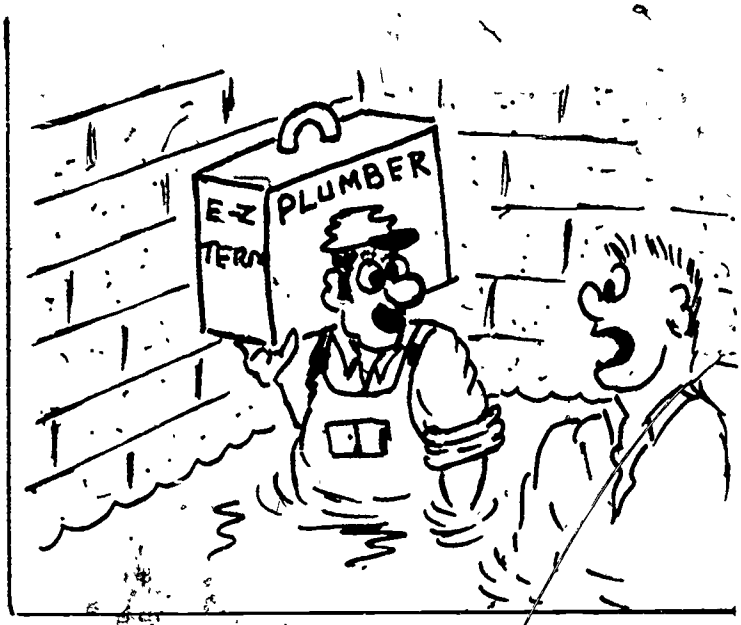
The plumbing and heating systems can be seriously affected by this scale, because it reduces the water flow and wastes fuel. The thicker the coating becomes, the slower the water heats and the slower it flows.

Permanent hard water cannot be softened by boiling; it must be softened chemically. By adding certain chemicals, the calcium and magnesium salts are converted into other compounds that form solid particles and settle out. The two most-used water softening compounds are washing soda and borax. Practically every commercial washing powder contains one or the other or both. They combine with calcium and magnesium and settle out, leaving the water soft.

Please note that water softened by washing soda or borax, or detergents formulated with them, will soften water for washing purposes but is too harsh to be used for bathing or washing of hair. These chemicals remove oil from the skin and hair.

The most practical and economical method for softening water in the home is a zeolite water softening system. Zeolite is a mineral additive for home water softeners which provides soft water that is suitable for drinking, cooking, bathing, and washing.

Soft water is kind to plumbing and heating systems and is really necessary to maintain water pressure and to conserve fuel. Hard water is expensive when it fails to clean or clogs pipes, so teach your "maw" or "paw" a lesson if your home water supply is hard.



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UNIT VI – PLUMBING

Types of Plumbing Pipes Used — Lesson 10

Objective:

At the end of this lesson the student will know about the various types of pipes used in water-supply and drainage and vent lines.

Related Information:

Pipes are classified by how they are used in home plumbing systems. (1) Water-supply pipes can be of copper, steel, galvanized iron, brass, or plastic. (2) Drainage and vent pipes can be of cast iron, galvanized iron, copper, lead, or composition pipe such as Orangeburg, Transite, or vitrified clay.

1. Copper pipe. Smaller sizes of pipe are possible with copper because the inside surface is smooth and restricts the flow of water less. The smaller sizes permit easier installation in walls and through framing. Copper is extremely easy to cut and to install fittings to. Soldering eliminates threading, which saves labor and reduces the likelihood of leaks.

2. Brass pipe. Brass pipe resists corrosion and is preferred to iron or steel pipe. It is threaded and uses fittings similar to iron or steel but needs special cutting fluids when cutting threads. Brass pipe is bulkier and more expensive than copper and thus has limited use.

3. Galvanized iron or steel are used primarily for drainage and venting, but have some use as water pipe also. Both are subject to rust and deterioration and hence have a limited life as water pipes. Iron pipe, however, is used for steam pipe because it can withstand greater pressures. Galvanized iron and steel pipes are connected to fittings by threads. The threads are smeared with a pipe-threading compound called dope.

4. Plastic. Plastic pipe is relatively new on the plumbing scene but is rapidly being accepted for many applications. It is extremely light but strong and flexible. Plastic pipe will not rust or rot and can be cut with a hacksaw or a knife. Plastic pipe is especially adaptable for jet wells and cold water lines because it will not freeze and split.

In new-home construction it is used primarily for underground water connections for wells, irrigation, swimming pools, and exterior connections. However, it is not suitable for hot water or high heat. It can be connected with clamps much the same as rubber-hose connections in a car. Plastic can be also threaded like any other pipe, but should only be used for low pressure and gravity lines.

5. Lead pipe is one of the oldest materials used in plumbing and the least subject to corrosion. It was once used for water pipe and was satisfactory when used with hard water. However, soft water contains oxygen, carbon dioxide, and organic acids that attack lead, and so the water becomes unsafe to drink. The pipes also deteriorate.

   Lead pipe is still used in homes, however, in the drainage system. It has the advantage of being flexible and thus can withstand settling of the structure. Pipes are subject to vibration, expansion, and contraction that can bring on leaks, but lead is both flexible and durable.

6. Cast iron soil pipe is used for house drainage lines and soil or waste stack. This pipe ranges in size from 3" to 6" in diameter and comes in 5' lengths for home plumbing. Some pipe is coated with coal tar to make it acid-resistant, but it also comes untreated. It can be joined by molten lead at the joints or by a neoprene compression gasket. This pipe is strong and resists rapid corrosion and breaks.

7. Vitrified clay has a shiny, glazed surface like ceramic tile and is unaffected by acids, alkalies, solvents, or wear. It varies in length from 2' to 3' and comes in a wide range of diameters. It is excellent for underground use and is easy to install. The joints are sealed with packed fiber called oakum and finished with mortar joints.

8. Asbestos cement pipe is a very hard, strong, and dense pipe made from asbestos fiber, cement, and sand, under great pressure. It comes in 5' and 10' lengths in a variety of diameters and is used primarily for drainage or waste.

9. Bituminized fiber pipe is a black drainage or waste pipe similar to asbestos in sizes and uses. It is frequently referred to as Orangeburg pipe, which is a trademarked brand. However, there are many similar black fiber pipes on the market today.

Inspections Lesson 11

Objectives:

1. At the end of this lesson the student will realize the importance of inspections in the prevention of defective workmanship and defective materials.

2. The student will know about three types of tests.

Related Information:

Once the rough plumbing of the waste, soil, and vent pipe have been completed it should be subjected to a rigorous test and inspection. This not only furnishes the home owner with a safe system but also certifies that the workmanship is proper. To close the walls in with sheetrock or plaster without a rigid test is a risk no homeowner or plumber should take. For example, the material itself could be defective, and the plumber would risk legal action despite good workmanship.

In many communities the building inspector is also the plumbing inspector, but that's truly a bad scene. A building inspector's background is usually too general to spot specific material or mechanical defects. Some communities are too small to employ a full-time inspector and usually hire a local plumbing contractor on a part-time basis. Neither system is adequate to properly protect the consumer.

Large cities often employ a full-time staff trained in sanitation and plumbing. Thus the workmanship and materials get a thorough inspection. A trained staff is in a position to keep up with current methods and materials. These people can also cooperate with professional organizations, manufacturers, and research groups on the latest developments in installation and materials.

Part-time Plumbing Inspector

There are three basic methods for testing a drainage system:

1. Water test. After a drainage system has been completed, the street end of the house drain and any floor drains or clean-out plugs should be closed with rubber test plugs. All other openings below the top of the stack are closed off and all waste pipes should be capped.

When all the openings are made leak-proof, the entire house drain is filled with water, usually by a hose. The pipes and joints are then inspected for leaks. Any defects must be repaired or material replaced. This system is most widely used and accepted.

2. Air test. This test is performed in basically the same way as the water test, but sealing must be complete. Air at about 5 pounds pressure is pumped through a test plug that has an adapter and pressure gauge. Air leaks are hard to detect, so an odor-producing additive is put in to give any possible leak a telltale odor. Some plumbers use soapsuds. When the test of a poor job is over, they can blow soap bubbles in the cellar.

3. Smoke test. This is an old time plumber's trick and is done basically the same way. A smoke-producing gadget forces smoke into the system with an air pump. The system is far from safe or perfect, so don't use it. But it's good to know and you can impress your college-bound friends. Better still, tell them your paw invented it.

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Transmission of Heat Lesson 1

Objectives:

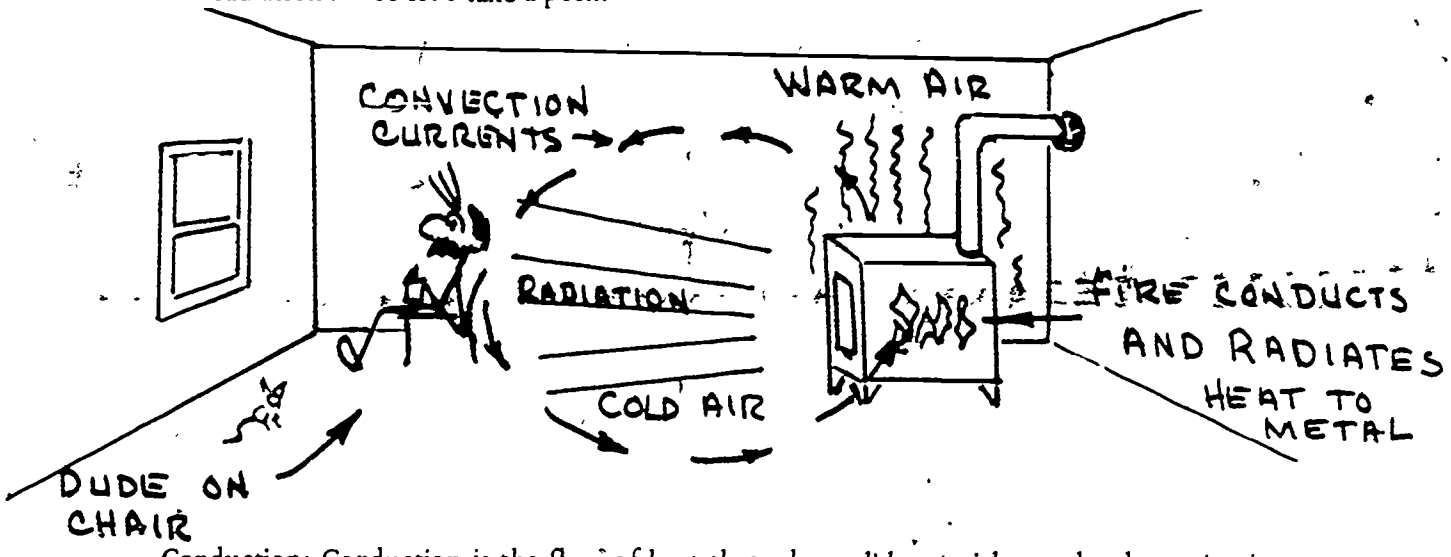
1. At the end of this lesson the student will understand what heat is and the three ways that heat may be transferred.
2. The student will also understand how these heating methods are applied to home heating.

Related Information:

To understand the heating and cooling of a house, you should know about transmission of heat. circulation of air. and humidity. This lesson will deal primarily with how heat is transmitted in a house.

Heat is produced by the motion of the molecules of a substance. The faster the molecules move. the hotter the substance. The hotter the substance, the faster the molecules move.

The three ways of transferring heat from one place to another are conduction, convection, and radiation . . . so let's take a peek.



Conduction: Conduction is the flow of heat through a *solid material* as molecule motion is passed along in a series of collisions. For example, if you heated one end of a length of copper pipe over a flame, it would soon get too hot to handle. The heat was *conducted* from the hot end to the cold end, which promptly heated up.

Most people would use a glove or a rag to protect their hand from the hot pipes. Did you ever wonder why certain materials slow down the passage of heat?

Well, some materials conduct the heat from molecule to molecule faster and better because of their composition (molecular structure). That's right, some molecules are packed as tight as kinfolk in a fist fight, and the heat travels rapidly from one to the other. Metals are a good example of tight molecular structure, and so they are used to transmit heat in pots, pans, furnaces, and radiators. Other materials, such as wood, plastic, and fiber, have widely spaced molecules and are poor conductors of heat. Good conductors of heat are used for heating systems, and poor conductors are used for insulation.

Convection: Convection is the transfer of heat by means of moving liquids and gases. For example, when air is heated the molecules in air get all agitated, move faster, and spread further apart. Thus the air gets lighter. Cooler, heavier air sinks down, pushing the warmer, lighter air up. This movement of heated air thus sets up *currents* of air, that is, a continuous circulation of air.

Heating a home with a hot-air system is done directly by these convection currents. Convection is also a factor in other home-heating systems, although not quite as directly. Let's look, for example, at a hot-water heating system.

Water acts the same way as air when it is heated. When water is heated, the molecules move faster and spread farther apart, and the water becomes lighter. The unheated water, being heavier, sinks, causing the heated water to rise. This sets up convection currents similar to those in air. In a hot-water heating system, as the water is heated this circulation takes place until all the water is heated. The hot water is then circulated by a pump to the radiators. The radiators in turn conduct their heat to the air next to them. Once again convection currents form and the heat is carried throughout the room.

Radiation: Unlike the two ways of heat transmission described above, radiation does not require matter (molecules) to transfer heat. Indeed the heat of the sun comes to us across 93 million miles of vacuum by radiation. If you bring your hand *near* a hot object, you will feel the heat. This too is radiation.

Radiation is energy sent out in the form of waves from any hot object. Radiation does *not* heat the air between objects, but it heats any object in a direct line with the hot object. For example, the heat from a fireplace radiates into the room and heats any objects in a direct line. But someone standing in front of the fireplace will cut off the heat from someone else standing behind him. In fact, if he is facing the fire, his own back may be cold!

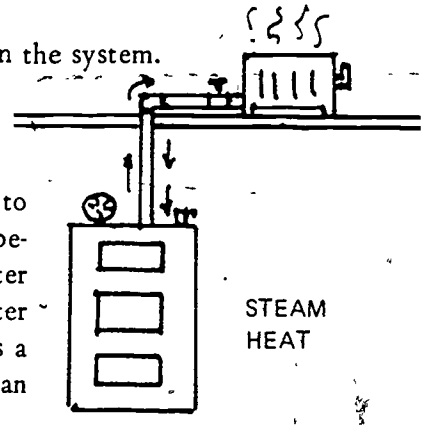
Let that be a lesson to you. Don't depend on a fireplace to keep you warm. You may end up with a roasted nose and a frosted rear end.

Methods of Heating – Steam Lesson 2

Objectives:

1. At the end of this lesson the student will understand why steam produces heat faster than hot air or hot water.
2. The student will also learn the purpose of the valves in the system.

Related Information:



Steam heating is one of the fastest and cheapest ways to heat a house. It is produced by heating water until it becomes a gas (water vapor or steam). The amount of water that needs to be heated is far less than that in a hot water system. In addition, this highly expanded vapor produces a powerful pressure that races through the pipes faster than hot air or hot water.

When steam reaches a radiator it transfers its heat to the radiator by conduction, cools and *condenses* back into a liquid. The change from a gaseous state to a liquid produces great quantities of heat, and then the water as it cools gives up still more heat to the radiator. The cool water flows back through the same pipe by gravity and repeats its heating cycle.

The hot radiator heats the surrounding air by conduction; this sets up convection currents which quickly heat up the whole room. Thus the air-flow near, under, and around the radiator should not be obstructed. (Like all other hot objects, radiators also give off heat by radiation – just in case you were wondering.)

Steam can produce powerful explosive pressures, and so a safety valve is installed in the top of the furnace. This safety valve is usually set to open or blow off at 15 pounds pressure. (That is, 15 pounds above normal atmospheric pressure.) Most safety valves have a small lever that can be operated manually to test the effectiveness of the valve. If the test lever will not open and release steam, or if it leaks continuously, it is defective. *Never* try to repair a valve without shutting down the furnace and cooling the system. Replace the complete valve with a new factory-set unit. *Don't* tamper with the old one – it's *never* safe.

Each radiator has an air valve that opens to release cold air in the radiator and permits the hot steam to enter. When the cold air is expelled and the steam reaches the valve, it closes again to keep the steam from escaping. When an air valve is defective, the radiator will become air-bound and prevent entry of steam. Then you have the choice of replacing the valve or shivering to warm up.

Steam has been leaving the home-heating scene just as snuff, moustache wax, derbies, and spats left the life-style scene – real swift.

The radiators are bulky, hard to clean and paint, and folks don't need them to dry out wet clothes anymore. It's really sad, because they used to be a good safe place to hide your gum and heat your frozen pizza pies on.

However, steam is still on the scene in classrooms. Students frequently heat up dedicated teachers to the boiling point and produce great quantities of steam that way. To date this form of heat has had very few practical applications, but it sure creates convection currents in the classroom. This heat is very easy to produce with any type of fuel, but hard to control. Some teachers just hiss through their teeth and others wave their arms and their eyeballs sort of pop. Avoid this type of heat like homework, because it spreads like measles to the principal and parents. That's why wise persons are always saying "cool it."

UNIT VII – HEATING AND COOLING

Methods of Heating – Warm Air — Lesson 3

Objectives:

1. At the end of this lesson the student will understand how modern hot-air systems have been improved over former systems.

2. The student will also understand how friction affects the pressure and efficiency of a system.

Related Information:

No lessons on heat would be complete without a short history of warm-air heat. History records that warm-air heat came on the scene right after the covered wagon, but just before the Model "T" Ford.

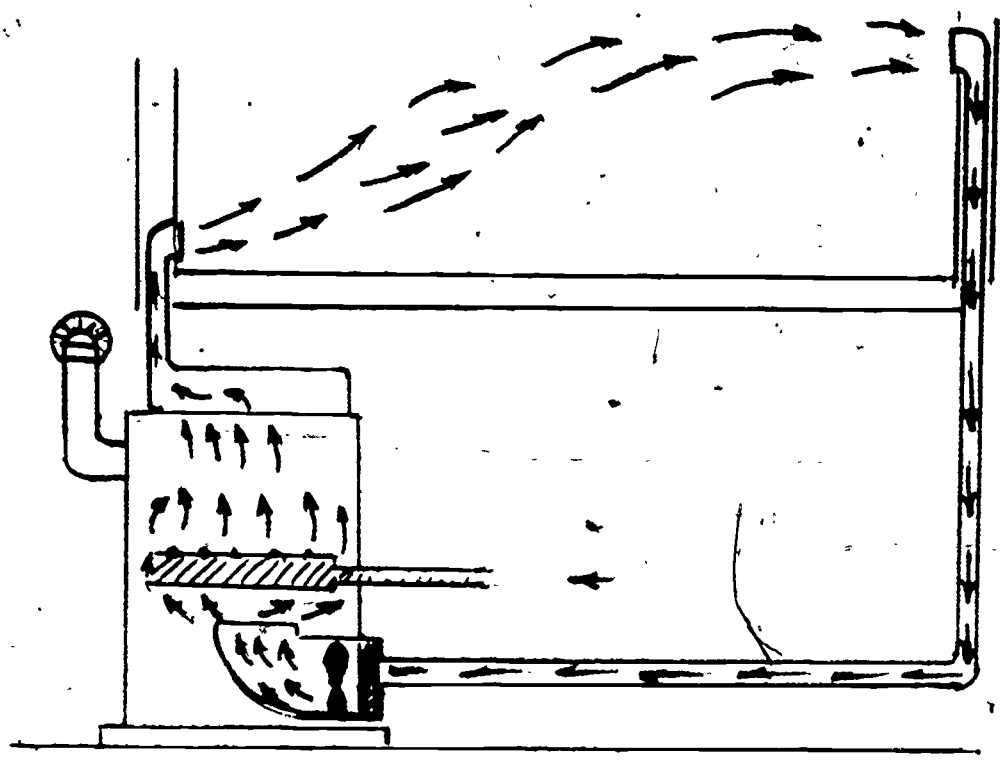
The early gravity-type warm-air heating systems were so uneven that freezing or roasting to death were an ever-constant danger. Then the air would get so dry that folks' tongues would dry up and they'd be speechless for days. As a matter of fact, it was dryer than driving a pack of mules across Death Valley with no hat on.

Then one day a group of dedicated people got together – a science teacher, a plumbing contractor, and a saloon keeper. They decided to apply science and save the warm-air system. This science lesson is dedicated to those noble persons.

The early warm-air heating systems furnished heat that was uneven and dry. The furnace was centrally located, leading directly to the floor above, which had a floor register. The system worked only on gravity, and hence the circulation was poor.

Then later systems provided hot- and cold-air returns connected by ducts to a furnace that pushed the heat by a blower fan. This was still imperfect, as the return air grilles were placed on the outside walls. They tended to pick up mostly cold air from windows, cracks, and the cold outer walls.

Finally these three people put it all together and installed diffusing-type outlets for warm air underneath windows and along exposed walls. Now the cold air was met with warm, rising air and mixed. Thus to get the full benefits of perimeter heating, all cold surfaces should be met and covered with currents of heated air. Briefly put, counteract the cold air with warm air.



CONVECTION CURRENTS OF HOT AIR HEAT

Thus the modern warm-air system consists of warm air forced by a blower fan, with adequate hot- and cold-air ducts properly placed. It further includes an electric thermostat, humidistat, humidifier, and an electronic air filter. So, if your house resembles Death Valley, one of the above parts is missing, improperly installed, or out of order.

An important application of science is the effect of friction on air pressure. A constant friction exists between the metal ducts and the air flowing through them. This friction is further increased whenever the direction of air-flow changes. Hence elbows, angle turns, register frames, and even smooth transitional fittings increase the friction. This friction causes an appreciable loss of pressure. This is extremely important in laying out the job, selecting materials, and selecting the proper fan. The total resistance should be kept to a minimum, and the fan must be large enough to overcome the friction that exists.

Remember that in heating, plumbing, and air conditioning, the factor of friction always exists. Thus, this simple fact should guide you in making your installation as short and as straight as possible. Also, all material sizes and motor power of pumps and fans must consider friction loss.

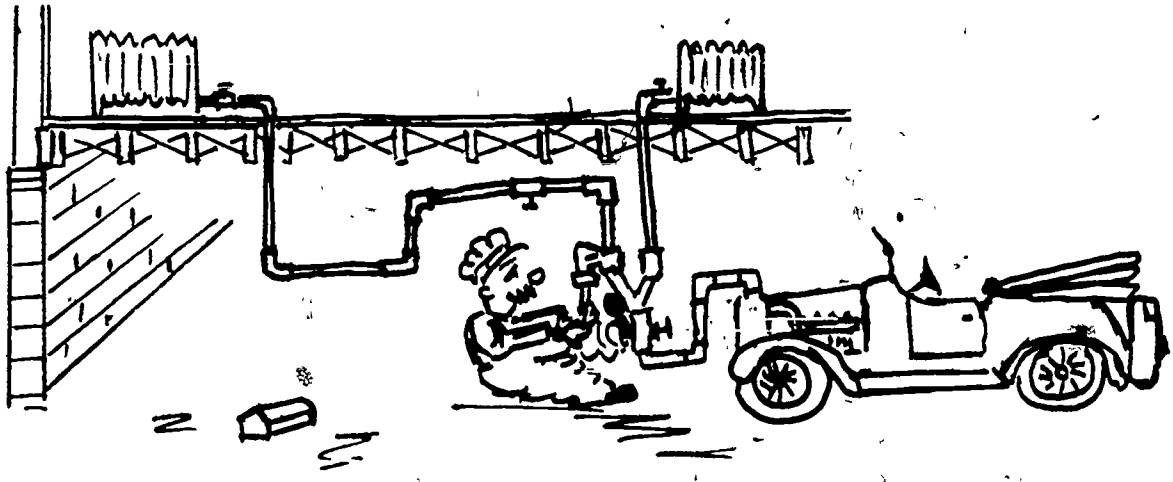
Methods of Heating – Forced Hot Water Lesson 4

Objectives:

1. At the end of this lesson the student will understand how a hot-water system works.
2. The student will also understand seven factors important to planning or servicing a hot-water system.

Related Information:

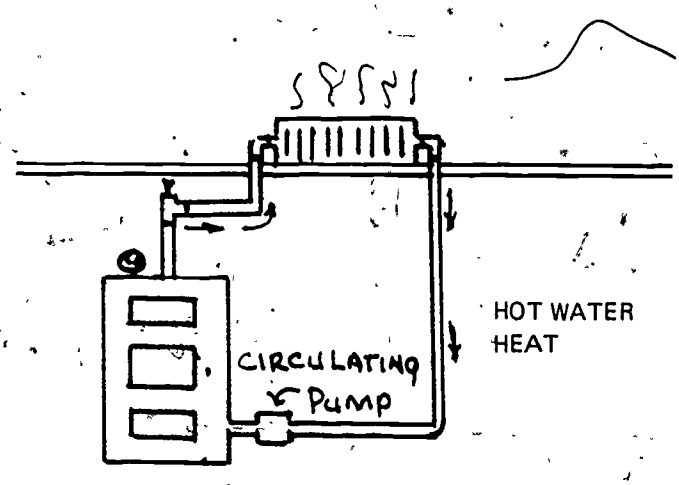
Until recently nobody knew how the hot-water heating system got started . . . and nobody really cared. Luckily for history and science, a little old science teacher cared and recorded the facts: these were recently discovered on a big stone just outside his cave.



According to the stone, hot-water heating got its start when water was used to cool off the first Fords. The water did more heating then cooling, and so one wise farmer by the name of John Whip decided to use it. He used the hot water to heat his henhouse and the steam to take frost off his pumpkins.

How he got the Fords into his cellar nobody will ever know, but he did. Whip heated his house with hot water, and that's how it all got started. And that's how that saying originated – "smart as a whip" – to pay him tribute.

The modern hot-water system consists of a series of coils or a water chamber in a furnace. The heat from the furnace passes through the coils or chamber by conduction and heats the water. This heated water is forced through the pipes by a circulating pump to the radiators. The heated radiators pass the heat off by conduction to the surrounding air and by radiation.



Radiators may be the cast-iron base type or the fin-type. The cast-iron radiators are bolted in separate sections so that the radiator area can be increased or decreased. The fin type consist of copper tubing with a series of metal fins attached to act as diffuser of heat. Cast iron is slower to heat up but retains the heat longer. The fin-type has the advantage of supplying faster heat, but they cool off faster. The radiators are so designed that cold air enters at the bottom, then is heated and rises. This sets up convection currents that heat uniformly. An accumulation of dirt or a blockage of air by furniture reduces the efficiency.

The heat can be controlled by a single thermostat, or the house can be divided into zones and be heated by several thermostats. For example, a split-level home can be divided into a lower and upper zone. Each zone is handled by a separate thermostat and a separate pump – all from the same furnace. Frequently one area of a house needs more or less heat, depending on traffic, use, etc.

The major points to check when providing a hot-water system:

1. Install piping in as short and direct a method as possible to keep friction loss at a minimum.

2. Provide adequate radiation based on accurate heat-loss calculations.

3. Clear away dirt and obstructions from radiators.

4. Place radiation on outside walls.

5. Minimize heat loss by proper insulation of pipes passing through cold areas.

6. Provide an adequate circulating pump.

7. Locate thermostat properly.

UNIT VII – HEATING AND COOLING

Methods of Heating – Radiant Heat — Lesson 5

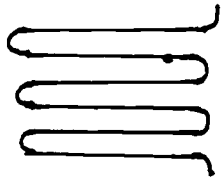
Objectives:

1. At the end of this lesson the student will understand how hot water, steam, or electric wires can produce radiant heating in the home.

2. The student will also understand how radiant heat from the sun can be used in home heating by special construction.

Related Information:

Coils of wire or pipe



Radiant-type heating

In recent years, heating homes with radiant heat has gained popularity. Radiant heat provides a more uniform heat and also eliminates radiators, ductwork, registers, and exposed pipes.

One method is to install a system of pipes in the walls, floors, and ceilings of rooms, using hot water or steam for heat. This method of heating provides a much greater heating surface and does a better job of heat distribution.

The hot water and steam systems use pipes that are embedded in the floors or walls. The floor system of pipes must be accurately and uniformly spaced to avoid cold spots. Careless installation defeats the purpose by producing uneven heat distribution. Radiant-heat systems are popular in slab-type construction where cellars are omitted. The pipes are embedded in the concrete slab.

The heating units for radiant heat use the same basic methods and materials as conventional steam and hot-water systems.

Radiant heating can also be accomplished by electrical heating cables embedded into the floors, walls, and ceiling. The operation and efficiency are equal to hot water or steam but the cost is generally higher.

Thus, radiant heat when properly installed requires less fuel or electricity than other systems and the maintenance costs are very low.

Radiant heat from the sun can also be used for heating an enclosed space. For example, if you go down to the shore and leave your heap in the sun with the windows closed ... you have a mighty hot car to get into. This happens because the sun's rays get in, warm up the interior, but then the heat can't get out. Unless you provide ventilation through a window or a fresh-air vent, the expanding hot air can blow your windows out!

The same general idea – the so-called greenhouse effect – is used to heat homes by the radiant energy from the sun. The exterior walls must use glass blocks or large glass windows to permit the energy waves of the sun to pass through. The radiant waves warm up the contents of the house, which in turn warms up the air. Thus once the sun's heat enters, it is trapped.

Obviously this type of heating would have little use in rain forests, or during the winters in Alaska, when the sun might or might not put in an appearance for an hour or two a day.

Other Modern Methods of Heating Lesson 6

Objective:

At the end of this lesson the student will be acquainted with several other heating systems in use.

Related Information:

Some other modern heating systems are as follows:

1. Electrical. – There are various ways of heating with electricity. We saw that cables could be installed in floors or walls. In addition, electrical heating panels may be installed on or in the walls. Built-in electric heaters come in a variety of shapes and sizes. They come with and without fans, timers, and other refinements. Individual thermostats permit a wide range of control, and thus rooms can be individually heated depending on need.

New, total home installations depend on conforming to rigid insulation requirements set by the power companies. Because of the relatively high cost of electricity, insulation must be thicker; hence original installation costs are higher.

The advantages are clean, efficient heat with individual controls. Installation requires no bulky piping, ducts, or furnace – thus offering more space, speedy installation and minimum maintenance. Disadvantages are increased fuel costs, possible power failure, and possible power-supply shortages.

At present, electrical heating by windpower to supplement the electricity from the power company is arousing some interest. A few homeowners have installed wind-catching devices on their roofs or property, and use the rotating blades to generate electricity, which is then stored in storage batteries. At present all of these devices are still experimental.

2. Heat Pump. – This system removes heat from the earth instead of heat from burning fuels. A network of pipes is extended deep underground – perhaps as much as 12 feet. The heat pump then uses a liquid refrigerant that is pumped continuously, removing heat from the earth. Radiators distribute the heat as in any other system.

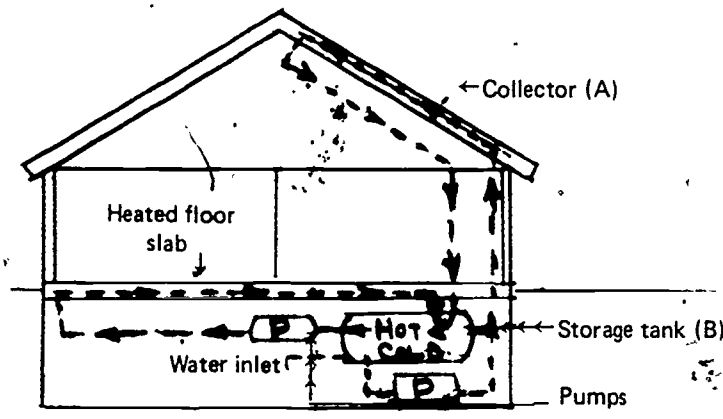
This system is only practical where winters are relatively mild. This factor plus the cost of installing pipes and the cost of electricity limit its popularity.

3. Solar Heating.—A solar-heating system depends on a collector on the roof that absorbs the radiant heat of the sun. The collector consists of one or two layers of glass plates (for insulation) that cover a network of black pipes circulating water. This network of pipes is set against a black-painted sheet-metal base; thus both combine to absorb the sun's heat.

A TYPICAL PLAN FOR SOLAR HEATING

Follow path of arrows

(A) Heated water goes to storage
(B) Storage tank provides hot-water heat



In the United States the collectors must face south and be tilted at an angle to receive maximum radiation from the sun. Thus, when the sun heats the collector, the system's thermostat starts circulating the warm water through the tubes into a storage tank. Once the hot water is stored, it is ready for immediate circulation or for storage for later use in the day or night. Circulation depends on pumps or blowers; hence the system is much like your conventional hot water furnace.

Solar heating is growing in popularity and should be in fairly wide use by 1984, according to scientific research. However, solar heating will require a supplemental source of heat, because on rainy or cloudy days the radiant heat is at a minimum.

(Warning) Don't start rat-packing old pipes, tin, and black paint, without telling your folks about this lesson. Most parents take a dim view of scrap-metal drives without a briefing on the value of solar heating.

4. What next? — Many people are experimenting with new ways of producing useful energy. Here is a field for science-minded people. Know anyone who'd be interested?

UNIT VII – HEATING AND COOLING

Types of Fuel — Lesson 7

Objectives:

1. At the end of this lesson the student will realize that selecting a fuel depends on three main points.

2. The student will also realize the factors that affect fuel supplies.

Related Information:

Selecting a fuel is like selecting a girl friend – you have to consider *availability*, *cost* and *dependability*.

Domestic heating can be supplied by oil, gas, electricity, or coal, but you should make your choice well in advance of construction.

For example, gas pipelines are not always available, or the cost of running the service to the house may be too great. Electricity, for another example, may be available, but the power company in that area may have limited capacity. Therefore, your first consideration is to check locally and see what is available.

Secondly, the cost should be estimated from two points of view: first, the initial installation costs, and secondly, the fuel-consumption costs over the long range. For example, the costs of excavation, oil tank, and burner unit for oil heat may be initially high. However, the availability, cost, and efficiency in the long run might make oil a better buy for some.

Dependability in times of energy shortage is difficult to determine. Gas, oil, electricity, and coal may all be in short supply, with no ready solution available. Thus the wisest course is to get all the information possible about the local situation. As of the time this book went to press, there were many ....

Points to Ponder:

1. The cost and supply of heating oils depend on many factors, including international ones over which the individual has no control.

2. Oil suffers from delivery problems due to strikes and weather.

3. Electricity suffers from a lack of new electrical generating plants, and from generating and transmission breakdowns.

4. The demand for electrical energy is greater than the available supply even when things are normal, hence high costs.

5. The construction of new gas transmission lines and plants is often prevented or delayed by environmental pressures.

6. The gas supply is dependent on the oil supply to a great extent; hence both are short.

7. Gas and electrical heating were once greatly encouraged by utility companies. Now it is difficult to have an application accepted, due to energy shortages.

8. The growth of population and industry is at a faster rate than the growth of fuel production.

Weather Factors

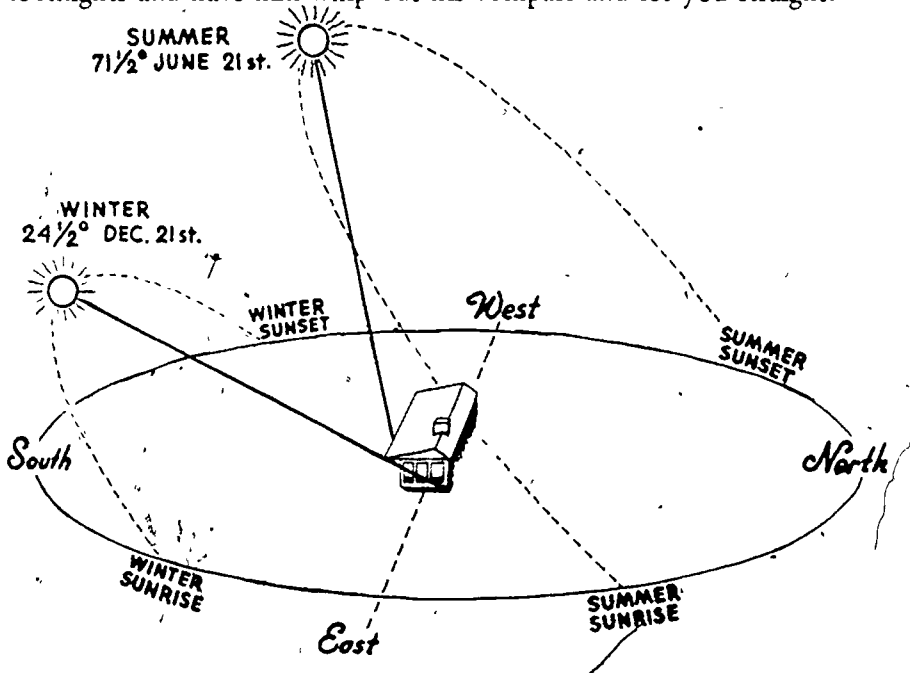
Lesson 8

Objective:

At the end of this lesson the student will understand that placement of the house can make a great difference in comfort and enjoyment of the home, and in heating bills.

Related Information:

If you don't know north from south and you think a compass is an 8-day clock ... don't start construction. Get yourself a boy scout who moonlights and have him whip out his compass and set you straight.

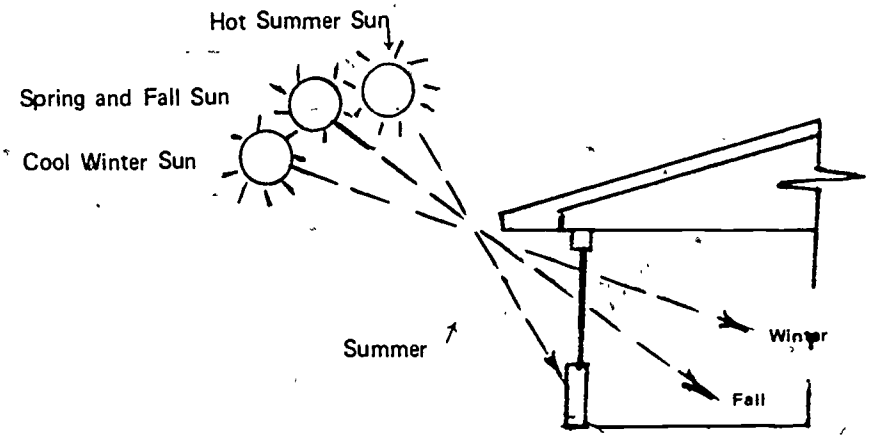


POSITION OF THE SUN AT NOON IN CHICAGO

Adapted from: *Physical Science, A Basic Course*, by Hogg, Cross, and Vordenberg. D. Van Nostrand Co.

That house of yours should be placed to provide maximum control and utilization of the sun's rays. A house in the northern hemisphere will always be warmer on the south and west sides than on the east and north sides. The south side has almost constant exposure to the sun and always is warm. The north side is always cooler because it's always in the shade.

Once the boy scout shows you the points on the compass, pay him and get rid of him. These kids think they are experts in all fields and can confuse you.



Decide what rooms will benefit most from the sun and what rooms should be shielded from the sun. Areas that benefit from the sun usually use large areas of glass to take advantage of solar energy. The overhang is usually extended enough to shade the windows during summer, when the sun is high in the sky, but still allow the sun's rays to enter in the winter, when the sun is low in the sky.

A good design provides sunshine for the kitchen in the morning, then the living areas in the afternoon. Thus kitchens and dining rooms are best situated on the south or east side. Living areas benefit most from southern or western exposure, to take advantage of the sun. The north side is always coolest and darkest; hence it offers the ideal location for rest and sleep.

Trees and shrubs can effectively act as windbreaks against prevailing winds. Shade trees on the south side help keep the heat out in the summer but let the heat in during the winter.

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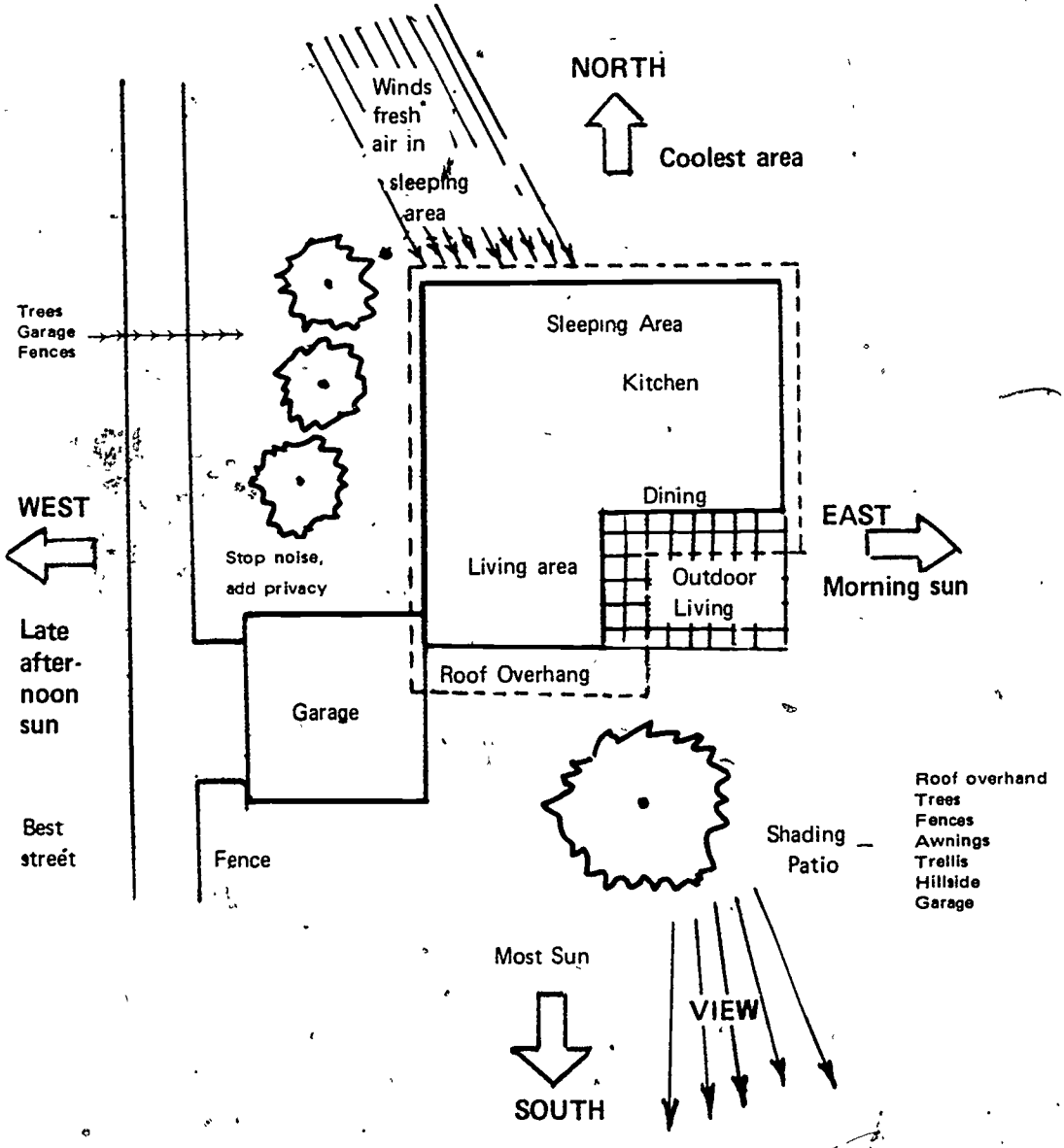


Insulation Principles

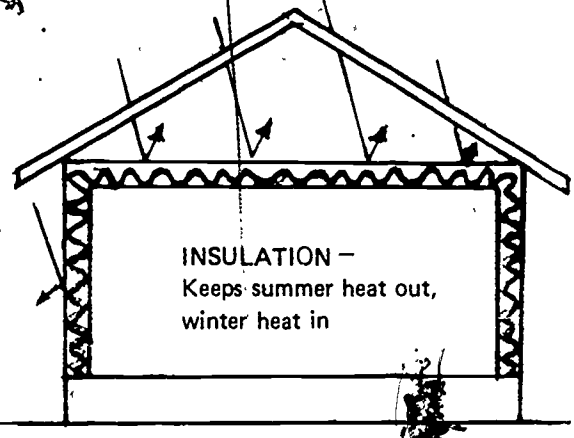
Lesson 9

Objectives:

1. At the end of this lesson the student will understand how insulation resists the transfer of heat.

2. The student will also understand the other advantages of insulation.

Related Information:



The primary purpose of insulation is to prevent the transfer of heat. Heat, as you know, is transferred in three ways, and any kid old enough to hate school is an expert on all three. Let's review and prove that not all science comes out of books.

Review:

Heat can be transferred from a warm place to a cool place by conduction and/or convection and/or radiation. Right! Now, let's show that we understand the difference.

1. Radiation: Any kid with short hair, thin eyebrows, and no hat knows how the sun radiates heat. That's why kids hide in the weeds, under porches, and in the cellar. Not to get out of school, but to get out of the sun into the shade.

2. Conduction: Any kid that has walked on a hot sidewalk with bare feet knows it smarts something fierce. The hot sidewalk is conducting heat to the feet.

3. Convection: Any kid that has hung around a shopping center on a hot day has seen the "heat waves" that come off the blacktop and the roofs of cars. Smart kids wait until the convection currents of hot air simmer down.

Now, let's see what insulation does for a house.

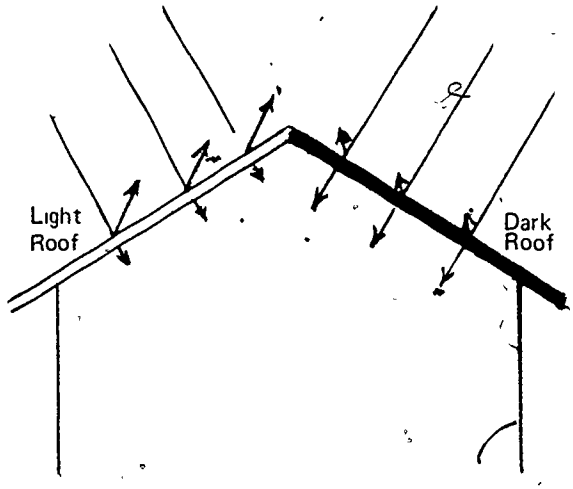
The enclosed spaces in walls cut down considerably on heat-transfer by *conduction*, and all materials used in construction offer some resistance to the transfer of heat as well. However, their resistance is low, and so a material with a high resistance must be used. Materials that have *many tiny air pockets* have a high resistance to the transfer of heat.

If air is such a good insulator, why not leave the walls of a house empty? Because if the walls are left empty, the difference in temperature between the cold (outside) surfaces and the warm (inside) surfaces sets up *convection currents*. The warm air is pushed up by the cold air, and the convection currents thus set up transfer the heat rapidly from the inner walls to the outer, and out into the great beyond. (The heat transfer is reversed in summer.)

Insulation instead provides tiny pockets of air that resist convection currents and hence retard the flow of heat. Wall insulation provides a small amount of free space that permits some passage of air but not enough to produce a great heat loss. And the loose material has so few points of contact that transfer of heat by conduction is not great.

The best insulation against *radiant* heat is a smooth, shiny surface, or at least a light-colored surface. This turns back much of the radiant heat just the way a mirror reflects light.

If you are planning on central air conditioning for your house, you can use a smaller unit if you have a light-colored house and light-colored roof.



Thus insulation provides its primary purpose of preventing heat transfer, plus:

1. Comfort — Insulation prevents rapid temperature changes that affect body comfort. Uninsulated walls can actually cheat you out of 30% of your living space by being too cold.

2. Cost — Insulation reduces fuel costs. A well-insulated home in the Northeast, for example, will save enough money on fuel costs to pay for the cost of the insulation in perhaps 2 or 3 years.

3. Moisture — Good insulation has a vapor barrier that reduces passage of moisture through the walls. Moisture creates rotting and damage, as well as carrying heat out with it.

4. Fire — Insulation retards the spread of fire by cutting down the drafts within the walls that spread fire so rapidly; and the materials themselves are often fireproof or at least fire resistant.

5. Noise — Insulation minimizes transmission of sound – cuts down street noises and keeps the noise from kids and rock music at a safe level for passers-by.

Insulating Materials Lesson 10

Objective:

At the end of this lesson the student will understand the composition and use of four popular types of home insulation materials.

Related Information:

There are many different types of insulating materials, and some are better suited for a specific area than others.

1. Flexible insulation is usually in the form of blankets or batts. Blanket insulation comes in continuous rolls or strips in various widths to fit standard stud and joist spacing. It comes in various thicknesses, too, and is usually made from wood or vegetable fibers, mineral wool, or glass fibers. Generally it has a paper covering and nailing tabs. One side of the covering usually acts as a vapor barrier. The batts are similarly made but come in 24", 48", and 96" lengths.

2. Fill insulation is made in a loose form so that it can be poured or blown into place. Generally this insulation is made from mineral or wood fibers, vermiculite, or loose cork. In new construction it is used to fill the spaces between ceiling joists, plus spaces between wall studs that are hard to reach when installing blankets or batts. It is particularly useful for adding insulation to a building already constructed without insulation. It is also good to fill the cavities in hollow-block construction.

3. Reflective insulation consists of sheet material with a reflective surface on one side or both. Aluminum foil or specially treated metals are used for reflection. It is used in stud spaces or other areas where the reflective surfaces face an air space. The shiny surface should not touch another surface, or the reflective property is lost. Sometimes a corrugated paper is sandwiched between two reflective foils.

4. Rigid insulation is fiberboard material, manufactured in a wide range of widths, thicknesses, and lengths. These sheets are generally made from wood or vegetable fibers, mineral wools, or plastic. They usually combine heat- and sound-insulating properties with strength, through their rigid form. In home construction they are used as sheathing, roof slabs, and wall and ceiling decorative blocks, planks, and slabs.

There are many other varieties of insulating materials that are combinations of mineral, vegetable, and plastic materials. However, they have greater commercial than home-construction use.

Cutting Openings Lesson 11

Objective:

At the end of this lesson the student will understand that notching or drilling studs, plates, and floor joists must follow established, safe guidelines.

Related Information:

Some tradesmen are careless and others are very hostile, especially toward wood. These wicked persons notch and drill holes in studs and joists with reckless abandon.

Unfortunately, this sort of thing can structurally affect the strength or life of the building. Notching and drilling should follow established guidelines based on science.

For example, as we saw in an early lesson, a floor joist is acted upon by two opposing stresses. The top of the joist is in compression and the bottom under tension. The strength of the material lies in the upper and lower fibers. Cut the fibers and you automatically cut the strength. If small holes are to be made in joists, they should be located in the center. The center is the neutral point between compression and tension and is safe to drill into. The cut, however, should not exceed ¼ the total width of joist. Any greater reduction in joist strength should be compensated for with extra framing.

Notches for pipes may be made as long as they don't exceed 1/6 of the joist depth. They also must be placed in the end quarter of a span. Notch only for the diameter of the pipe plus a whiz for clearance.

Vertical studs may be notched as long as the notch does not exceed 1/3 the total thickness of the stud. Should the top plates of a wall have to be cut for piping or duct work that exceeds more than 1/2 their width, 18-gauge steel straps should be used across the opening for reinforcement.

The following tips are for folks that want to be foremen, superintendents, or just plain super-persons.

1. If your heating system has a persistent whistling sound – check the cellar. It's usually one of the workmen left behind.

2. If you hear a hum, don't call out the National Guard; it's just a pipe snugged too tight to the joist, as a rule. Trace down the hum and insert a piece of felt between the pipe and the clamp. (Use your father's old felt hat and blame it on the dog.)

3. Nail steel mending plates over all pipes in the wall or studs that could be struck by nails.

4. Always cut and drill holes a whiz larger than the pipe to allow for expansion and contraction. With duct work allow ½" clearance all around.

5. Ducts should be supported by strap hangers as they cross floor joists. Remember, metal expands and contracts and needs room. Creaking and groaning are usually caused by friction of metal on wood – or maybe somebody's sick at your house.

6. Hot-water risers and returns for radiators are frequently fitted too tight. This sure keeps out dust, drafts, mice, lizards, and frogs but it does create noise. Hot pipes expand and create friction and noise. Keep out of hot water yourself, or you may expand just where you didn't want to.

UNIT VIII – ELECTRICITY

Electricity as a Servant — Lesson 1

Objectives:

1. At the end of this lesson the student will realize how important electricity is to us all.

2. The student will also understand that electricity can also cause fires, kill, and destroy property.

Related Information:

Electrical power is like having a thousand servants waiting on you hand and foot. It lights up your home, fills it with weird sounds called music, heats, entertains, cooks, cools, cleans – you name it.

Actually it's a lifeline, and this can be demonstrated by what has happened during blackouts. The last power failure lasted so long that many people were threatened with malnutrition and starvation because electric can openers and stoves were useless. There were no sweet sounds of rock music, and the stillness drove some folks into fits of depression and others into violence.

It was a mad scene: folks stopped shaving, bathing, washing their clothes, and using hot combs. Everybody was outside barbequing spare ribs and chicken, and the pollution was something fierce. Even down on the farm, milking machines stopped, and babies, cats, and dogs were yelling, meowing, and barking real loud. Get the picture?

One week without electric power and this great country of ours would come to a screeching halt. Water would not be pumped; food could not be saved from spoiling; and lack of power would shut down every manufacturing plant.

But it must not be allowed to happen. Occasional power failures prove that in many areas the demand exceeds the capacity of the supplying generators. Lack of new generating plants, overload breakdowns, and fuel shortages paint a poor picture for the future. Electrical power might even reach the point of shut-downs or rationing – so *conserve energy at home, school, and on your part-time job.*

More than any other force in history, the electricity that we take for granted has changed the world and the people in it. Just the changes since you were born are fantastic – and would you believe that electricity as a servant is in its infancy?

Electricity runs our homes, farms, hospitals, industry – even schools! All this service with no danger to the user *if properly used.* Yet, this servant can also run wild and cause fires, kill people, and destroy property. Remember all this beautiful service – but only *under control.*

What Is Electricity?

Lesson 2

Objectives:

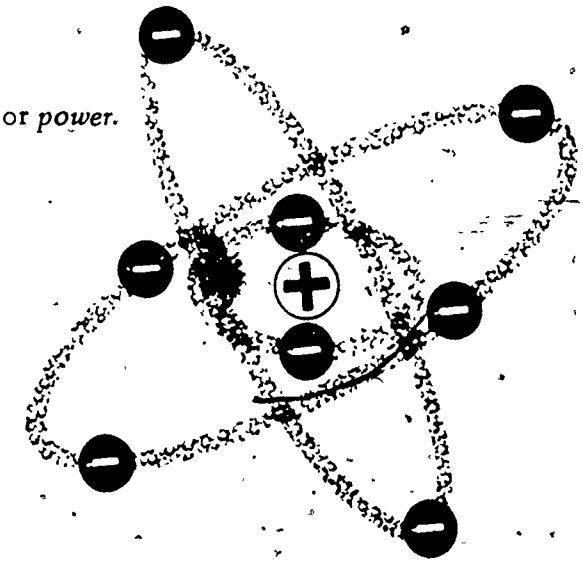
1. At the end of this lesson the student will understand some of the fundamental facts about electricity.

2. The student will learn about overloads, short circuits, fuses, and circuit breakers.

Related Information:

What is electricity? Electricity is a kind of *energy* or *power*.

You know by now that all substances, whatever their nature, consist of molecules, and that the molecules consist of atoms. Every atom of every substance is a bundle of energy. Each atom consists of a central *nucleus* surrounded by whirling bits of energy called *electrons*. These travel at enormous speeds around the nucleus.



One way of picturing an atom

Some substances, particularly certain metals, have electrons that easily escape from their atoms. When these electrons move from atom to atom through wires, we have what we call a *current of electricity*. We could say, very briefly, that *an electrical current is produced by the movement of electrons.* Although any one electron, moving from atom to atom, may cover just inches per second, the electrical current itself travels at the speed of light, or 186,000 miles per second!

To try to get a better idea of how an electrical current flows almost instantaneously; set up a line of pennies as shown in the illustration here. Now knock a penny into the head of the line. What happens?

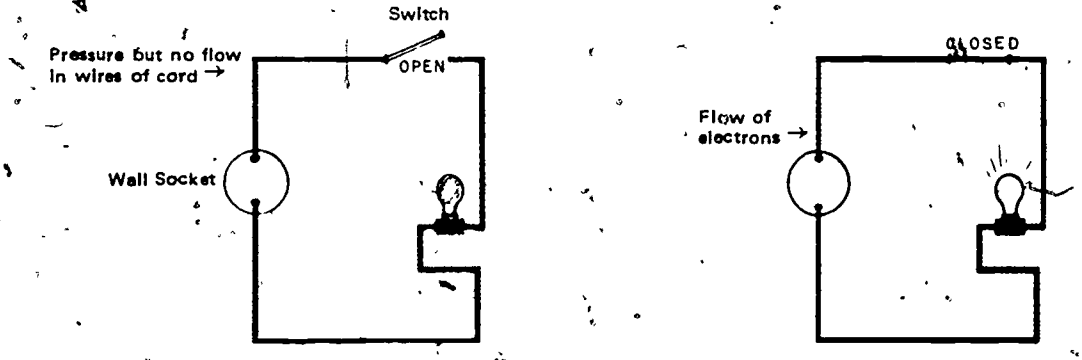
Instantly, the *last* penny is knocked away. All the other pennies move scarcely at all. Similarly, electrical current is the force produced by relatively small movements of electrons.

Certain materials that have electrons that escape easily are called *conductors*. All metals are conductors. Silver is the very best conductor and copper is next best. We can define conductors by saying *conductors carry electricity*. Certain materials "hold on to" all their electrons very tightly, so that it is very difficult to dislodge them. We call this type of material a nonconductor, or *insulator*. Rubber, glass, and wood are some good insulators.

Electricity is produced in huge generating plants, which through a miracle of science can convert *motion* into *electricity*. The motion may be produced by vanes pushed around by steam in a turbine, or by some other means. The miracle happens when conductors (wires) cut rapidly across magnetic fields, and – presto! – out comes electric power. This power comes to your home from the generating plant in high-tension wires, and is available for your use any time you turn on a switch. But until you turn on the switch, nothing happens.

Suppose you buy a nice new extension cord and plug it into a wall socket. Will electricity flow through it? Nope. But suppose you have an extension cord plugged into a wall socket at one end and a lamp at the other end. Will electricity flow through it? It will flow *as soon as you turn the light on*.

What is the difference? For electricity to flow, you need first to give the electrons a "push" – and this comes from the electricity flowing through the wires of the building. You get it through the wall socket. The "push" is called *voltage*. But you also need a *complete circuit*, that is, a pathway of conducting material that has no breaks or gaps in it. In this case, the switch on the light closes the pathway, the electrons rush along, and the light lights up.



In other words, if you have a conductor attached to a source of electricity, current will flow through the wire *as soon as the circuit is completed*. IF YOUR BODY is the thing that completes the circuit, the electricity will flow through YOU. (The body is a good conductor.) Depending on the strength of the electrical current, the electricity can give you a mild shock, a severe shock, or a fatal shock.

We said that the "push" on the electrons is called voltage, and we know that our appliances are designed to operate on a certain voltage – usually about 115 volts for light appliances and 230 volts for those that use a lot of electricity.

The actual *amount* of electricity flowing through the wires is called *amperage*. We say that an appliance uses ("draws") say, 10 amps.

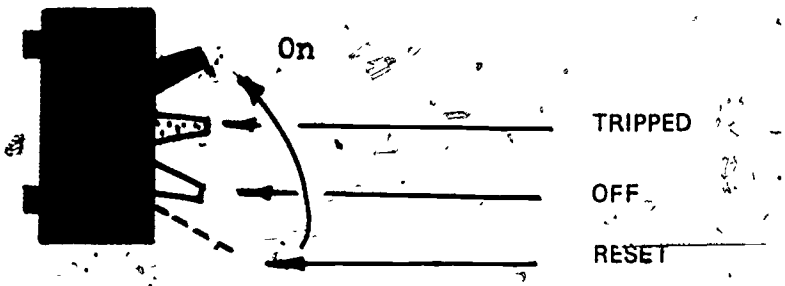
We pay our electric bills according to the *wattage* we have used.

No. of watts = no. of volts X no. of amperes

Every kid knows that pushing and shoving create heat. Well, the pushing and shoving of electrons in wires creates heat, too and the smaller the diameter of the wire, the more heat a given flow of amperes will produce. If for some reason we increase the flow beyond what a wire was designed to take (say we plug a toaster, an electric coffeepot, and a broiler into the same circuit), the wire promptly becomes much hotter than it should be. If we don't have a fuse or circuit breaker to open the circuit for us, we could have a fire in our walls in no time flat.

What actually happens when a fuse blows? The electricity in a particular circuit always passes through the fuse for that circuit. The fuse includes a small section of a soft, low-melting-point metal. If the amount of current drawn through the line becomes more than the line was designed to carry, this "weak point" in the line will melt, breaking the circuit. *Before replacing a fuse,* determine why the current became too great (too many devices turned on?) and remedy the situation. Otherwise the fuse will just blow again.

A circuit breaker contains a strip of metal that expands a lot when heated. If an overload occurs, this strip expands, lifts off its contact point, and breaks the circuit. The circuit breaker is put back into service by its switch.



There are other ways to blow fuses or trip circuit-breakers besides plugging in too many appliances. You can create *short circuits.* You don't have to study a lot of books to figure out how to make short circuits.

Just rub the insulation off an extension cord, so that the two wires in the cord come together. That way the current by-passes the appliance – it takes a shortcut. The circuit is completed without having the amount of current cut down by going through the appliance. Bingo! The extra amperes rush to the fuse, heat it up, and there goes your fuse.

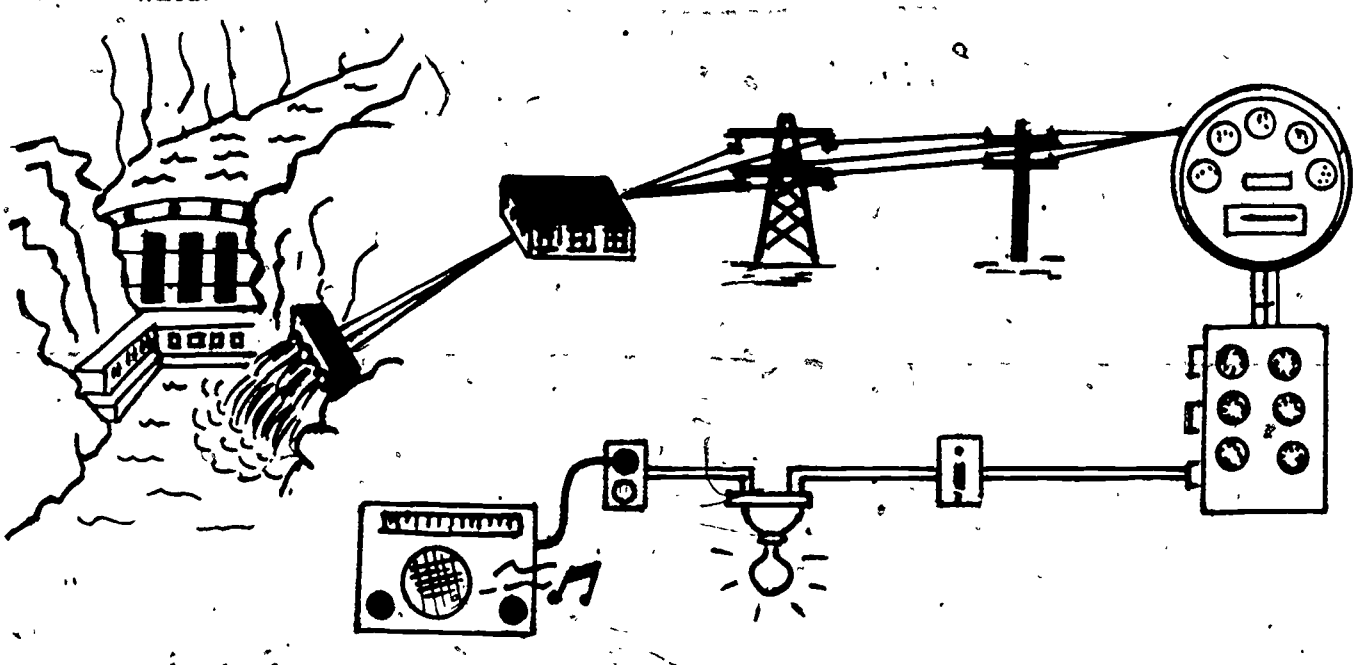
The moral of this story is – there is more than one way to get into trouble with electricity. Pay attention to this unit and you can avoid them all.

Adequate Wiring

Lesson 3

Objective:

At the end of this lesson the student will understand why the home should be adequately wired.

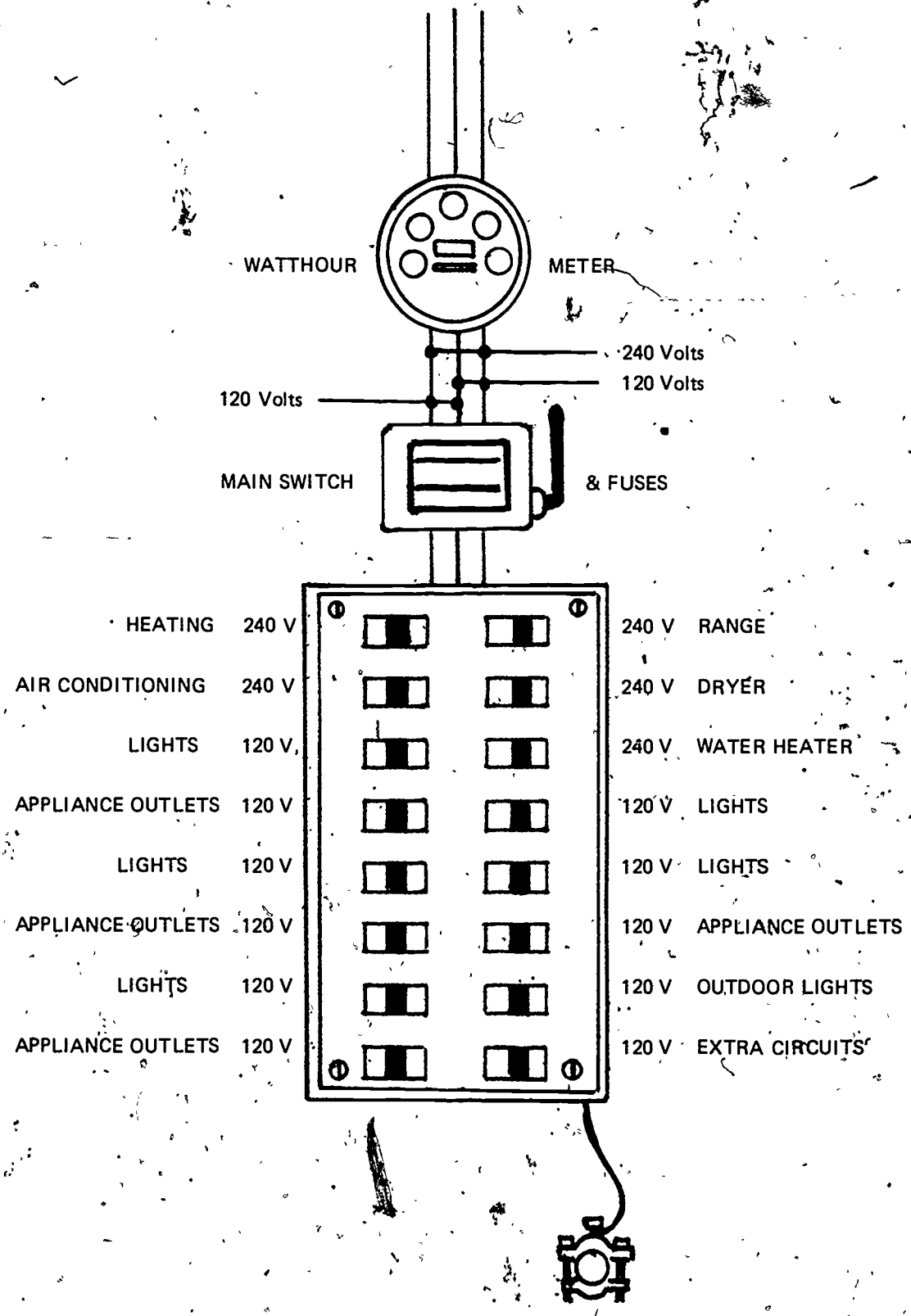


Related Information:

The electricity that you use is generated in power stations located in the boondocks. The power is then transmitted above the swamps, weeds, and bushes, through high-tension cables to your ranch home, log cabin, or teepee. The steel towers used to support these high-tension lines are built especially high to keep frogs from jumping up and shorting the wires. As a matter of fact, frogs are said to be the cause of several recent blackouts and power failures.

This valuable lesson is concerned with adequate wiring in your home, and so who cares how electricity gets there? Who cares? I ask you, about the power scene with the high ceilings, swamps, and weird frogs. Forget it; let's start at the house and explain adequate wiring.

An adequately wired home is one that has been wired so that you receive the maximum utility and the minimum of trouble. You should be able to plug in lamps, radios, tape players, and other electrical gadgets without a network of extension cords. You should be able to turn on the lights in any room without stumbling over furniture in the dark to find the switch or pull chain. You should be able to plug in one appliance without unplugging another. Fuses should rarely blow, and lights should not dim when you plug in a heating element.



ELECTRIC POWER IN THE HOME

Adequate wiring must be planned not only for today's needs, but with one eye on future needs. For example, not too many years back, a 100-watt bulb was a big deal and used only on special occasions. Today floor lamps with 300-watt bulbs are common. Then how about the radios, televisions, toasters, heaters, cleaners – as a matter of fact, most homes have two of each. To complicate matters, most modern homes use air conditioning, fans, washers and dryers, dishwashers, and outdoor lighting.

House power starts with the service entrance, which includes all wires and equipment from the outside of the house up to and including the meter and main switch. The service entrance must be of sufficient size to handle the maximum electrical load without causing a voltage drop or blown fuse. For example, 30 to 40 years ago a 60-amp service was used; today a house should have at least 100-amp service. Thus, as the use of electricity increases, the minimum must be raised to take care of the present and the future.

Once in the house, the electric power is distributed from the main switch into branch circuits. Each circuit handles a portion of the load, and each is protected by its own fuse or circuit breaker. Then, if one circuit is overloaded and the fuse blows, the rest of the house will continue to function. Imagine what would happen if all the lights went out at once! (The kids would get stomped on first.)

UNIT VIII – ELECTRICITY

Codes (National Electrical Code) Lesson 4

Objectives:

1. At the end of this lesson the student will realize the importance of the National Electrical Code in home safety.

2. The student will also understand that local codes and ordinances must be complied with.

Related Information:

The National Electrical Code provides the safe and legal guidelines for electrical installations. The code is the result of united efforts by the various insurance, architectural, electrical, and other interested groups. Thus, the code is simply a set of rules which outlines the materials and wiring methods that have been found safe and sensible through experience. The code permits installations in several different ways; however, all wiring must be done in one of the ways set forth by the code. New, updated codes usually appear every 2 or 3 years.

Many communities have their own local electrical codes and ordinances. These may actually be more strict than the National Code. For example, Bx (metallic cable) is approved by the National Code, but sometimes is prohibited by the local code. Some local codes are extremely rigid and are actually designed to discourage low-cost housing or mass-production of homes. Such restrictive codes can limit the number and raise the cost of homes, and thus maintain a high-cost exclusive residential area.

It is necessary and helpful to study the code prior to an installation. However, the code alone will not teach you house wiring. The purpose of the code is to safeguard the persons, buildings, and contents from electrical hazards.

The National Electrical Code does not in itself have the force of law, but indirectly you have no choice but to follow the code. For example, cities and states pass laws requiring all wiring to conform to the National Code. As a rule, the power companies will not furnish power unless the building is properly wired. Finally, insurance companies have a vital interest at stake and will refuse to issue insurance policies if the building is not properly wired, because it involves an extra risk. Thus, local codes, power companies, and insurance companies literally force you to comply with the code.

Some folks are sneaky and violate some code specifications. They make additions and changes after all inspections are made and take great pride in beating the system. However, if such a violation causes a fire, and if inspection proves a violation, the insurance company can refuse payment or cancel the policy. For example, if you finish off your attic or basement without an electrical permit or inspection, you could have insurance problems. First, your policy could be canceled if code violations exist. Secondly, should fire-damage result, your claim could be questioned, especially if electrical work was done in violation of national and local codes. Any electrical additions should therefore be inspected and approved to keep within the code and law.

Electrical Codes (Local Enforcement) Lesson 5

Objective:

At the end of this lesson the student will understand that most electrical work requires a permit, inspection, certification, and a license to operate.

Related Information:

Permits. Permits may be a nuisance, but a system of recordkeeping, application-approval, and organization are necessary to safeguard the public's welfare. Thus in many places it is necessary to get a permit from town, city, county, or state authorities before a wiring installation can be started. There usually is a small fee and a written application required. The fee money is usually used to pay the expenses of the electrical inspectors who see to it that the wiring is safe and properly installed.

Inspections. Once the permit is issued and the rough wiring is installed, the building is ready for a "rough" inspection. The home owner or electrical contractor calls for an inspection. At this point the electrical inspector makes an inspection of the wiring and outlets, and approves or disapproves. If the work is approved, an inspection certificate is issued and is usually pasted in a front window.

If all other inspections for framing, plumbing, etc., are made and the electrical work is passed, then the walls may be insulated and covered. When all electrical work is completed, the inspector is requested to come out and give a final O.K. If the final certificate or inspection is approved, the power company will bring in the power. Power companies will not furnish power until an inspection certificate has been turned in.

Licenses. Many cities and states regulate electrical installations and installers and require the electrician to be licensed. Thus, to be engaged in the electrical contracting business, you must be licensed in most communities. Wiring your own premises, however, does not require a license Even so, you must obtain a permit, meet inspections, and follow the electrical code. After all, your own safety is just as important as the next guy's.

Material Safety Codes — Lesson 6

Objectives:

1. At the end of this lesson the student will understand why electrical parts of every description should be standardized in size and meet certain quality tests.

2. The student will also know that Underwriters Laboratories Inc. is the accepted organization for testing, standardizing, and setting guidelines, and what the UL label means.

Related Information:

Imagine the wild scene that would take place in discount stores if the thousands of manufacturers of electrical parts each did their own thing. There would be a "skillion" types of wall outlets, some probably the size of a door. No two manufacturers would make the same product, and quality would be impossible to judge.

Manufacturers, insurance companies, and other interested groups recognized the problem early. Thus, they joined forces and formed Underwriters Laboratories Inc. This consists of a group of electrical laboratories that standardize and test products.

Manufacturers can submit their products to the Underwriters for inspection. These products are then tested, and if they come up to the minimum safety standards they are "listed by Underwriters." In addition, the Underwriters regularly test random samples obtained from manufacturers or bought in stores. If the samples meet the required standards they continue to be listed with Underwriters. This listing is extremely important to manufacturers, and so they generally do their best to satisfy these standards.

Therefore, when buying or installing electrical parts, wire, or appliances, look for the Underwriters label. Some items are labeled plainly, other devices, such as receptacles, switches, etc., carry the words "Und. Lab. Inc. List" – molded or stamped on each piece. Appliances such as toasters, irons, etc., usually have a name plate; others carry a tag or marker. At any rate, every single item in some way or other has a sign of approval.

"Listed" does not mean the product can be used for every situation or in any way. "Listed" means that the product is suitable and safe if used *for the purpose for which it was intended.* For example, a fly swatter you just purchased may be okay for flies and small moths, but was not intended to ward off lions or rhinos.

In addition, "Listed" does not mean that two similar products are of the same quality. It merely means that the product *meets minimum safety standards as set forth by Underwriters Laboratories.*

Common Sense and Safety in Planning Lesson 7

Objective:

At the end of this lesson the student will understand how common sense and the guidelines furnished by the National Electrical Code are the basis for safe electrical practices.

Related Information:

Any student that has sneaked, skipped, or stomped through high school corridors should know enough about basic house wiring for safe living. So, if your don't care for sparks, weird flashing lights, and buzzing in your hat rack, then you'd better pay attention. The following is a short electrical trip through a house, based on common sense and code guidelines.

A properly wired home has wall switches so placed that you can walk from one end of the house to the other without ever being without lights. Can you stomp through your own front door on a dark night, go through the house, and come out the back door without ever being in the dark? Well, if you can't and get lumps on your head for trying, then communicate with your "paw" and get it fixed.

It costs very little to install wall switches instead of pull chains or table lamps. In certain areas such as attics or cellars, three-way switches are a must for safety. This permits the light to be turned on or off from two different places; this will extend your life span – just like quitting cigarettes.

Install plenty of wall outlets, properly spaced, so that you never need an extension cord to operate a lamp, radio, clock, or similar device. Extension cords on the floor are like invitations sent to the undertaker or the fire department. Follow the code recommendations and place outlets along usable walls no more than 6 feet apart. This is a *minimum* not a maximum; therefore in living rooms add additional outlets for safety and convenience.

Wire sizes are specified in the code. This is one area where *no shortcuts should be taken.* The code requires that no wire smaller in diameter than No. 14 be protected by a 15-amp fuse or circuit breaker. Actually it is better to use a No. 12 wire with a 20-amp protection, because it will yield brighter lights, waste less power, blow fuses less often, and be safer all around. The difference in cost is like getting a double dip of ice cream for a penny more than a single . . . so what will you have, a single or a double dip?

Now let's take a tour through a house, snooping around as we go:

1. Living room. This should have a minimum of 6 wall outlets, to take care of radio, TV, clock, floor lamps, vacuum, plus a spare. *If lighting depends on floor and table lamps,* these outlets should be controlled by *wall switches.*

2. Dining room. Here a switch-operated ceiling outlet should be furnished, and at least 4 wall outlets. There is a large variety of small appliances available for dining-room use; also most appliances these days have shorter cords. The cord length is due to the Underwriters recommendations, and is meant to prevent you from using long, clumsy appliance cords that invite accidents.

3. Kitchens. The average housewife and her school-age "chow hounds" spend more time in the kitchen than in any other room in the house. Thus you need a ceiling fixture controlled by a wall switch for general lighting and general snacking. If the kitchen has more than one entry door, a three-way switch should be used near both doors. A work light should be furnished above the sink or work area. (Note: If the fixture is located where a person can touch the fixture and the water faucet at the same time, use a porcelain-type fixture, *not metal*). Provide for wall outlets about every 3 feet above counters, and provide outlets for the following: stove, oven, refrigerator, and clock. Wall and range fans should be wired directly into the house circuits.

4. Bathroom. Provide one ceiling light, switch-operated. Also provide a light over the medicine chest or mirror, plus one or two wall receptacles for shavers, toothbrushes, water pics, etc. *Do not put wall plugs in tub or shower area,* unless you have reserved several plots in a convenient cemetery. (Water is a great conductor of electricity. If you are standing in a tub or shower, you should never touch an electrical device. And people have been electrocuted when a small radio accidentally fell into the bathtub.)

5. Miscellaneous. Furnish light for all stairs and entrances. Furnish waterproof sockets for outside work or pleasure. Basements should have sufficient ceiling lights and wall plugs; they should be well lighted, as they are famous areas for injuries.

Absorb this lesson well or buy a cave and use fireflies. It's the only other path to safety.

House Circuits Lesson 8

Objectives:

1. At the end of this lesson the student will understand why separate circuits are required in different parts of the house.

2. The student will also understand how the number of circuits is figured.

Related Information:

In a previous lesson we stated that the National Electrical Code should not be used as an instructional guide. Now we will see why.

As far as the code is concerned in residential work, you may place as many outlets as you please on one circuit. However, if you put too many on one circuit, the breaker will trip or the fuse will blow frequently. Therefore, even if you furnish enough circuits according to the code, overloading any one circuit is a poor policy. In most cases you would not want to connect more than a dozen outlets on one circuit, even though the code does not restrict this.

The circuits used in homes can be divided into three main types.

1. Lighting circuits. These circuits are intended primarily for lighting, receptacle outlets for radios, television, clocks, etc., as well as permanently installed lighting fixtures. The code requirements are based on the square footage of living space and furnish a safety guide. For example, the code requires enough lighting circuits so that 3 watts of power will be furnished for every square foot of floor space.

   Thus, a lighting circuit using the normal No. 14 wire and protected by a 15-amp fuse provides 15 x 115, or 1725 watts. (Note: We multiplied 15 amperes by the house-circuit volts to find wattage). Next, the total wattage of 1725 is divided by 3 (watts per square foot); this equals 575 square feet for one circuit.

   Bear in mind that this is the code *minimum* and is based on safety only. This minimum of one circuit for every 575 square feet will probably not furnish convenience and utility, nor does it provide for the future. It would be wiser to allow a lighting circuit for every 500 square feet or, better yet, every 400 square feet if possible. Man, electricity is like education – you have to consider the future.

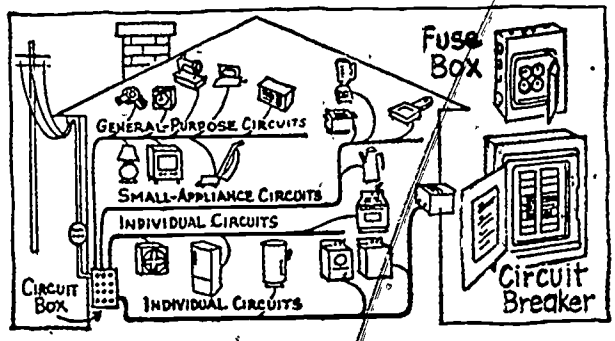
2. Special appliance circuits. A separate circuit should cover the kitchen and pantry; another should cover dining room and breakfast room; and a separate one for the laundry. This is the area where appliances that consume the greatest amperage are used. The code requires that the receptacle outlets in these areas be on a separate circuit, serving no other purpose whatsoever. This circuit must further be wired with No. 12 wire and protected by a 20-amp fuse or circuit breaker.

   The reason for providing extra wattage capacity is simple – the appliances take more wattage to operate. For example, the average toaster, steam iron, or similar kitchen appliance often requires 1,000 watts or more. An average roaster requires 1,650 watts.

3. Individual appliance circuits. These are circuits that serve a single, permanently installed appliance, such as a range, water heater, automatic washer, dryer, etc.

   The following appliances normally require a separate circuit for each:

   1. Range
   2. Water heater
   3. Automatic washer
   4. Automatic dryer
   5. Dishwasher
   6. Furnace
   7. Water pump
   8. Air conditioner



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Wire Materials and Sizes — Lesson 9

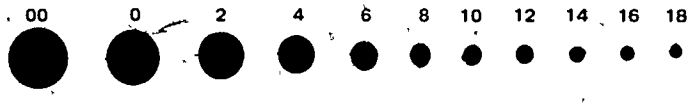
Objectives:

1. At the end of this lesson the student will understand the reasons for using certain materials for wires.

2. The student will also understand how inadequate wiring wastes power and heat and can cause appliances and lamps to work poorly.

Related Information:

You could compare the flow of electricity through wires to water flowing through pipes. It flows more easily through some materials than others. For example, copper is the best material for ordinary purposes. Silver is even better, but hardly practical for everyday use. Aluminum is third in ability to carry a current. Now iron wire is cheaper, but if it were used, the wire would have to be about 10 times as big across as copper wire to carry the same amount of electricity. Wire that big and that heavy would create some mighty problems – especially for kids. In order to make toast you would need your kid brother to help you carry the toaster and plug it in. Those kids without a kid brother would have to eat spongy white bread or brown it with matches.



Actual diameters of sizes of copper wire without the insulation

Copper-wire sizes are indicated by a number. For example, No. 14 is the wire size most often used for house wiring; and it is slightly smaller than the size of the lead in a pencil. Numbers *smaller* than 14 (12, 10, 8, and so on) are *larger* in diameter than No. 14. The greater the load or the amperage, the lower the number and the thicker the wire that must be used. Thus, just like water, the bigger the job, the bigger the pipe. You wouldn't expect to serve every house on your block with a garden hose as a main. Well it's just about the same with wire.

Numbers larger than 14, such as 16, 18, 20, are used mostly for flexible cords and the real fine wires for small motors and appliances. Number 14 is the smallest size permitted by code for ordinary house wiring.

The correct wire size must be used for two important reasons: *carrying capacity* and *voltage drop*. When electricity flows through a wire, it creates a certain amount of heat. The more amperes flow through the wire, the greater the heat. For example, if you double the number of amperes flowing through a given wire, the amount of heat increases four times. This heat is wasted energy, and, if the wire isn't big enough to "take it," it can damage the insulation or even cause a fire. Thus to avoid excess heat and wasted power, we must use the proper wire size.

The electrical code, as explained in a previous lesson, is not concerned with wasted power but with safety. Therefore the sizes recommended are based on maximum amperage that various sizes and types of wires are allowed to carry.

A second important consideration is voltage drop. This means that the voltage is less at the appliance or lamp than at the service box, and hence it does not operate at peak efficiency. For example, a voltage reading at the main switch would be 115 volts, but in traveling through a No. 14 wire for 50 feet it would drop to 110 volts. This voltage drop is very important, because appliances work very inefficiently on voltages lower than they were designed for.

Thus, the wobbly desk lamp in your room could be producing only 70% of the light it should produce. No wonder that students have trouble doing their homework! Just try telling your teachers that you couldn't do your homework because the wires were too small, and the voltage-drop affected your wobbly lamp. The average teacher won't buy it and will either throw paper clips at you or tell you to get lost. But give it a try anyway. Any time your homework suffers, refer your teachers to this lesson . . . it should work at least once.

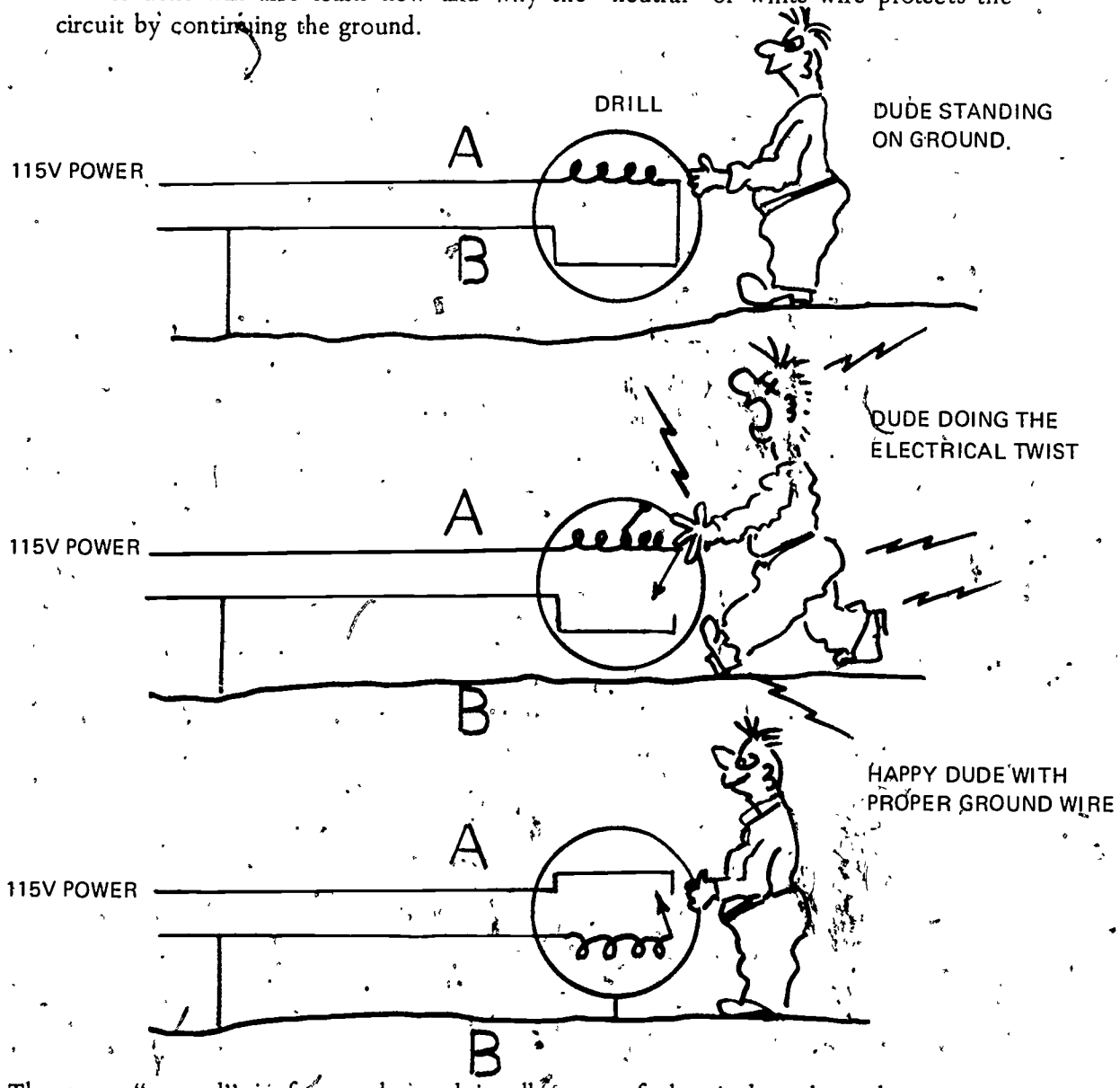
Grounding

Lesson 10

Objectives:

1. At the end of this lesson the student will understand what the term "ground" means and its purpose – to prevent shock.

2. The student will also learn how and why the "neutral" or white wire protects the circuit by continuing the ground.

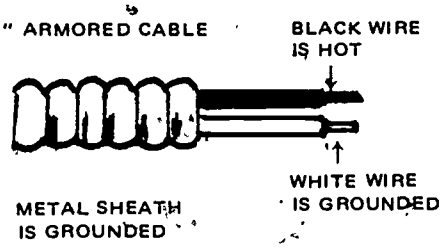


The term "ground" is frequently used in all types of electrical work, and yet many people don't know what it means or why a ground is needed. Well, that's what this lesson is all about. A sound knowledge of grounding can be the difference between being *on* the ground or *in* the ground . . . yup, if *you're* the "ground," it can be fatal.

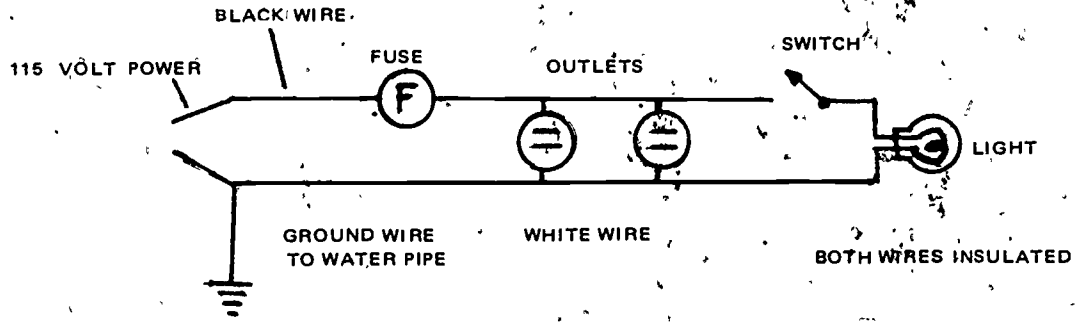
Grounding simply means connecting a wire or piece of equipment to something through which the electricity can flow harmlessly into the earth. In homes this is usually done by connecting the ground wire to a water pipe or to an "artificial" ground (a long metal rod driven deep into the earth). At the meter where the power lines enter the house, a heavy-gage ground wire is connected to the nearest cold-water pipe. The water pipe is a good ground, because it is in contact with the earth for a considerable distance.

It is important to ground not only power lines, but all individual appliances with a metal framework. Let's assume for the moment that you are using a drill press that is *not* grounded. If a little of the insulation has worn through, so that a bare wire touches the outer metal of the press, the entire frame would become "hot" – charged with electricity. You would have no way of knowing this, as the machine would probably still work. If you were to touch the metal, however, you would get a severe shock. If by chance you were standing on a damp floor at the time, the electricity would surge through you and into the ground, and you might not live to investigate what happened. On the other hand, any such defect happening on a *grounded* drill press would simply blow a fuse, alerting you to the fact that something went wrong in your drill press.

It is not only worn tools and appliances that develop "leaks" of electricity. A brand new tool may be defective and cause just as much grief.



To summarize: Electricity packs a mean wallop, and so the system has to be grounded at its entry into the house; each branch circuit must be grounded; and finally, all tools and appliances must be individually grounded.



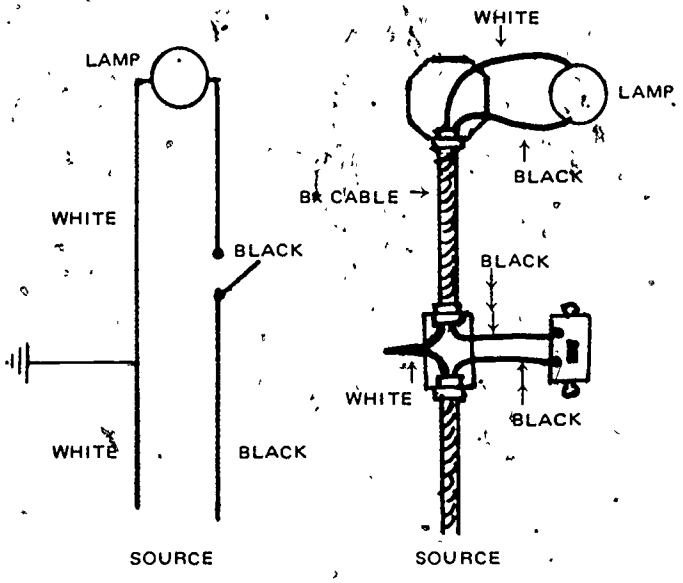
One of the most important features is that each branch circuit continues this ground in an uninterrupted fashion, direct to every 115-volt device to be operated. The grounded wire in a circuit is known as the neutral and is always white in color. This neutral *must never be interrupted* by a fuse or switch or anything else. The other wires are known as

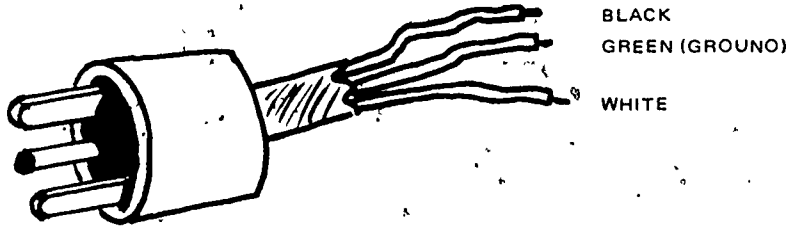
hot. They are usually black but can be some other color – *but not white*. For electricity to flow, one black wire and one white wire must run to every 115-volt electrical device (box, etc.) along the line, *other than a switch*. Never interrupt the white with a switch.

The following information should be used in conjunction with actual classroom demonstration.

Examine a socket or a duplex outlet carefully and you will see that one of its two terminals is a natural brass color. The other terminal is a white color, usually nickel-plated or tinned (silver-looking). The white circuit wire *must always* run to a white terminal (silver-colored), and the black to the brass-colored.

Note: Switches for controlling lights never have white terminals – which means *white wires don't belong there.*





Finally, all electric cords for tools and appliances should have three-wire plugs for automatic grounding. The wall outlets themselves must be of the grounding type, with a green-colored terminal in addition to the brass and silver. Then your system is grounded from source to point of use.

If a home should be struck by lightning, grounding should prevent the unusual surge of electricity from burning wires or setting the house on fire by providing a direct path back to earth.

Accident prevention is hard to sell to the public, and insurance statistics of accidents and death record thousands of "no sales."

Electrical Symbols on Plans Lesson 11

Objectives:

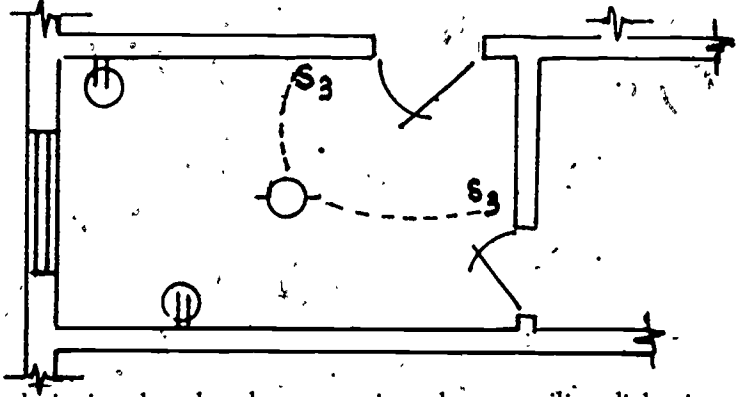
1. At the end of this lesson the student will understand why and how electrical symbols are used on plans.

2. The student will also become familiar with symbols commonly used on plans.

Related Information:

Electrical symbols represent the electrical system by means of a tiny picture language. This picture or sign language was adopted by the American Standards Association (A.S.A.) and is used by most architects, electrical engineers, and designers. (See next page for some commonly used symbols.) The electrical symbols on a blueprint are drawn simply to show the location and type of outlet, switch, or electrical device that is needed.

For example, note in the sketch below how this special language is used. Note the curved dash lines that go from the ceiling outlet to each switch. The lines are drawn curved so that they don't signify a hidden construction line. The wall outlets are not switch-operated, and so no dash line is shown.



Thus the symbols in the sketch are saying that a ceiling light is controlled by two three-way switches located near door openings. It also shows two wall outlets that are separate and do not depend on the switches.

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Electrical Symbols Commonly Used on Blueprints

GENERAL OUTLETS

Ceiling	Wall	
○	—○	Outlet.
(B)	—(B)	Blanked Outlet.
(D)		Drop Cord.
(E)	—(E)	Electrical Outlet; for use only when circle used alone might be confused with columns, plumbing symbols, etc.
(F)	—(F)	Fan Outlet.
(J)	—(J)	Junction Box.
(L)	—(L)	Lamp Holder.
(L_{PS})	$—(L_{PS})$	Lamp Holder with Pull Switch.
(S)	—(S)	Pull Switch.
(V)	—(V)	Outlet for Vapor Discharge Lamp.
(X)	—(X)	Exit Light Outlet.
(C)	—(C)	Clock Outlet. (Specify Voltage.)

CONVENIENCE OUTLETS

⇌	Duplex Convenience Outlet.
$⇌_{1,3}$	Convenience Outlet other than Duplex. 1=Single, 3=Triplex, etc.
$⇌_{WP}$	Weatherproof Convenience Outlet.
$⇌_{R}$	Range Outlet.
$⇌_{S}$	Switch and Convenience Outlet.
⇌R	Radio and Convenience Outlet.
●	Special Purpose Outlet. (Des. in Spec.)
(A)	Floor Outlet.

SWITCH OUTLETS

S	Single Pole Switch.
S_2	Double Pole Switch.
S_3	Three-Way Switch.
S_4	Four-Way Switch.
S_D	Automatic Door Switch.
S_E	Electrolier Switch.
S_K	Key Operated Switch.
S_P	Switch and Pilot Lamp.
S_{CB}	Circuit Breaker.
S_{WCB}	Weatherproof Circuit Breaker.
S_{MC}	Momentary Contact Switch.
S_{RC}	Remote Control Switch.
S_{WP}	Weatherproof Switch.
S_F	Fused Switch.
S_{WF}	Weatherproof Fused Switch.

SPECIAL OUTLETS

$○_{a,b,c,etc}$
$⇌_{a,b,c,etc}$
$S_{a,b,c,etc}$

Any Standard Symbol as given above with the addition of a lower case subscript letter may be used to designate some special variation of Standard Equipment of particular interest in a specific set of Architectural Plans.

When used, they must be listed in the Key of Symbols on each drawing and if necessary further described in the specifications.

Courtesy of American Standards Association of New York, N.Y.

PANELS, CIRCUITS, AND MISCELLANEOUS

■	Lighting Panel.
▨	Power Panel.
——	Branch Circuit; Concealed in Ceiling or Wall.
- - -	Branch Circuit; Concealed in Floor.
-----	Branch Circuit; Exposed.
—→	Home Run to Panel Board. Indicate number of Circuits by number of arrows. Note: Any circuit without further designation indicates a two-wire circuit. For a greater number of wires indicate as follows —//— (3 wires) —//// (4 wires), etc.
——	Feeders. Note: Use heavy lines and designate by number corresponding to listing in Feeder Schedule.
⇉□	Underfloor Duct and Junction Box. Triple System. For double or single systems, eliminate 1 or 2 lines. This symbol equally adaptable to auxiliary system layouts.
(G)	Generator
(M)	Motor.
(I)	Instrument.
(T)	Power Transformer. (Or draw to scale.)
⊠	Controller.
□	Isolating Switch.

AUXILIARY SYSTEMS

⊡	Push Button.
□	Buzzer.
□	Bell.
—◇	Annunciator.
◀	Outside Telephone.
⋈	Interconnecting Telephone.
⋈	Telephone Switchboard.
(T)	Bell Ringing Transformer.
[D]	Electric Door Opener.
[F]	Fire Alarm Bell.
[F]	Fire Alarm Station.
⊠	City Fire Alarm Station.
[FA]	Fire Alarm Central Station.
[FS]	Automatic Fire Alarm Device.
[W]	Watchman's Station.
[W]	Watchman's Central Station.
[H]	Horn.
[N]	Nurse's Signal Plug.
[M]	Maid's Signal Plug.
[R]	Radio Outlet.
[SC]	Signal Central Station.
□	Interconnection Box.
⊣⊢	Battery.
——·——	Auxiliary System Circuits. Note: Any line without further designation indicates a 2-Wire System. For a greater number of wires designate with numerals in manner similar to ——·—12-No. 18W-¾" C., or designate by number corresponding to listing in Schedule.
$□_{a,b,c}$	Special Auxiliary Outlets. Subscript letters refer to notes on plans or detailed description in specs.

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UNIT IX – PAINTS

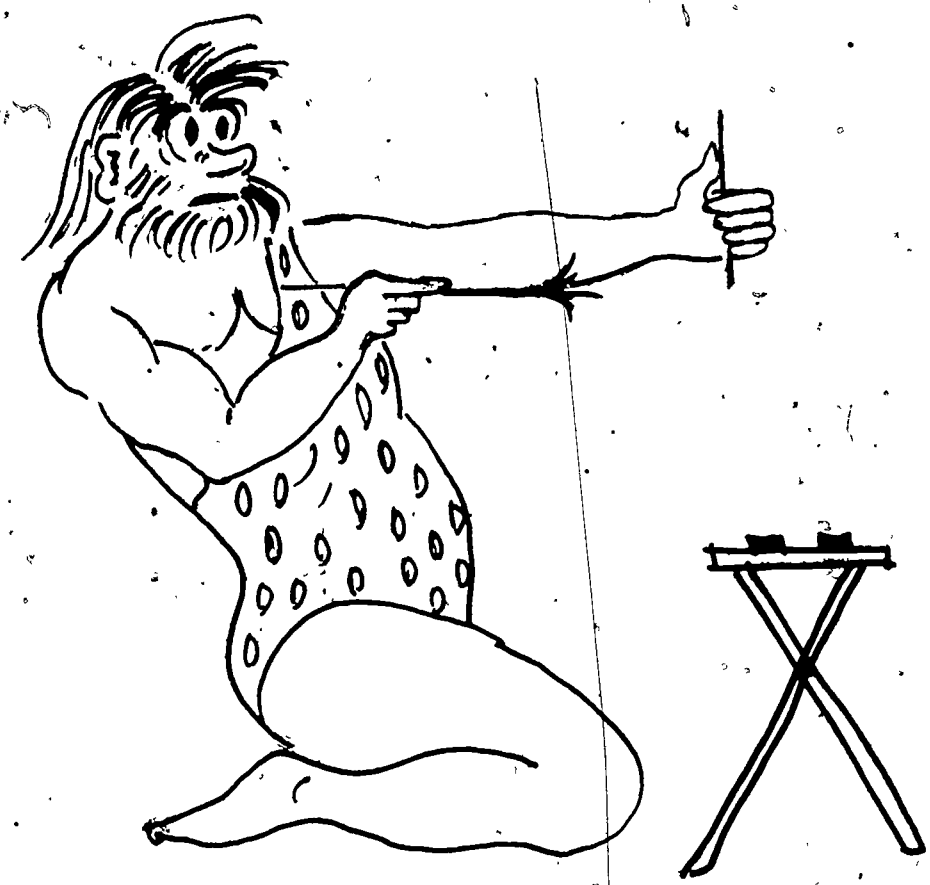
History of Paint Lesson 1

Objective:

At the end of this lesson the student will know the essential parts of a paint.

The use of paint was actually the discovery of a science teacher during one of his summer vacations. It was a pure accident, because he was actually trying to find a cave to hide from his wife and school-age kids. In any event, history owes this man a great debt for his discovery and theories. All lessons on the history of paint, taught in all schools, are based on his findings. The following lesson on the origin of paint has been taken directly from a brown lunch bag he used as a notebook.

The first paint job was actually traced by paint drippings leading into a cave. About 10,000 years ago, certain cave persons painted colored pictures on the walls. Some cave walls were painted to cover up wall cracks and defects, just to get the landlord higher rents. Other paint jobs were just to kill time. Probably some hungry lion or rhino was blocking the cave entrance, and the occupants painted pictures until it went away.



At any rate, these early cave decorators made their paints with coloring matter called pigments. The pigments probably kept falling off the cave walls, and so they added a sticky binder. Finding a good binder was really a sticky job. The first binder was a grease or oil taken from the mean vicious animals that blocked the caves. To get this binder the early chemists had to be extremely careful that the animals were dead before they started to collect grease. Grease-grabbing and oil-collecting from live animals resulted in some cave walls being decorated with cavemen. (This was not a pretty picture).

Most of the cave painters were non-union, and so they left no records as regards price per hour or per cave. Oh, well – let's get on with the serious stuff (lesson).

Early pigments were made mostly from minerals called ochers. Ochers are minerals made of iron and ogygen as found in nature. The ochers produced nice earthy colors, like reds, yellow, orange, and browns. Early painters also discovered that burning bones gives a black pigment. (Imagine that! These cave snappers didn't waste a thing on the animals – they ate the meat, collected the grease, and burnt the bones to make paint. Today's meat is mostly bones, and so it might pay to make our own paint or sell the bones to paint stores.)

Today's paints contain two essential parts. The first part is made from colored clay or rock, finely ground, called *pigment*. The second part is a liquid binder, usually water or oil, called the *vehicle*. The liquid vehicle holds the pigment together on the surface and makes it easy to apply. The vehicle in the modern type of oil paint is linseed oil, tung oil, or some other so-called drying oil, sometimes combined with synthetic (man-made) materials. A third type of ingredient added to oil paints is a *drier*. The drier speeds up the oxidation and makes the paint dry faster. This drying factor is very important when painting toilet seats, so remember the word "drier."

Oil paints sometimes need to be thinned so that they can be more easily applied. Turpentine, which comes from pine trees, is usually used with good results. Remember to *always read the label, because different paints require different thinners.*

Paint is mighty important because it is used to protect and beautify everything in this world except food and clothing. Folks even use paint to beautify themselves.

Activity:

Your instructor will use some exterior oil-based paint to paint several boards.

1. Put a tiny quantity of paint into two cans. Use water as a thinner in one and oil in the other. Students will observe and take notes.

2. Read label. Do you understand all the big words? Ask questions.

3. Paint boards and let dry for several days. Why does it take so long to dry?

Purpose of Paint Lesson 2

Objective:

At the end of this lesson the student will understand the three main functions of paint.

Related Information:

First let's review a little more history (as it never was).

The Early Beginnings of House Painting

In the heyday of the log cabin, as long as the bark stayed on, there was no need for paint.

Then suddenly log exteriors took a sudden turn for the worse. Hostile Indians started shooting arrows, throwing spears, and kicking up huge quantities of dust. This was all very destructive to bark. Then there were hostile birds and insects that started snapping off the bark and the bark became worse than their bites. The housing developments started to look shabby. The logs started to crack, split, rot, and grow fungus – it was truly a bad scene. Thus, a group of concerned homeowners got together to discuss the bark blight. After a great deal of heated discussion and violence they decided to strip the bark that was left and paint the logs.

A pack of the boys went down to a used pony lot to see Quick-Buck, a local Indian wheeler-dealer. If anybody had paint, Quick-Buck would have it, because Indians used it in all their fights. As luck would have it, Quick-Buck had a few drums of surplus war paint that was yellow and a poor seller amongst the braves. He then gave them a price they couldn't refuse, threw in two pounds of turkey feathers, and unloaded the whole lot. And that's how wood got its first coat of protection.

Now let's get down to some facts (true). House paints serve three major functions: protection, insulation, and beauty.

1. Protection. Paint products protect against sun, rain, snow, sleet, dew, fog, dust, and – believe it or not – insects. It also protects against air pollution, corrosion, and rust. In the case of wood it protects against checking, cracks, rotting, warping, and discoloration. Even the interiors of homes are protected from dirt, grease, grime, household chemicals, and abrasives in daily use.

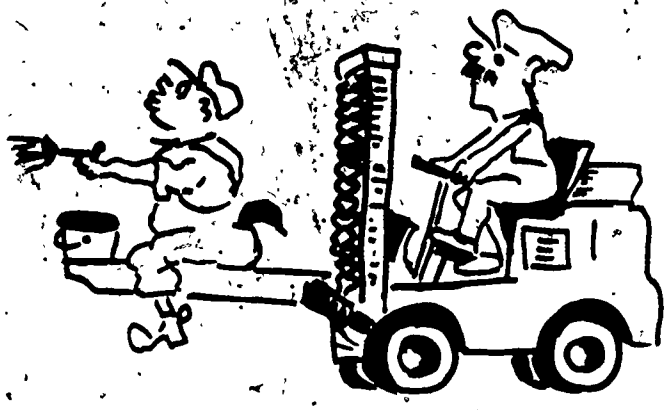
2. Insulation. Paint also is an excellent medium of heat-reflection through use of color. Light colors reflect a great deal of heat away from the house. If you have ever owned a black hearse or have ridden in the back of one, you would realize how dark colors absorb heat.

3. Beauty. Paint restores the original appearance of a house and in some cases improves it. Beauty not only brings satisfaction to the owner but also increases the property value.

Composition of Paint — Lesson 3

Objective:

At the end of this lesson the student will understand the recipe for making paint.



Related Information:

Folks called students don't have to be paint chemists, but they should be familiar with the ingredients and what they do. For example, what type of paint should you use on a seat, and how long does it take to dry?

Well, most paints consist of four types of materials: a pigment, vehicle, thinner, and drier.

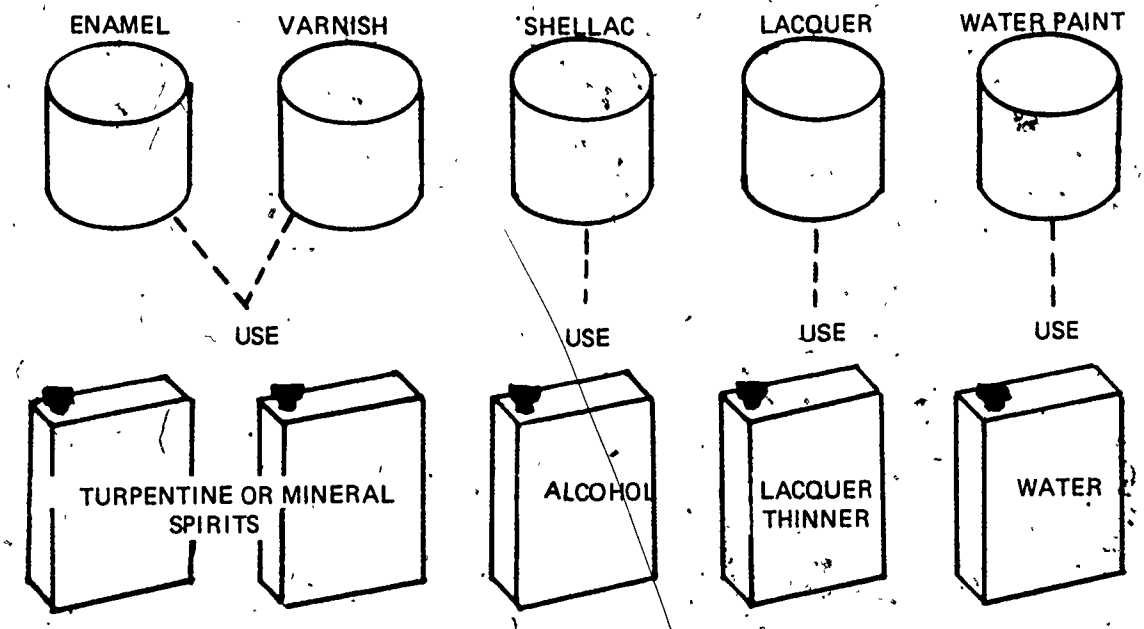
1. Pigment. Pigment is a finely ground solid that provides hiding power plus a color to paint. The finely ground solids are derived from animal, vegetable, mineral, or synthetic materials. A large percentage come from mineral oxides such as lead, titanium, zinc, and certain clays that contain iron.

   Paint pigments are often combined with extender pigments that do not add hiding power but are added to increase bulk or improve the product. In most cases, extenders prevent checking, cracking, or excessive chalking, or they keep the primary pigment from settling into a hard mass.

2. Vehicle. The vehicle acts as a binder, that is, it holds the fine particles together so that they can be spread. Imagine trying to spread the finely ground solids without some liquid-type base. The liquid must be able to stick to a surface, penetrate the pores, and dry into a tough, protective film. Oils such as linseed, tuna, soy, or castor are used for oil paints; synthetic gums or resins for alkyd paints; emulsions of synthetic resins and water for latex paints.

3. Thinner or solvent. For oil or alkyd paints, turpentine or mineral spirits are used. The thinner or solvent makes the paint spread more easily and penetrate the surface. Once it has done this job, it evaporates, leaving a coating of oil and pigment. Latex or acrylic emulsion paints use water as a solvent, but this is used more for spreading than penetrating.

4. Drier. The drier helps speed up the drying process by combining with oxygen rapidly. Driers consist of the salts of certain metals, such as cobalt, lead, manganese, calcium, zinc, or iron.



Proper thinners for paint products

Exterior Paints

Lesson 4

Objectives:

1. At the end of this lesson the student will understand the three basic elements essential to good exterior painting.

2. The student will also understand the relative advantages and disadvantages of the two most popular types of exterior paints.

Related Information:

The cellular and porous nature of wood is an invitation to moisture, oxygen, and carbon dioxide, upon which mildew and other fungi can grow. Unless these pores are sealed, wood will decay, split, check, or warp; thus the need for paint is obvious.

A successful paint job consists of three basic elements. First of all, proper *surface preparation*. Secondly, there must be a *strong bond* between the surface and the paint. Thirdly, *good quality materials* are needed to provide a good paint film.

Preparation of new wood consists of removing all grease, dirt, pitch, or foreign matter. Knots should be sealed with shellac, aluminum paint, or prepared knot sealers. Wood resins should be scraped and sanded, and any lime or cement removed.

A strong bond requires that the new wood receive a prime coat of paint. A primer consists of an exterior paint that has *controlled penetration*. The purpose of a primer is to seal the porous wood uniformly and provide a roughness or *tooth* for succeeding coats to grip to. Even absorption and sealing plus "tooth" can provide the strong bond that makes for a successful paint job.

The finish coat should be labeled house paint. This is the paint best suited for wood. Exterior house paints are most commonly formulated as either oil-base paints or latex paints. Both have advantages and disadvantages.

The advantages of oil-base paints for exterior work:

1. Oil-base paints, especially white, have controlled chalking. White oil-paint stays white longer than latex paint.

2. They cover better and leave a heavier film.

3. They cover more area than latex because they are more pliable, drip more slowly, and have greater hiding power.

4. Penetration into wood is greater than with latex; hence they protect better.

The advantages of latex-type paints are:

1. Colors are more stable and long lasting, especially white – does not turn yellow as easy.

2. They are easier to apply and clean up.

3. They are non-toxic and have little odor.

4. They are moisture- and alkali-resistant.

5. The costs of labor and material are slightly lower.

6. They are fast drying and can be recoated faster.

7. They are less affected by moisture and dampness; painting does not depend on ideal weather and a perfectly dry surface.

8. The finish is softer and permits wood to "breathe"; and hence is more resistant to damage from moisture pushing through from inside.

Interior Paints

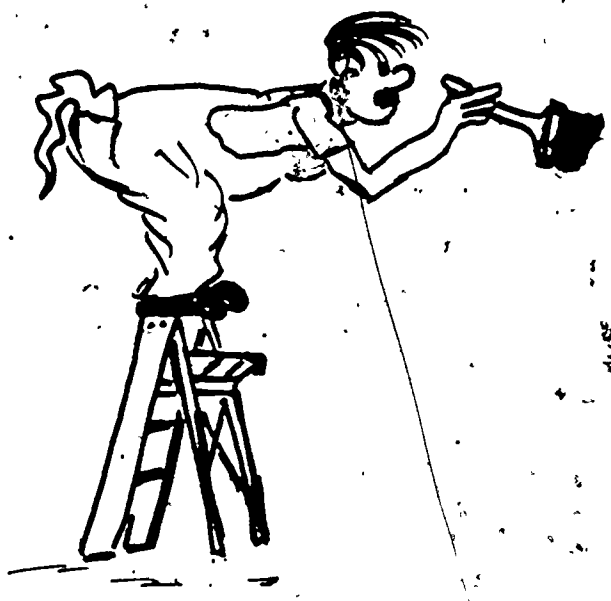
Lesson 5

Objectives:

1. At the end of this lesson the student will know the basic types of interior paints and how they are used.

2. The student will also learn the advantages and disadvantages of some of these paint products.

Related Information:



There are various types of interior paints; selection depends on the specific area where they are to be used. These interior paints can be divided into three main categories: oil-base paints, alkyds, and latex.

1. Oil-base. Interior oil-base paints have been largely replaced by synthetics. However, they are still available and worthy of consideration. They fall into four major groups, as follows:

   a. Gloss or Semi-gloss. These paints are used chiefly in kitchens or bathrooms, rooms most subject to oil, grease, soap scum, and sticky films. They provide a hard, glossy surface that is resistant to penetration and hence easy to clean. These paints wash easily with soap or other alkaline cleaners.

   b. Flat oil paints. These have excellent covering power and a fairly even penetration. Although harder to apply than the synthetics, they can cover spackled areas without being sucked in and creating flat-looking spots.

   c. Enamel. Enamel has a varnish vehicle and dries with a hard finish that resists abrasion, corrosion, water, and discoloration. The finish is available in gloss, semi-gloss, and flat, and can be easily washed with soap and water.

   d. Primer-Sealers. These are especially formulated to provide a strong bond, "tooth," and sealer to protect finish coats from surface defects.

2. Alkyd. Alkyd paints are made from resins made by combining alcohol and acid. These hard resins, in combination with oils, produce a hard, tough surface. They are formulated to produce gloss, semi-gloss, and flat paints. Alkyd paints are flexible and water- and abrasion-resistant; they wash easily and have good color-retention. Alkyds have definite advantages over interior oil paints as they are tougher, easier to apply, resist scrubbing, and have much less odor.

3. Latex paints. Latex-base paints are emulsions of a synthetic resin and water. The original latex paints used an artificial rubber, but today they use various synthetic resins and are still called latex. Latex paints have many advantages. They are . . .

   a. Water-soluble, hence easy to clean up
   b. Very easy to apply by brush or roller
   c. Quick-drying
   d. Non-toxic, with little odor
   e. Resistant to water and alkali
   f. Washable
   g. Durable and self-sealing
   h. Non-flammable
   i. Highly fade-proof
   j. Porous, so that the paint film does not trap moisture

UNIT X – WALL AND FLOOR COVERINGS

Ceramic Tile – Purposes and Uses — Lesson 1

Objectives:

At the end of this lesson the student will understand the purpose of ceramic tile and its uses in the home.

Related Information:

As luck would have it, a science class was on a field trip one day and found some spiral notebooks in old tombs that had pages made of tile. The cover page was dated 4000 B.C.

For thousands of years tile-making languished – until bathtubs were moved indoors. Grown persons did not bathe too often, and when they did they weren't splashers – but kids kicked up a storm in the bathroom. They went wild in the tubs and splashed water all over the wallpaper and rugs.

That's when people became foxy and decided to protect their homes. They took certain types of earth that contained clay and started baking tiles in the sun. The manufacturing progress was slow until someone thought to put the tiles in pizza ovens and used artifical heat. This started the whole industry of ceramic tiling.

True facts. Ceramic tile actually dates back to some 4000 years B.C. Excavations have revealed tiles formed from various types of earth and sun-dried. Through the years the product was gradually improved by baking with artifical heat. Finally, people discovered that certain materials when heated would melt and form a hard, shiny glaze. Tiles were used throughout the centuries for decorative as well as practical purposes. Gradual improvements in materials, color, and techniques have been made, and today we produce a wide range of ceramic building materials.

1. Purpose. The primary purpose of ceramic tile is to provide a sanitary, waterproof surface, resistant to moisture, soap, and cleansers. The hard, glazed tile provides this long-lasting wall and floor covering.

2. Uses. Ceramic tile in home construction is used primarily in bathrooms and kitchens. The material can be used for walls, floors, ceilings, and counter tops. Install showers it may be used for ceilings as well as floors and walls. In recent years it has even been used to construct built-in bath tubs.

   Some kitchen counter tops and back splashes are being constructed completely of tile. In other situations, tile is used as a back splash where the counter top ends.

Types of Ceramic Tile Lesson 2

Objectives:

1. At the end of this lesson the student will know about the two general types of ceramic tile and their use.

2. The student will also know of the other types of tile available for home use.

Related Information:

Ceramic tile is a great boon to the homemaker because its nonporous surface is so easy to keep clean. There are two general types of ceramic tile. In home construction the most widely used are the 4¼"x 4¼" tiles, which are used on walls, ceilings, and counter backsplashes. However, tiles also come in a variety of other sizes and different shapes. So-called mosaic tiles come in tiny or large pieces and are sold in one-foot and two-foot squares. They come in a variety of irregular, round, square, or rectangular pieces pasted to a paper backing. The paper backing is used to space them and permits installation in fairly large sections.

Ceramic tile comes in three textures.

(A) High-glazed tiles have a hard, glossy, nonporous surface, which is very easy to keep clean and sanitary.
These tiles are used primarily for walls, countertops, and backsplashes in kitchens and bathrooms. The varieties manufactured in Japan are extremely colorful and decorative. They are made in one- and two-foot squares with a cheesecloth-type of backing. Thus, they are ready-spaced and convenient and easy to install. They are rarely used for floors because the glazed surface would be hazardous and easily marred by traffic.

(B) Another texture is known as *crystal-glazed*. This has a granular or rough texture. These tiles are more or less slip-proof and are used for floors. They come in a variety of shapes and sizes; the 1" hexagon, the ¾" square, and the random pattern are most popular. They are somewhat harder to keep clean than high-glazed tiles; however, their primary purpose is safety.

(C) Matte and satin-matte tile have a hard, easy to clean surface but not much glare. They have the advantage of a sanitary surface without so much glare and reflection of light.

Thus the sizes, textures, and colors offer a wide range for decoration. Colored tile and bathroom fixtures have made the modern bathroom sanitary and cheerful.

Ceramic tile are often used unglazed for floors and walls, especially in swimming pools and gardens. Other types of tile used in and around the home are as follows:

Quarry tiles. These type of tiles are a combination of sand and clay pressed in a hydraulic press and baked hard. These tiles are extremely dense and absorb very little water. Quarry tiles are manufactured in a variety of sizes and thicknesses. The glazed quarry tiles are primarily for walls, and the unglazed for floors. Their greatest use is in commercial or public buildings; they are not used extensively in homes.

Patio tiles. Patio tiles are similar to quarry tiles but are made with a clay base instead of sand. They are used primarily for floors and patios, both indoors and outdoors.

Ceramic-Tile Installation Lesson 3

Objectives:

At the end of this lesson the student will understand the two methods of installing ceramic tile and the advantages of each.

Related Information:

Ceramic tile can be installed in two different ways. This is the original method: The tile is attached to a cement base on the walls and on the floor. The cement base requires a rigid, fine, metal mesh applied to the open studs to act as an anchorage base. The cement plaster consists of portland cement and sand. It is applied in two coats and left to dry. While the cement plaster is drying, the tiles should be left totally submerged in water for at least 24 hours. Thus the tiles reach their saturation point and will not suck the moisture out of the adhesive cement.

Each separate tile is then cemented with a wet glob of cement, uniformly spread out. Then the tile is pressed into place. In ceiling applications the cement should be carefully buttered on all four edges, leaving the center hollow. This permits suction to assist in holding the tile up.

Note the following aids to making the tile stick: First, the tile is grooved or ridged to grip the cement. Secondly, the tile is soaked to prevent its absorbing water from the cement plaster. Finally, the edge-buttering technique provides suction when the work is overhead. This method of applying tile requires considerable skill in masonry and is costlier than the newer method, described below. Once applied, the tile is difficult to remove, and so repairs are also more costly.

Floor tile is applied the same way except that the tile is in small pieces, attached to sheets. The sheets of tile are applied with the paper side up and pressed into place. The paper is wet and removed, and a creamy cement paste is added and fills the joints.

The modern method uses an adhesive in place of cement for adhesion. The accepted practice is to install tile on a waterproof dry-wall base. However, tile can be applied to any strong hardboard or backing.

Application begins with applying a special waterproof mastic with a notched trowel. The grooves in the mastic act as a cushion for even pressure and provide a degree of suction. The mastic must be pliable, free of lumps, and uniformly spread. The modern ceramic tile has projections on the sides that provide proper spacing automatically.

Whichever method is used to set the tile, once all are in place, a white or colored grout is used to fill the joints and make them waterproof. The grout can be made from a mixture of white sand and white cement, or a prepared tile grout may be used. Excess grout is removed with a soft striking tool on the joints and a wet sponge. Once the grout is set, a damp cloth will clean off any excess.

Simple tile jobs can be done with simple tools such as glass cutter, nippers, and carborundum stone. Tiles are cut by scoring the glazed surface. Odd shapes can be cut by scoring the curve and slowly breaking off tile with nippers to the scored line. Rough edges can be smoothed with a carborundum stone.

Summary. This is what you have learned:

Glazed tile is similar to glass and can be cut the same way.

Tile is not as brittle as glass and can be shaped with plier-type nippers and abrasives.

The back side of tile is porous and provides excellent adhesion.

Adhesion can be improved by "buttering" cement on edges or grooving the mastic.

Grout is a waterproof cement filler for the joints.

Any strong, durable backing can be used for tile applied with mastic.

Resilient Floor Coverings Lesson 4

Objectives:

1. At the end of this lesson the student will be aware of some of the most popular floor coverings available.

2. The student will also understand that actual selection of material requires additional research into function, traffic conditions, comparative costs, and maintenance.

Related Information:

"Resilient" floor coverings have a certain amount of "give" to them – they are easier on the feet than wood floors, although not as easy as carpeting, of course. The following description and classification of resilient floor coverings is general in nature. Actual real-life choices should be based on a more detailed source. Refer to books on architecture, building products or consumer guide books – *Don't* rely on advertisements or manufacturers' claims.

(A) Asphalt Tile. Asphalt tiles are composed of asbestos fibers bound together by a blend of asphaltic binders. They are manufactured in 1/8" and 3/16" thicknesses and in a variety of colors and designs. They are the least expensive of the floor coverings, are highly durable, and can be used over wood or concrete subfloors. They are most widely used in basements, recreation rooms, and in homes of slab construction. They are very brittle and tend to crack if placed on uneven surfaces. The tiles are highly resistant to water, but are not resistant to acids or petroleum solvents such as kerosene, gasoline, or any oil-based product.

(B) Vinyl-Asbestos tiles are made of a composition vinyl resin and plasticing agent, plus asbestos fibers, pigments, and fillers. Vinyl asbestos is superior to ordinary asbestos or pure vinyl tile in many ways. It is not as brittle as pure asbestos and in addition is highly resistant to fats, oils, most acids, alkalies, and petroleum solvents. It is superior to pure vinyl in that it will not dent, mark or mar as easily.

(C) Vinyl Tile is made of a layer of vinyl plastic bonded to a flexible backing material. Vinyl tile is flexible and resists cracking, and is highly resistant to fats, oils, most acids, and petroleum solvents. The disadvantages are its high costs as compared to asbestos or vinyl asbestos and its lower resistance to denting and scarring. Furniture, especially chair legs, leave noticeable dents. In addition, women's high heels or spikes can dent or damage its surface.

(D) Linoleum. This material is a composition of specially treated linseed oil, powdered cork, resin, wood flour, and color pigments spread over a cardboard backing and rolled into sheets. Linoleum is available in either small tiles or large rolls or sheets. Large sheets minimize joints and provide an easier-to-clean surface than separate tiles. Linoleum in large sheets is more expensive than asbestos or vinyl asbestos tile but is more durable, with less chance of popping or coming loose. However, it requires more skill to install and is more difficult to repair.

Note – Linoleum "rug" is a roll-type or sheet linoleum that is surface-finished only. It should not be confused with true linoleum, whose quality is consistent throughout its thickness. Linoleum rug is a low-cost substitute, for short-term use only.

(E) Cork. Cork tile is made by mixing cork shavings with resins, compressing the plastic mixture in molds, and then baking. The tiles are used above grade; they are not recommended for concrete. Cork tiles are warm, quiet, and resilient, but not as durable as other floor coverings. They resist water but are not resistant to oils, fats, or grease. They would not be recommended for use in kitchens, dinettes, or bathrooms.

(F) Rubber Tile. Rubber tiles are usually made from synthetic rubber because natural rubber would dry out and crack too easily. Plastic binders and pigments are mixed with the liquid rubber, rolled and pressed into sheets, then cut up into tiles. Rubber tile is recommended for use above the ground level. The advantages of rubber tile are pliability, resilience, and good sound absorption.

Wall Coverings Lesson 5

Objectives:

At the end of this lesson the student will have a knowledge of the various types of wallboards most commonly used in residential construction.

Related Information:

The materials which are used to finish interior walls include wood boards, wood paneling, ceramic tile, paper, fiberboard, glass, plastics, and paint. This lesson is primarly concerned with wood paneling and fiberboard.

(A) Wood paneling is available in a variety of thicknesses, widths, and lengths. However, the most popular size is 4′ x8′ x¼″. These panels are available in natural or prefinished surfaces and are applied with matching nails or an adhesive paste, or a combination of both.

Wood paneling is also made by reproducing a wood finish by a photographic process and then applying a plastic (vinyl) coating. Reproductions can imitate almost every shade, tone, and grain of wood. These panels are inexpensive, but are not as durable as true-wood panels, because the surface beauty is only skin deep. Repairs or refinishing are almost impossible.

Panel thickness is extremely important, and this is where the buyer or builder must be wise.

Normally panels that are less than ¼″ present a nailing problem, because the holding power of countersunk nails is greatly reduced. In extremely thin paneling, the enlarged head of brad or finish nail practically passes through all layers when countersunk. Thus special head-type nails must be used, and an adhesive is advisable. Also, thin paneling follows every defect and contour of the wall and fails to give a leveling, flat appearance.

Full-thickness panels are more rigid, offer a better nailing surface, and are less likely to twist, buckle, or pop loose.

(B) Wood Paneling (Boards). This paneling consists of separate boards that have a wood tongue on one edge and a groove on the opposite edge. Thus when they are fitted and nailed together they form a single continuous-appearing surface. The boards are usually ¾″ thick and come in 4″, 6″, 8″, and 12″ widths and random lengths. The finished face surface can give a V-joint appearance or a fluted pattern. Panels are available in such woods as knotty pine, pecky cypress, oak, chestnut, cedar, pecan, and other more exotic varieties of wood.

This type of paneling is costlier than plywood but has a special beauty that some people prefer. The advantages are strength, beauty, and ability to be repaired or refinished if damaged.

(C) Hardboard consists of pulverized wood that has been reduced to pulp, the moisture removed, and a variety of binders added to form a plastic mix. This mixture is pressed and baked. Panels are usually 4′ x7′ or 4′ x8′, ¼″ thick.

One treatment consists of printing a wood-grain pattern on the face and cutting irregularly spaced V-grooves to represent random planks. Other hardboards have a deep leather grain embossed.

Another type of treatment consists of covering the hardboard with a plastic film printed in a wide variety of wood, stone, or fabric patterns with a baked-on top plastic coating. Boards may also be left plain, marbelized, or formed into 4″ squares with a baked-on enamel coating. They are frequently used in kitchens, bathrooms, and in other areas as a tile substitute. In some cases where a continuous, seamless surface is desirable, they are actually superior to tile. The finishes resist acids, oils, and grease, and hence are easy to clean.

UNIT XI – SHEET METAL

Exterior Uses Lesson 1

Objectives:

1. At the end of this lesson the student will understand the importance of not combining dissimilar metals in outdoor work.

2. The student will know about some of the uses of sheet metal in exterior work, and which metals are used most for each purpose.

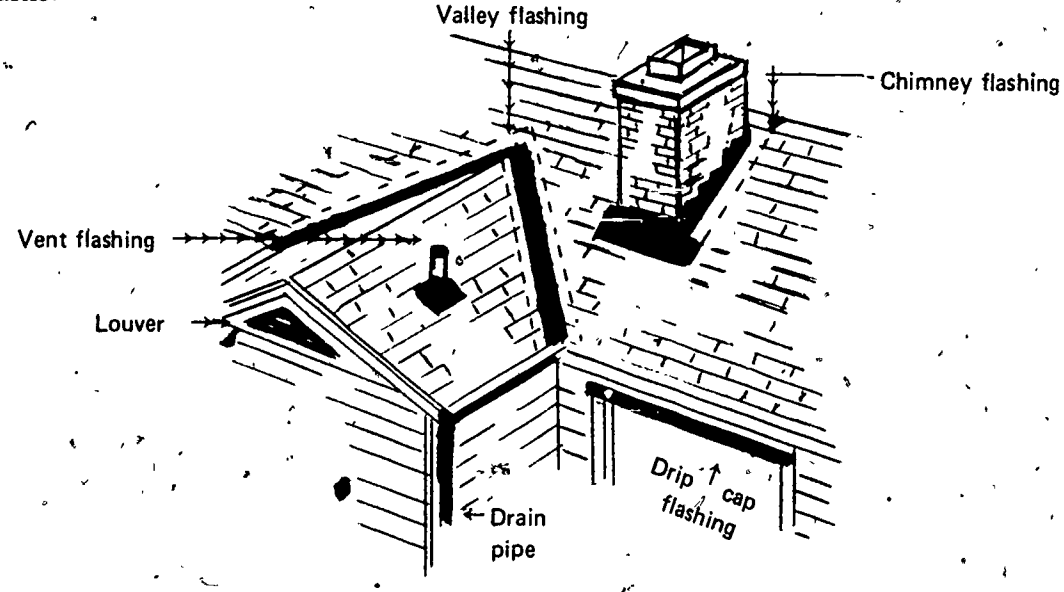
Related Information:

No builder in his right mind would install copper flashing with galvanized nails, or, for that matter, use any two dissimilar metals together in exterior work. He knows that one or the other metal, or both, will deteriorate.

Two different metals used together produce a *chemical reaction* when wet. The reason is that the metals and the water form a kind of battery and produce a tiny electric current. In this process at least one of the metals will be gradually destroyed.

The following are the most important uses for sheet metal in exterior work.

Flashing. Flashing is a metal stripping which covers the joints and seams on a house – for example, the junction lines between the chimney and roof, housewall and roof, and others. Flashings may be made of aluminum, copper, galvanized sheet metal, or even plastic.



FLASHINGS AND OTHER EXTERIOR USES OF SHEET METAL

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For the flashing to work correctly, the roofing material must overlap it, so that rain water will simply run off it. This prevents water from coming in from above. The overlap should be large to prevent leaks caused by upsweeps of water pushed by wind pressure. (In case you didn't know it, water loves to sneak into houses pushed by swirling wind currents or pulled by capillary action.)

You remember that capillary action is a drawing *up* of water through tiny tubes or other very narrow passageways.

Flashing around a chimney is flexible enough to permit settling of the structure without breaking. On valleys of roofs it acts like a gutter, projecting far enough on both slopes to prevent water entry.

Flashings of all types may be damaged by corrosive gases, fumes, and acids in the atmosphere. They should be periodically inspected for breaks or corrosion. A "leaky roof" is very likely to turn out to be a leak through, under, or around some flashing.

Small strips of flashing, usually of aluminum, are used over the tops of doors, windows, and other openings. They extend over the top of the frame and form a water-tight seal between the frame and the house walls. These are called drip-caps.

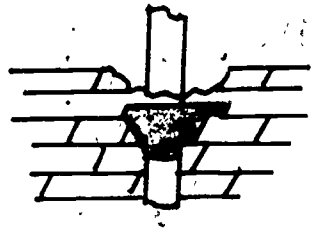
Aluminum in rolls is used to form a termite shield on the outside walls, between the blocks and the sill. It is usually formed on the job so that it covers the top of the wall and projects several inches down on each side of the wall.

Louvers. Louvers are finned or slatted openings for ventilation on the sidewalls. Aluminum louvers in round, rectangular, and triangular shapes provide maximum ventilation using the least amount of material. They also have the advantages of being non-staining and are inexpensive to buy and install.

GABLE LOUVER

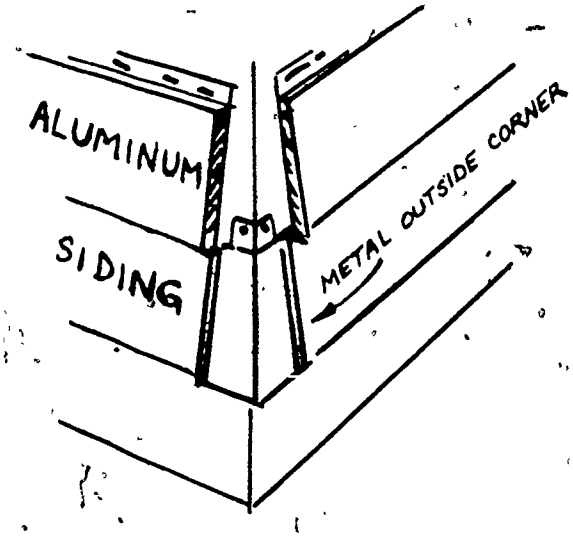
Vents. A variety of sidewall and roof vents are available for exhausting fumes, heat, and odors. They are designed to provide exhaust yet keep out the rain.

Vents for the stacks of drainage systems are a "special breed of cat" and need a copper or sheet-lead flashing to prevent leaks. Most generally they come as a preformed cap that slides over the vent pipe. They must be installed so that water flowing down the roof flows on to the flashing and back on to the roof — not down the stack.



VENT FLASHING

Metal gutters will be discussed in detail in the next lesson. You should realize, though, that there are many other exterior uses of sheet metal around a house. The illustration below shows one of them.



Gutters and Accessories Lesson 2

Objectives:

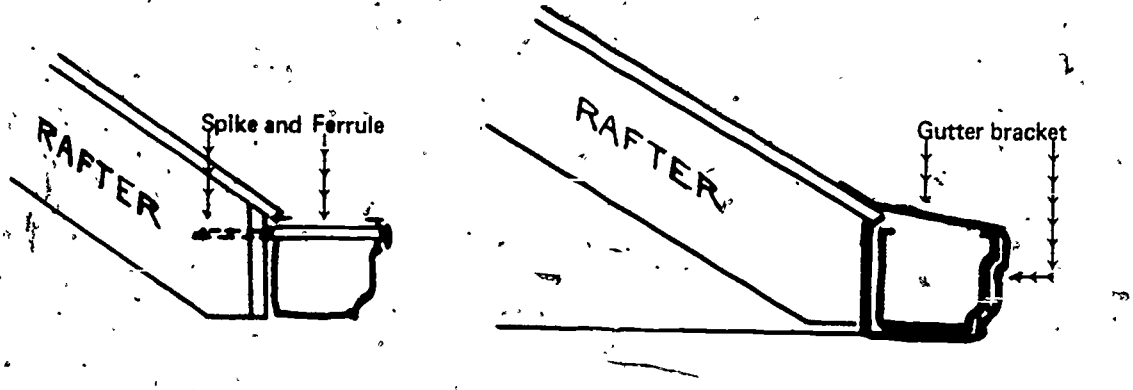
1. At the end of this lesson the student will know about the various types of rain-carrying equipment available.

2. The student will also learn the advantages and disadvantages of some materials.

Related Information:

Sheet metal was one of the earliest materials to be used for gutters and leaders. A galvanized sheet metal, heavily tinned, is still being used. It has the disadvantages of rusting and staining, however, and so aluminum has largely replaced steel in modern construction.

Aluminum gutters come either with a baked-on enamel finish or in a natural finish. The baked-on finish is better looking and more popular. The gutters can be purchased in long lengths, minimizing joints, or they can be made in one piece right on the job. Some contractors have a truck that is capable of preforming rolled aluminum stock into continuous lengths of gutter. For example, a 60-foot length of gutter can be produced in one piece with an enamel finish. Preformed fixtures to fit the shape of the gutter are used as hangers, or a long spike with a ferrule may be used.



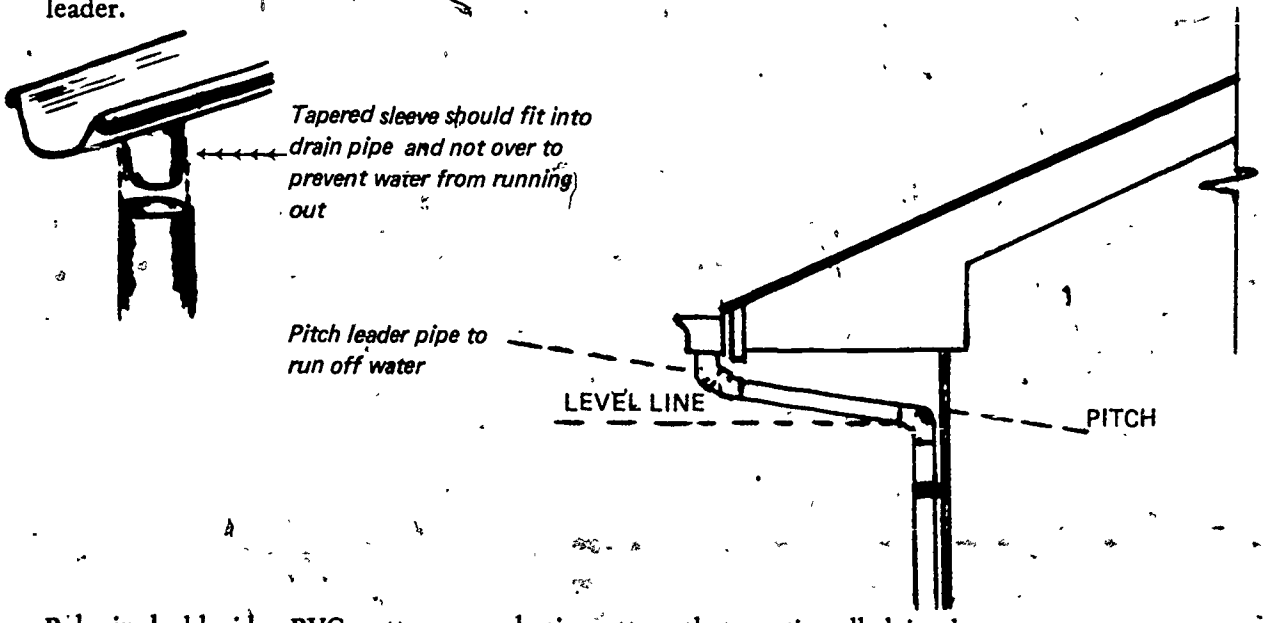
Two pieces of gutter can be joined either by lapping the joints where they intersect or by using a preformed joint. Lapping one section of gutter over another, using an aluminum liquid solder and rivets, works well for lengths under 50'. Lengths that exceed 50' are more subject to the stresses and strains of expansion and contraction. Thus a preformed joint in the shape of the gutter is used; it provides a built-in expansion feature. The center of the preformed unit has a neoprene (rubber) strip that acts like an accordion and provides room for expansion and contraction.

Many of the fittings such as corners, downspouts, and end caps, come preformed and can be secured with aluminum liquid solder, or rivets, or both.

A gutter must be installed with the proper pitch to the outlet end or ends. Normally, a pitch of ¼" on the outlet end is sufficient, because water will flow rapidly enough if there is reasonable pitch. Too much pitch, on the other hand, causes the water to rush down to the outlet faster than it can flow out, and thus can cause overflowing.

Never assume that your roof line is level, because frequently it is not. Establish a true level line, using a level, chalkline, and ruler. Once the gutter is in place, test it with a pail of water or a hose to see if you have pitch and if the rate of flow is good.

The leader or run-off pipe must also provide the proper pitch if offset. As a rule, ½" to the foot provides a rapid discharge of run-off water. Fittings should always be installed with the upper fitting going inside the lower fitting, to keep all the water inside the leader.



Polyvinyl chloride. PVC gutters are plastic gutters that are installed in the same way as aluminum. However, they still lack popularity because of two drawbacks. They have a great expansion rate and hence have a tendency to buckle in tight quarters under high temperature. They also are less rigid and present a problem when ladders are placed against them.

Gutter screens and covers of various types are available. They are fastened to the top of the gutter for the purpose of keeping out leaves, twigs, nuts, rubber balls, and unidentified flying objects. They have their plusses and their minuses, however, and many people prefer to periodically check and clean out the open gutters instead. Since some junk does get through gutter screens anyway, some cleaning will still be needed. And once the gutter screen is in place, cleaning becomes a major operation instead of a minor nuisance.

Interior Uses

Lesson 3

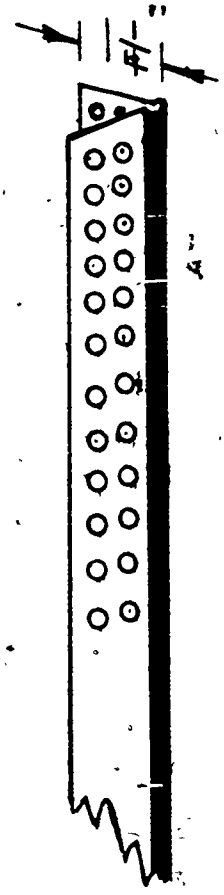
Objective:

At the end of this lesson the student will know about additional uses of various types of sheet metal in home construction.

Related Information:

Sheet metal has many uses in the interiors of homes during construction.

Metal corners. Most homes, whether they are finished with plaster or plasterboard (sheetrock), use preformed metal corners for the interior walls. They are made of alloys of tin or zinc to resist rust and are used to reinforce and provide straight, smooth corners. They are also made in a wide range of preformed arches, primarily for plaster, but some can be used with wallboard. (Note the perforations in the illustration. These serve two purposes: they provide for nailing and also act as keys for the sheetrock spackling paste.)



Performed metal corner for sheetrock (dry wall) construction

Wire lath. This is a preformed wire mesh, most commonly in 24" x 96" size. These mesh sheets are nailed across open framing or rock-lath-covered walls and are used as a base for plaster. Wire mesh provides strength and rigidity but has enough flexibility to compensate for settlement. It is especially useful in corners and joints, as a reinforcement to resist cracking.

Galvanized sheet metal. This metal is widely used for heating and air-conditioning ducts, pipes, and fittings. It is also used as flue pipe for heaters, furnaces, and appliances. Galvanized pipe is used for fan ventilation and other exhaust systems.

Aluminum sheet metal. Sheets of aluminum come in various gages and widths; it may be used in place of galvanized metal for some interior uses. Aluminum is sometimes used to form the ducting pipes and fittings for forced hot-air systems and to repair them. Some contractors still use it to enclose cold-air returns between the joists rather than build ducts.

Sheet lead. Lead in a rolled-sheet form is used frequently to form a waterproof base for stall showers. Once the stall shower is framed, sheet lead is placed along the bottom, with the sheet folded and continued up the walls. Thus it forms a huge lead pan about 12" deep. A sheet-lead base permits a wide range of custom-built shower stalls. The base then receives a bed of cement and ceramic tile plus a floor drain. Where size and shape of the stall are standard, however, preformed terrazzo bases are usually used.

Prefabricated Products Lesson 4

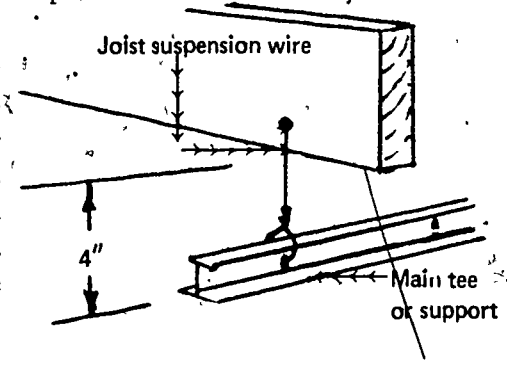
Objectives:

At the end of this lesson the student will know about the various prefabricated metal products in a home and how they are used.

Related Information:

Sheet metal has been prefabricated into many useful products to be used in construction or to be added on. The following is a partial list of the products most commonly used.

Gridwork. Sheet metal strips in the form of angles and tees are frequently used to install suspended ceilings. The gridwork usually consists of a sheet-metal angle strip around the walls. Then a network of T-shaped runners is installed on wires, and you have a metal framework to hold up ceiling panels. The panels vary in texture and design, and some are omitted for lighting panels.



The ceiling is thus suspended from the joists and in a sense just floating. This type of ceiling is ideal for access in case of repairs and is also readily adaptable for additional lighting.

Laundry chutes. These chutes are prefabricated out of metal and are intended for in-the-wall or through-the-floor installation. Some units come complete with a pre-finished metallic hamper housing.

Fire doors. Doors leading from an attached garage have a sheet-metal facing or covering. They are intended to act as a fire stop in the event of a fire in the garage: A garage, after all, houses a car that uses gasoline. Gas spillage and a possible short in the electric lines are fire hazards. The galvanized sheet metal acts to retard the fire and confine it. Some sheet-metal-covered doors are factory made, others have the covering installed on the job site.

Awnings. Prefabricated aluminum awnings in a variety of colors and designs are available for windows, doors, porches, canopies, and carports. They are extremely light in weight and sturdy and hence need no heavy understructure. For this reason, as well as their resistance to fire, they are readily accepted by most building codes.

Aluminum doors and windows. These two products have solved one of the toughest chores for a homeowner. Previously, heavy wooden storm windows and screens were constantly being interchanged. This involved much labor, painting, and the risk of accidents from ladders. Today such windows are permanent and are self storing. Unfortunately, you still have to clean them.

UNIT XII – VENTILATION

Purposes of Ventilation **Lesson 1**

Objectives:

1. At the end of this lesson the student will know how ventilation affects health, comfort, and the condition of the structure.

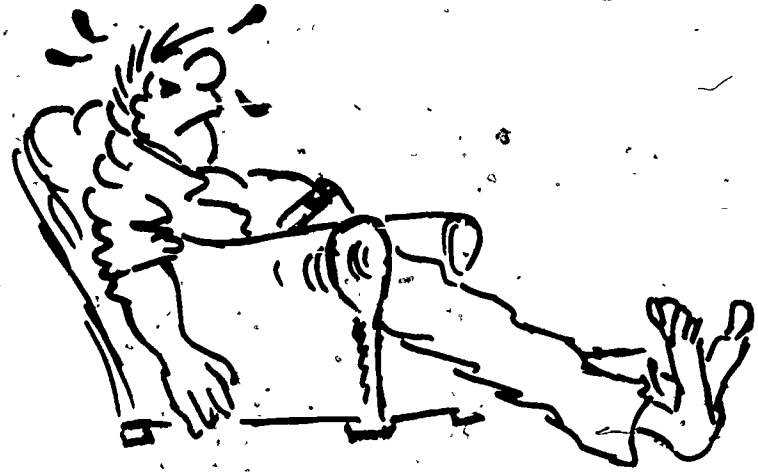
2. The student will also understand how insulation and modern airtight construction make ventilation even more critical.

Related Information:

Ventilation refers to the circulation of air that expels moisture, heat, and pollutants and supplies fresh air. Truly this is one of the most important features in a house, and yet it is sadly neglected.

It is amazing how many homeowners, builders, and even building codes neglect this critical factor. This ignorance prevails despite the easy access to education, printed government guidelines, and tons of free literature by manufacturers. But *you* don't have to be ignorant. Read on.

One reason that indoor ventilation has become increasingly important is that the amount of pollution in the home is rapidly increasing. The combustion and cooking fumes alone add great amounts of pollutants and moisture to the air. Add to this the combined vapors of household chemicals, and you have a serious threat to health and safety.



Recent research has definitely established that a wide range of illnesses is due to the daily exposure to smoke, cooking fumes, chemical cleaners, and various sprays. Today's average kitchen and storage cabinets contain about 40 household chemicals. Sprays in the form of deodorants, hair dressings, deodorizers, and polishes keep the air well polluted. These pollutants can cause or aggravate respiratory problems, allergies, skin and eye irritations, dizziness, and even depression.

Where gas appliances are used, they consume large amounts of vital oxygen and deliver toxic pollutants in exchange. Ventilation is vitally important to expel this polluted air and bring in a fresh supply of air.

Cross ventilation is especially important in the bedrooms. Proper ventilation removes warm, moist, and polluted air and is an aid to sleeping comfort.

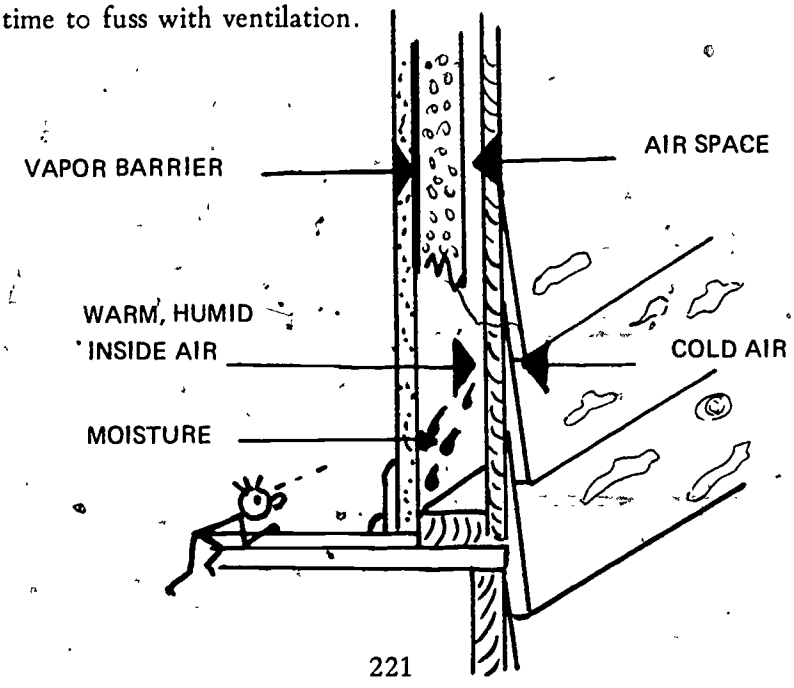
Bathrooms and kitchens should either have natural ventilation from a window or forced ventilation by an exhaust fan. Most building codes require that bathrooms that do not have natural ventilation have an exhaust fan that works automatically when the light switch is on.

Every winter you can read in the newspapers some sad stories of families asphyxiated in their homes. What happened? They were cold, closed up the house tightly, and used a gas or kerosene heater to warm up. But the heater was not properly vented to the out-of-doors – or not vented at all. A fire needs oxygen in order to burn. Man needs oxygen in order to breathe. When the fire used up the oxygen, it went out – and the people were *out* too – permanently.

Even if you are not asphyxiated by a lack of oxygen, poor ventilation may make you feel groggy or headachy.

In addition to protecting *you*, ventilation plays an important role in the appearance, maintenance, and the life of the *structure itself*. Paint peeling and moisture in the walls that cuts down the efficiency of the insulation are only two of the ways that improper ventilation can make your house sick. Add to that mildew, fungus, rot, rust, and condensation, and dampness, and the old homestead may never recover.

Effective insulation and airtight construction are a curse without proper ventilation. In other words, the more perfectly tight the house, the more critical the ventilation. The old barns our grandparents lived in had very few ventilation problems. T' e fresh air that blew in the doors, windows, and cracks was enough to give you gooseflesh. Then from time to time the cowboy and Indian fights added more ventilation with their rocks, spears, six-shooters, and arrows. Folks were more concerned with inhalation and exhalation, and they had no time to fuss with ventilation.



UNIT XII – VENTILATION

Windows and Doors — Lesson 2

Objectives:

1. At the end of this lesson the student will understand the function and importance of windows and doors in ventilation.

2. The student will also realize that the improper selection and placement of windows can defeat the purpose of adequate ventilation and create hazards to safety.

Related Information:

The basic functions of windows are to furnish light and ventilation. This seems like a relatively easy job – but is it? Windows are frequently selected on the basis of price, ease of installation, or how they fit into the architectural scheme.

Many double-hung, casement, awning, and slider windows are so cheaply constructed that it takes superhuman strength to operate them. A mere human often gives up the struggle. As a result, the ventilating ability of the windows is lost – in some cases for the life of the structure.

Windows are frequently placed to provide maximum free-wall space for furniture arrangement. Thus they are kept to a minimum for convenience or economy, and in some cases are completely omitted.

Omission or incorrect placement makes cross ventilation difficult or impossible. Some bow windows and picture windows are selected for beauty alone and have very small or no openings at all. Any combination of these errors produces a structure difficult to ventilate. This can be overcome to a large extent by air conditioning, but without it the windows and doors are the only sources of ventilation.

Poor windows also provide a poor exit in time of an emergency. Some windows when fully opened cannot be used to escape a fire because they are too small. Windows that do not operate properly are extremely hazardous for children or elderly people. To compound the problem, many windows are placed high for furniture arrangement and make no provision for fire or emergencies. Thus window selection is a mighty important decision.

Doors are also an important source of ventilation. The biggest problem with doors is getting them to open and close properly. Sometimes doors give you the reverse of the window problem – more ventilation than you need or want. Frequently doors are so poorly fitted that they automatically ventilate. A door is most times considered as a source of privacy and protection, and ventilation is frequently ignored.

Homework (due in one week). In your visits to friends, neighbors, and kinfolk, see how many windows fall into the "poor" category. Remember, you only have one week, so get going.

The Importance of Attic Louvers Lesson 3

Objectives:

1. At the end of this lesson the student will realize that proper louver ventilation can increase comfort and add to the life of the house.

2. The student will also know the critical areas affected by louvers.

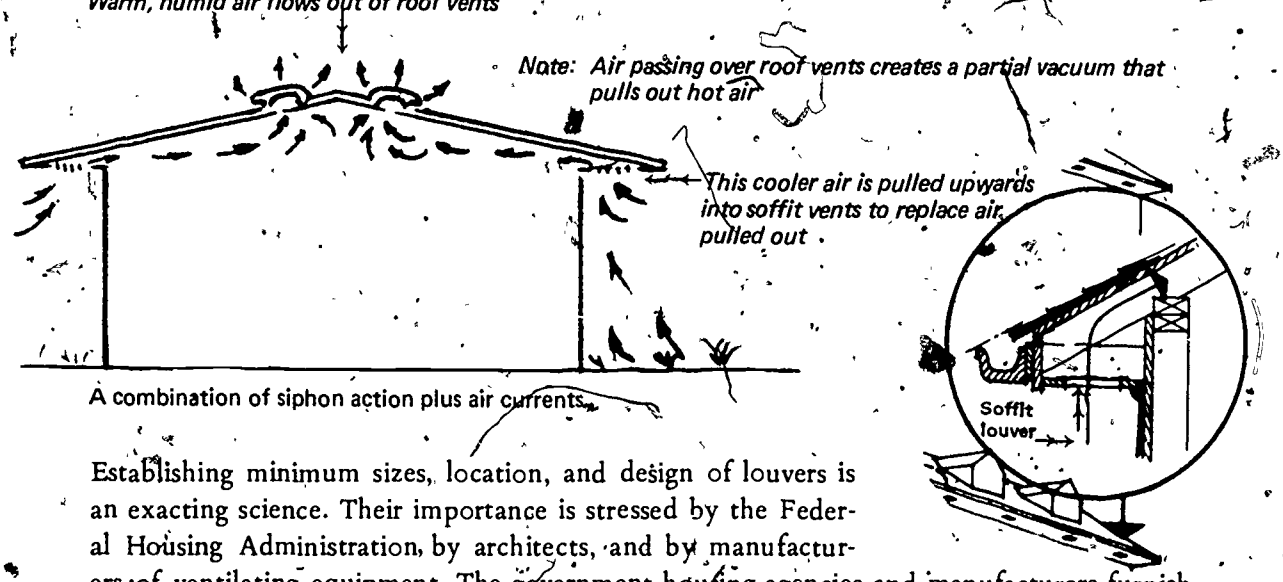
Related Information:

"Louvers" is a fancy name for air vents located in basements, sidewalls, overhangs, roof peaks, and roofs. These ventilators circulate air and remove excess moisture and heat from various parts of the house.

Attic louvers are installed in end walls of a gable roof and provide necessary ventilation for the attic and roof spaces, both winter and summer. For example, summer heat can easily reach temperatures of 130° and more in attic spaces. Attic louvers, properly sized and located, can expel this hot air and appreciably reduce the attic temperature and that of the rooms below.

Air movement through such louvers depends primarily on wind direction and velocity. In simple language this means that if there is no wind, or if the louvers are not facing the wind, the movement of air is zilch.

To overcome this problem, the addition of louvers or vents in the eaves will provide a movement of air even without a wind. This simple correction will result in a difference in temperature between the attic and the outside and provide a movement of air. Then if the wind blows past the eave vents, this will provide an even better movement of air.



A combination of siphon action plus air currents.

Establishing minimum sizes, location, and design of louvers is an exacting science. Their importance is stressed by the Federal Housing Administration, by architects, and by manufacturers of ventilating equipment. The government housing agencies and manufacturers furnish easy-to-follow guidelines and charts. This valuable and necessary information is frequently neglected by careless builders due to a lack of rigid code requirements.

As a simple example, louvers should provide a minimum free opening of 1/300 of the ceiling area.

Example: House with 1,000 square foot ceiling area:

Louver should equal 1/300 of total area.

Thus: $\frac{1}{300} \times \frac{1000}{1} = \frac{1000}{300}$ or $3\frac{1}{3}$ square feet required.

Test: See how factual this lesson is. Observe how many small ranch-style houses have at least $3\frac{1}{3}$ square feet of free louver space. (Most small ranches are 1,000 square feet or more.)

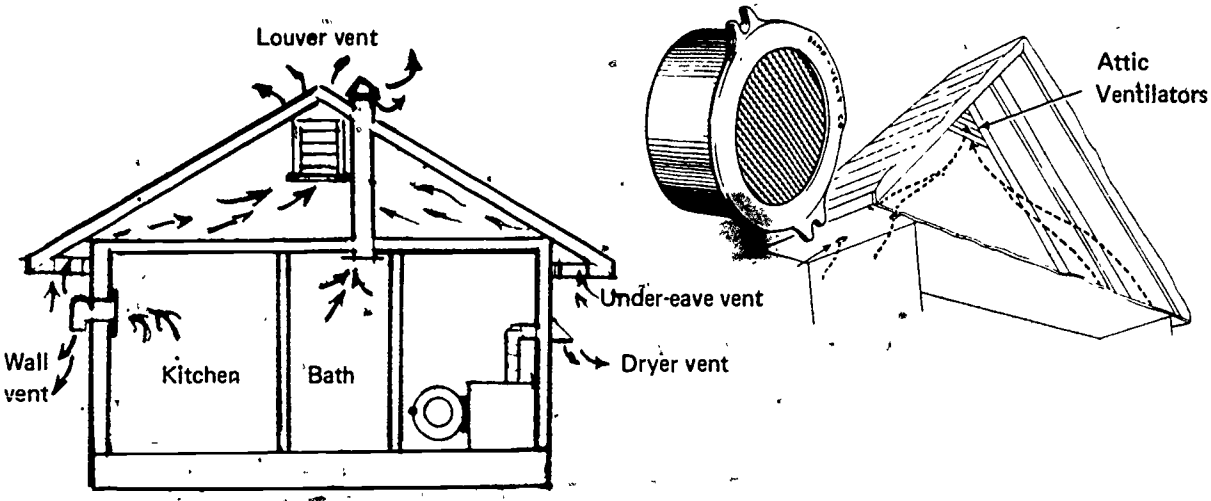
During winter weather a warm attic, plus the heat of the sun, will melt snow on the roof. However, the eaves do not get the extra heat from the attic and this tends to create ice dams in the gutter and roof overhangs. These ice dams can cause water to back up at the eaves and onto the ceiling and walls below.

In a well-built house, a combination of adequate insulation and ventilation can keep attic temperatures low, and melting over the attic space will be reduced. Snow remaining on the roof is a good sign that insulation and ventilation are working.

Correcting Problems With Louvers — Lesson 4

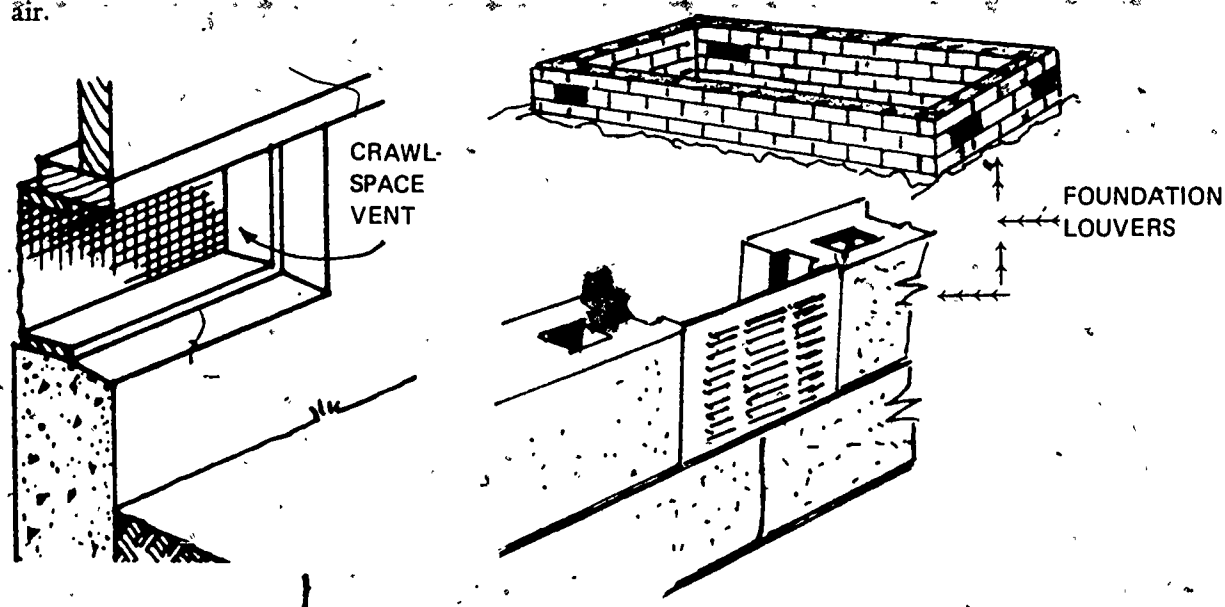
Objective:

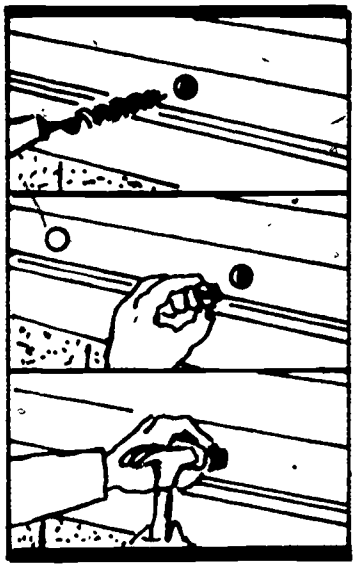
At the end of this lesson the student will understand that louvers can reduce or prevent paint peeling, moisture, decay, and mildew.



Related Information:

A crawl space under a house or porch should be ventilated by louvers to remove moisture. Moisture in these areas is created by moisture rising from the soil or damp masonry slab. This moisture can condense on the wood below the floor and cause decay, mildew, and odors. The ventilators should be installed as high off the ground as possible – one on each corner. Cross ventilation is extremely important to create a movement of air.

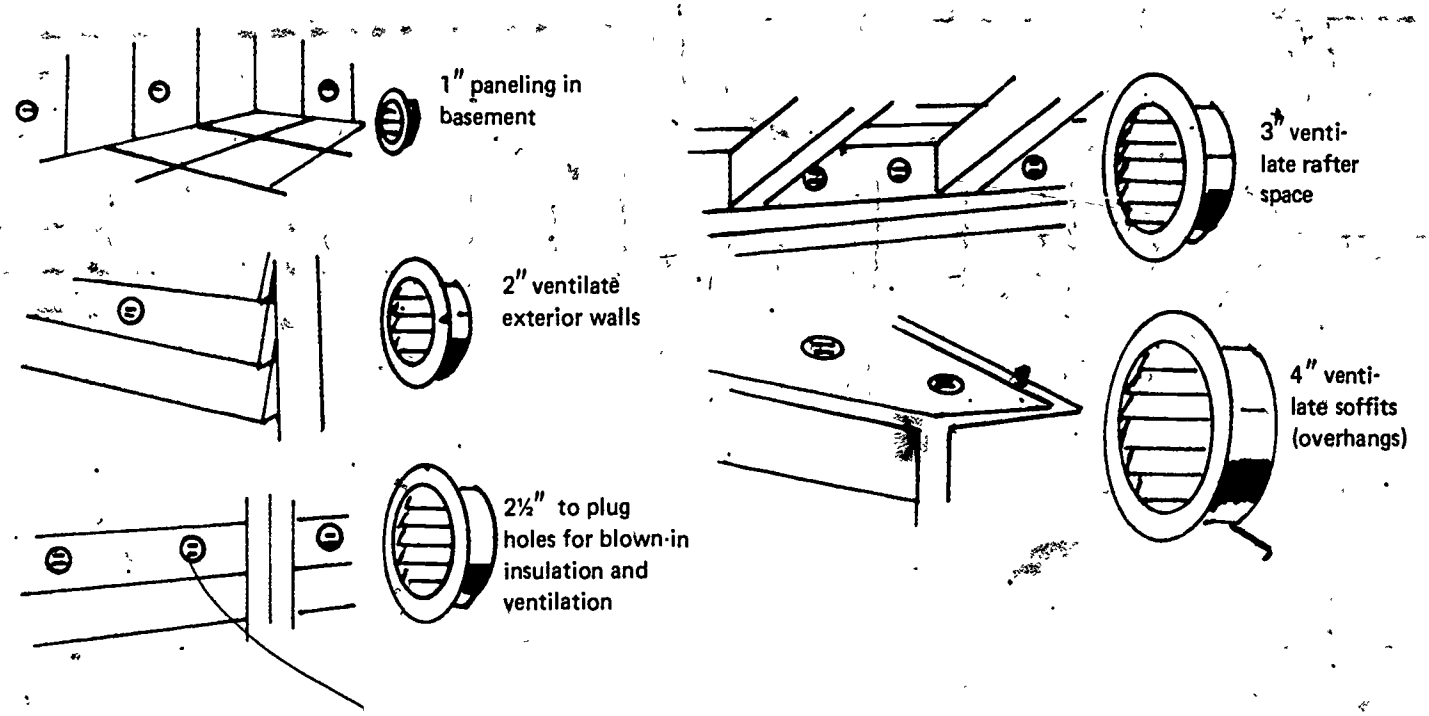




INSTALLING MINIATURE VENTS

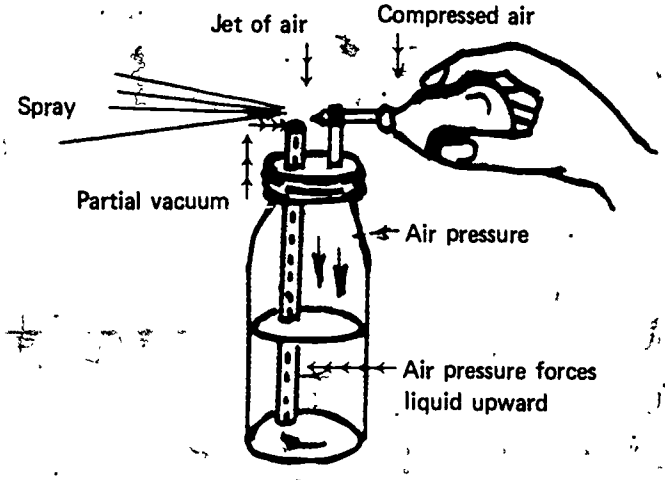
Miniature vents ranging from 1" to 4" can be installed in exterior walls that are subject to paint-peeling and heat-loss. These vents frequently provide the only practical way of releasing dead, damp air from spaces completely enclosed. The miniature vents are installed between the studs, in the rafter spaces of flat roofs, and other hard-to-reach spots. These vents can also be used to ventilate recreation-room walls in a basement.

These vents do increase convection currents within the walls and do cut down the insulating efficiency a little. But you can't have everything. This is the price you must sometimes pay to prevent paint from peeling or wood from rotting. Where a moisture problem exists and you can reach it – you can also ventilate it.



A FEW USEFUL PLACES FOR MINIATURE LOUVERS

Special roof ventilators can be installed where standard ventilators fail. Any ventilator will work well on hot days, because cooler air pushes the warm air up, and it exits out the nearest opening. However, special roof ventilators don't have to wait for hot days, because they siphon the air out. (See page 224 for illustration.) This special vent is designed so that as air flows past the vent opening it causes the pressure to drop inside the vent collar. Attic air with normal pressure flows into this partial vacuum and is pulled outside. The principle is similar to that in spray guns for spraying paints, perfume, or insecticides. As air speeds over the tube leading to the liquid, it creates a low pressure. This creates a low pressure within the tube as against the extra air pressure outside the tube. This forces the liquid up the tube.



UNIT XIII – INSECT CONTROL

Preventing Termite Infestation — Lesson 1

Objectives:

1. At the end of this lesson the student will know how location and construction can invite termite infestation.

2. The student will also realize what precautionary measures he can use to prevent termites in construction.

fpft

Related Information:

Termites are marvelous critters. For meat, potatoes, vegetables, and dessert, all they need to eat is *wood*

The termites appearing on the eastern seaboard are called subterranean termites because they ordinarily must have protected access to soil for moisture, or they cannot survive. Thus, the necessity of passing from soil to wood and back again determines how successful termites are going to be in attacking a house. The type of construction and the location can therefore greatly increase the chances of an invasion.

For better appearance, modern homes are built low so as to "hug" the ground. This low, hugging construction, plus slab-construction of homes and additions, really hang out the "welcome mat" for termites. Then when builders convert a beautiful woodland into a development of homes, the termites are the happiest. Building homes in the woodlands is like building woodburger stands for termites.

1. **Construction factors.** All stumps, logs, dead branches, and wood debris should be removed from the site before construction begins. This automatically gets rid of termite colonies already established.

Don't bury scrap lumber, paper, or any other form of wood product in backfilling foundations or in filling for porches, steps, and crawl spaces.

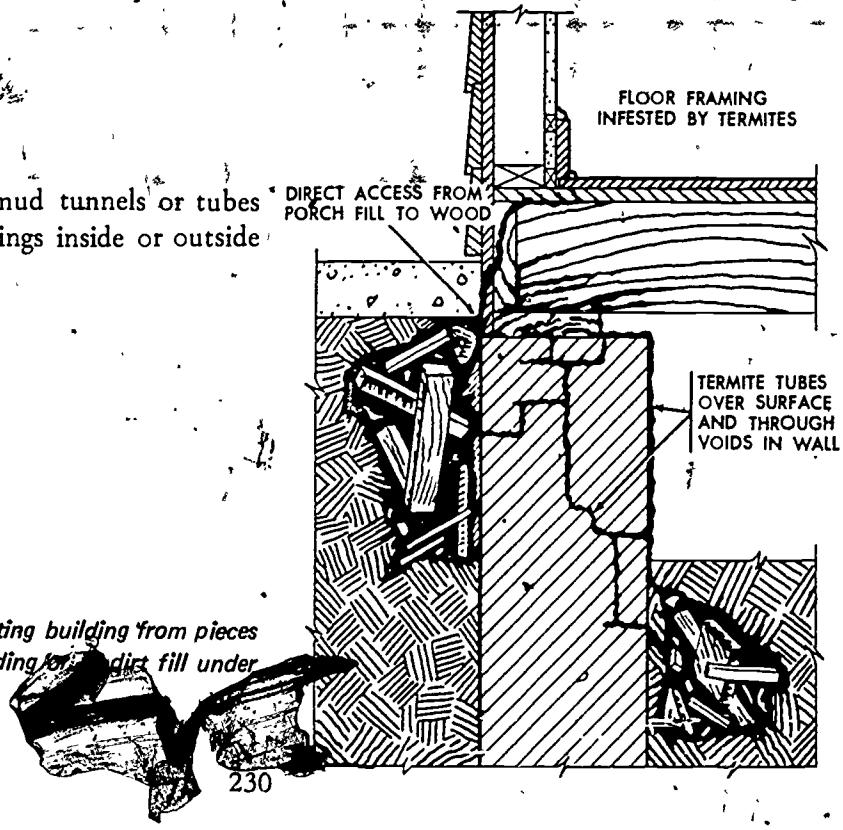
Construction of framing should be at least 6" above ground, and the higher the better. All wood, such as basement windows, outside steps, cellar doors, and door frames should be at least 6" above ground level. The soil should have adequate drainage and not serve as a "water hole" for termites.

Masonry construction should be especially sound to prevent cracks and defects for the entry of termites.

2. Termite shields. Metal sheets placed between the foundation and the sills give excellent protection as long as they are properly installed. They should form a continuous strip, covering the top of the masonry wall and extending 2" beyond each edge. This resembles a bread pan turned upside down. The purpose of the shield is to force the termites to come to the surface of the masonry wall. The shields should be constructed of heavy metal, preferably of copper that weighs at least 16 oz. per square foot. Should aluminum be selected, it should be at least 26 gage.

3. Weak spots. Earth-filled porches or terraces adjoining a house are especially vulnerable to termite invasion. The colony or colonies often come from buried wood or trash that get buried in the fill dirt. Should you suspect termites, probe areas of the sill, especially around porches, etc. with a sharp ice pick or similar tool. If the pick can be thrust into the wood deeply by simple pressure, then termites or dry rot are present. Remember that termites actually eat the wood and do not leave telltale traces of sawdust.

The telltale signs are mud tunnels or tubes or piles of discarded wings inside or outside the home.



Subterranean termites infesting building from pieces of wood in soil under building for dirt fill under porch.

UNIT XIII – INSECT CONTROL

Identification of Insects — Lesson 2

Objectives:

1. At the end of this lesson the student will know some facts about the nature of termites and will be able to tell the difference between a termite and a flying ant.

2. The student will also gain a knowledge of certain other insects that damage wood structures.

Related Information:

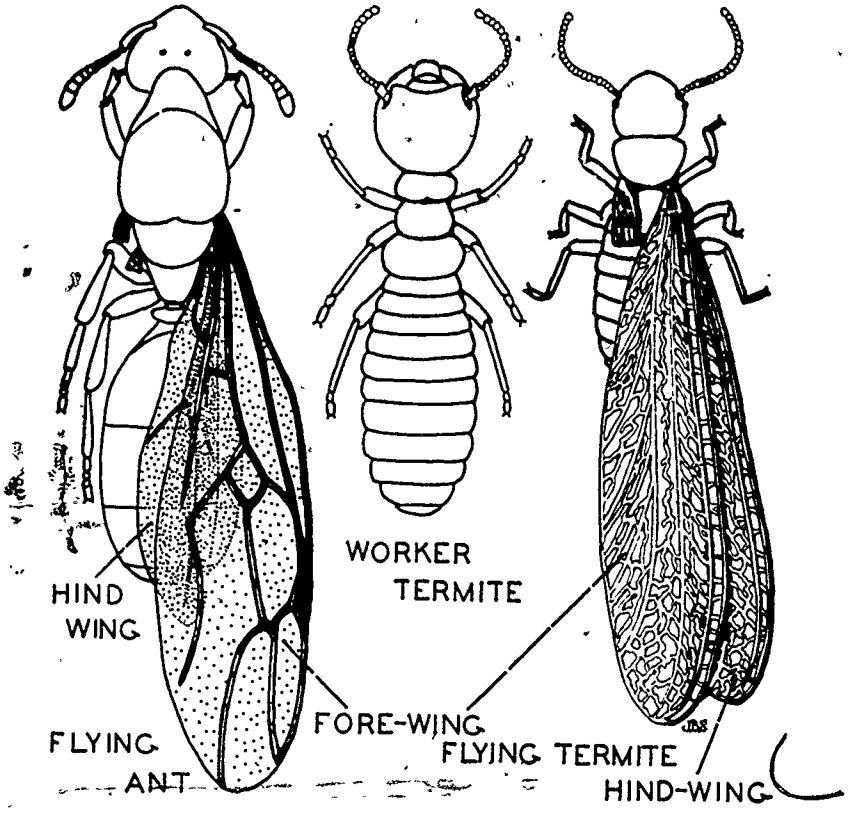
Termites are mean, vicious, beady-eyed, soil-inhabiting insects that feed on wood, paper, and similar cellulose products. This lesson is primarily concerned with their wood-snapping activities, because wood is high on their menu list. Their threat to paper products such as test papers, worksheets, and textbooks is minor – due to the heroic efforts of teachers around the world. Teachers for years have devoted evenings, weekend, and vacations to swatting and spraying, and by now have the paper and book threat licked. Their expert knowledge gained from this experience is set forth in this lesson so that you can protect your homestead.

Termites, like ants, are *social* insects. They live in colonies which often consist of many thousands of hungry kinfolk. They consist of three groups: the reproductive adults – males and females, the soldiers that protect the colony, and the soft-bodied wingless workers that provide the food.

The reproductive males and females have wings, and they use them to locate new colonies – for example, your home. Therefore, the sudden appearance of winged termites inside or outside your house on some fine spring day is bad news. Don't panic and sell the house or quit school but put your head to work and beat the critters.

The rest of the colony consists of the protective forms, or soldiers, and the workers, vocationally trained termites that construct tunnels and tubes. The workers also double as cooks, providing themselves and the colony with food in the form of cellulose.

If you were to break open a termite-infested piece of wood, you would find the young, the workers, the soldiers, and some wingless reproductive forms. They would be white or cream-colored, soft, and blind. They are sensitive to strong sunlight and exposure to air and hence would die soon. That is why they never leave the protection of their tunnels in soil, mud, or wood. They have a beautiful subway system and don't need any light.



The identification of termites is just as important as the treatment. Winged ants are frequently mistaken for winged termites, and so it pays to study the accompanying drawing..

The winged termites soon drop their wings, but winged ants do not. Note that winged ants have a narrow, wasp-like waist, while the termite has a full, thick waist and bead-like antennae. The flying ant is harmless, but that termite is a rough, tough, gnawing critter – so get your identification down pat.

Friend or foe?

Specimens of any insects may be sent to your county agricultural agent for proper identification. Many states rank termites as the most expensive single species of insect and are willing to help you with identification and information on treatment.

Some other insects that are fond of snapping at your timbers are carpenter ants and powderpost beetles. The carpenter ants are similar in appearance and colony habits to the termites, but have a different life-style. There are reproductive forms, and two sets of workers. They also tunnel into wood, but only to provide a home for themselves and their young. They do not eat the wood but remove only enough to house themselves. Small piles of discarded sawdust or particles indicate carpenter ants but never termites.

Powderpost beetles make real fine holes in wood, and their tunnels are packed with a fine, powdery wood dust. They are especially fond of old homes, and the powdery dust sifts through, making little piles. They like to snap away at roof girders and joists and other high and dry stuff, whereas termites like the sills and joists near the soil, where there is moisture.

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ABSTRACT: THIS PUBLICATION IS INTENDED TO ENCOURAGE STATES AND LOCALITIES TO GIVE FURTHER CONSIDERATION TO THE DEVELOPMENT AND UTILIZATION OF TRAINING AGREEMENTS IN THE CONDUCT OF COOPERATIVE VOCATIONAL EDUCATION PROGRAMS. BY WAY OF EXAMPLE AND ILLUSTRATION, TWELVE TRAINING AGREEMENTS WERE IDENTIFIED FOR USE IN THIS PUBLICATION. THE INFORMATION CONTAINED IN THIS PUBLICATION MAY BE VIEWED AS A FORM OF TECHNICAL ASSISTANCE. (AUTHOR/KB)

INSTITUTION NAME: OFFICE OF EDUCATION (DHEW), WASHINGTON, D.C.

VT 101 444

ZERO IN ON...

COOPERATIVE VOCATIONAL EDUCATION

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U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
Office of Education
Washington, D C 20202

T 101 444

Civil Rights Compliance

Discrimination Prohibited - Title VI of the Civil Rights Act of 1964 states:

> "No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance."

Therefore, any program or activity receiving financial assistance from the Department of Health, Education, and Welfare must be operated in compliance with this law.

FOREWORD

This publication is intended to encourage States and localities to give further consideration to the development and utilization of training agreements in the conduct of cooperative vocational education programs. Training agreements, properly used, assure the integrity of the continuing educational experiences that occur outside of the classroom. It is with this awareness that the material contained in this release was brought together.

To begin the process of examining the prevailing state of the art, States provided samples of State Department issued training agreements to Regional Directors of Occupational and Adult Education. The purpose of their sharing was to identify the scope and diversity of current practices. The Regional Directors selected and sent to the Central Office forty samples of agreements that have been successfully used by the States in their regions. The Central Office developed criteria from the practices and perceptions of local, State, and Regional staff for reviewing these training agreements.

By way of example and illustration, twelve training agreements were identified for use in this publication. No judgment is intended by this selection beyond the fact that a variety of features could be highlighted. The material was prepared by members of the State Programs and Services Branch under the direction of Sherrill D. McMillen, Chief.

The information contained in this publication may be viewed as a form of technical assistance.

Orieanna C. Syphax
Acting Director
Division of Vocational
and Technical Education

January 1974

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INTRODUCTION

Cooperative vocational education is a purposeful blending of vocational instruction and employment which meet job preparatory objectives. In its proper educational context, cooperative training becomes an instructional strategy for meeting instructional objectives and program goals. When cooperative training is used in a vocational program, it is recognized as an integral part of the instruction and therefore merits the same attention that is given to in-school learning experiences.

Managing the cooperative experience requires the support of certain guiding mechanisms. The training agreement, outlining essential areas of responsibility, consent and expectations of involved parties, fulfills one management concern: to effect a worthy educational experience at an employment site.

While training agreements as a management tool have been endorsed and used by practitioners for many years, only recently has the training agreement become a requirement for those programs funded from Part G, P.L. 90-576. The practice, however, is deemed desirable for any cooperative vocational program regardless of its source of funding. Training agreements are judged to be essential for a number of reasons:

(1) As a planning document, it serves as a vehicle for directing and evaluating learning experiences.

(2) As an information document, it helps employers to appreciate their teaching role and to understand the purposes of cooperative vocational education.

(3) As a permanent record, it is useful for subsequent placement services and followup studies.

(4) As a career decision-making document, it builds student satisfaction in fulfilling a prevailing career interest.

By giving visibility to training agreements in this publication it is hoped that the outcomes already attributed to cooperative vocational education will be enhanced. It is hoped that State and local leadership personnel will give added emphasis to the utilization of training agreements and consider those illustrated herein as a basis for updating or developing new training agreements.

DEFINITIONS

The training agreement is one of a series of management tools which facilitates check-point activities in the education/training/employment cycle. The training agreement is stage-setting. Other instruments include the training plan which sets forth training components; periodic evaluation reports which track progress; followup which judges success of participation. These, along with other possible management tool initiatives, provide a basis for expressing accountability.

Summary definitions of these instruments may be helpful in placing the training agreement in perspective.

- Training agreement - a statement of fundamental agreements regarding the participation of a student in a work environment. Initiated by the school, the agreement reflects a voluntary and cooperative commitment on the part of the teacher, employer and student. Other appropriate parties to the agreement could be parents, advisory committee chairperson, union representative, school administrator.

- Training plan - a format for delineating, for each student, the learning experiences and job tasks to be undertaken at the job site, often paralleled with classroom units of instruction. The training plan, cooperatively determined, usually becomes a part of the training agreement.

- Evaluation report - a formalized instrument to measure progress and achievement in relation to training plan components and other factors that indicate a point-in-time assessment of student competencies, attitudes and maturity. It is recognized as one means for evaluating performance in the employment environment, often referred to as the training station.

- Followup report - usually a composite short-term or long-term report of former students indicating their present employment status or other present commitments (education, military, homemaking). More sophisticated followup studies seek to assess the effectiveness of the cooperative training experience in whatever next steps are pursued. Individual followup information is usually maintained in a student's record file.

CONTENT OF TRAINING AGREEMENT

In examining the State documents included herein, it is evident that a range of acceptable titles are used to identity the training agreement form. These include training memorandum, training plan, memorandum of understanding. Undoubtedly the word memorandum is selected to avoid inferences to a contractual document. In any event, there is a general pattern of content which can be outlined as follows:

General

1. Name of student and pertinent information, such as age.
2. Name of employer and pertinent information, such as nature of enterprise or agency.
3. Name of school and pertinent information such as type of program.
4. Identification of student's career interest and job title assignment(s).
5. Length of training period and schedule of hours.

Compensation

1. Hourly rate and adjustment provisions.
2. Provisions for student-learner rate, if used (75% of statutory minimum wage)

Statements of Agreement

1. Statements of respective responsibilities.
2. Statements of mutual understandings.

Training Plan (when incorporated as part of agreement)

1. Schedule of specific training components or job tasks.
2. Provision for instruction in safety.
3. Supporting classroom instructional components.

Signatures

1. Employer
2. Teacher-Coordinator
3. Student
4. Parent or Guardian
5. Others: advisory committee member
   union representative
   school administrator

In consideration of the material presented and the analyses provided on the following pages, it becomes clear that the training agreement has great potential in directing improvements in the conduct of cooperative vocational education programs. Obviously, this potential will not be tapped if the form itself is regarded as mere paper work and filed away for a reason not completely appreciated by those signing the agreement.

Furthering the state of the art in training agreements might encompass consideration of the following:

1. Include behavioral expectations for the cooperative experience.

2. Include section which indicates level of performance achieved by the student in light of the pre-selected behavioral objectives.

3. Give increased emphasis to provisions relating to safety and health considerations.

   NOTE: Program personnel should be aware of the provisions and implications of the Occupational Safety and Health Act of 1970.

ILLUSTRATIVE TRAINING AGREEMENTS ISSUED BY THE
STATES FOR THE GUIDANCE OF LOCAL EDUCATIONAL AGENCIES

Feature Highlights

1. Arizona - This one-page training memorandum facilitates preparation in triplicate and is applicable to any vocational instructional program utilizing cooperative training as an instructional strategy. Space for documenting a training plan is provided which gives direction to learning experiences. Other agreements and understandings reflect expectations for all parties involved. Safety instruction is emphasized in reference to hazardous occupations.

2. Arkansas - Training plan includes pertinent data information including reference to U.S.O.E. instructional program code for stated occupational objective. The basic form, which is carbon interleafed, is designed for use by all occupational service areas. The form is not considered complete without an attached training outline (sample, also carbon interleafed, for cooperative office education is included). Copies are specified for State supervisor, school, employer, and student or parent. Statements of understanding are well conceived.

3. Maine - This memorandum of understanding places emphasis upon compliance with State and Federal labor laws. An unusual feature is the approval required by the State Board of Education and the State Bureau of Labor and Industry. The memorandum which is applicable to all occupational areas includes an outline of on-the-job operations and related machine useage. Also of interest is the identification of the U.S.O.E. instructional program code. Signatures are related to selected information regarding school, student and employer.

4. Michigan - Space on this one-page training agreement outlines specific job activities to be undertaken and the hours or percentage of time spent on that activity. This is related to the instruction and represents the primary agreement factor between the employer, the student, and the school official.

5. Mississippi - This memorandum outlines general agreements between school and employer. The form is applicable to all occupational service areas with space to indicate type. It includes outlines of job experiences and related subject matter to be taught in school. Submission of copy to State Office is required, going to supervisor of subject program area. U.S.O.E. instructional program code is included. The unique feature of this agreement is the signature of superintendent or principal who certifies the content of the program of training as being worthy of school credit.

6. New Jersey - This agreement highlights considerations that are judged to be imperative in providing part-time employment in the trades. Union participation is explicit as is reference to Workmen's Compensation Insurance coverage for the student.

7. Oregon - One of the optional forms suggested by the State includes substantive statements of responsibilities for all parties involved. In another there is a strong commitment made in relation to job rotation. A third, specifically for Diversified Occupations, presents agreements in a more formalized manner which offers many check points for program coordination and supervision.

8. Pennsylvania - Agreement statements in this training agreement reflect program standards and conditions relating to legal employment. The form is designed to be used for all vocational service fields.

9. Tennessee - This training agreement is filed for each placement action including job changes. The form is used for any program using cooperative training which is identified in behalf of the student by occupational title and U.S.O.E. instructional program code. Data information includes age and health verification. The employment schedule is presented in detail. The teacher-coordinator indicates that a training plan is or is not on file in school. Submission to the State Office is very clear with signature of a regional supervisor required. The unique feature of this form is the inclusion on the back of the form standards for cooperative education issued by the State and the Tennessee law governing hazardous occupations.

10. Texas - The cooperative training plan used in Texas incorporates essential agreements including the outline of work experiences and study assignments recorded on the reverse side. The factor of pay receives careful consideration which makes reference to a beginning wage and an opportunity for wage adjustment each semester. A unique feature is the reference to the involvement of the local advisory committee in the review of subject training plans.

11. Virginia - This training agreement states clearly the responsibilities of the student, parent, employer and teacher-coordinator. A summary training plan follows the stated career objective. The use of a training plan is reinforced under the section relating to training station responsibilities. This form makes clear provision for essential data pertaining to student (e.g., age) and training station. (used also by Georgia and West Virginia)

12. Wyoming - This one-page educational training plan does not include typical agreement statements but does include some unique features. A distinction is made between career objective and immediate objectives with training components identified to reach such objectives. A place for summary evaluation is included. State Department of Education receives a copy.

ARIZONA DEPARTMENT OF EDUCATION
DIVISION OF VOCATIONAL EDUCATION

T R A I N I N G M E M O R A N D U M

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School _____ City _____ Date _____

The _____ will permit _____
Training Agency Student

to enter their establishment for the purpose of gaining knowledge and experience as (a) (an)

_____ _____
Occupation Beginning Wage

The course of training is designed to operate for a _____ month period with a minimum of fifteen hours per week. The training will be in accordance with the outline of training below, made and agreed upon by the employer and coordinator.

Training Plan

(FOR ALL OCCUPATIONS)

1. The school will make provision for the student to receive related instruction.
2. The status of the student while in training shall be that of student-learner.
3. The student while in training shall progress from job to job in order to gain experience in various operations.
4. The schedule of compensation shall be in accordance with existing local standards, labor laws, and policies.
5. The coordinator will assist with adjustment of any problems of the student.
6. The parent or guardian shall be responsible for the conduct of the student while in training.
7. The coordinator shall have authority to transfer or withdraw the student when he deems such action to be to the best interests of those concerned.
8. The student promises to abide by all implied and stated terms included in this training plan.
9. The student shall be subject to discharge at any time because of inefficiency or because of conditions within the industry or concern.
10. This training plan may be cancelled at any time provided due notice is given to all parties concerned.

(FOR HAZARDOUS OCCUPATIONS ONLY)

A. The work of the student-learner in occupations declared hazardous shall be incidental to his training, shall be intermittent and for short periods of time, and shall be under the direct and close supervision of a qualified and experienced person.

B. Safety instruction shall be given by the school and correlated by the employer with on-the-job training.

_____ _____ _____
Employer Title Parent or guardian

_____ _____
Coordinator Student

Original to Training Agency, Duplicate to Parent, and Triplicate to Coordinator.

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ARKANSAS
COOPERATIVE VOCATIONAL EDUCATION
TRAINING PLAN

Name of Service Area

Name of School

City

Date

Name of Training Establishment

Training Supervisor and Position

Student's Name

Birth Date

Social Security No

Occupational Objective

O E Code

Length of Training Period

Year in Vocational Cooperative Program

1 The school will make provisions for the student to receive related and technical instruction as shown on the attached outline.

2 The employer agrees to offer the student the greatest possible variety of job experiences within the student's individual capabilities to enable him/her to prepare as completely as possible for the occupation for which the training outline prescribes

3 The amount of compensation shall be determined by the employer in accordance with current wage and hour laws

4 The coordinator will assist with adjustments of any problems of the trainee while on the job

5 The trainee is selected without discrimination

6 Employment shall not be terminated by the trainee without the coordinator's approval.

7 The employment of a regular employee shall not be terminated to create a position for the training of a student

8 The student agrees to perform diligently the work experiences assigned by the employer according to the some company policies and regulations as apply to regular employees, and his/her employment may be terminated for the same reasons as other employees

9 Students should average not less than 15 hours per week on the job during the school term

THIS TRAINING PLAN IS NOT COMPLETE WITHOUT AN ATTACHED TRAINING OUTLINE

Advisory Committee Member

Employer

State Supervisor

Coordinator

Parent or Guardian

Student

STATE SUPERVISOR'S COPY

SCHOOL COPY

EMPLOYER'S COPY

STUDENT'S OR PARENT'S OR GUARDIAN'S COPY

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ARKANSAS BE-2

COOPERATIVE OFFICE EDUCATION TRAINING AGREEMENT AND TRAINING PLAN

Name of School _____ City _____ Date _____

Name of Training Station _____ Training Supervisor _____

Student's Name _____ Birth Date _____ Social Security No. _____

Occupational Objective _____ OE Code No. _____

Training Agreement

1. The student will be assigned to a training supervisor.
2. The training sponsor will adhere to all Federal and State regulations regarding employment, child labor laws, minimum wages and other applicable regulations.
3. The training sponsor will consult the teacher coordinator about any difficulties arising with the student at the training station.
4. The student will keep regular attendance, both in school and on the job, and cannot work on any school day that he fails to attend school; he will notify the school and employer if he is unable to report.
5. The student will adhere to company policy and his/her employment may be terminated for the same reasons as other employees.

Training Plan

(Check column where applicable) S–School Instruction TS–Training Station

Areas of Experience and Training.	S	TS		S	TS
Accounting			Filing		
Business Machines			Handling mail		
Ten key adding machine			Personal Relations		
Full key adding machine			Record Keeping		
Rotary Calculator			Shorthand and transcription		
Printing Calculator			Typewriting		
Electronic calculator			Manual		
Key Punch			Electric		
Transcribing machine			Proportional		
Duplicating			Using the telephone		
Photo copying			Other (list)		
Stencil					
Fluid					
Offset					
Microfilming					

Employer _____ Student _____

State Supervisor _____ Coordinator _____

STATE SUPERVISOR'S COPY

SCHOOL COPY

EMPLOYER'S COPY

STUDENT'S COPY

State of Maine
Department of Education
Bureau of Vocational Education
Augusta

MEMORANDUM OF UNDERSTANDING

This vocational education work experience (training) program has been approved by the State Board of Education subject to the terms of this agreement including the following conditions:

1. The program is under the direct supervision of a full-time coordinator.
2. The signatures will indicate approval by all parties involved.
3. The student-learner will be receiving instruction in an approved school and will be employed pursuant to a bona fide Vocational Part-Time Work Experience Education program in order to further his vocational education.
4. The student-learner will neither displace a regular worker now employed, nor substitute for a worker that would ordinarily be needed by the employer.
5. A schedule of organized and progressive work processes to be performed on the job has been prepared.
6. Safety instruction will be given by the school. While on the job, the student will receive safety instruction from and be under the direct supervision of a qualified representative of the employing organization. Specific machines upon which he will work and other hazardous operations on which he will work are itemized.
7. The student-learner agrees to perform his duties in a loyal and faithful manner, and to work for the best interest of all concerned.
8. This program may be terminated at any time by the high school principal or coordinator to assure the best interest of all concerned.
9. This program shall comply with all Federal, State, and local laws and regulations.
10. If applicable, the waiver of hazardous occupations restrictions (Section 22, Chapter 30, revised 1954) is granted when this agreement is approved by the Bureau of Labor and Industry.

    NOTE: This exemption for employment of student-learners may be revoked in any individual situation wherein it is found that reasonable precautions have not been observed for the safety of minors employed thereunder (taken from the Maine Department of Labor and Industry Bulletin DLI No. 1, revised 1957, Hazardous Occupations and Operations).

11. The employer agrees to furnish an evaluation of the student-learner's progress, adaptability, and attitude approximately once a month. (Forms will be furnished by the coordinator.)

This program of part-time Vocational Education has been approved by the State Board of Education.

Associate Commissioner, Bureau of Vocational Education

This program, as set forth in the memorandum of understanding, has been reviewed by the Bureau of Labor and Industry for compliance with Maine labor laws. The hazardous occupations restrictions, if any, are hereby waived during the hours of training as stated herein.

for the Bureau of Labor and Industry

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BVE 1100 (Revised 8-72)

INFORMATION SECTIONS - All signatures indicating approval must be affixed.

1. SCHOOL CONDUCTING PROGRAM:

Name: _____

Address: _____

_____
(Coordinator's Signature)

Type of Program:

DE ☐ OO ☐ Interrelated ☐

T&I ☐ HO ☐ Other ☐

REMARKS: _____

No. of Minutes Related Instruction Weekly _____

2. STUDENT-LEARNER'S SECTION:

Name: _____
(Please Type or Print)

Grade Level: _____ Date of Birth: _____

Occupational Objective: _____

U.S.O.E. CODE NO.: _____

Number of Hours in School Daily: _____

Number of Hours Employment Daily (Normal School Days: _____

_____
(Signature of Parent or Guardian)

3. EMPLOYER'S SECTION:

Name of Establishment: _____ Kind of Business: _____

Address: _____

Beginning Date of Employment: _____

Graduation Date or Anticipated Date of Ending Employment, Whichever Is Nearer: _____

Starting Hourly Rate of Pay: _____ Potential Hourly Range of Pay: _____

As the employer, I am:

subject to the provisions of the Fair Labor Standards Act: . . . . . Yes ___ No ___

subject to the provisions of the State of Maine minimum wage law: . . Yes ___ No ___

covered under the provisions of the Workmens Compensation Act: . . . . Yes ___ No ___

Signature of the on-the-job supervisor: _____

Signature of the employer: _____

TOPICAL OUTLINE OF on-the-job operations the student will experience:

MACHINE TO BE OPERATED or hazardous occupation:

6-71-3000

MICHIGAN COOPERATIVE OCCUPATIONAL TRAINING PROGRAM
TRAINING AGREEMENT

Regular Coop _____
Part "G" Coop _____

SCHOOL _____ STUDENT _____

CITY _____ STREET _____

IN COOPERATION WITH CITY _____ TEL. NO. _____ ZC _____

EMPLOYER _____ S.S. NO. _____

STREET _____ GRADE _____ AGE _____ SEX: M ___ F ___

CITY _____ TEL. NO. _____ DATE OF BIRTH _____

FED. W. & H. ACT APPLIES: YES ___ NO ___ RATE OF PAY _____ SUPPORT WAGE _____

JOB TITLE _____ DAILY TIME SCHEDULE: FROM _____

HOURS WORK PER DAY _____ TO _____

DATE EMPLOYMENT BEGINS _____ EXPECTED COMPLETION DATE _____

JOB ACTIVITIES	HOURS OR %	RELATED INSTRUCTION
		1st Semester / 2nd Semester
		3rd Semester / 4th Semester

Some Responsibilities of Program Participants:

1. The coordinator will arrange for in-school related instruction, consultation, and advisory service to parties concerned with this training program.
2. The employer assumes the responsibility of providing the trainee with the broadest occupational experience in keeping with the job activities listed above.
3. The employment of the trainee shall conform to all federal, state, and local laws and regulations, including non-discrimination against any applicant or employee because of race, color, or national origin.
4. Trainee will abide by the regulations and policies of his employer and the School.

Signature of Persons Approving this Learner Program:

Student _____ Parent _____

Employer _____ Date _____

School Official _____ Date _____

THIS TRAINING PROGRAM SHALL NOT BE INTERRUPTED WITHOUT PRIOR CONSULTATION BETWEEN THE TRAINEE, EMPLOYER, AND COORDINATOR

BEST COPY AVAILABLE

MEMORANDUM OF COOPERATIVE TRAINING PLAN

(One copy due in State Office not later than end of first school month)

Check one: /_/ Agriculture /_/ Distribution /_/ Gainful Home Ec. /_/ Office

/_/ Health /_/ T & I /_/ Technical

This memorandum is for the purpose of outlining the agreement between the school and the employer on the conditions of training to be given a student while on the job. It, therefore, should not be interpreted by either agency as a legal document or any form of binding contract.

The _____ will permit _____
(Training Agency) *(Student)*

Sex: Male___Female___Age___Grade___ to enter their establishment for the purpose of gaining knowledge and experience as _____ _____
(Occupation) *(OE Code No.)*

(It is understood that the occupation in which training is herewith being offered is one in which provisions of the wage and hour law *is* or *is not* applicable.)

1. This course of training is designed to run for _____school year(s) with a minimum of FIFTEEN hours per school week required for the work experience and at least _____period(s) in each school day required for the supervised and directed study of related subjects.

2. The outlines of the processes to be learned on the job and of related subjects to be taught in the school is presented on the back of this form and constitutes the major portion of the training program of this student.

3. While in the process of gaining occupational experience, the student will not be permitted to remain in any one operation, job, or phase of the occupation beyond the period of the time that is necessary for him to become proficient in that occupation.

4. The student while in the process of training will have the status of a noncompetitive worker neither displacing a regular worker now employed nor substituting for a worker needed by the training agency.

5. The compensation for this student shall be $_____per hour.

6. All transfers, withdrawals, or dismissals shall be made jointly by the teacher or coordinator and the employer.

_____ _____
School *Employer*

_____ By: _____
Teacher or Coordinator

_____ Date _____
School Supt. or Principal

Distribution: One copy to each employer, school superintendent or principal, teacher or coordinator, and state supervisor

This section should be filled in by the teacher or coordinator in conference with the employer of the student.

Outline of Job Processes	Outline of Related Subjects

Name of Student

I certify that satisfactory completion of the above program of training will justify granting _____ unit(s) of credit by this high school.

Superintendent or Principal

NEW JERSEY

_____HIGH SCHOOL DISTRICT

TRAINING AGREEMENT

The Employer _____
Company Name Address

Agrees to Employ _____
Student-Learner Address

on a part-time basis for the purpose of training the student in the

_____ trade.

WAGES:

Starting wage will be $_____per hour.

Students in this program will receive wages comparable to wages paid to other trainees performing the same type or class of work and wages that are in conformity with State and Federal minimum wage acts.

Students will work a minimum of 15 hours and a maximum of 20 hours for the five (5) day week, and may work up to eight (8) additional hours on Saturdays.

WORKING CONDITIONS:

All student-learners must be covered by Workman's Compensation Insurance.

The employer will observe all laws and regulations, both State and Federal, pertaining to the employment of minors.

Where a union or bargaining agency is involved, the employer will obtain union approval of the program.

SUPERVISION:

The employer agrees to assign one member of his organization (journeymen, foreman, or other qualified employee) to be responsible for the training of the student.

As this program is supervised by the _____ High School, it will be necessary for the school's teacher-coordinator to be admitted to the employer's premises whenever he needs to observe and evaluate the student. The teacher-coordinator will conduct his observations so that there will be a minimum of interference with the employer's business.

REPORTS:

At six (6) week intervals the employer's representative will prepare a report on the student's progress using the form supplied by the school.

TRAINING AGREEMENT
(Continued)

STUDENT RESPONSIBILITY:

The student-learner shall be subject to all plant regulations applying to other employees.

The student-learner shall obey his superior at all times.

All complaints shall be made to and adjusted by the teacher-coordinator.

The student may not change his place of employment without the approval of the teacher-coordinator.

The student, while in the process of training, will have the status of student-learner, neither displacing a regular worker nor substituting for a worker that ordinarily would be needed by the agency.

WORK EXPERIENCE:

The following will be included in the student-learner's work experience:

1. _____ 5. _____

2. _____ 6. _____

3. _____ 7. _____

4. _____ 8. _____

This agreement may be terminated by the employer at any time after consultation with the teacher-coordinator. The teacher-coordinator may terminate this agreement after consultation with the employer.

_____ _____
Student-Learner Date

_____ _____
Company Representative Title

_____ _____
Teacher-Coordinator

_____
Parent or Guardian

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SAMPLE
TRAINING AGREEMENT

Student's Name _____ Birth Date _____ Age _____

Student's Address _____ Telephone _____

Name of School _____ Telephone _____

Name of Training Station _____ Telephone _____

Address of Training Station _____

Name of Training Sponsor _____ Position _____

Dates of Training Period: From _____ To _____

Avg. no of hours to be worked by the Student-Learner: Per Day _____
Per Week _____

Student-Learner's rate of pay _____ Career Objective _____

Brief outline of major areas of realted instruction to be provided in class:

BRIEF OUTLINE OF EXPERIENCES AND TRAINING TO BE PROVIDED AT TRAINING STATION:

Responsibilities of the student-learner:

1. The student-learner will keep regular attendance, both in school and on the job, and cannot work on any school day that he fails to attend school; he will notify the school and employer if he is unable to report.
2. The student-learner's employment will be terminated if he does not remain in school.
3. The student-learner will show honesty, punctuality, courtesy, a cooperative attitude, proper health and grooming habits, good dress and a willingness to learn.
4. The student-learner will consult the coordinating teacher about any difficulties arising at the training station.
5. The student-learner will conform to the rules and regulations of the training station.
6. The student-learner will furnish the coordinating teacher with all necessary information and complete all necessary reports.

Responsibilities of the Parents:

1. The parents will encourage the student-learner to effectively carry out his duties and responsibilities.
2. The parents will share the responsibility for the conduct of the student-learner while training in the program.
3. The parents will be responsible for the safety and conduct of the student-learner while he is traveling to and from the school, the training station, and home.

Responsibilities of the Training Sponsor:

1. The sponsor will endeavor to employ the student-learner for at least the minimum number of hours each day and each week for the entire agreed training period.
2. The sponsor will adhere to all Federal and State regulations regarding employment, child labor laws, minimum wages, and other applicable regulations.
3. The sponsor will see that the student-learner is not allowed to remain in any one operation, job, or phase of the occupation

beyond the period of time where such experience is of educational value.

4. The sponsor will consult the coordinating teacher about any difficulties arising at the training station.
5. The sponsor will provide experiences for the student-learner that will contribute to the attainment of the career objective.
6. The sponsor will assist in the evaluation of the student-learner.
7. The sponsor will provide time for consultation with the coordinating teacher concerning the student-learner.
8. The sponsor will provide instructional material and occupational guidance for the student-learner as needed and available.

Sample Form

COOPERATIVE EDUCATION – TRAINING AGREEMENT

By this agreement the _____ will permit
(training agency)

_____ to enter its establishment for
(student)

the purpose of securing training and knowledge in _____
(occupation)

All persons concerned jointly agree to the following conditions:

1. That the training will extend from _____ 19__ to _____ 19__ five days per week.
2. That the trainee and the training agency will have a probation period of _____ weeks. At the end of this period the trainee, training agency, or the coordinator may terminate this agreement.
3. The trainee will divide his time: in school _____.
   Laboratory period _____.
4. The trainee will be supervised by: in school _____.
   Laboratory period _____.
5. The school will make provision for the student to receive related and technical instruction in the above occupation.
6. The training during the laboratory period shall be progressive. It shall provide for the trainee's passing from one job to another in order that the trainee may become proficient in different phases of the occupation.
7. All complaints shall be made to and adjusted by the coordinator.
8. The coordinator shall have authority to transfer or withdraw the trainee at any time.
9. The trainee may work after 4:00 p.m. and/or on Saturdays as he may arrange with the training agency.
10. The student promises to abide by all implied and stated terms included in this memorandum. The student shall be bound during the laboratory period by the ordinary school regulations. The parent or guardian shall be responsible for the conduct of the student while in training.

SIGNED:

_____ _____
(Employer) (Student)

_____ _____
(Coordinator) (Parent or Guardian)

TRAINING AGREEMENT
DIVERSIFIED OCCUPATIONAL PROGRAM

This agreement made and entered into this _____ day of _____, 197 , by and between School District _____, _____ County by and through its vocational and educational department, hereinafter called school; and _____, hereinafter called employer; and _____, hereinafter called student-learner; and _____, parent or guardian of student-learner, hereinafter called parent.

WHEREAS, the school has entered into a diversified occupational program under applicable state and federal statutes and has been approved by the State Department of Education.

Section 1. The student-learner agrees as follows:

(a) That he or she will enter this program as a _____ to learn as much as the employer can provide in the nature of the job information, skills and attitudes;

(b) That he or she is 16 years of age or older;

(c) That he or she and the employer will secure a work permit if one is required;

(d) That he or she will be honest, punctual, cooperative, courteous, and make an honest effort to learn and abide by all rules of this program;

(e) That he or she will keep regular attendance both at school and on the job. The student-learner cannot work on any school day that he fails to attend school. Exceptions are permissible only with the mutual consent of the employer and teacher-coordinator;

(f) That he or she who quits school loses this job at once. (Any job change must be arranged in advance by the employer and the teacher-coordinator.)

Section 2. The parents agree as follows:

(a) That they will be responsible for their child in this program;

(b) That they will assist the student-learner in obeying the rules of the training program;

(c) That they approve and agree that the student-learner shall participate in said program and training station.

Section 3. The school agrees as follows:

(a) That the school has qualified with the State Department of Diversified Occupational Programs;

(b) That they will provide classroom instructions for the student and will provide a teacher-coordinator to supervise the student-learner on the job;

(c) That the teacher-coordinator will make periodic visits to observe the student-learner on the job and consult with the employer and student-learner. Evaluation of job performance will be a joint effort of the teacher-coordinator and the employer;

(d) That two school credits will be given for successful completion of the program by the student-learner: one for classroom work and one for successful job performance;

(e) That in the event the occupational training program includes hazardous work, United States Labor Regulation 1500.50, Section C, Subsection 2 will be complied with in that:

(1) Classroom safety instructions will be given and coordinated in by the employer on-the-job training, and

(2) That a schedule of the organized and progressive work program to be performed on the job will be prepared.

Section 4. The employer agrees as follows:

(a) That he will employ the student-learner as a _____;

(b) That he should not terminate the job of any employee to accommodate the program;

(c) That he will inform regular employees of their important role in the assisting in the training of the student-learner and of the school's request for their cooperation;

(d) That the wages paid will comply with the Federal Wage Law and the State Wage Laws;

(e) That the hours of the student-learner will be determined by the employer, provided, that due to the fact the student-learner will work during the legal school day, the school requests the right to approve the working hours;

(f) The employer is urged to keep the student-learner on the job for at least the minimum number of hours agreed upon. The employer agrees to hire the student-learner for at least a minimum of fifteen (15) hours of work per week, including Saturdays and a school holiday. This average is spread over the full school semester;

(g) That the employer agrees to provide Workman's Compensation protection for the student-learner,

(h) That the employer may discharge the student-learner for just cause, however, the teacher-coordinator requests consultation with the employer beforehand when possible;

(i) That in the event the training program is for an occupation considered hazardous, the following provisions of the Code of Federal Regulations, title 29, part 1500, subpart E will be complied with and in particular, Section 1500.50, Subsection C, paragraph 2 which requires:

(1) That the work of the student-learner in the occupations declared particularly hazardous shall be incidental to his training;

(2) That such work shall be intermittent and for short periods of time, and under the direct and close supervision of a qualified and experienced person;

(3) That safety instructions shall be given by the school and will be correlated by the employer with on-the-job training; and

(4) That the school and the employer will provide a schedule of organized and progressive work processes to be performed on the job.

1. School District No. _____

_____
By teacher-coordinator

2. _____
Corporate name

_____
By employer

3. _____
Student-learner

4. _____
Parent

COOPERATIVE VOCATIONAL EDUCATION TRAINING AGREEMENT

Approval is subject to the terms of this agreement and signatures are fixed indicates approval to the program including the following conditions:

The Employer

1. Student-learner will not displace a regular worker.
2. The employer will provide a monthly rating of the student. The school will provide a monthly rating sheet.
3. The student-learner is paid a legal wage and it will increase as he progresses and is deserving.
4. The student will be given progressive and challenging work activities.
5. The student-learner will be covered by workman's compensation or comparable insurance while on the job.

The Student, Parent

1. The student-learner agrees to perform the duties in a loyal and faithful manner and work to the best interest of all concerned.
2. The student and parents are responsible for the transportation between the school and employment.
3. The student-learner will be covered by ample insurance for travel time to and from work.

The School

1. The program is under the direct supervision of a certified coordinator.
2. The student-learner will receive related instruction from the school including safety instruction.
3. The coordinator will periodically visit and evaluate the student at the training station.

All Parties

1. A schedule of organized, progressive work processes to be performed on the job has been prepared and stated on the reverse side of this agreement.
2. Safety instruction given by the school and employer will be correlated with on the job activities.
3. The program shall comply with all state, federal and local labor laws.
4. There will be a 10-day trial period for the student to adjust and prove himself.
5. The program may be terminated at anytime providing there is due cause and all parties have been given sufficient notice.

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SCHOOL SECTION

School _____ City or Town _____

County _____ Type of Program _____
(T&I, DE, Interrelated, etc.)

This is a ONE_____ TWO_____ year program.

Weekly school instruction related to work (Related Inst. Class)_____hrs.

STUDENT SECTION

Name _____ Grade Level _____ Date of Birth _____

Occupational Objective _____ DOT Code No. _____

Hours in school weekly _____ Hours at work weekly _____

EMPLOYER SECTION

Company Name _____ Type of Business and Industry _____

Beginning date of employment _____ Starting hourly rate _____

Daily hours _____ A.M./P.M. to _____ A.M./P.M. (Normal school day only)

As the employer, I am

Subject to the provisions of the Fair Labor Standards Act	Yes____ No____
Subject to Pennsylvania minimum wage provisions	Yes____ No____
Covered under Workman's Compensation Act	Yes____ No____

We the undersign agree to the terms and statements contained in this agreement.

_____ Employer	_____ Student
_____ Coordinator	_____ Parent

TRAINING OUTLINE

On the Job Experience	Approx. Time in Job Activity	In-School Instruction

(Use additional space if necessary)

001-00172
08-72-040M

Copies to: State Office
Regional Office
Training Agency
School
Student

STATE DEPARTMENT OF EDUCATION
DIVISION OF VOCATIONAL-TECHNICAL EDUCATION
CORDELL HULL BUILDING
NASHVILLE, TENNESSEE 37219

CHECK ONE:
New _____
Job Change _____

Cooperative Training Agreement

This Cooperative Training Agreement Program is organized to provide _____
with instruction and training in the occupation of _____ code _____
City _____ School _____ Teacher-Coordinator _____

PLACEMENT INFORMATION

Student-Learner's home address _____ Tel. No. _____

Male ____ Female ____ Grade ____ S.S.No. _____ Date of Birth _____, 19____

Age last birthday _____ Evidence of age verified by _____

Health record signed by Dr. _____ showing physical fitness for employment.

Date entered cooperative program _____, 19__ for school year 19__ - __.

Training agency _____ address _____ Tel. No. _____

Contact Person _____ Date of Placement _____

Starting Wage $_____ per hour

Time Class meets from _____ a.m. p.m. to: _____ a.m. p.m.

EMPLOYMENT SCHEDULE

DAY	TIME OF WORK		BREAKTIME	TOTAL WORK HRS.	TOTAL HOURS IN SCHOOL
	From	To			
Monday					
Tuesday					
Wednesday					
Thursday					
Friday					
Saturday					
Sunday					
			TOTAL		

A Training plan or Schedule of Processes, including unit on Safety, for this student is on file in the Teacher-Coordinator's Office. Yes ____ No ____

We, the undersigned, understand and agree to meet the requirements for the program as provided in the Rules & Regulations and Minimum Standards for Vocational Education in Tennessee.

Training Agency _____ Student-Learner _____

Parent or Guardian _____ Teacher-Coordinator _____

School Principal _____ Regional Supervisor _____

Date of Approval _____

Note. Form replaces Employment and Age Certificate (issued by Superintendent of Schools) for Cooperative Students only.

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TENNESSEE VOCATIONAL PART-TIME CO-OPERATIVE TRAINING PROGRAM

COOPERATIVE VOCATIONAL EDUCATION PROGRAMS STATE BOARD OF EDUCATION

Cooperative Vocational Education Program means a cooperative work-study program of vocational education for persons who, through a cooperative arrangement between the school and employers, receive instruction, including required academic courses and related vocational instruction by alternating in-school-study with on-the-job experiences in a recognized occupation. These two phases must be planned and supervised by the school and employers so that each contributes to the student's education. Work periods and school attendance may be on alternative half-days, full-days, weeks or other periods of time in fulfilling the cooperative vocational education work-study program. Programs will be administered by the State Board or through a local educational agency and should be organized and conducted with the advice and counsel of an advisory committee consisting of representatives of employers and employees of the community.

A local school system may conduct a Cooperative Vocational Education Program in a single occupational area such as: Distributive, Agriculture, Trade and Industrial, Office Occupations, etc., or a combination of two (2) or more occupational areas.

Students at least sixteen (16) years of age may be considered eligible for enrollment. Two units of high school credit per year may be granted for the combination (related vocational instruction in the school and the on-the-job training) phases of cooperative programs.

A qualified teacher-coordinator shall head up the program. The Coordinator must be free to carry out on-the-job coordination duties during the school day.

The following standards will be met by each Cooperative Vocational Education Program in providing on-the-job training:

1. Training shall relate to existing career opportunities.
2. The student-learner shall not displace other workers who perform such work.
3. The training agency will employ and compensate student-learners in conformity with Federal, State, and local laws and regulations and in a manner not resulting in exploitations of the student-learner for private gain.
4. A written training agreement on approved forms shall be drawn up for each student-learner, which sets forth the specific training time schedule, including daily hours of employment, that the employment is incidental to his training, is to be intermittent and for short periods of time; that he is to be under the direct and close supervision of a qualified and experienced person; that safety instruction shall be given by the school and correlated by the employer with on-the-job training; and any other special provisions, applicable to the specific student-learner's training program.
5. The student-learner is to be given the opportunity to progress through the various phases of the occupation under direct and close supervision of a qualified and experienced person.
6. Training shall be conducted in accordance with the requirements of the Tennessee Child Labor Law.
7. Programs will be carried out in a manner consistent with applicable provisions set forth in the State Plan.
8. During the time in school, the Cooperative Programs are to be organized to provide each student-learner with:

   One (1) or more regular class periods per day of related vocational instruction in classes limited to cooperative students by the Coordinator or a qualified related subjects teacher.

In no instance shall a student-learner spend more than forty-eight (48) hours in school, combined with on-the-job training and work, in any six days out of seven consecutive days.

DEPARTMENT OF LABOR

THE TENNESSEE STATE DEPARTMENT OF LABOR PROHIBITED OCCUPATIONS FOR CHILDREN UNDER EIGHTEEN

SECTION 5. (a) No child under the age of eighteen (18) may be employed in or in connection with the following:

(1) Manufacturing, transporting, storing or use of explosives;
(2) Mining, logging, or quarrying operations;
(3) Driving a motor vehicle, except, however, persons sixteen (16) years of age or older, when licensed as required by law, may drive a motor vehicle in the course of their employment during daylight hours;
(4) Any occupation involving exposure to radioactive substances, lead or its compounds, or to dangerous or poisonous acids, dyes gases, or chemicals;
(5) Any occupation where intoxicating beverages are manufactured, bottled, or served for consumption; or
(6) Operating or maintaining any hazardous power driven machinery.

The Commissioner of Labor shall promulgate regulations more specifically defining what employment is permitted or prohibited by this sub-section for children under eighteen (18) years of age. The Commissioner of Labor, if he deems it necessary, may enter into an agreement with the State Board of Educetion relating to student-learners which would permit them to be employed in certain occupations which are prohibited under this Section.

(b) The Commissioner of Labor is authorized to investigate and determine occupations not already prohibited by law which are hazardous or injurious to the life, health, safety, or welfare of children under eighteen (18) years of age. In making such determinations, the Commissioner of Labor shall give public notice and afford an opportunity to all interested persons to appear and offer evidence at a public hearing in connection therewith. The Commissioner of Labor shall have the authority to issue general rules or special orders prohibiting occupations or employments so found to be hazardous.

Exceptions to the above prohibited occupations applying to student-learners between 16 and 18 years of age: Sub-sections 4-6 shall not apply to a student-learner between sixteen (16) and eighteen (18) years of age, enrolled in a course of study and training in a cooperative vocational training program under a recognized State or local public educational authority; provided further, that such student-learner be employed under a written agreement on forms furnished and approved by the Commissioner of Labor which shall provide that the work of the student-learner in the occupations therein declared hazardous, as provided by sub-sections 4-6 shall be incidental to his training, shall be intermittent and for short periods of time, and shall be under the direct and close supervision of a qualified and experienced person; that safety instructions shall be given by the school and correlated by the employer with on-the-job training; and that a schedule of organized and progressive work processes to be performed on the job shall have been prepared. Such a written agreement shall carry the name of the student-learner, and shall be signed by the employer, the student-learner and his parents or guardian, the school coordinator, and the appropriate supervisor of vocational education or his representative. This exemption for the employment of a student-learner may be revoked in any individual situation wherein it is found that reasonable precautions have not been observed for the safety of the student-learner, or that the employer of such student-learner has not complied with other provisions relating to the employment of minors as set out by Sections 7 through 9 of the Child Labor Act. In no instance shall a student-learner spend more than forty-eight (48) hours in school, combined with on-the-job training and work, in any six days out of seven consecutive days.

Footnote: These exemptions apply only to student-learners engaged in a bona fide cooperative program conducted by a public school meeting the standards of the Tennessee State Plan for Vocational Education and the Rules and Regulations of the State Board of Education.

Inquiries regarding this program should be addressed to the Assistant Commissioner of Vocational Education, Division of Vocational Education, Cordell Hull Building, Nashville, Tennessee 37219.

NOTES

1. The training agency agrees to employ the above named co-op student-learner for the expressed purpose of his or her learning the manipulative skills and acquiring experience in the occupation of _____.
2. The student-learner is to be given the opportunity to progress through the various phases of the occupation under direct and close supervision of a qualified and experienced person.
3. The training agency agrees not to discharge any regular employee because of additional services that might be rendered by the student-learner while in training.

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Grade _____

Age _____

Sex: M___ F___

TEXAS EDUCATION AGENCY
Department of Occupational Education and Technology
Austin, Texas

Time of day related class meets _____

Cooperative Training Plan

PROGRAM _____

This training plan is to (1) define clearly the conditions and schedule of training whereby student _____ is to receive training as a (an) _____ and (2) serve as a guide to the cooperating parties: the _____ (Company) and the _____ Public Schools, in providing the student with opportunities for training in the basic skills of the occupation and the technical information related to it. In order that a systematic plan which provides for well-rounded training can be followed, a schedule of work experiences and a course of study paralleling it have been worked out and agreed upon by the employer and representative of the school. They are listed on the reverse side of this page.

The student agrees to perform diligently the work experiences assigned by the employer according to the same company policies and regulations as apply to regular employees. The student also agrees to pursue faithfully the prescribed course of study and to take advantage of every opportunity to improve his efficiency, knowledge, and personal traits so that he may enter his chosen occupation as a desirable employee at the termination of the training period.

In addition to providing practical instruction, the employer agrees to pay the student for the useful work done while undergoing training according to the following plan:

1. The beginning wage will be $_____ per _____ for _____ hours per school week, which amount is approximately _____ per cent of that paid competent full-time employees in the same occupation in the community.

2. A review of the wages paid the student will be made jointly by the employer and coordinator at least once each semester for the purpose of determining a fair and equitable wage adjustment consistent with the student's increased ability and prevailing economic conditions.

The training period begins the _____ day of _____, 19___, and extends through _____, 19___. There will be a probationary period of _____ days during which the interested parties may determine if the student has made a wise choice of an occupation, and if the training should be continued.

This plan has been reviewed and recommended by the Local Advisory Committee. It may be terminated for just cause by either party.

Approvals:

_____ (STUDENT)	_____ (NAME OF EMPLOYER)
_____ (PARENT OR GUARDIAN)	_____ (NAME OF COMPANY)
_____ (CHAIRMAN, LOCAL ADVISORY COMMITTEE)	_____ (TEACHER-COORDINATOR)
	_____ (DIRECTOR, OCCUPATIONAL EDUCATION PROGRAM)

TEA – 12

(Over)

VOC-044

WORK EXPERIENCES TO BE PROVIDED	RECORD OF WORK	OUTLINE OF STUDY ASSIGNMENTS	RECORD OF STUDIES

VIRGINIA

SAMPLE TRAINING AGREEMENT

Student's Name _____ Birth Date _____ Age _____

Student's Address _____ Telephone _____

School _____ Telephone _____

Training Station _____ Telephone _____

Address of Training Station _____

Training Supervisor _____ Position _____

Dates of Training Period: From _____ To _____

Average Number of Hours of Employment: Per Day _____ Per Week _____

Student-Learner's Rate of Beginning Pay _____

Career Objective _____

Basic skills, attitudes, and knowledge needed in this occupation:

Major areas of experience and training to be provided at training station:

Major areas of related instruction to be provided in class:

RESPONSIBILITIES

The STUDENT-LEARNER considers his job experience as contributing to his career objectives and agrees:

1. To be regular in attendance, both in school and on the job
2. To perform his training station responsibilities and classroom responsibilities in an efficient manner
3. To show honesty, punctuality, courtesy, a cooperative attitude, proper health and grooming habits, appropriate dress, and a willingness to learn
4. To conform to the rules and regulations of the training station
5. To furnish the teacher-coordinator with necessary information about his training program and to complete promptly all necessary reports
6. To consult the teacher-coordinator about any difficulties arising at the training station or related to his training program
7. To participate in those co-curricular school activities that are required in connection with the COE program

The PARENTS of the student-learner, realizing the importance of the training program in the student-learner's attaining his career objectives, agrees:

1. To encourage the student-learner to carry out effectively his duties and responsibilities.
2. To share the responsibility for the conduct of the student-learner while training in the program.
3. To accept responsibility for the safety and conduct of the student-learner while he is traveling to and from the school, the training station, and his home.

The TRAINING-STATION, recognizing that a training plan is being followed and that close supervision of the student-learner will be needed, agrees:

1. To provide a variety of work experiences for the student-learner that will contribute to the attainment of his career objective.
2. To endeavor to employ the student-learner for at least the minimum listed number of hours each day and each week for the entire training period.
3. To adhere to all Federal and State regulations regarding employment, child labor laws, minimum wages, and other applicable regulations.
4. To assist in the evaluation of the student-learner.
5. To provide time for consultation with the teacher-coordinator concerning the student-learner and to discuss with the teacher-coordinator any difficulties the student-learner may be having.
6. To provide available instructional material and occupational guidance for the student-learner.

The TEACHER-COORDINATOR, representing the school, will coordinate the training program toward a satisfactory preparation of the student-learner for his occupational career objective and agrees:

1. To see that the necessary related classroom instruction is provided.
2. To make periodic visits to the training station to observe the student-learner, to consult with the employer and training supervisor, and to render any needed assistance with training problems of the student-learner.
3. To assist in the evaluation of the student-learner.

Additional Comments:

By _____

Employer

Parent

Job Supervisor

Student-learner

DATE

Teacher-Coordinator

EDUCATIONAL TRAINING PLAN WYOMING

STUDENT'S NAME _____ HOME TELEPHONE _____

ADDRESS _____
(Street) (City) (State) (Zip Code)

CAREER OBJECTIVE: _____

IMMEDIATE OBJECTIVE _____

NAME OF TRAINING STATION: _____

ADDRESS _____
(Street) (City) (State) (Zip Code)

TELEPHONE _____ STUDENT'S WAGE: _____

STUDENT'S AGE _____ WORKING HOURS: _____

PARENTS OR GUARDIAN _____

PLAN

THE STUDENT WILL PARTICIPATE IN THE FOLLOWING GENERAL ACTIVITIES WHICH PERTAIN TO THE SKILLS DESIRED TO ACHIEVE HIS OBJECTIVES STATED ABOVE:

	DATE COORDINATED	DATE STARTED	DATE COMPLETED
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			

OTHERS: _____

TRAINING SPONSOR'S SIGNATURE _____

PARENTS' SIGNATURE _____

STUDENT'S SIGNATURE _____

TEACHER-COORDINATOR'S SIGNATURE _____

EVALUATION OF THE STUDENT BY THE TRAINING STATION SPONSOR:

PLEASE LIST GENERAL COMMENTS THAT INDICATE THE STUDENT'S STRONG AND WEAK POINTS AND WHERE IMPROVEMENT IS NEEDED ACCORDING TO YOUR OBSERVATIONS. THIS WILL ENABLE THE SCHOOL TO DEVELOP ADDITIONAL EDUCATION IN THE STUDENT'S RELATED CLASS.

1st - 9 weeks _____

2nd - 9 weeks _____

3rd - 9 weeks _____

4th - 9 weeks _____

ADDITIONAL COMMENTS:

COPIES TO: TRAINING STATION SPONSOR, STUDENT, PARENT, TEACHER-COORDINATOR, ADMINISTRATION, STATE DEPARTMENT OF EDUCATION

DIRECTORY - STATE DIRECTORS OF VOCATIONAL EDUCATION

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ABSTRACT: A SERIES OF THREE BOOKLETS ON VOCABULARY SKILLS FOR THE AUTO SHOP, THESE BOOKLETS AID THE LEARNER IN TWO WAYS: (1) IT FAMILIARIZES THE STUDENT WITH THE BASIC VOCABULARY USED IN THE AUTO SHOP, AND (2) THE STUDENT WORKS WITH VOCABULARY SKILLS NEEDED FOR SUCCESS IN HIS WORK. THE FIRST BOOKLET OF TEN EXERCISES DEALS WITH ALPHABETIZING. THE SECOND BOOKLET, WORD STUDY, COVERS ROOTS, PREFIXES, SUFFIXES, AND THE SYLLABICATION OF WORDS. IN ORDER TO USE THIS SECOND BOOKLET A STUDENT MUST BE ABLE TO USE A DICTIONARY. THE FINAL BOOKLET, WORD MEANING, DEALS WITH IDENTIFICATION AND DIFFERENTIATION OF WORDS USED IN THE AUTO SHOP. (AUTHOR/KB)

INSTITUTION NAME: RUTGERS, THE STATE UNIV., NEW BRUNSWICK, N.J. CURRICULUM LAB.

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VT 101 445

State of New Jersey
Department of Education
Division of Vocational Education

VOCABULARY SKILLS – AUTO SHOP

BOOKLET NO. 1 – ALPHABETIZING

Virginia Tracy, Instructor
Bergen County Vocational
and Technical High School
Hackensack, New Jersey

Vocational-Technical
riculum Laboratory
gers – The State University
lding 4103 – Kilmer Campus
w Brunswick, New Jersey

- 101 445

VOCABULARY SKILLS

For

Auto-Shop Students

Booklet No. 1

Alphabetizing

Student's name _____

Starting date of this unit _____

Date completed _____

Grade _____

September 1974

ERIC Full Text Provided by ERIC

DIVISION OF VOCATIONAL EDUCATION
Stephen Poliacik, Assistant Commissioner

CURRICULUM LABORATORY
Rutgers – The State University
Building 4103 – Kilmer Campus
New Brunswick, New Jersey

Introduction:

This book will help you in two ways. First: it will familiarize you with a basic vocabulary used in the auto shop. Second: you will be working with vocabulary skills that you need to know for success in your work.

This first booklet of 10 exercises deals with *alphabetizing*. In order to find a word in a dictionary or a trade manual, you must know how to alphabetize. Practice in alphabetizing words is necessary to develop speed in looking up words.

Objectives:

1. You will be able to alphabetize words according to the first, second or third letter of the words.

2. You will demonstrate to your teacher and to yourself that you can arrange words in alphabetical order.

Exercise 1

Directions: Look at the words in column 1. They are not in alphabetical order. You are to arrange them in alphabetical order in the blank spaces in column 2.

Example:

Column 1	Column 2
tire	*b*rakes
brakes	*m*echanic
mechanic	*t*ire

Column 1	Column 2
1. starter	1. _____
2. compressor	2. _____
3. block	3. _____
4. transformer	4. _____
5. accelerator	5. _____
6. piston	6. _____
7. generator	7. _____
8. enamel	8. _____
9. Lucite	9. _____
10. valve	10. _____

Exercise 2

Directions: Follow the same directions as in exercise 1.

Column 1	Column 2
1. clutch	1. _____
2. gap	2. _____
3. vacuum	3. _____
4. filter	4. _____
5. insulation	5. _____
6. automatic	6. _____
7. suspension	7. _____
8. putty	8. _____
9. manual	9. _____
10. throttle	10. _____

Exercise 3

Directions: Look at the list of words in column 1. Some of the words begin with the same letter. Therefore when you put them in alphabetical order, remember you must look at the *second* letter of the word.

Example

Column 1	Column 2
fuse	*f*ender
filter	*f*ilter
fender	*f*lywheel
flywheel	*f*use

Column 1	Column 2
1. circuit	1. _____
2. assembly	2. _____
3. clutch	3. _____
4. chassis	4. _____
5. carburetor	5. _____
6. accelerator	6. _____
7. crankshaft	7. _____
8. cooling system	8. _____
9. automatic	9. _____
10. axle	10. _____

Exercise 4

Directions: More practice in arranging words from A to Z (alphabetical order). If the first *two* letters of a word are the same, then your guide in alphabetizing is the *third* letter. Arrange these 10 words in column 1 in alphabetical order.

Example:

Column 1	Column 2
Mercedes-Benz	*mea*sure
mechanic	*me*chanic
measure	*Mer*cedes-Benz

Column 1	Column 2
1. shift	1. _____
2. solenoid	2. _____
3. setscrew	3. _____
4. sander	4. _____
5. suspension	5. _____
6. starter	6. _____
7. solder	7. _____
8. Saab	8. _____
9. sealant	9. _____
10. shock absorber	10. _____

Exercise 5

Directions: Here is a last group of words for you to practice on. Put them in alphabetical order.

Column 1	Column 2
1. float	1. _____
2. overheating	2. _____
3. flywheel	3. _____
4. camshaft	4. _____
5. fluid level	5. _____
6. sealants	6. _____
7. camber	7. _____
8. overdrive	8. _____
9. seal	9. _____
10. ohmmeter	10. _____

Exercise 6

Directions: Is a dictionary the only book you know of that lists information in alphabetical order? Of course not. There are many reference books and directories that list their information in alphabetical order. Name four different books or materials that you know arrange their information in alphabetical order.

1. _____

2. _____

3. _____

4. _____

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One source of information that you will use on the job to help you find information quickly is the *index* which is found in the back of a trade manual or text. It should include the particular word or term you are looking for and the number of the page on which you will find the information. Any *subtopics* under the main topic are also alphabetized. Generally the *main entries* are capitalized, but the *subentries* are not.

Example: On the opposite page is an example of an index. Below is shown a small part of an index from a different automobile guide.

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(Note: The above listing is easy to use because it is from A to Z order.)

Now do the exercise on the next page.

Exercise 7

Directions: Here is another listing but it is not in A to Z order. Put it in alphabetical order.

Battery
- test, 26, 27
- charging, 56, 61
- alkaline, 50
- capacity rating, 52
- maintenance, 52, 56
- electrolyte level, 55
- lead sulfuric acid, 50

Battery

Exercise 8

You may know what *oil* and *field* mean, but can you find the meaning of *oil field* in a dictionary? Such words that have special meanings when they are used together are listed in alphabetical order *as if they were written as one word.*

Directions: Number the words in each group in the order in which they would appear in a dictionary.

Example:

4 oilstone
1 oil field
2 oil pan
3 oil slick

(A) _____ brakedrum
_____ brakeshoe
_____ brake fluid
_____ brake lining

(B) _____ fuel pump
_____ fuel oil
_____ fuel line
_____ fuel cell

(C) _____ wheelplate
_____ wheel alinement
_____ wheelman
_____ wheel balance

(D) _____ valve-in-head
_____ valve seat
_____ valve guides
_____ valve spring
_____ valve gear

MG (continued)

SPREEN'S FOR THE BEST IN SALES — 487-5737 SERVICE — 487-5739 PARTS — 487-5735 450-58 Passaic St., Hackensack

Stelker Imported Cars Center Sales—Service—Parts Complete Body Shop Best Deals—All Models 10 Broadway (Rte 4) E Paterson 797-6060

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SAAB

STILLMAN AND HOAG Authorized Saab Sales and Service Grand Av and Route 4, Englewood, 569-9000

SUBARU

SALES-SERVICE — Parts Largest exclusive Bergen County Dealer Carriage Trade, Rte 46, (next Tpk Ent I, Ridgefield Park, 641-5335

TOYOTA

SALES-SERVICE — Complete parts and body dept LEONARD MOTORS 5 New Bridge Rd., River Edge, 836-6800.

SUPER SALES—SUPERIOR SERVICE — AUTH PARTS "Toyota Total Quality Award Winner" Big Selection of New and 100% Guaranteed Used Cars. MIDE TOYOTA 848 River Dr., Garfield 772-8000

SALES-SERVICE — Body Shop Parts-accessories. Corner Grand Ave. & Fort Lee Rd., PARKWAY MOTORS in Leonia, 944-3300

SALES-SERVICE — Parts-complete

JAGUAR

Leading Authorized Dealer O 20th Year IMPORTED MOTO 34 Valley Rd., Montclair (N. 746-4500 (N Y) 349-0296

KINGSFIELD — Leading Sal Service Parts Dealer 186 Eng St Englewood 567 2300

Stelker Imported Cars Center Sales—Service—Parts Complete Body Shop Best Deals—All Models Factory Authorized Dealer— 10 Broadway (Rte 4) E Paterso 797-6060

LANDROVER

Authorized Rover and Landrov Sales and Service Complete bo shop MID-COUNTY MOTORS, 2 County Rd., Tenafly, 568-2208

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FIAT

BREMEN AUTOMOTIVE LTD. 1107 RT. 23, WAYNE, N. J. 696-6060

SPREEN'S FOR THE BEST IN SALES — 487-5737 SERVICE — 487-5739 PARTS — 487-5735 450-58 Passaic St., Hackensack

Stelker Imported Cars Center Sales—Service—Parts Complete Body Shop Best Deals—All Models Factory Authorized Dealer— 10 Broadway (Rte 4) E. Paterson 797-6060

LINCOLN MERCURY

Factory trained specialists always at your service Largest parts inventory in Bergen County Finest body shop Pickup and delivery Town Motors So Dean and Garrett Sts, Englewood, 568-5200.

MERCEDES BENZ

Benzel Busch Motor Car Corp 28 Grand Ave, Englewood, N.J. (201) 567-1400.

PRESTIGE MOTORS Exclusive Mercedes Benz dealer Overseas delivery available 405 Rt 17, Paramus 265-7800

DATSUN

Datsun service Largest stock Datsun parts in N J Our servic manager has over 22 years experience. Marmac Datsun, Engle Street, Englewood, N. Call Wally for appt 568-4400

BUY & SERVICE at N.J.'s olde DATSUN Dealer Our Hallmark our reputation. OXFORD MOTORS Rt 46, East Paterson, 796-5050

DODGE

PARAMUS DODGE RTE 4 AND FOREST AVE., PARAMUS, 845-0700.

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PORSCHE AUDI

DUNBAR-FAIST PORSCHE AUDI, INC. Route 59, Spring Valley, N.Y. (914) 352-6220 Sales-Service-Parts

TRIUMPH

BERGEN VOLVO Sales, Service Parts, Body Shp New mod facil 401 Rt 17, Up Sad Riv 327-5105.

Our 20th Year, Authorized Dealer. IMPORTED MOTORS 34 Valley Road, MONTCLAIR (N J) 746-4500 (N Y) 349-0296

BUY & SERVICE at N.J.'s largest TRIUMPH dealer Our hallmark is our reputation. OXFORD MOTORS Rt 46, East Paterson, 796-5050

VOLKSWAGEN

SALES-SERVICE — Parts-Large selection of VW's Fully guaranteed Carriage Trade, Rte 46, (next Tpk. Ent), Ridgefield Park 641-5335.

Service & Repairs on all Volkswagen Vehicles German Motors, Inc. 10 Grand Av, Pal Pk, NJ 941-0070

RENAULT

MOST COMPLETE SALES, service parts facilities in the metropolitan area. Diamond Motors, 100 Sylvan Ave., Rt. 9W, Englewood Cliffs. 461-6060

MAPLE CAR SALES 599 N. Maple Ave Ridgewood, NJ 444-2484 Auth. Dlr Renault & Peugeot

ROLLS-ROYCE

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BUY & SERVICE your VOLVO at OXFORD MOTORS, Rt 46, East Paterson 796-5050.

SALES SERVICE PARTS BODY SHOP Competent personnel Est. 1920 Paul's Motor Sales & Ser-

MG

BREMEN AUTOMOTIVE LTD. 1107 RT. 23, WAYNE, N. J. 696-6060

Our 20th Year Leading Authorized Dealer IMPORTED MOTORS 34 Valley Rd., MONTCLAIR (N.J.) 746-4500 (N Y) 349-0296

KINGSFIELD — Leading Sales Service, Parts Dealer 186 Engle St, Englewood 567 2300

SALES SERVICE — Parts-access overseas delivery Ramsey Motors 138 N Central Ave, Ramsey, 327-3200

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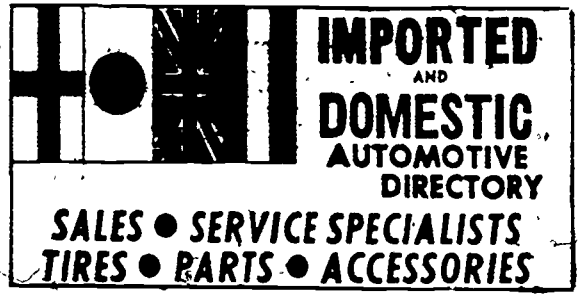
Exercise 9

Directions: On the opposite page are some ads taken from the classified-ad section of a newspaper. In alphabetical order list the names of the cars on the lines given below.



1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
12. _____
13. _____
14. _____
15. _____
16. _____
17. _____
18. _____
19. _____
20. _____

Glossary

THIS GLOSSARY of automotive terms used in the book is designed to provide a ready reference for the student. The definitions may differ somewhat from those given in a standard dictionary, they are not intended to be all-inclusive, but have the purpose of serving as reminders so that the student can quickly refresh his memory on automotive terms of which he may be unsure. More complete definitions and explanations of the terms are found in the text.

Abrasive In automobile service, a substance used for cutting, grinding, or polishing metal.

Accelerator The foot-operated pedal linked to the carburetor throttle valve.

Accelerator pump In the carburetor, a pump linked to the accelerator, which momentarily enriches the mixture when the accelerator pedal is depressed.

Air bleed An opening into a gasoline passage through which air can pass (or bleed) into the gasoline as it moves through the passage.

Air cleaner The device mounted on the carburetor, through which air must pass on its way into the carburetor air horn. It filters out dirt and dust particles and also silences the intake noise.

Air-cooled engine An engine that is cooled by passage of air around the cylinders and not by passage of a liquid through water jackets.

Air-fuel mixture Mixture delivered to engine by carburetor.

Air horn In the carburetor, the tubular passage through which the incoming air must pass.

Air line A hose or pipe through which air passes.

Air pressure Atmospheric pressure (14.7 psi at sea level) or pressure of air produced by pump, by compression in engine cylinder, etc.

Antifriction bearing Type of bearing in which moving parts are in rolling contact, ball, roller, or tapered roller bearing.

Antiknock In engine fuels, the property that opposes knocking.

Antipercolator The device in the carburetor that opens a vent when the throttle is closed, to permit release of fuel vapors in the high-speed circuit so that fuel vapor will not push fuel out of the high-speed nozzle.

Atmospheric pressure Pressure of the atmosphere, or air, due to its weight pressing downward. Average is 14.7 psi at sea level.

Exercise 10

A glossary is another *alphabetical list* of special words or terms, with their definitions or comments. Often a glossary is found at the back of a textbook. The word entries in a glossary, unlike dictionary entries, are specifically choosen to explain the terms in a particular book. Often the definitions are highly specialized. On the opposite page is a listing of words as they appeared in an automotive textbook glossary.

Directions: Put this list of words in alphabetical order as you would find them in a textbook glossary. (The definitions have not been given.)

Column 1	Column 2
1. caster	1. _____
2. cam	2. _____
3. honing cylinder	3. _____
4. fender	4. _____
5. fan	5. _____
6. ignition	6. _____
7. idle	7. _____
8. hydraulic	8. _____
9. indicator	9. _____
10. clutch	10. _____

State of New Jersey
Department of Education
Division of Vocational Education

VOCABULARY SKILLS — AUTO SHOP

BOOKLET NO. 2 — WORD STUDY

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VOCABULARY SKILLS

For

Auto-Shop Students

Booklet No. 2

Word Study

Student's name _____

Starting date of this unit _____

Date completed _____

Grade _____

September 1974

ERIC Full Text Provided by ERIC

DIVISION OF VOCATIONAL EDUCATION
Stephen Poliacik, Assistant Commissioner

CURRICULUM LABORATORY
Rutgers – The State University
Building 4103 – Kilmer Campus
New Brunswick, New Jersey

Introduction:

In this vocabulary booklet you will study *roots*, *prefixes*, *suffixes*, and the *syllabication* of words. In order to work with this booklet you must familiarize yourselves with the actual use of the dictionary. The following pages use readings and advertisements to help you understand basic word skills.

Objectives:

1. You will be able to identify the prefix, root and suffix of a word.

2. You will be able to syllabicate a word properly, in order to pronounce the word correctly.

3. You will be able to understand the phonetic pronunciation of a word.

Definitions:

1. Root– the main part of the word.

   Example: dict means to *say*, as in *dict*ionary.

2. Prefix– a syllable added to the beginning of the word to add to or change its meaning.

   Example: re means *again*, as in *re*charger.

3. Suffix– a syllable added to the end of a word to add to or change its meaning. (A suffix is also likely to change its pronunciation.)

   Example: sion means *the act of*, as in transmis*sion*

4. Syllabication– dividing words into parts for easy pronunciation.

   Example: transformer: trans form er (or in *phonetic* pronunciation, trans fôr′ mər)

   a. transfer: trans fər′

   b. translate: trans lāt′

   c. transportation: trans pər tā′ shən

   d. transplant: trans plant′

   e. transmission: trans mish′ ən

Exercise 1

Mark the following statements either true (T) or false (F).

_____ 1. In the word *transplant* there are two syllables.

_____ 2. The accent in the word *transmission* is on the first syllable.

_____ 3. In the word *transportation* there are four syllables.

_____ 4. The schwa (ə) sound is in the second and fourth syllables of *transportation*.

_____ 5. The long vowel (ā) is in the first syllable of *translate*.

_____ 6. The suffix in the word *recharger* is *re*.

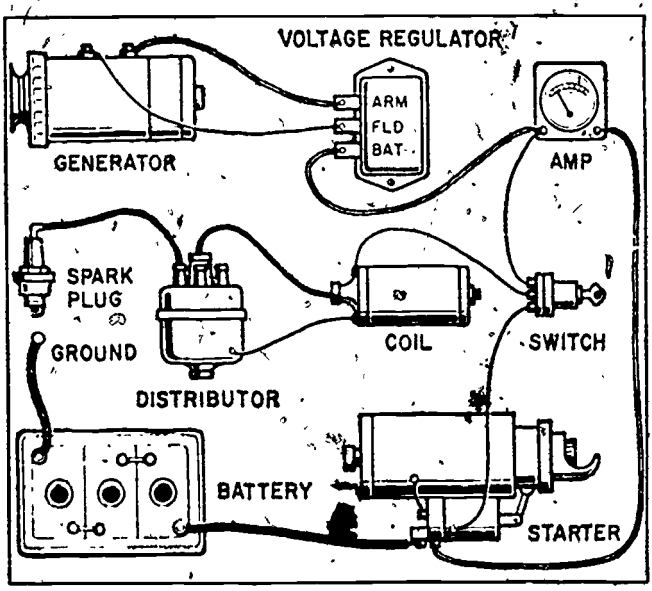
_____ 7. The suffix in the word vaporization is *tion*.

_____ 8. The word *cylinder* would be divided into syllables this way: cyli nder.

_____ 9. The prefix in the word *transfer* is *trans*.

_____ 10. The root or base word in *transplant* is *plant*.

Understanding Your Car's Electrical System



Exercise 2

Directions: Answer the following statement or questions by referring to the words in diagram on the opposite page. Use your dictionary when necessary.

1. What is the base word in *voltage?*
   Ans. _____

2. Divide the word *regulator* into syllables.
   Ans. _____

3. Find the meaning of the word *generator.*
   Ans. _____

4. What is the prefix in the word *distributor?*
   Ans. _____

5. Look up *amp* in the dictionary. Prefix or abbreviation?
   Ans. _____

Exercise 3

Directions: Form a new word by adding one of the prefixes and/or suffixes in the boxes below to the root word given on the opposite page. The meaning of the word that you are to form is also given.

Prefixes	Suffixes
re–	–ic
trans–	–sion or tion
con–	–or
com–	–er
auto–	–ment
ad–	–less

Examples:

1. *con* duc *tion:* transmission of heat, electricity, etc.
   (Added prefix and suffix)
2. motion *less:* not moving, without movement
   (Added only the suffix)
3. *re* model: model again
   (Added only the prefix)

1. _____ mat _____
(Meaning: self-operating)

2. _____ mis _____
(Meaning: means of carrying power)

3. _____ press _____
(Meaning: machine for squeezing air)

4. _____ form _____
(Meaning: an electrical device)

5. _____ mobile
(Meaning: vehicle that moves by itself)

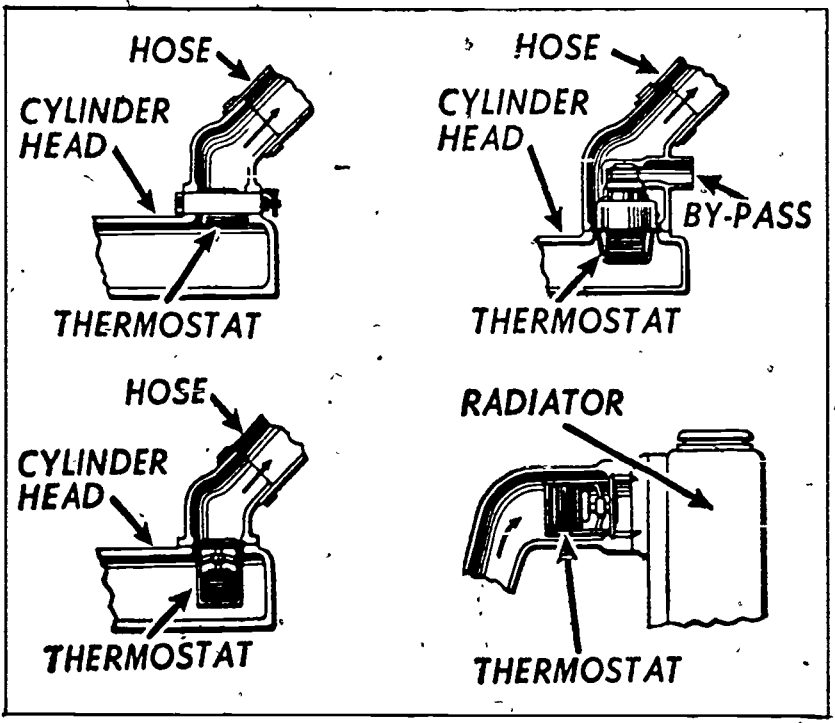
6. _____ vert _____
(Meaning: device for changing electrical current)

7. _____ bus _____
(Meaning: a burning)

8. generate ___
(Meaning: machine that changes mechanical power into electrical power)

9. _____ jec ____
(Meaning: forcing in by mechanical means)

10. _____ just _____
(Meaning: a changing or correcting)



The Thermostat
(thər mə stat)

The thermostat is a temperature-sensitive device of the cooling system. The thermostat sends just the right amount of coolant through the radiator to hold the overall coolant temperature at the desired level.

Exercise 4

Directions: Mark the following statements either true (T) or false (F).

_____ 1. In the word *thermostat* there are three syllables.

_____ 2. The accent in the word *thermostat* is on the second syllable.

_____ 3. We could use the word *thermostatic* to describe the regulating of heat.

_____ 4. The *thermostat* measures the amount of anti-freeze in the coolant.

_____ 5. The root of *thermostat* is *thermo*.

_____ 6. The root of *coolant* is *cool*.

_____ 7. The *thermostat* regulates the flow of coolant through the radiator.

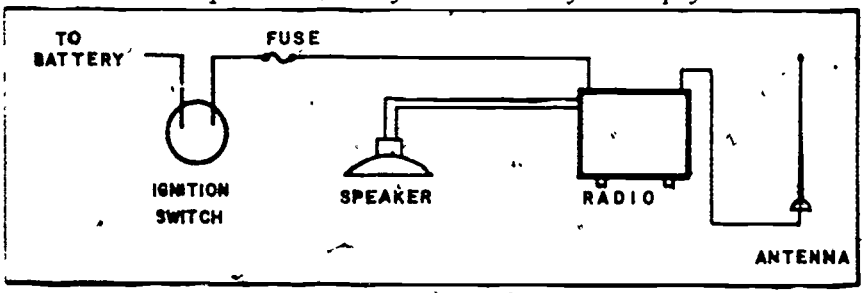
_____ 8. The word *radiator* has three syllables.

_____ 9. The accented syllable in *thermostat* is the same as in *thermostatic*.

_____ 10. The root in *thermostat* is the same as the root in *thermos*.

Exercise 5

Directions: Read the following paragraphs and answer the statements or questions. *Use your dictionary to help you.*



Installing Radios
(in stol' ing)

Installing most radios is simpler than most car owners realize and *varies* only slightly from car to car. A *minimum* of ability and *equipment* is *required* to *perform* the *installation* correctly.

Since radio installation *involves* working under or behind the *instrument* panel, first *disconnect* the battery *ground cable* to *prevent* a possible short circuit while *probing* around with wrenches and such. Begin by *thoroughly reviewing* the *instructions* for the radio you *purchased*.

(A) Synonyms. Match a word from the reading with each of the following words. ("Synonym" means a word having the same meaning as another word.)

Example: requires – *involves*

a. inserting–_____

b. needed–_____

c. changes–_____

d. exploring–_____

e. avoid–_____

(B) Antonyms. Match a word from the reading with each of the following words. ("Antonym" means a word having the opposite meaning.) *Example:* removing– *installing*

a. attach–_____

b. stays (the same)–_____

c. maximum–_____

d. allow–_____

e. sold–_____

(C) Give the prefix and the meaning of the prefix in the following words. Use your dictionary to help you.

Example: Word	Prefix	Meaning
install	in	into
Word	Prefix	Meaning
a. disconnect	_____	_____
b. prevent	_____	_____
c. reviewing	_____	_____
d. involves	_____	_____
e. perform	_____	_____

(D) Add four different suffixes to the word *install.*

Example: connect 1. connect*ion* 2. connect*er*

a. install_____ c. install_____

b. install_____ d. install_____

(E) Divide the following words into syllables. Indicate the accented syllable of each.

Example: reviewing re view' ing

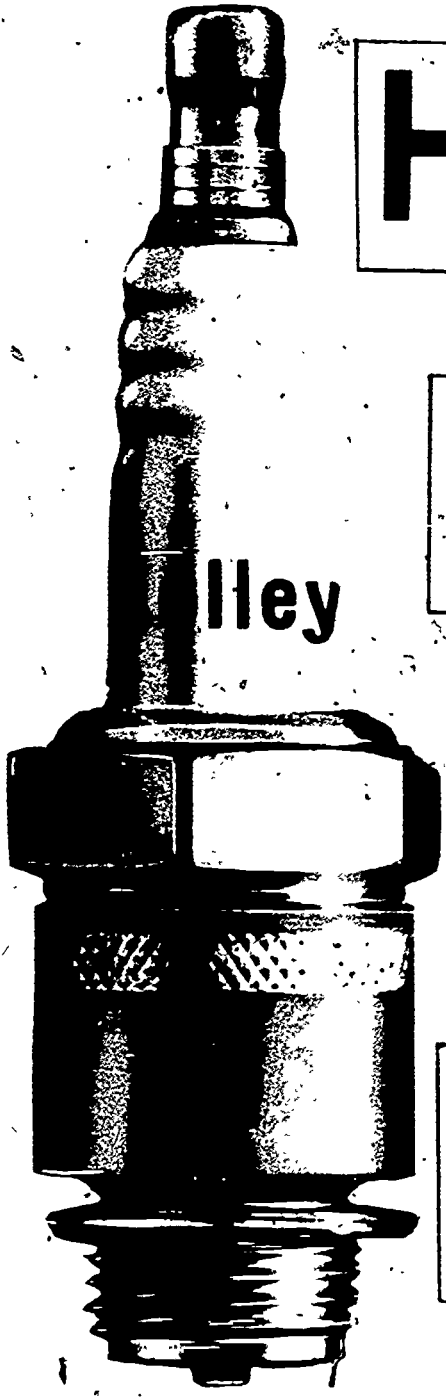
a. instrument_____

b. equipment_____

c. thoroughly_____

d. instructions_____

e. required_____



Holley Spark Plugs Work

Exercise 6

Directions: Read the following abbreviated advertisement and complete the statements that follow. The questions and statements are based on the italicized words. Use your dictionary to look up meanings.

HOLLEY COPPER-CORE PLUGS

Holley Copper-Core plugs run cooler and last longer than *conventional* iron-core plugs. The secret is in the copper center, which is an excellent *electrical conductor*.

The solid copper center *electrode* also speeds heat *dissipation* and prevents the spark plug from overheating. To prevent plug "blowout" and *compression* loss, Holly seals all key points with special cement.

1. The center of something means _____

2. The trade name in the advertisement is _____

3. Give the meaning and the prefix of the word *conventional*.

   Meaning _____

   Prefix _____

4. To spread in different directions is to _____

5. To make smaller by pressure is to _____

6. The center conductor from which the spark jumps is called an _____

7. The reddish-brown metallic element is _____

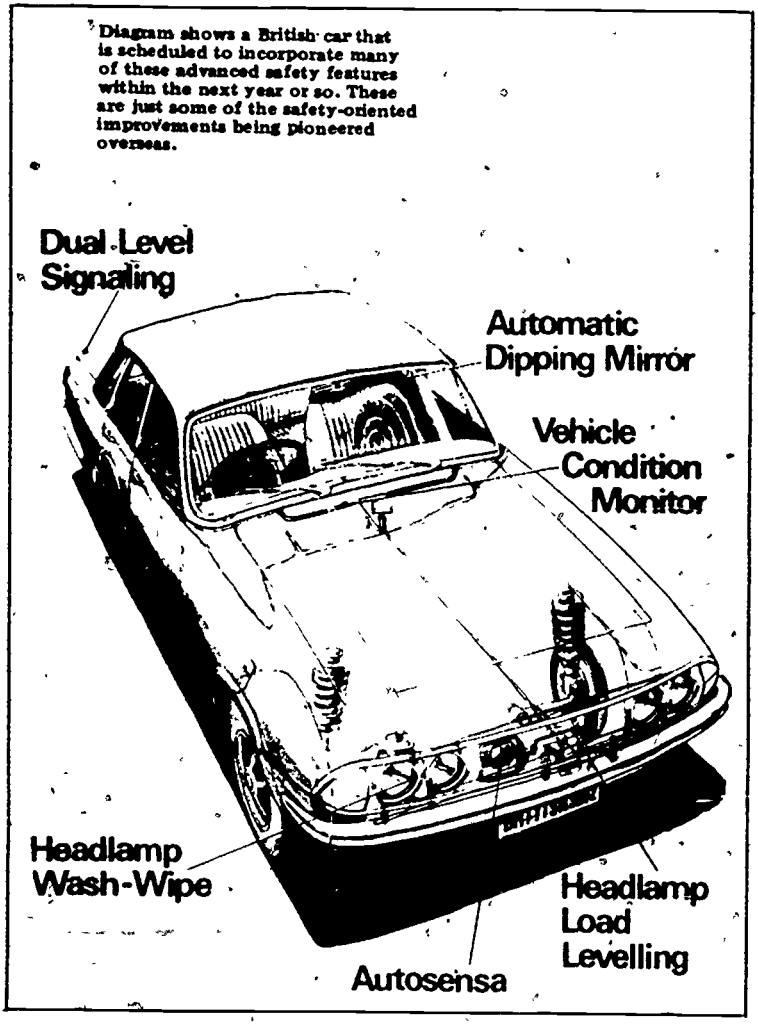
8. What is the root in *compression*? _____

9. Give the PRS (prefix, root and suffix) of the word *conductor*.

Prefix _____

Root _____

Suffix _____



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Exercise 7

Directions: This exercise will deal with the words in the illustration of the British car shown on the opposite page.

1. Give the suffix in the word *signaling* _____

2. What would you think – based on the prefix and root – that *autosensa* means?

_____

3. The word *dual* means _____

4. Give the prefix and its meaning in the word *automatic*.

   a. (Prefix) _____

   b. (Meaning) _____

5. Write the correct word for each of the following phonetic spellings:

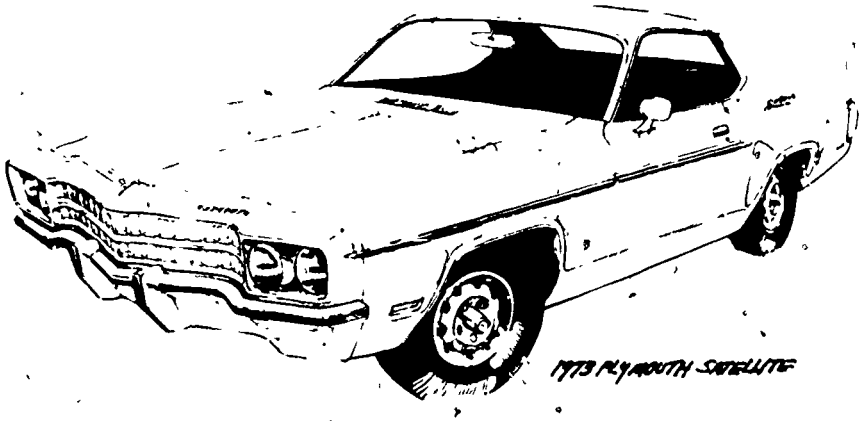
   a. _____ (vē′ ə kəl)

   b. _____ (lev′ əl)

   c. _____ (mon′ ə tər)

   d. _____ (kən dish′ ən)

   e. _____ (mir′ ər)



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Exercise 8

Directions: Read the following paragraph and answer the questions or statements by marking them true (T) or false (F).

1973 Plymouth Satellite

The 1973 Plymouth Satellite was totally "reskinned." This means that with the exception of the cowl rocker panels, glass, and roof, the outer sheet of metal of the '73 Satellite was totally new. The inner body panels were carried forward from previous years.

1973 Plymouth Satellite

1. There are three syllables in the word *satellite.*
2. The word *reskinned* would mean brand new on the outside.
3. The word *satellite* can mean: a small planet that revolves around a larger one.
4. The syllable *re* in *reskinned* means "under."
5. The word *Plymouth* can be a name of a breed of horses.
6. The accent in the word *satellite* is on the third syllable.
7. The word *chief* could be the opposite of the word *satellite.*
8. *Subordinate* could be a synonym of the word satellite.
9. In this reading the word *satellite* means a glowing light.
10. The word *exception* has the prefix *ex,* meaning "out of".

Exercise 9

Directions: Read the ad on the opposite page and answer the following statements by underlining the correct answer.

1. *Luxury* means:
   (a) poverty (b) rich surroundings (c) light

2. *Mid*–County means
   (a) central (b) north (c) end

3. *That's* stands for
   (a) that was (b) that has (c) that is

4. The prefix in the word *performer* is
   a. form
   b. per
   c. er

5. *Superbly* engineered means
   a. most excellently
   b. honestly
   c. superficially

6. The abbreviation in the advertisement *BMW* means
   a. British Motor Works
   b. Bavarian Motor Works
   c. Brilliant Motor Works

7. *Brawny* means
   a. brown
   b. lively
   c. powerful

8. The correct syllabication for the word *exhilaration* is
   a. ex hilara tion
   b. ex hil a ra tion
   c. exhil ara tion

9. *3-liter* engine is
   a. a measurement
   b. a motor
   c. having 3 cylinders

10. The suffix in the word *responsive* is
   a. spon
   b. re
   c. ive

Now in Tenafly
at Mid-County Motors . . .

The German luxury car that's fun to drive. BMW Bavaria.

Elegant? Yes. Beautiful? Of course. Superbly engineered? Certainly. But more than any of these, this great new BMW gives you an exhilaration when you drive it that's like nothing else. Because for all its prestige and luxury, this one is built for all-out fun on the open road. Quick, nimble, responsive, with a brawny new 3-liter engine, it's the best of both worlds: a truly fine car that's a brilliant performer. So if you want to buy a German luxury car, very good. There is no better value. But don't miss the one that's fun to drive. Come on in for a test run. And have a ball.

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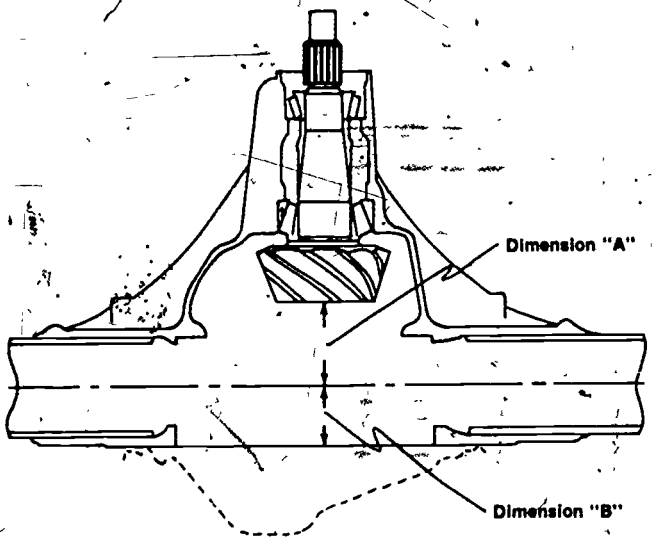
PINION PROBING

Here's a trick to make future ring and pinion gear changes quick and accurate

BELOW–Dimension "A" is the pinion checking distance. Dimension "B" is the baseline figure for each particular rearend assembly. Dimension "A" plus dimension "B" is the distance measured with the vernier caliper. ABOVE RIGHT–Initial determination of correct pinion checking distance requires use of expensive gear-setting tool. BELOW RIGHT–Pinion checking distance on subsequent gear changes can be measured using only a piece of bar stock and caliper.



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Exercise 10

Directions: Read the advertisement on the preceding page, entitled "Pinion Probing." Give the correct spelling for the following phonetic spellings of the words that appear in the advertisement.

1. (pin′ yən) _____
2. (ak′ yə rət) _____
3. (kal′ ə pər) _____
4. (də men′ shən) _____
5. (ə sem′ bli) _____
6. (di tur mə nā′ shən) _____
7. (ik spen′ siv) _____
8. (mezh′ ərd) _____
9. (pər tik′yə lər) _____
10. (sub′si kwənt) _____

State of New Jersey
Department of Education
Division of Vocational Education

VOCABULARY SKILLS – AUTO SHOP

BOOKLET NO. 3 – WORD MEANING

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VOCABULARY SKILLS

For

Auto-Shop Students

Booklet No. 3

Word Meaning

Student's name _____

Starting date of this unit _____

Date completed _____

Grade _____

September 1974

DIVISION OF VOCATIONAL EDUCATION
Stephen Poliacik, Assistant Commissioner

CURRICULUM LABORATORY
Rutgers – The State University
Building 4103 – Kilmer Campus
New Brunswick, New Jersey

Introduction:

Words that we use in everyday speech can at times have many different meanings. In this booklet you will show that you know the meanings of some words and terms used in the auto shop.

For some people it is easy to look up the words in a dictionary; others may find it more difficult, especially if several meanings are given. To use the dictionary effectively, we must know *how the word is being used at the particular time.* We call this the use of the word in its *context.*

For example:

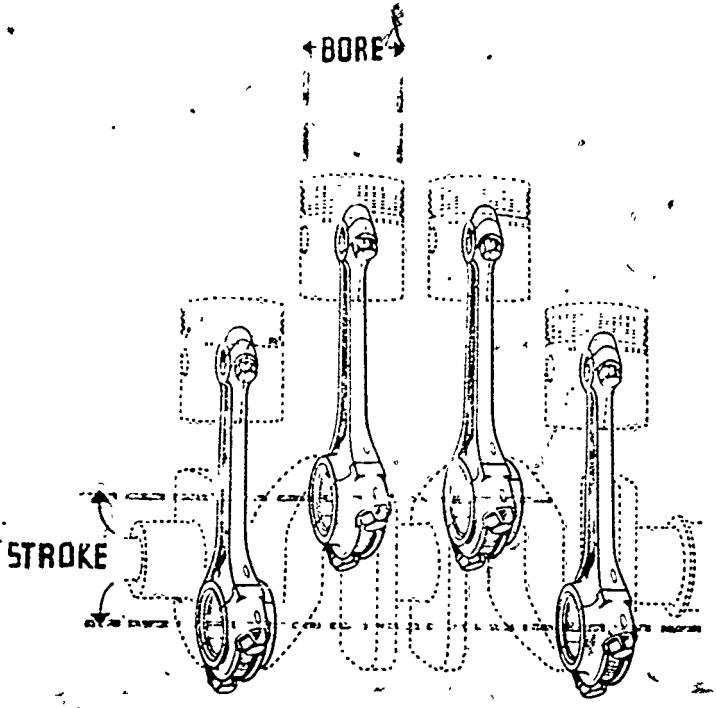
The word "block" has different meanings:

a. a solid piece of wood or metal
b. a part of a city enclosed by streets
c. a group of things of the same kind
d. a case enclosing one or more pulleys
e. etc.

Objectives:

1. You will be able to identify the meaning of words used in your trade.

2. You will be able to differentiate between different meanings of words according to their context.



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Exercise 1

Directions: In the following exercise you will write *your own meaning* of the following words. If you are not sure, discuss them with some of the fellows in your shop, or ask your shop teacher. Or you can get the meanings from some of the illustrations in your shop manuals. All should be meanings as used in the auto shop.

Word	Meaning
1. accelerator –	
2. circuit –	
3. compressor –	
4. carburetor –	
5. engine –	
6. axle –	
7. generator –	
8. distributor –	
9. transformer –	
10. piston –	

Exercise 2

Directions: Following is a list of meanings of the words you worked with in exercise 1. Compare your meanings with those listed below. If your meaning has the same general idea, mark yours with a check mark (✓). If it does not, mark your meaning with an x.

1. accelerator –

   pedal or *lever* that controls the flow of gasoline

2. axle –

   bar on which a *wheel* turns

3. circuit –

   complete path over which an electric *current* flows

4. compressor –

   a machine for *compressing* air or gas

5. carburetor –

   a device in which air is mixed with gasoline spray to make an *explosive* mixture

6. engine –

   machine that applies *power* to do work

7. generator –

   machine that changes mechanical *energy* into electrical energy

8. distributor –

   a part of a gasoline engine that distributes electric current to the spark *plugs*

9. transformer –

   a *device* changing an *alternating* electric current into one of higher or lower *voltage*

10. piston –

    a flat round piece of metal, fitting closely inside a tube or *cylinder*, which is moved back and forth by force

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Exercise 3

On the preceding pages you compared the definitions of words to the meanings you had written. Go back and reread the printed definitions. Notice the italicized word within each definition.

Directions: On each line below write the letter of the best meaning that could be substituted for the italized word in the definition.

1. ____ lever
   a. flat
   b. bar
   c. bank

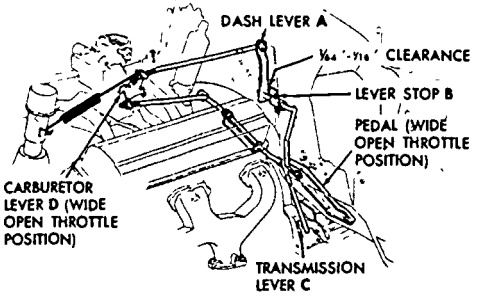
2. ____ wheel
   a. round frame
   b. bar
   c. motives.

3. ____ current
   a. issue
   b. stream
   c. direction

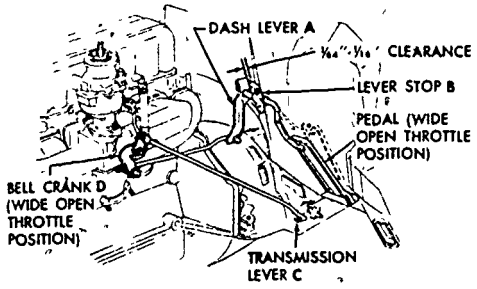
4. ____ compress
   a. burden
   b. squeeze
   c. embrace

5. ____ explosive
   a. boisterous
   b. calm
   c. highly combustible

L-6 ENGINE



V-8 ENGINE



6. ____ power
   a. crunch
   b. force
   c. pound

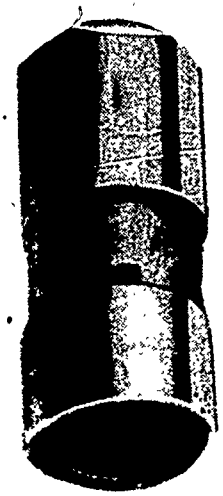
7. ____ energy
   a. capacity
   b. power
   c. aptness

8. ____ plugs
   a. valves
   b. blocks
   c. covers

9. ____ device
   a. crafty
   b. symbol
   c. instrument

10. ____ alternating
    a. changing
    b. clashing
    c. beginning

11. ____ voltage
    a. electric power
    b. electric resistance
    c. ground



12. ____ cylinder
    a. plates
    b. cluster
    c. tube

Exercise 4

The following words are used in auto shop. However, the same terms could be used within other trades. They may have the same meaning or a somewhat different meaning.

Directions: (A) Give the auto-shop definition of the following words and then (B) name another field of work or trade that uses the same term.

Example:

pliers–

A. (Meaning)*pincers for bending wires*

B. (Other trade) *Electronics*

1. charge–

A. _____

_____

B. _____

2. turbine–

A. _____

_____

B. _____

3. relay–

A. _____

_____

B. _____

4. valve–

A. _____

_____

B. _____

5. ground–

A. _____

_____

B. _____

6. caliper–

A. _____

_____

B. _____

7. thermostat–

A. _____

_____

B. _____

8. distributor–

A. _____

_____

B. _____

9. jumper–

A. _____

_____

B. _____

10. injection–

A. _____

_____

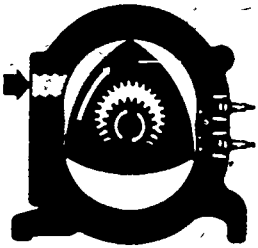
B. _____

Exercise 5

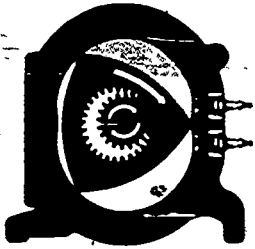
Directions: The words in the following list can be placed in one of three categories: Auto Mechanics, Finance and Money, Law Enforcement. Copy each word in the correct column.

	Auto Mechanics	Finance and Money	Law Enforcement
Ex. fraud			*fraud*
1. generator			
2. alibi			
3. budget			
4. fuselage			
5. perjury			
6. piston			
7. endorse			
8. defendant			
9. carburetor			
10. brakes			
11. surplus			
12. felon			
13. asset			
14. chassis			
15. currency			
16. fraud			
17. ignition			
18. condenser			
19. percent			
20. probation			

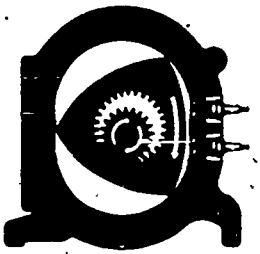
How the rotary engine works



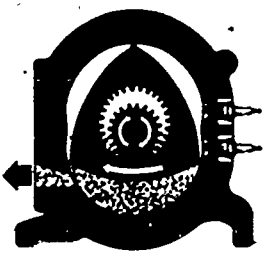
A INTAKE
Fuel/air mixture is drawn into combustion chamber by revolving rotor through intake port (upper left). No valves or valve-operating mechanism needed.



B COMPRESSION
As rotor continues revolving, it reduces space in chamber containing fuel and air. This compresses mixture.



C IGNITION
Fuel/air mixture now fully compressed. Leading spark plug fires. A split-second later, following plug fires to assure complete combustion.



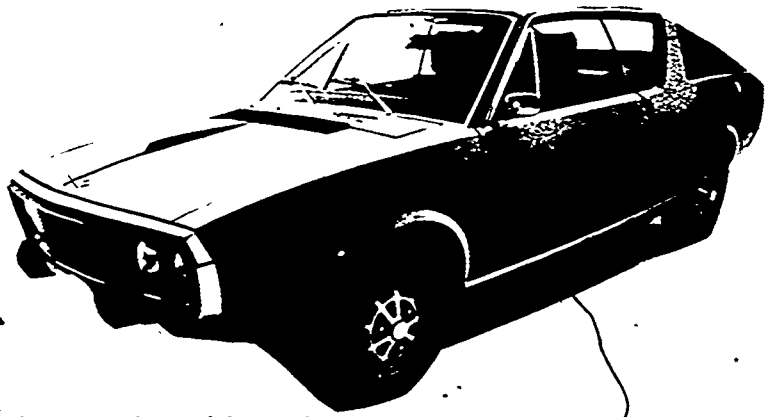
D EXHAUST
Exploding mixture drives rotor, providing power. Rotor then expels gases through exhaust port.

Exercise 6

Directions: On the preceding page read the explanation of "How the rotary engine works." Notice the underlined words. After you have read the explanation, give your own meaning to the underlined words. Write each word down and then the meaning.

	Word		Meaning
1.	_____	(A)	_____
2.	_____		_____
3.	_____		_____
4.	_____		_____
1.	_____	(B)	_____
2.	_____		_____
3.	_____		_____
4.	_____		_____
1.	_____	(C)	_____
2.	_____		_____
3.	_____		_____
4.	_____		_____
1.	_____	(D)	_____
2.	_____		_____
3.	_____		_____
4.	_____		_____

Add the reflexes of electronic fuel injection to the agility of front-wheel drive and you've got



one hell of a machine.

Introducing the Renault 17
Sports Coupe.

ERIC Full Text Provided by ERIC

Exercise 7

Directions: Read the ad for the Renault 17; then circle the best definition of each word as used in the ad.

(1) add: advertisement, subtract, perform, combine

(2) reflexes: responses, pressures, reflections, gas consumption

(3) injection: interruption, questions, burning, forcing in

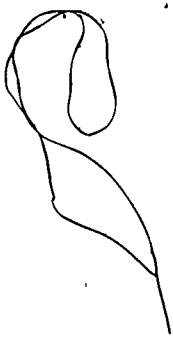
(4) machine: automobile, political group, pump, lathe

(5) drive: fund collection, flight of a ball, effort, propelling force

(6) introducing: making known, befriending, selling, counting

(7) you've: you are, you were, you have, you don't

(8) agility: speed, age, nimbleness, ability.

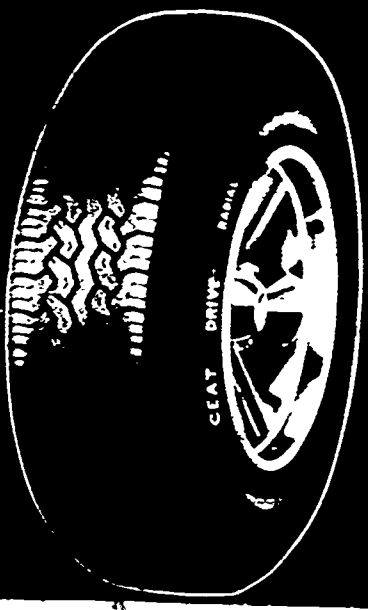


RADIAL TIRES FOR IMPORTED CARS

AND SOME AMERICAN MODELS!

CEAT

DRIVE RADIAL



Made by the finest tire craftsmen in Italy, these great radial tires are original equipment on many of Europe's finest cars. Tough belts over radial plies resist cuts, punctures and bruises. Radial construction runs cool at turnpike speeds. Try the Ceat Drive Radial, as other have, all over the world. Available now in the U.S.A.

Exercise 8

Directions: This ad speaks of a certain kind of tires. Read the ad. Notice everything about it. Answer the following questions.

1. What word describes the *tires*? _____

2. What do they mean by "imported cars"? _____

3. What is the trade name of these tires? _____

4. Write the pronunciation of *CEAT*. _____

5. Where are these tires made? _____

6. The tires run cool even at _____

7. Where have these tires been used? _____

8. Give a synonym for *craftsmen*. _____

9. The word *original* means:

   (a) first, (b) last, (c) finest

10. The word *resists* means:

    (a) gives way to, (b) withstands, (c) yields

11. Write the meaning of these words:

    a. construction: _____

    b. turnpike: _____

    c. available: _____

    d. bruises _____

Exercise 9.

Above is an ad taken from a local newspaper. Notice the way the ad is printed. It uses abbreviations and short sentences and phrases. Referring to the ad, circle the best answer for each statement given on the opposite page.

1. Correct spelling of PLYMS:

   (a) Plymonths, (b) Plymouths, (c) Plymoths

2. Correct spelling CHEVS:

   (a) Chevrolets, (b) Chevroletes, (c) Chevrolays

3. "Clearance" means:

   (a) sweeping up, (b) a sale, (c) explanation

4. "Reasonable" means:

   (a) smart, (b) gracious, (d) sensible

5. The cars being sold are

   (a) new, (b) previously owned, (c) expensive

6. "Overhead" means:

   (a) expenses, (b) headaches, (c) roofing

7. "Dealer" means:

   (a) consumer, (b) merchant, (c) card player

8. "Authorized" means:

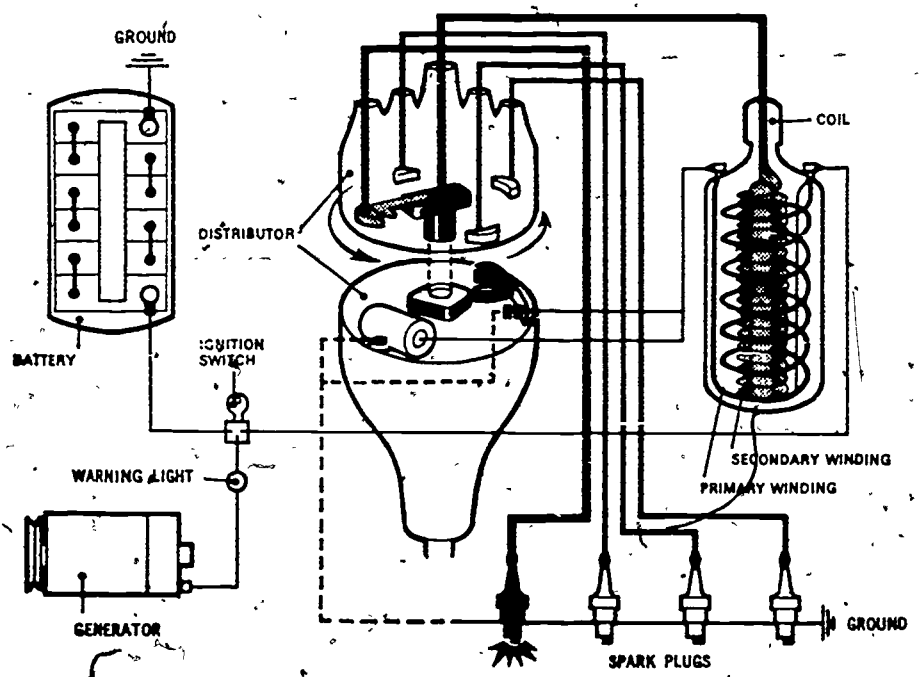
   (a) investment, (b) written by, (c) legally certified

9. Where would you go to purchase one of these cars?

   _____

10. "You can't drive it!" refers to

    (a) money you're paying out
    (b) the car you're buying
    (c) the building you're in


GROUND
DISTRIBUTOR
COIL
BATTERY
IGNITION SWITCH
WARNING LIGHT
SECONDARY WINDING
PRIMARY WINDING
GENERATOR
GROUND
SPARK PLUGS

Exercise 10

Directions: You will read many diagrams in the trade magazines. It is necessary to know the meanings of terms. Find a word from the diagram that matches the following meanings.

1. _____ Machine that changes mechanical energy into electrical energy.

2. _____ Set of cells that produces a current by chemical action.

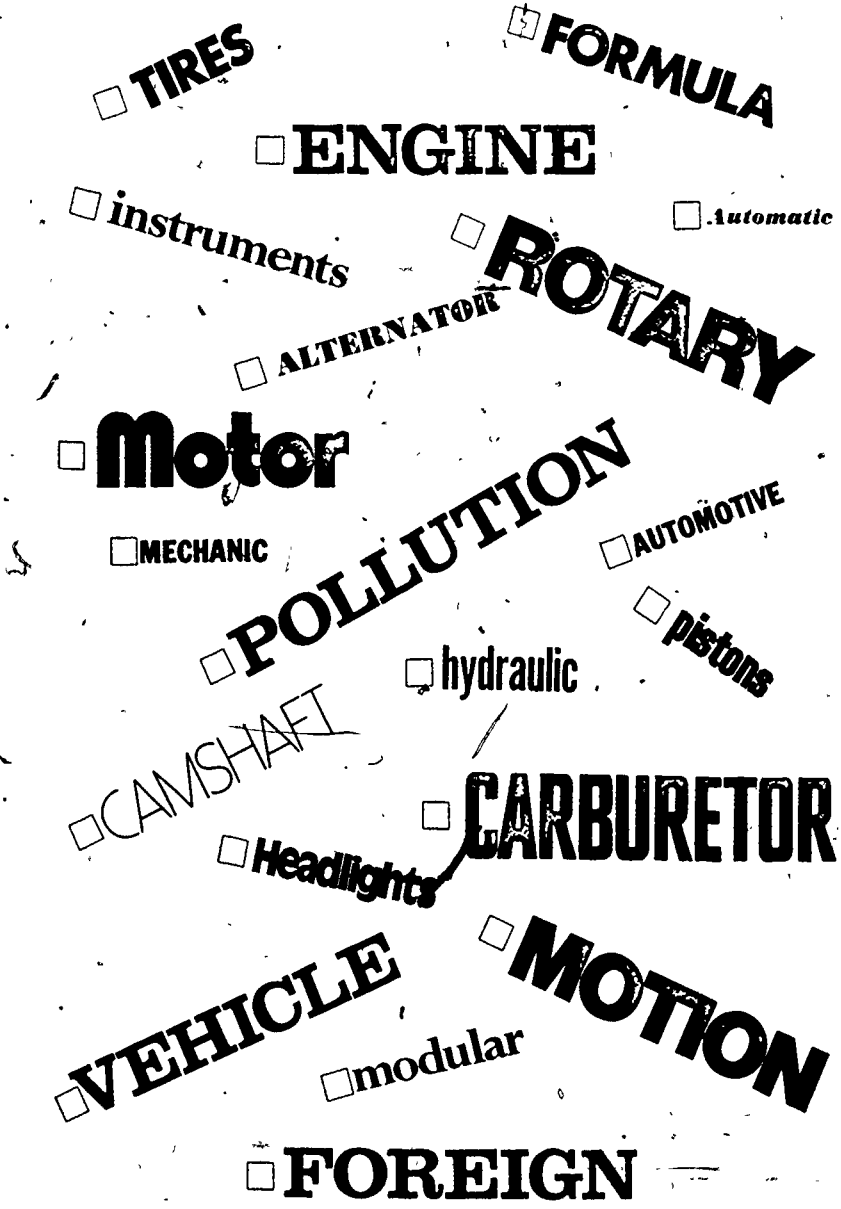
3. _____ Unit used to step up the battery voltage to the point needed to fire the spark plugs.

4. _____ Connection to the metal framework of the car.

5. _____ Sender of high electric voltage to the proper cylinder at the correct time.

6. _____ The device that turns on the electricity.

7. _____ The device that starts a fire within the combustion chamber.


TIRES
FORMULA
ENGINE
instruments
Automatic
ROTARY
ALTERNATOR
Motor
POLLUTION
MECHANIC
AUTOMOTIVE
pistons
hydraulic
CAMSHAFT
CARBURETOR
Headlights
MOTION
VEHICLE
modular
FOREIGN

Exercise 11

Directions: On the opposite page are scattered words that are familiar to any auto mechanic. Put the letter of the meaning in the square in front of the proper word.

A. "heart" of the automobile

B. revolving

C. tools or mechanical devices

D. device like generator, but producing AC current

E. engine

F. movement

G. "eyes" of the car

H. mixes air and gas

I. one who repairs machinery

J. a part that revolves as the pistons drive it

K. an automobile

L. outside of one's country

M. recipe, prescription

N. operated by the pressure of water or oil or some other fluid

O. acting by itself

P. self-moving

Q. what a car rides on

R. harmful gases from engine combustion

S. constructed with standardized units

T. the round plugs that transfer the force of the explosion of gas to the crankshaft

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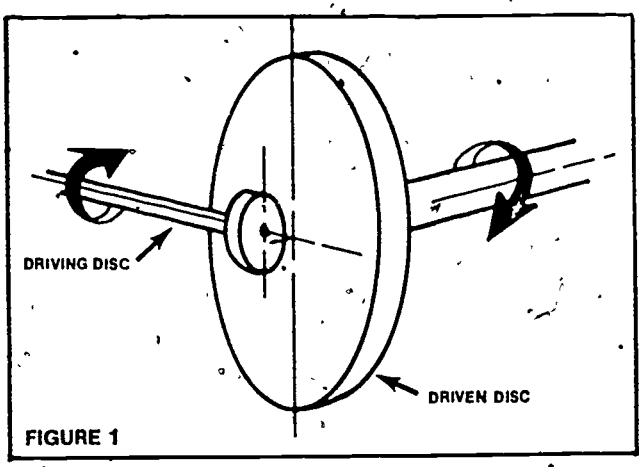

FIGURE 1 – *An early solution to power transfer was the friction disc. The driven disc was connected to the axle, the driving disc connected to drive shaft.*

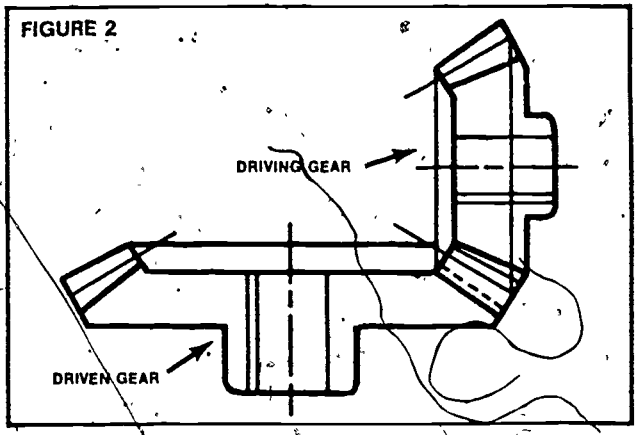

FIGURE 2 – *Modern rearends operate on the principle of bevel gears in mesh. The necessary 90-degree angle is created by meshing complementary bevel gears.*

Exercise 13

Directions: Study the diagram and explanations on the opposite page. Then write the meanings given below.

Figure 1:

1. A round, flat object _____
2. The rubbing of one thing against another _____
3. A bar on which a wheel turns _____
4. Mechanical force _____
5. The answer to a problem _____
6. A long, cylindrical bar that transmits power by rotation. _____

Figure 2:

1. Basic idea _____
2. Perform a function _____
3. Engaging by interlocking _____
4. A toothed wheel _____
5. A measure of the opening between two lines that meet in a point. _____
6. Together making a square corner, or 90 degrees. _____

1972 CHEVROLET
SS-454 CHEVELLE
SPECIFICATIONS

ENGINE

Type	OHV V-8
Displacement	454 cubic inches
Compression Ratio	9.0-to-1
Carburetion	Quadrajet
Camshaft	.461/.480-inch lift
Horsepower	270 @ 4000 rpm
Torque	N/A
Exhaust	Dual
Ignition	Stock

TRANSMISSION

Make	Turbo Hydramatic
Control	Console

REAR END

Type	Positraction
Ratio	3.31-to-1

BRAKES

Front	11.00-inch power assisted discs
Rear	9.5-inch power assisted drums

SUSPENSION

Front	Independent HD shocks sway bar
Rear	HD Coils springs, sway bar
Steering	Power-assisted
Overall Ratio	Variable

PERFORMANCE

0 to 30 mph	N/A
0 to 60 mph	8.0
Standing ¼ mile	93.00 mph
Elapsed Time	15.10 secs
Top Speed	120 mph
Fuel Consumption	10/14 mpg

Exercise 14

Directions: Use the 1972 Chevrolet Specifications on the preceding page as the basis for a student-teacher discussion. Some students will probably be able to read this chart and explain most of the terms to their fellow students and teacher.

ACCESSION NUMBER: VT101446

PUBLICATION DATE: SEP74

TITLE: VOCABULARY SKILLS - BEAUTY CULTURE. BOOKLET NO. 1-ALPHABETIZING; BOOKLET NO. 2-WORD STUDY; BOOKLET NO. 3-WORD MEANING.

DESCRIPTOR: *COSMETOLOGY; *TRADE AND INDUSTRIAL EDUCATION; *WORD STUDY SKILLS; *VOCABULARY DEVELOPMENT; *WORKBOOKS

EDRS PRICE: MF AVAILABLE IN VT-ERIC SET.

DESCRIPTIVE NOTE: 74P.

ABSTRACT: THREE SMALL WORKBOOKS HAVE BEEN DEVELOPED FOR STUDENTS IN A VOCATIONAL COURSE OF COSMETOLOGY FOR BEGINNERS. THEY AIM AT DEVELOPING FAMILIARITY AND SKILL IN THE LANGUAGE OF THE TRADE. TEN EXERCISES EACH IN ALPHABETIZING AND WORD STUDY AND ELEVEN EXERCISES IN WORD MEANING CONSTITUTE THE SKILL TRAINING. (MU)

INSTITUTION NAME: RUTGERS, THE STATE UNIV., NEW BRUNSWICK, N.J. CURRICULUM LAB.

SPONSORING AGENCY NAME: NEW JERSEY STATE DEPT. OF EDUCATION, TRENTON. DIV. OF VOCATIONAL EDUCATION.

VT 101 446

State of New Jersey
Department of Education
Division of Vocational Education

VOCABULARY SKILLS – BEAUTY CULTURE

BOOKLET NO. 1 – ALPHABETIZING

Virginia Tracy, Instructor
Bergen County Vocational
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Hackensack, New Jersey

Vocational-Technical
Curriculum Laboratory
Rutgers – The State University
Building 4103 – Kilmer Campus
New Brunswick, New Jersey

T 101 446

VOCABULARY SKILLS

For

Beauty Culture Students

Booklet No. 1

Alphabetizing

Student's name _____

Starting date of this unit _____

Date completed _____

Grade _____

September 1974

DIVISION OF VOCATIONAL EDUCATION
Stephen Poliacik, Assistant Commissioner

CURRICULUM LABORATORY
Rutgers – The State University
Building 4103 – Kilmer Campus
New Brunswick, New Jersey

Introduction:

This book will help you in two ways.

First: it will help familiarize you with a basic vocabulary used in Beauty Culture.

Second: you will be working to acquire vocabulary skills you need to know for success in your work.

The first ten exercises in the booklet deal with alphabetizing. In order to find a word in a dictionary or trade manual, you must know and practice alphabetizing. This will help you to develop speed in looking up words.

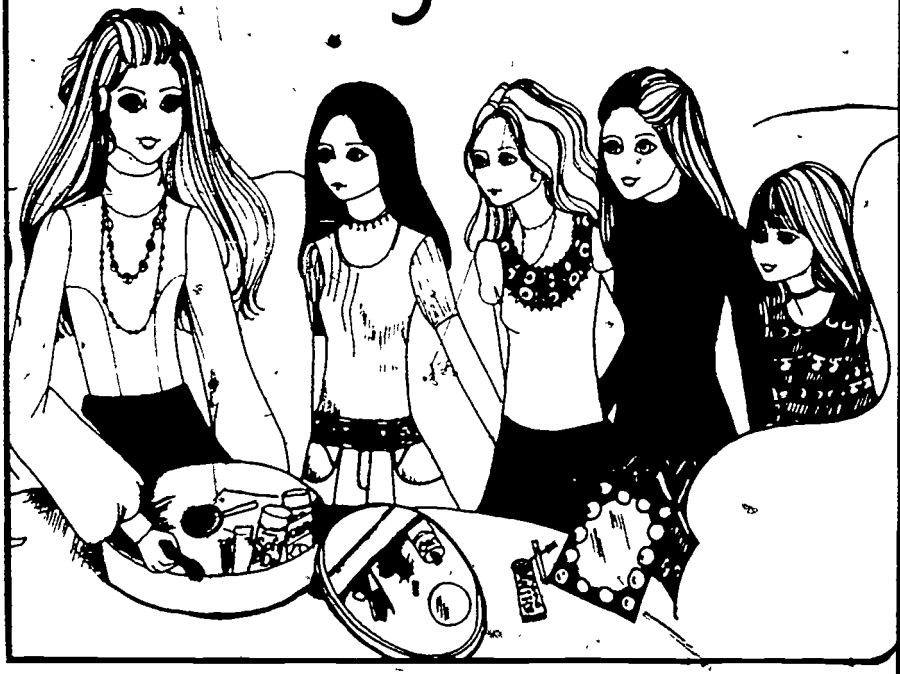
Objectives:

1. You will be able to alphabetize words according to the first letter of a word.

2. You will be able to alphabetize words when the words begin with the same first letter or first two letters.

3. You will demonstrate to your teacher that you can arrange words in alphabetical order.

be sure they learn 'first things first'...



Exercise 1

Directions: Look at the words in column 1. They are not in alphabetical order. You are to arrange them in alphabetical order in the blank spaces in column 2.

Example:

Column 1	Column 2
hair	angle
angle	file
tile	hair

Column 1	Column 2
1. coarse	1. _____
2. manicure	2. _____
3. skin	3. _____
4. beauty	4. _____
5. allergy	5. _____
6. wig	6. _____
7. nails	7. _____
8. lotion	8. _____
9. rinse	9. _____
10. dryer	10. _____

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Exercise 2

Directions: Follow the same directions as in exercise 1.

Column 1	Column 2
1. file	1. _____
2. absorb	2. _____
3. massage	3. _____
4. lipstick	4. _____
5. bleach	5. _____
6. hairnet	6. _____
7. exercise	7. _____
8. wind	8. _____
9. tint	9. _____
10. rouge	10. _____

Exercise 3.

Directions: Look at the following list of words in column 1. Some of the words begin with the same letter. Therefore, when you put them in alphabetical order, remember you must look at the *second* letter of the word.

Example:

Column 1	Column 2
lotion	*la*ther
lather	*li*ghten
lighten	*lo*tion

Column 1	Column 2
1. stimulate	1. _____
2. taper	2. _____
3. thorough	3. _____
4. spray	4. _____
5. scalp	5. _____
6. skin	6. _____
7. tweeze	7. _____
8. sallow	8. _____
9. texture	9. _____
10. tint	10. _____

Exercise 4

Directions: More practice in arranging words from A to Z (alphabetical order). If the first two letters of the words are same, then your guide in alphabetizing is the *third* letter. Arrange the 10 words of column 1 in alphabetical order.

Example:

Column 1	Column 2
posture	*po*lish
polish	*po*sture
powder	*pow*der

Column 1	Column 2
1. coiffeur	1._____
2. contagious	2._____
3. coarse	3._____
4. contour	4._____
5. compound	5._____
6. coloring	6._____
7. cowlick	7._____
8. cosmetologist	8._____
9. cortex	9._____
10. counter	10._____

Exercise 5

Directions: In the following exercise list five different books or materials that you use in your Beauty Culture shop work, and five things you use every day. Then put both lists in alphabetical order.

Beauty culture use:

1. _____	1. _____
2. _____	2. _____
3. _____	3. _____
4. _____	4. _____
5. _____	5. _____

Everyday use:

1. _____	1. _____
2. _____	2. _____
3. _____	3. _____
4. _____	4. _____
5. _____	5. _____

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Reprinted from
Grant, Florence, *The Beautician*
McGraw-Hill Book Company,
New York

One source of information that you will use on the job to help you find information quickly is the *index* which is found in the back of a trade manual or textbook. It should include the particular word or term you are looking for in alphabetical order, and the number of the page on which you will find the information about the term. Any *subtopics* under the main topic are also alphabetized. Generally the main entries are capitalized but the subentries are not.

Example:

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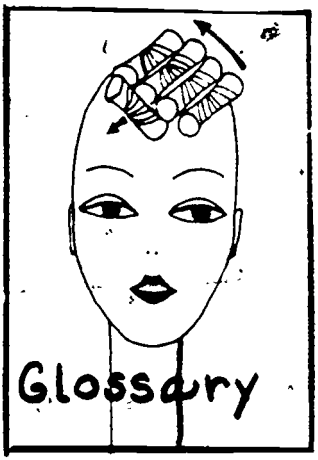
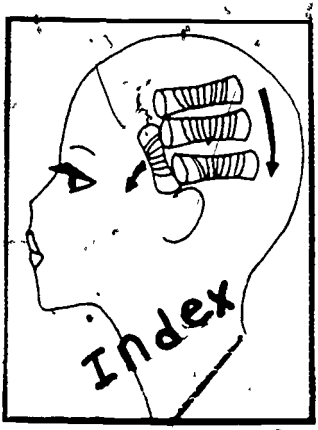
- waving lotion, 38–41

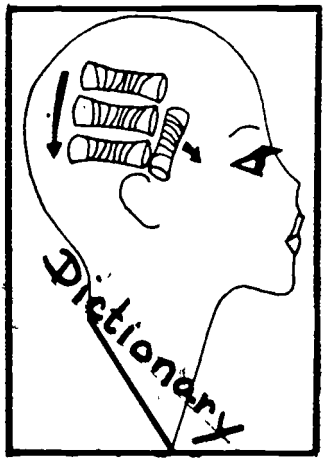
Note that the above listing is easy to use because all the entries are in A to Z order.

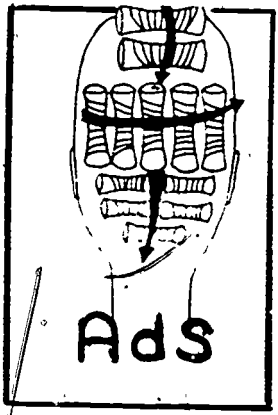
Now do the exercise on page 11.

TIPS FOR ALPHABETIZING









Exercise 6.

Directions: Here is another index listing, but it is not in A to Z order. Put the listing in alphabetical order. Include the page numbers.

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Makeup, 71 – 75

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____

Classified Advertising

WANTED TO BUY

BEAUTY SALON WANTED

Enclosed mall or shopping center. Write Box C-6-9-73, c/o AMERICAN HAIRDRESSER/SALON OWNER, 100 Park Avenue, Suite 850, New York, N.Y. 10017 C-6-9-73

CANADIAN SALON

Prefer shopping center location. All answers in confidence. Box C-6-10-73, c/o AMERICAN HAIRDRESSER/SALON OWNER, 100 Park Avenue, Suite 850, New York, N.Y. 10017 C-6-10-73

BEAUTICIANS TEXTBOOKS

BEAUTY SCHOOL TEXTBOOKS AND INSTRUCTIONAL MANUALS FOR HAIRSTYLING—We carry a complete line of beauty culture textbooks, teaching aids and record forms for both schools and beauty salons. Send for our free catalogue—MILADY PUBLISHING CORPORATION, Department AA-3839 White Plains Road, Bronx, New York 10467 C-6-3-73

BEAUTY TEXTS, TRAINING AIDS, AND STYLING BOOKS. Free Catalog. Keystone Publications, Dept. FR, 1650 Broadway, New York, N.Y. 10019

SCHOOLS

"Gulfport & St. Petersburg Academy of Beauty Culture. 4924 22nd Ave., S. St. Petersburg, Florida." C-6-2-73

LEARN ELECTROLYSIS

Increase Your Beauty Salon Profits. World famous Kree centers located in Chicago, Miami, Atlanta, Montreal and New York. Write to Kree International 152 West 42nd Street, New York, N. Y. 10036. Bryant 9-4210.

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BEST COPY AVAILABLE

CLASSIFIED ADS

Exercise 7

Directions: This is another type of listing that should appear in alphabetical order. On the preceding page are *classified ads* taken from a magazine. Write the *headings* of the ads on the lines below in alphabetical order.

Classified Advertising

1. _____
2. _____
3. _____
4. _____

GLOSSARY

Compiled of words used in connection with beauty culture, defined in the sense of anatomical, medical, electrical and beauty culture relationship only. Key to pronunciation is as follows: fāte, senâte, câre, ăm, finâl, arm, ask, sofă; ēve, ĕvent, ĕnd, recēnt, ēvĕr; īce, ĭll; ōld, ôbey, ôrb, ŏdd, cônnect, sŏft, fo͞od, fo͝ot, ūse, ŭnite, ûrn, ŭp, circûs; those

A

abdomen (ăb-dō'mĕn): the belly; the cavity in the body between the thorax and the pelvis.

abducent nerve (ăb-dū'sĕnt nûrv): the sixth cranial nerve; a small motor nerve supplying the external rectus muscle of the eye.

abductor (ăb-dŭk'tĕr): a muscle that draws a part away from the median line (opp., adductor).

abnormal (ăb-nôr'măl): irregular; contrary to the natural law or customary order.

abrasion (ă-brā'zhûn): scraping of the skin; excoriation.

abscess (ăb'sĕs): a circumscribed cavity containing pus.

absorbent (ăb-sôr'bĕnt): anything that absorbs.

absorption (ăb-sôrp'shûn): assimilation of one body by another; act of absorbing.

accelerator (ăk-sĕl'ĕr-ā-tĕr): any agent which hastens or quickens action.

accessory nerve (ăk-sĕs'ô-rē nûrv): spinal accessory nerve; eleventh cranial nerve; affects the sterno-cleido-mastoid and trapezius muscles of the neck.

accretion (ă-krē'shŏn): an accumulation of foreign matter in any cavity.

acetic (ă-sēt'ĭk): pertaining to vinegar; sour.

acid (ăs'ĭd): a sour substance; any chemical compound having a sour taste.

healing leave conspicuous pits and scars.

acne indurata (ĭn-dū-rā'tă): deeply seated pimples with hard tubercles occurring chiefly on the back.

acne keratosa (kĕr-ă-tō'să): an eruption of papules consisting of horny plugs projecting from the hair follicles, accompanied by inflammation.

acne punctata (pŭnk-tā'tă): appear as red papules in which are usually found blackheads.

acne pustulosa (pŭs-tû-lō'să): acne in which the pustular lesions predominate.

acne rosacea (rō-zā'shē-ă): a form of acne usually occurring around the nose and cheeks, due to congestion, in which the capillaries become dilated and sometimes broken.

acne simplex (sĭm'plĕks): acne vulgaris; simple uncomplicated pimples.

acne vulgaris (vŭl-gā'rĭs): acne simplex; simple uncomplicated pimples.

acoustic (ă-ko͞os'tĭk): auditory, eighth cranial nerve; controlling the sense of hearing.

actinic (ăk-tĭn'ĭk): relating to the chemically active rays of the spectrum.

acute (ă-kūt'): attended with severe symptoms; having a short and relatively short course; not chronic, said of a disease.

adductor (ă-dŭk'tĕr): a muscle that draws a part toward the median line.

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Exercise 8

Another source of reference you will use often is the *glossary* in the back of your textbook. This usually contains technical words and their meanings as used in the textbook subject matter.

Directions: Arrange the following ten words, which were taken from the *glossary* of a beauty culture text.

Column 1	Column 2
1. conditioner	1. _____
2. get	2. _____
3. jugular	3. _____
4. hormone	4. _____
5. helix	5. _____
6. mega	6. _____
7. mucous	7. _____
8. neutral	8. _____
9. coil	9. _____
10. heredity	10. _____

Exercise 9

Directions: Below is a list of words in rough alphabetical order. Examine this list of words. Then look at the four column groups on the next page. Place all the words in their correct columns in exact alphabetical order.

Example:

Words	Column 1	Column 2
1. salami	*salami*	judge
2. justice	sandwich	jury
	snack	*justice*

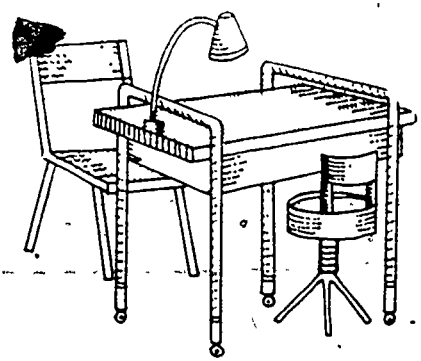
Word List

1. deodorant
2. dandruff
3. developer
4. disinfectant
5. dilute
6. foundation
7. fungus
8. fashion
9. fingerwave
10. file
11. hairstyling
12. phosphates
13. pigment
14. pliable
15. penetrate
16. permanent
17. patron
18. wind
19. viscosity
20. wiglet
21. whorl

Column 1		Column 2	
1.		1.	facial
2.		2.	
3.	detergent	3.	
4.		4.	
5.		5.	
6.		6.	
7.	dryer	7.	

Column 3		Column 4	
1.	parallel	1.	
2.		2.	wave
3.		3.	
4.		4.	wig
5.	peroxide	5.	
6.		6.	
7.		7.	wristlet
8.			

EQUIPMENT



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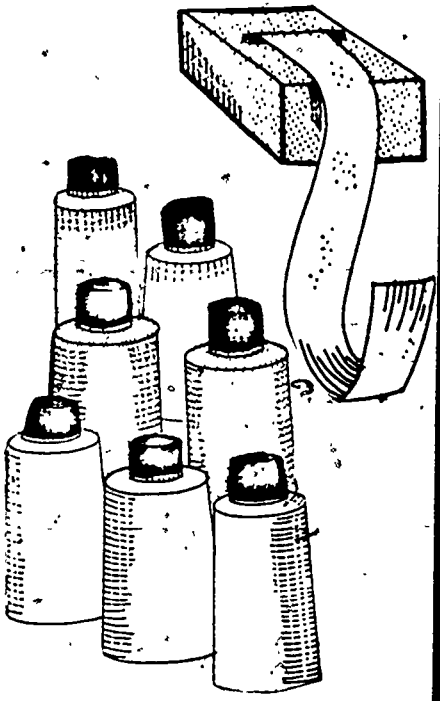

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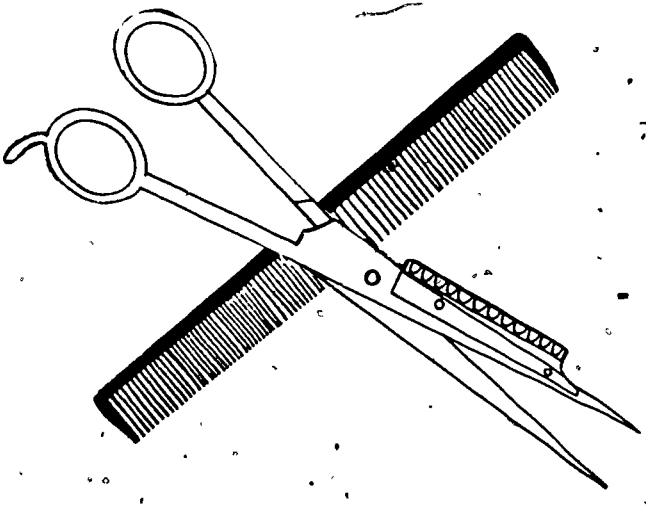

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Exercise 10

Directions: On the preceding pages there is an *Advertisers Index* which appears in some magazines. You are to look up in the index the different companies in the following listing and give the *page number* of the magazine on which each will be found.

Time yourself on this exercise.

Ending time _____

Beginning time _____

Time required _____

Company	Page No.
1. Personna Blades	
2. Anti-Terge	
3. Hairseptic	
4. Costec 20	
5. Magic Focus, Inc.	
6. Willat Co.	
7. Duon, Inc.	
8. Breck	
9. Faberge	
10. Gordon-Evans Sales Co.	
11. Sixth of Venus	

Company	Page No.
12. Wella Corp.	
13. Clairol, Inc.	
14. Final Net	
15. Comfort Mfg. Co.	
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State of New Jersey
Department of Education
Division of Vocational Education

VOCABULARY SKILLS – BEAUTY CULTURE

BOOKLET NO. 2 – WORD STUDY

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ERIC

VOCABULARY SKILLS

For

Beauty Culture Students

Booklet No. 2

Word Study

Student's name _____

Starting date of this unit _____

Date completed _____

Grade _____

September 1974

DIVISION OF VOCATIONAL EDUCATION
Stephen Poliacik, Assistant Commissioner

CURRICULUM LABORATORY
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Building 4103 – Kilmer Campus
New Brunswick, New Jersey

Introduction:

In this section of the vocabulary booklet you will study *prefixes*, *roots*, *suffixes*, and the syllabication of words. In order to work with this part of the booklet, you must learn to identify the basic parts of words.

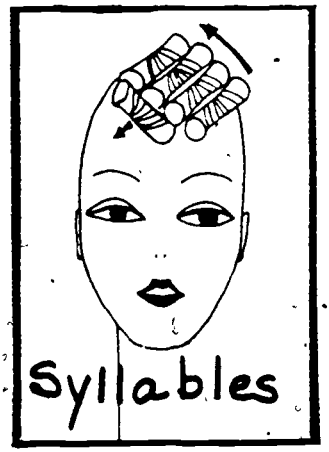
Objectives:

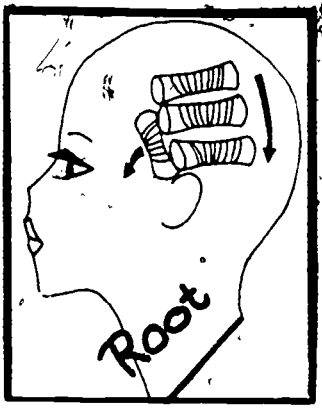
1. You will be able to identify the prefix, root, and suffix of a word.

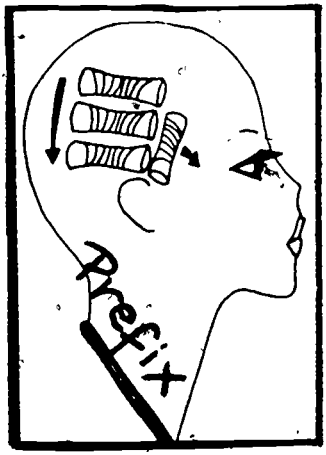
2. You will be able to syllabicate a word properly in order to pronounce the word correctly.

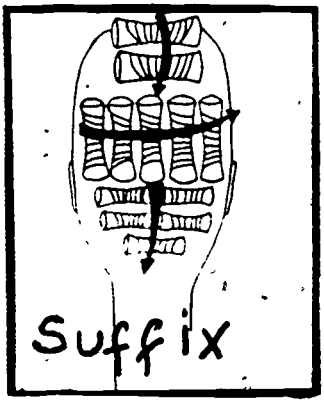
3. You will be able to understand the phonetic pronunciation of a word.

TIPS TO WORD STRUCTURE









DEFINITION OF TERMS

1. Root (or base) – means the main part of the word.

   Example: cosm is from the Greek "kosmos," meaning order. The word *cosmetic* means skill in arranging ("ordering") or beautifying.

2. Prefix – a syllable added to the beginning of a word to add to or change its meaning.

   Example: con means *with* or *together,* as in the word *con*ditioner.

3. Suffix – a syllable added to the end of a word to add to or change the meaning. (A suffix is also likely to change its pronunciation.)

   Example: logy – means the *science of,* or the *study of,* as in the word cosmet*ology.*

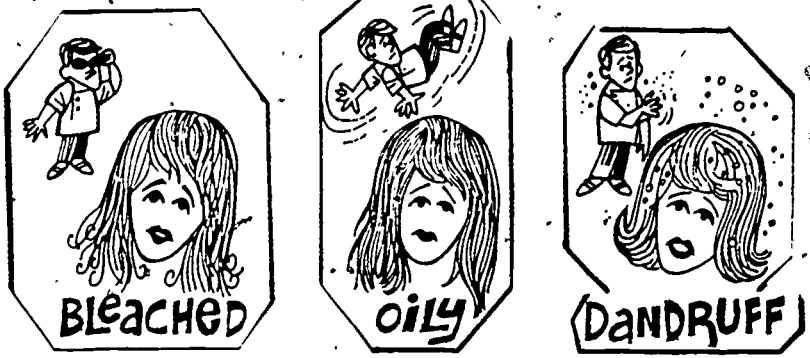
4. Syllabication – means dividing words into syllables to indicate pronunciation of the word.

   Example: beautician: beau–ti'–cian

5. Phonetic pronunciation – means representing speech sounds by special symbols.

   Example: cosmetologist: käz–mə–täl'–ə–jəst

PROTEIN shampoo.



PRODUCTS

Exercise 1

Directions: Look at the preceding page. Notice the words – they should all be familiar to you. Divide the following words into syllables. Put in an accent mark. If you are not sure, check with your dictionary.

Words	Syllabication
1. products	_____
2. protein	_____
3. shampoo	_____
4. dandruff	_____
5. oily	_____
6. bleached	_____

Exercise 2

Directions: The following words contain *prefixes*. Remember your definition for prefix. Use your dictionary to find the meaning of the prefixes.

Example:

Word	Prefix	Meaning
diaphragm	dia	through, across

Word	Prefix	Meaning
1. absorb	_____	_____
2. antiseptic	_____	_____
3. disinfectant	_____	_____
4. complexion	_____	_____
5. excretion	_____	_____
6. counterclockwise	_____	_____
7. preparation	_____	_____
8. unwrap	_____	_____
9. compound	_____	_____
10. reverse	_____	_____

Exercise 3

Directions: Write the basic *roots* of the following words. Remember your definition of "root" (base word). Use your dictionary to find the meaning of the root.

Example:

Word	Root	Meaning
manicure	man	hand

Word	Root	Meaning
1. pedicure	_____	_____
2. quaternary	_____	_____
3. circulation	_____	_____
4. sanitation	_____	_____
5. hydrolyzed	_____	_____
6. Dermatology	_____	_____
7. disorder	_____	_____
8. sterilizer	_____	_____
9. involuntary	_____	_____
10. capillary	_____	_____

Exercise 4

Directions: Form a new word by adding one of the following prefixes and/or suffixes to the root words given on the opposite page. The meaning of the word you are to form is also given.

Prefixes	Suffixes
ab–	–ation
de–	–cian
per–	–ology
con–	–tic
anti–	–ant
en–	–able
in–	–ible

Examples:

1. *con* duc *tion:* transmission of heat, electricity, etc.
   (Added prefix and suffix)

2. motion *less:* not moving, without movement
   (Added only the suffix)

3. *re* model: model again
   (Added only the prefix)

1. _____ sep _____

(Meaning: preventing decay – the growth of bacteria)

2. _____ odor _____

(Meaning: something that destroys odors)

3. _____ sorb _____

(Meaning: to suck up)

4. cosmet _____

(Meaning: the science of beautifying)

5. beauti _____

(Meaning: one who beautifies)

6. _____ flam(m) _____

(Meaning: easily caught on fire)

7. _____ flex _____

(Meaning: not able to be bent)

8. _____ oxide

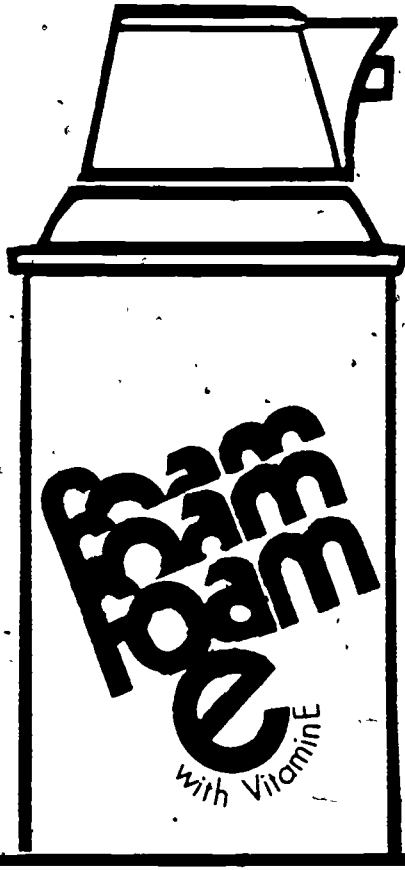
(Meaning: a bleach with a large amount of oxygen)

9. _____ tangle

(Meaning: to make very tangled)

10. found _____

(Meaning: something forming a base for other things)



Vitamin E in Every Application

Does the work of a shelf full of products ...to give the most complete conditioning set ever!

- Helps repair cuticle damage for easy combing, greater luster
- Moisturizes every strand for fuller, livelier styles
- Helps prevent unsightly oxidation damage

Exercise 5

Directions: Answer the following questions and statements by referring to the words in the ad on the opposite page.

1. What is the root word in *moisturizes?*

_____

2. Divide the word *oxidation* into syllables. Put in the accent mark.

_____

3. What is the prefix in the word *conditioning?* What does it mean?

_____

4. Give the suffix and its meaning in the word *application.*

_____

5. Give the phonetic pronunciation of the word *cuticle.*

_____

6. Give the phonetic pronunciation of the word *damage.*

_____

7. What is the root in *vitamin?* What does it mean?

_____

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It is an established medical fact that hormones perform a prime function in body growth. There are of course many types of hormones. Le Conté chemists, through years of scientific investigation have isolated those hormones that are the most active in the growth and condition of human hair.

These hormones in a carefully balanced combination with TOLANOL have evolved into a product we guarantee to provide natural looking beauty in all types and textures of hair.

Le Conté Hair Treatment is years ahead of other hair care products on the market.

LeConté Hormones Growhair Treatment for

- *Natural Lustre*
- *Body & Strength*
- *Hair Growth*
- *Better Texture*
- *Healthier Hair*
- *Freedom from dandruff*

Exercise 6

Directions: Choose the correct pronunciation for the following words in the ad on the opposite page and write the proper letter in the space provided. Check your answers in a dictionary.

1._____	hormones –	(a) hor'mones (b) hor mon'es
2._____	investigation –	(a) in ves tig'a tion (b) in ves ti ga'tion
3._____	scientific –	(a) sci en tif'ic (b) sci en'ti fic
4._____	guarantee –	(a) guar an tee' (b) guar'an tee
5._____	evolved –	(a) e vol'ved (b) e volved'
6._____	texture –	(a) tex'ture (b) text ure'
7._____	treatment –	(a) treat ment' (b) treat' ment
8._____	healthier –	(a) heal thi'er (b) health'i er
9._____	combination –	(a) com bi na'tion (b) com bin'a tion
10._____	dandruff –	(a) dan'druff (b) dand ruff'

This is what you really want

ANTI-TERGE

the best protection you can have for your hands

That's a promise. Anti-Terge protects against cold waves, bleaches, tints, shampoos, and detergents . . . acts like a glove to keep your hands irritation-free.

SEND YOUR NAME AND ADDRESS... PLUS THE NAME AND ADDRESS OF YOUR DEALER FOR FREE JAR

Exercise 7

Directions: Using definition of root, prefix, and suffix, see if you can answer the following questions about the words in the ad on the preceding page. Use your dictionary if necessary.

1. Give the prefix, root, and suffix of the word *protection.*

   prefix:_____

   root:_____

   suffix:_____

2. Give the prefix, root, and suffix of the word *detergent.*

   prefix:_____

   root:_____

   suffix:_____

3. In the hyphenated name *Anti-Terge,* the prefix *anti* means: _____

4. Following are the phonetic pronunciations of some words in the ad. Write the words.

   (ir ə tā′shən)_____

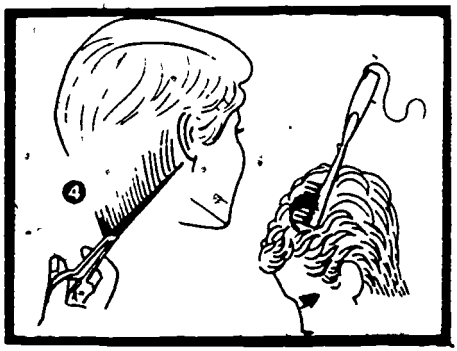
   (ē′(ə) lē)_____

   (shampüz′)_____

   (präm′ əs)_____

   (əgenst)_____

   (ə dres′)_____



COIFFURE
(kwä fyůr')

The *coiffure* means a way of arranging or styling the hair. One of the newest looks from Paris is the so-called *tress-by-tress technique*. The hair is slightly longer in the back, and there's a plunging *nape* line. This *precise* cut, which swirls onto the cheeks, outlines the *contours* of the face.

Exercise 8

Directions: Read the explanation of the word *coiffure* on the opposite page. Then mark the following statements true or false. Use your dictionary if you are not sure of the answer.

1._____ In the word *coiffure* there are two syllables.

2._____ The accent of the word is on the first syllable.

3._____ The word *nape* has two vowels and therefore two syllables.

4._____ The word *technique* is pronounced tek'ni kyü.

5._____ In the reading, the word *tress* refers to a lock of hair.

6._____ The prefix in the word *precise* is *cise.*

7._____ The word *contour* refers to the outline of the face.

8._____ The word *contour* has two syllables.

9._____ Another word for *precise* is *exact.*

10._____ The correct pronunciation of Paris is pä rē'.

modacrylic stretch wigs

They are
Permanently set
Permanently styled
Crushproof
Washable
Lightweight
Guaranteed

Exercise 9

Directions: Read the ad on the preceding page. The following statements deal with the words used in the ad.

1. Give the syllabication and accent of the word *modacrylic.*

_____

2. Look up the word *modacrylic* in the dictionary. What two words are combined in it?

_____ _____

3. Give the prefix, root, and suffix of the word *permanent*:

prefix_____

root_____

suffix_____

4. Divide these four words into syllables.

a. lightweight_____

b. washable_____

c. crushproof_____

d. guaranteed_____

"Lashes"

new QUIK DIP adhesive

Right now . . . if you can handle a tweezers, you can apply individual lashes to customers AND MAKE MORE PROFIT PER HOUR THAN ANY OTHER SALON SERVICE. Ardell's new QUIK-DIP LashTite™ adhesive makes it possible.

Only QUIK-DIP requires no messy "coating" of lashes with adhesive to make them stay on. Instead, QUIK-DIP leaves lashes clean and free of excess adhesive.

Exercise 10

Directions: The following phonetic pronunciations are for words that appear in the ad on the opposite page. Some of them are wrong. Match the correct phonetic pronunciations in column 1 with the words in column 2 by writing the correct number in column 2.

Column 1	Column 2
1. in ᵭ vij'ə wəl	_____ customers
2. lash'əz	_____ tweezers
3. in sted'	_____ salon
4. ḳus'təm ərz	_____ requires
5. twē'zərz	_____ instead
6. sə lün'	_____ excess
7. in'sted	_____ adhesive
8. ad hē'siv	_____ individual
9. lash'ēz	_____ possible
10. pəs ib'əl	_____ lashes
11. sə län'	
12. päs'ə͝bəl	
13. ik ses'	
14. ri-kwīrz'	

State of New Jersey
Department of Education
Division of Vocational Education

VOCABULARY SKILLS – BEAUTY CULTURE

BOOKLET NO. 3 – WORD MEANING

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Rutgers – The State University
Building 4103 – Kilmer Campus
New Brunswick, New Jersey

VOCABULARY SKILLS

For

Beauty Culture Students

Booklet No. 3

Word Meaning

Student's name _____

Starting date of this unit _____

Date completed _____

Grade _____

September 1974

ERIC Full Text Provided by ERIC

DIVISION OF VOCATIONAL EDUCATION
Stephen Poliacik, Assistant Commissioner

CURRICULUM LABORATORY
Rutgers – The State University
Building 4103 – Kilmer Campus
New Brunswick, New Jersey

Introduction:

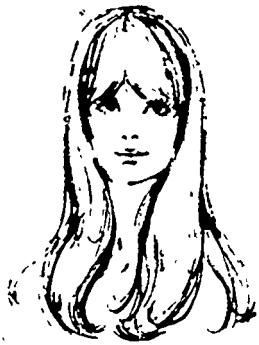
Words that we use in everyday speech can at different times have many different meanings. In this booklet you will show that you know the meanings of some words and terms used in Beauty Culture.

For some people it is easy to look up a word in a dictionary; others may find it more difficult. Some words have several meanings. Therefore, to use the dictionary effectively we must know *how the word is being used at the particular time*. We call this the use of the word in its *context*.

Objectives:

1. You will be able to identify the meanings of words used in your trade.

2. You will be able to differentiate between different meanings of words according to their context.



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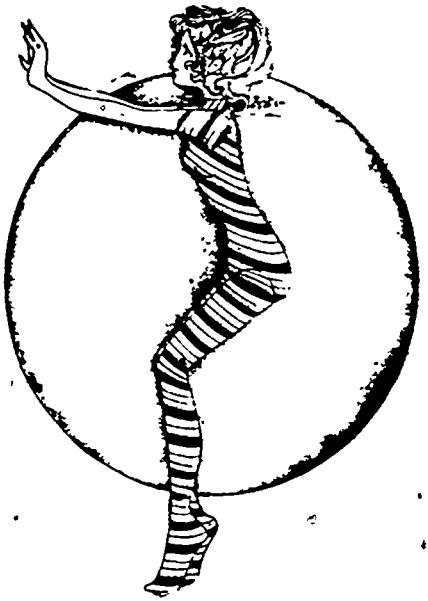
Exercise 1

Directions: In the following exercise you will write *your own meaning* for each word listed below.

Word	Meaning
1. uniform	_____
2. brush	_____
3. exercise	_____
4. file	_____
5. nail	_____
6. roller	_____
7. patron	_____
8. permanent	_____
9. scalp	_____
10. spray	_____



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Exercise 2

Directions; Below is a list of meanings of the words you worked with in exercise 1. Compare your meanings with the meanings listed below. If your meaning has the same general idea, mark yours with a checkmark (✓). If your meaning does not correspond, mark yours with an x.

Words	Meanings
1. uniform	___ the *garment* worn by a beauty operator while at work
2. brush	___ *appliance* with bristles
3. exercise	___ series of *movements* to strengthen or develop parts of a body
4. file	___ steel tool with rough *surface*
5. nail	___ thin, horny *plate* at the end of a finger or toe
6. roller	___ a *cylinder* of metal or plastic on which hair is wound
7. patron	___ a customer
8. scalp	___ the skin on the top and back of head that is usually covered by hair.
9. spray	___ a cloud or mist of tiny liquid *particles*
10. permanent	___ a hair *wave* produced by the use of chemicals

Exercise 3

Directions: On the preceding pages you compared the definitions of words to what you had written down. Go back and reread the printed definitions. Notice the italicized words within the definitions in exercise 2.

In this exercise, the italicized words of the definitions are repeated. Write the letter of the *best* meaning that could be substituted for the italicized word in the definition.

1. ___ garment
   a. makeup
   b. pattern
   c. clothing

2. ___ appliance
   a. device
   b. compliance
   c. machine

3. ___ movements
   a. actions
   b. developments
   c. imitations

4. ___ surface
   a. teeth
   b. outside
   c. steel

5. ___ plate
   a. dish
   b. scale
   c. platter

6. ___ cylinder
   a. tunnel
   b. piston
   c. tube

7. ___ customer
   a. benefactor
   b. purchaser
   c. user

8. _____ covered
   a. concealed
   b. outlined
   c. blanketed

9. _____ particles
   a. flecks
   b. syllables
   c. articles

10. _____ wave
   a. roller
   b. surge
   c. curved shape

Exercise 4

Directions: The following terms or words are used in beauty culture. However, the same terms can be used within other trades – they may have the same or different meanings. (A) Give your definition of the following words as used in cosmetology and then (B) name another field of work or trade that uses the same term.

Example:

sterilizer

A. (Meaning)*device to kill micro-organisms*

B. (Other trade) *Dental Assisting*

1. solution

A. _____

_____

B. _____

2. detergent

A. _____

_____

B. _____

3. peroxide

A. _____

_____

B. _____

4. pumice

A. _____

_____

B. _____

5. frosting

A. _____

_____

B. _____

6. tinting

A. _____

_____

B. _____

7. trim

A. _____

_____

B. _____

8. buffer

A. _____

_____

B. _____

9. nutrition

A. _____

_____

B. _____

10. bleach

A. _____

_____

B. _____

Exercise 5

The words in the following list can be placed in one of the three categories shown: Horticulture, Beauty Culture, and Finance and Money. Copy each word in the correct column.

Word List	Beauty Culture	Horti-culture	Finance & Money
Ex. conditioner	*conditioner*		
1. budget			
2. scion			
3. nape			
4. node			
5. tease			
6. balance			
7. posture			
8. gross			
9. lotion			
10. irrigation			
11. prune			
12. tint			
13. trowel			
14. currency			
15. percent			
16. powder			
17. fertilizer			
18. endorse			
19. styling			
20. insecticide			

Exercise 6

A *synonym* is a word that has the same meaning as another word (or almost the same meaning).

Directions: Pick out a synonym for each of the following words, writing its number in the blank space.

Example: c border
(a) center (b) inside (c) edge

1.___ dye
(a) bleach (b) pigment (c) pass away

2.___ polish
(a) roughen (b) apply (c) smooth

3.___ porous
(a) absorbent (b) spilling (c) weak

4.___ texture
(a) character (b) textbook (c) curly

5.___ style
(a) quaint (b) design (c) modern

6.___ circular
(a) vertical (b) horizontal (c) rounded

7.___ rough
(a) rough (b) blend (c) coloring

8.___ cosmetic
(a) makeup (b) luster (c) hairline

9.___ massage
(a) missive (b) manipulate (c) bulky

10.___ blackhead
(a) comedo (b) comedy (c) comelone

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Exercise 7

Directions: On the preceding page are words common to Beauty Culture. Write each word and its meaning. Use your dictionary if you are not sure of a meaning or how to express it in your own words.

Word	Meaning
1. _____	_____
2. _____	_____
3. _____	_____
4. _____	_____
5. _____	_____

Sea Breeze and one shampoo cleans better than two.

Sea Breeze gently loosens and removes the oil and grease that build up deep down in the scalp.

And once this residual oil is removed, you only need to lather and rinse once to clean the hair thoroughly.

That's especially important for hair that's fragile from age or abuse.

So before you shampoo, remember the Sea Breeze. It's one of those extra touches that makes a customer a steady.

Exercise 8

Directions: On the preceding page is an ad advertising Sea Breeze hair preparation. Read the ad carefully and then answer the questions below. Put the proper letter in the blank space.

1._____ What is the trade name of the product?

a. shampoo
b. Sea Breeze
c. extra touch

2._____ What does the ad mean by *residual*?

a. remaining
b. oily
c. carrying

3._____ "Hair that's fragile from age or abuse" means:

a. hair that is strong
b. hair that is weak
c. hair that has fine texture

4._____ "One of those extra touches" means:

a. a bigger tip
b. a soothing massage
c. something more than others do

5._____ "Makes a customer a steady" means:

a. She will come back regularly.
b. She will come every day.
c. She will use the product continually.

6. Choose the correct meaning for these words:

____ lather: (a) form a foam (b) form a fog (c) finish
____ thoroughly: (a) twice (b) completely (c) willingly
____ scalp: (a) crown of head (b) quick profit (c) hair shaft

Exercise 9

MINT JULEP SHAMPOO

CONTAINS NO DETERGENT NO PHOSPHATES

Today everyone is alert to the problems detergents create in our environment. We are pleased to announce that Queen Helene Mint Julep Concentrate Shampoo contains only pure and natural ingredients, primary among which is coconut oil. The product, therefore, offers the most effective results with little or no upset to the balance of nature, ie: ecology. Queen Helene Mint Julep Concentrate Shampoo contains no detergents; no phosphates; or synthetic thickening agents. It is completely biodegradable; therefore it creates no water pollution problems.

Exercise 9

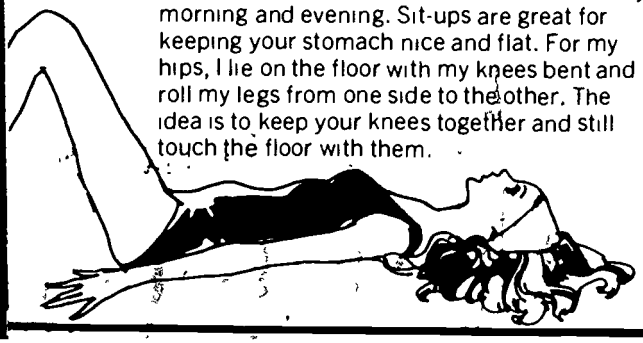
Directions: Find a word in the ad on the preceding page that matches the following meanings. Write the word on the line given in each case. (The words are underlined.)

1. A cleansing substance _____
2. Surroundings _____
3. The study of living organisms and their environment _____
4. Things combined in a mixture _____
5. Condense; make less dilute _____
6. Environmental impurity or contamination _____
7. First _____
8. Producing the effect needed _____
9. Make known _____
10. Name of a drink _____
11. Chemicals that cause pollution in our streams, rivers, etc. _____
12. Made by man, rather than by nature _____

Model Talk by Cheryl Tiegs

About Diets – I guess you could say I'm on a perpetual diet. I'm 5'10" and my best weight for modeling is 130. Staying there means cutting down—on sweets, bread and portions in general. And no snacking between meals. Ever. I don't believe in crash diets (I'd be too exhausted to work), and I try not to skip meals. I get too hungry if I do, and stuff myself the next time I see food! Vitamin pills are an everyday must for me.

Exercise – I love swimming and tennis, but when that's impossible, I do 10 minutes of exercises every morning and evening. Sit-ups are great for keeping your stomach nice and flat. For my hips, I lie on the floor with my knees bent and roll my legs from one side to the other. The idea is to keep your knees together and still touch the floor with them.



Exercise 10

Directions: Read the short paragraphs on diets and exercise on the opposite page. Then in the exercise below, write another word that means the same as each italicized word, as taken from the readings. Use your dictionary to help you.

Phrase	Synonym
1. "*perpetual* diet"	_____
2. "*portions* in general"	_____
3. "too *exhausted* to work"	_____
4. "your *stomach*"	_____
5. "no *snacking* between meals"	_____
6. "that's *impossible*"	_____
7. "knees *together*"	_____
8. "*exercises* every morning"	_____
9. "*Crash* diets"	_____
10. "*skip* meals"	_____

Exercise 11

Directions: The following pictures have short descriptive paragraphs on young girls' hair styles. Some of the words are underlined. You are to write synonyms for these words. *Do not use your dictionary.* Try to determine the meaning of the words from the context.

Time yourself.

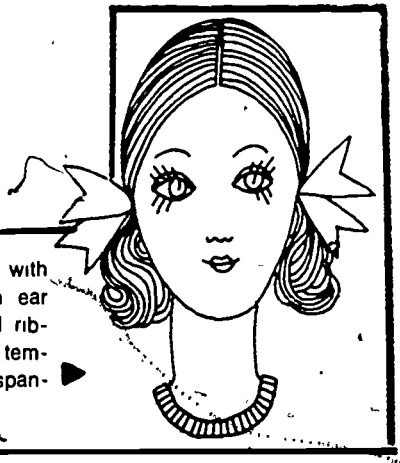
Ending time_____

Beginning time_____

Time elapsed_____

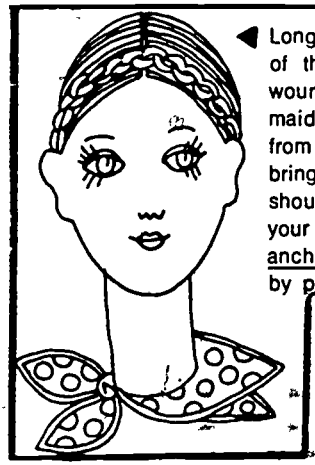
Medium-long hair lends itself well to the classic pony tail, which leaves the nape clear for cooling breezes. Give it a different look with two tiny braids on either side, held in place with barettes.

Word	Synonym
1. classic	_____
2. nape	_____
3. barettes	_____



Catch medium-length locks with coated elastics over each ear and cover with a bow-tied ribbon. Or, tie them higher, at temple level, for the fetching "spaniel ears" effect. ▶

4. medium _____
5. coated _____
6. elastics _____
7. fetching _____



◀ Long, long hair stays neatly out of the way if it's plaited and wound around the head milkmaid style. Center part your hair from forehead to nape, then bring all the hair in front of your shoulders to braid. Next wrap your head with the braids and anchor them securely with bobby pins.

8. plaited _____
9. forehead _____
10. anchor _____

Short hairs have fewer worries than long-haired sports enthusiasts. Problems center on keeping bangs out of the eyes, and so on. Try tying a bright bandana around your Gatsby crop —helps keep the waves in and the perspiration off your brow ▶ too.

11. enthusiasts _____

12. bandana _____

13. brow _____

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EDRS PRICE: MF AVAILABLE IN VT-ERIC SET.

DESCRIPTIVE NOTE: 66P.

ABSTRACT: THREE SMALL WORKBOOKS HAVE BEEN DEVELOPED FOR STUDENTS IN A VOCATIONAL COURSE OF HORTICULTURE FOR BEGINNERS. THEY AIM AT DEVELOPING FAMILIARITY AND SKILL IN THE LANGUAGE OF THE TRADE. TEN EXERCISES EACH IN ALPHABETIZING, WORK STUDY, AND WORD MEANING CONSTITUTE THE TRAINING. (MU)

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VT 101 447

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VT 101 447

VOCABULARY SKILLS

For

Horticulture Students

Booklet No. 1

Alphabetizing

Student's name _____

Starting date of this unit _____

Date completed _____

Grade _____

September 1974

DIVISION OF VOCATIONAL EDUCATION
Stephen Poliacik, Assistant Commissioner

CURRICULUM LABORATORY
Rutgers – The State University
Building 4103 – Kilmer Campus
New Brunswick, New Jersey

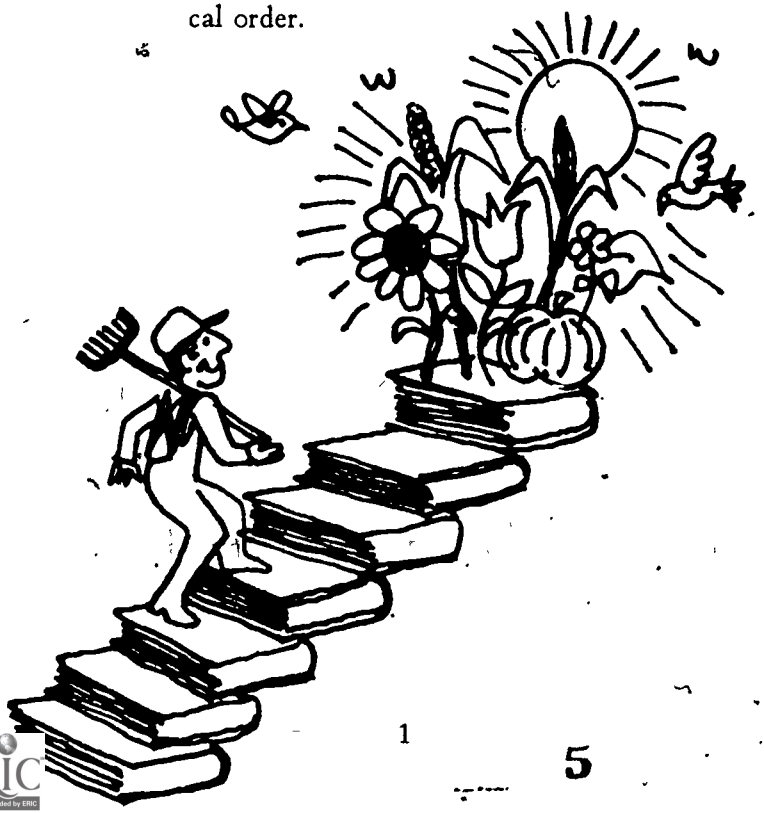
This booklet will help you in two ways. First: it will familiarize you with a basic vocabulary used in your Horticulture Shop. Second: You will be working to acquire vocabulary skills that you will need to know for sucess in your work.

This first booklet of 10 exercises deals with *alphabetizing*. In order to find a word in a dictionary or trade manual, you must know how to alphabetize. Practice in alphabetizing words is necessary to develop speed in looking up words.

Objectives:

1. You will be able to alphabetize words according to the first, second or third letter of the words.

2. You will demonstrate to your teacher and to yourself that you can arrange words in alphabetical order.



Exercise 1

Directions: Look at the words in Column 1. They are not in alphabetical order. You are to arrange them in alphabetical order in the blanks in Column 2.

Example:

Column 1	Column 2
garden	coloration
nitrogen	garden
coloration	nitrogen

Column 1	Column 2
1. erosion	1._____
2. dust	2._____
3. flower	3._____
4. gravel	4._____
5. pesticide	5._____
6. aeration	6._____
7. border	7._____
8. vine	8._____
9. stalk	9._____
10. turf	10._____

Exercise 2

Directions: Follow the same directions as in exercise 1.

Column 1	Column 2
1. clipping	1._____
2. bloom	2._____
3. orchard	3._____
4. pollination	4._____
5. grading	5._____
6. drainage	6._____
7. botany	7._____
8. deciduous	8._____
9. arbor	9._____
10. sprout	10._____

Exercise 3

Directions: Look at the following list of words in Column 1. Some of the words begin with the same letter. Therefore, when you put them in alphabetical order, remember you must look at the *second* letter of the word.

Example:

Column 1	Column 2
foliage	*f*lower
flower	*f*oliage
fungus	*f*ruit
fruit	*f*ungus

Column 1	Column 2
1. berry	1._____
2. anemone	2._____
3. biennial	3._____
4. bark	4._____
5. blight	5._____
6. algae	6._____
7. bramble	7._____
8. burlap	8._____
9. assimilation	9._____
10. atmosphere	10._____

Exercise 4

More practice in arranging words from A to Z (alphabetical order). If the first *two* letters of a word are the same, then your guide in alphabetizing is the *third* letter. Arrange the 10 words in Column 1 in alphabetical order.

Example

Column 1	Column 2
marigold	*malic acid*
malic acid	*maple*
maple	*marigold*

Column 1	Column 2
1. insect	1. _____
2. impatiens	2. _____
3. inbreeding	3. _____
4. iridescent	4. _____
5. ivy	5. _____
6. imperfect	6. _____
7. iris	7. _____
8. Indian pipe	8. _____
9. inflorescence	9. _____
10. inoculate	10. _____

Exercise 5

Directions: Here is a last group of words for you to practice on. Put them in alphabetical order.

Column1	Column 2
1. philodendron	1._____
2. African violet	2._____
3. pistil	3._____
4. photosynthesis	4._____
5. azalea	5._____
6. petal	6._____
7. succulent	7._____
8. artemesia	8._____
9. pH	9._____
10. pitcher plant	10._____

Exercise 6

Directions: In column 1 list 10 different books or materials that you use in your Horticulture Shop work. Then in Column 2 put them in alphabetical order.

Column 1	Column 2
1. _____	1. _____
2. _____	2. _____
3. _____	3. _____
4. _____	4. _____
5. _____	5. _____
6. _____	6. _____
7. _____	7. _____
8. _____	8. _____
9. _____	9. _____
10. _____	10. _____

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  amount of, 3, 19, 21, 23, 25, 26, 64, 68, 177, 183, 184, 195,

One source of information that you will use on the job to help you find information quickly is the *index* which is found in the back of a trade manual or text. It should include the particular word or terms you are looking for and the number of the page on which you will find information about the term. Any *subtopics* under the main topic are also alphabetized. Generally the main entries are capitalized, but the subentries are not.

Example:

On the opposite page is a listing of an index taken from a horticulture textbook.

Leaf

azalea, 227, 228
chrysanthemum, 152, 153, 174
disease, 70, 177, 178
fertilizer, 174, 228
geranium, 116, 256
growth, 57, 58
moisture, 72, 174, 238
pests, 244, 292, 293, 303
propagation, 115, 116, 118
types, 55
wilting, 238

(Note: The above listing from the index shows the different types of subentries all listed under a main entry. The index is easy to use because it is in A to Z order.)

Now do the exercise on the next page.

Exercise 7

Directions: Here is another listing, but it is not in A to Z order. Put the listing in alphabetical order.

Irrigation
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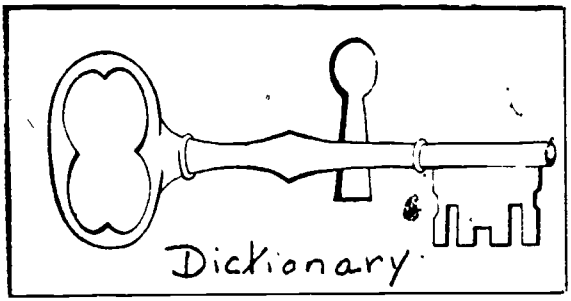
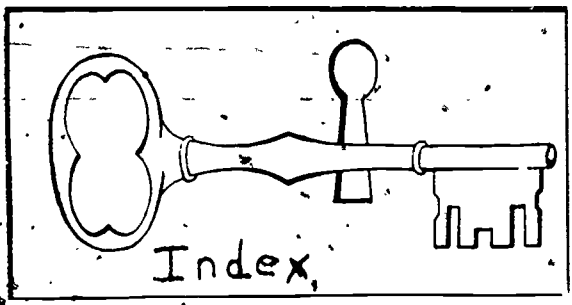
seed flat, 110, 231
needs, 19, 36, 68

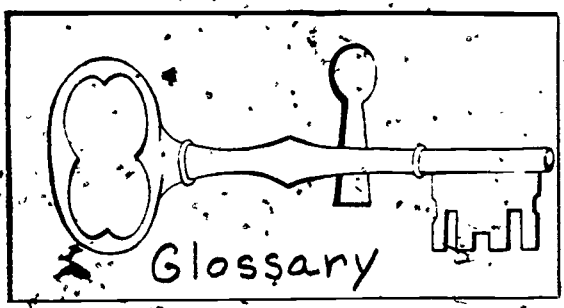
Irrigation

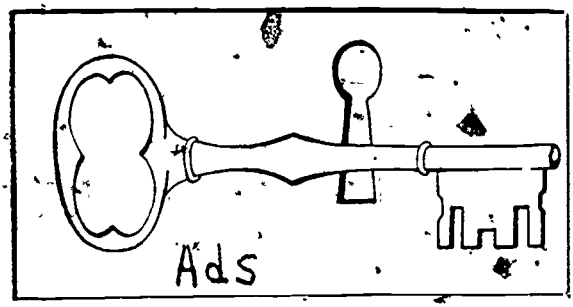
1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

KEYS OF ALPHABETICAL ORDER









11

Home Gardener's Market

INTERESTING CLASSIFIED OPPORTUNITIES YOU SHOULDN'T MISS

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Exercise 8

Directions: This is another type of listing that should be in alphabetical order. These are classified ads. Arrange the topics of the ads in alphabetical order.

Example:

Ferns	*should*	Do-It-Yourself
Do-It-Yourself	*be:*	Earthworms
Earthworms		Ferns

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____

Exercise 9

Directions: Below is a column in rough alphabetical order. Look at your list of words. Look at the four groups on the opposite page. Place each word in its correct alphabetical place. (See example below.)

Word List

1. annual
2. aquatic
3. aerosol
4. arbor
5. acclimatization
6. ant
7. cone
8. composite
9. capsule
10. cane
11. clump
12. climate
13. ecology
14. entomology
15. erosion
16. edging
17. evergreen
18. exotic
19. humidity
20. humus
21. hedge
22. horticulture
23. hardiness
24. heading

Example:

	1.	2.
1. salami	*salami*	judge
2. justice	sandwich	jury
	snack	*justice*

Column 1	Column 2
acclimatize	
	cluster

Column 3	Column 4
earning	
	heaving
establishment	humid

GLOSSARY

ACID—Below pH 7. Most greenhouse soils are slightly acid—pH 6.0 to 6.5.

AERATED—Supplied with air.

AGGREGATE—Gravel, crushed rock, haydite or other coarse, inert material that can be mixed with soil to make the soil mixture more porous.

ALKALINE—Above pH 7. Most greenhouse soils should be slightly acid —pH 6.0 to 6.5.

ANALYSIS—Refers to fertilizer analysis that lists the per cent of nitrogen, phosphorus, and potassium in the fertilizer.

B.T.U. (British Thermal Unit)—A heat quantity that is used to express heat loss or requirement in the greenhouse.

BED—The area where the cut flower plants or the pot plants are placed for growing. Sometimes called bench.

BENCH—The area where the cut flower plants or the pot plants are placed for growing. Sometimes called bed.

BLIND WOOD—Rose stems that do not terminate with a flower.

BOILER—This may be for either hot water or steam and the heat is generated here to provide the hot water or steam for heating the greenhouse.

BRACT—Modified leaf immediately below the flower of some plants, such as the red bracts on poinsettia.

BRANCH—To produce growth of side shoots.

BREAK—A new stem starting in growth.

BREAKER—A device for attachment to a water hose that reduces the force of the water without seriously reducing the volume.

BUDDING—The vegetative reproduction of plants by placing a leaf bud of the desired plant on the root stock of another plant in such a way that the two unite and grow.

Reprinted from: Flower and Plant Production in the Greenhouse

Exercise 10

Another source of reference you will use often is the *glossary* in the back of your textbook. This usually contains technical words that you need to know the meaning of. In the glossary, the words are listed and their meaning given.

Directions: Arrange the following 10 words in alphabetical order.

Column 1	Column 2
1. Membrane	1._____
2. ppm	2._____
3. Own-root	3._____
4. Mutation	4._____
5. Leach	5._____
6. pH	6._____
7. Lime	7._____
8. Irrigation	8._____
9. Leaf bud	9._____
10. Node	10._____

(Note: Entries in a glossary are generally capitalized. Entries in a dictionary are capitalized only if they are proper nouns.)

State of New Jersey
Department of Education
Division of Vocational Education

VOCABULARY SKILLS – HORTICULTURE

BOOKLET NO. 2 – WORD STUDY

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New Brunswick, New Jersey

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VOCABULARY SKILLS

For

Horticulture Students

Booklet No 2

Word Study

Student's name _____

Starting date of this unit _____

Date completed _____

Grade _____

September 1974

DIVISION OF VOCATIONAL EDUCATION
Stephen Poliacik, Assistant Commissioner

CURRICULUM LABORATORY
Rutgers – The State University
Building 4103 – Kilmer Campus
New Brunswick, New Jersey

Introduction:

In this vocabulary booklet you will study *prefixes, suffixes, roots* and the *syllabication* of words. In order to work with this booklet, you must learn to identify the basic parts of words.

Objectives:

1. You will be able to identify the prefix, root and suffix of a word.

2. You will be able to syllabicate a word properly, in order to pronounce the word correctly.

3. You will be able to understand the phonetic pronunciation of a word.

Definition of Terms

1. Root (or base) – the main part of the word

   Example: thermo – means *heat*, as in the word *thermo*stat.

2. Prefix – a syllable added to the beginning of a word to add to or change its meaning.

   Example: con – means *with* or *together*, as in the word *con*servation.

3. Suffix –a syllable added to the end of a word to add to or change the meaning. (A suffix is also likely to change its pronunciation.)

   Example: logy – means *science of* or *study of*, as in entomology (study of insects).

4. Syllabication – means dividing words into parts, to indicate the pronunciation of the word.

   Example: germination: ger mi na tion

5. Phonetic pronunciation – representing speech sounds by special symbols

   Example: vegetable: vej'tə bəl or vej'ə tə bəl

Exercise 1

Directions: The following words contain prefixes. Give the prefix and prefix-meaning of the following words. Remember the definition of the word "prefix." Use your dictionary to find the prefix meaning.

Example:

Word	Prefix	Meaning
conservation	con	with

Word	Prefix	Meaning
1. transplant	_____	_____
2. biennial	_____	_____
3. imperfect	_____	_____
4. microscope	_____	_____
5. monocot	_____	_____
6. dicot	_____	_____
7. replant	_____	_____
8. automatic	_____	_____
9. antibiotic	_____	_____
10. erode	_____	_____

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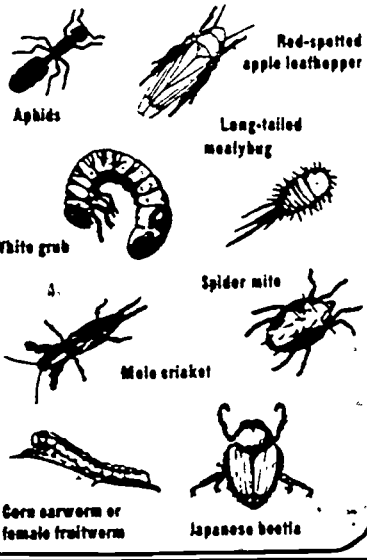
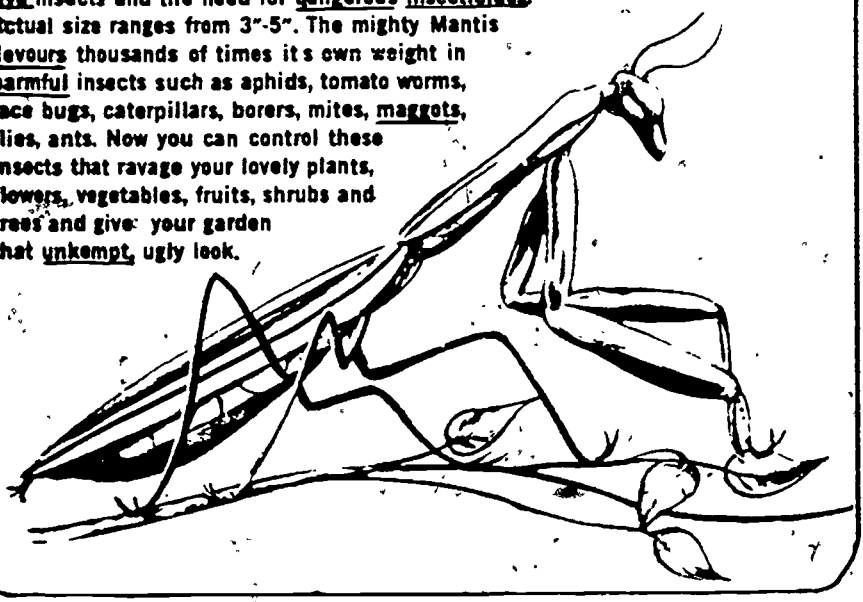
Eliminate all these INSECT PESTS!



Amazing! This remarkable Praying Mantis eliminates destructive insects and the need for dangerous insecticides. Actual size ranges from 3"-5". The mighty Mantis devours thousands of times it's own weight in harmful insects such as aphids, tomato worms, lace bugs, caterpillars, borers, mites, maggots, flies, ants. Now you can control these insects that ravage your lovely plants, flowers, vegetables, fruits, shrubs and trees and give your garden that unkempt, ugly look.



Exercise 2

Directions: Using the definitions of "root," "prefix," and "suffix," see if you can answer the following:

1. Give the prefix, suffix, and root of the word *destructive*.

   prefix_____
   root _____
   suffix_____

2. Give the prefixes of the following words.

   remarkable_____
   eliminate _____
   devour _____
   unkempt _____

3. Give the suffixes of the following words.

   remarkable_____
   dangerous _____
   harmful _____
   amazing _____

4. After you have picked out the suffixes of the words in #3, look up the meaning of each suffix in your dictionary.

Suffix	Meaning
_____	_____
_____	_____
_____	_____
_____	_____

5. Divide the following words into syllables.

maggot_____

mantis_____

eliminate_____

unkempt_____

aphid_____

Exercise 3

Directions: Form a new word by adding one of the following prefixes and/or suffixes to the root words given on the opposite page. The meaning of the word you are to form is also given.

Prefixes	Suffixes
trans	er
in	ial
con	sion, tion, ation
de	ing
re	logy
bi	ous
ac	ate
en	less
ex	

Examples:

1. *con* duc *tion:* transmission of heat, electricity, etc.
   (Added prefix and suffix)
2. motion *less:* not moving, without movement
   (Added only the suffix)
3. *re* model: model again
   (Added only the prefix)

1. _____ plant _____
(Meaning: the act of uprooting and setting in another place)

2. _____ enn _____
(Meaning: a plant lasting two years)

3. _____ breed _____
(Meaning: the breeding of closely related individuals)

4. _____ climatiz _____
(Meaning: the act of becoming accustomed to a new environment)

5. _____ cidu _____
(Meaning: having leaves that are shed each year)

6. eco _____
(Meaning: study of living things and their environments)

7. _____ cava _____
(Meaning: removing or digging out earth or soil)

8. _____ serv _____
(Meaning: official care and protection of living things)

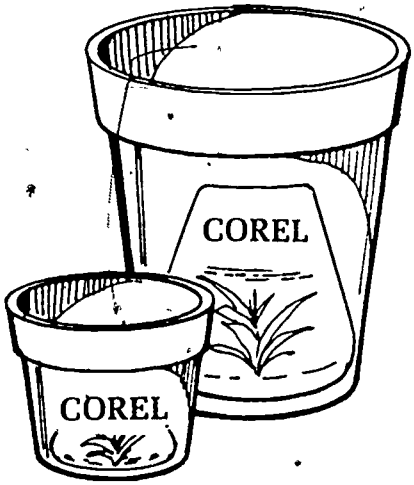
9. _____ duce
(Meaning: to lessen in any way)

10. _____ foli _____
(Meaning: to deprive of leaves, as by insect damage)

COREL ™
18-6-12

CONTROLLED RELEASE FERTILIZER

FERTILIZER IN A TIME CAPSULE ~



EASILY RECOGNIZED
COMES IN A FLOWER POT

Corel™ insures constant feeding for all season with just one application at planting time. For use on annuals, perennials, vegetables, & shrubs.

THE DRAMM COMPANY

MANITOWOC, WISCONSIN

Exercise 4

Directions: Answer the following questions by referring to the ad on the opposite page.

1. What is the root word in *fertilizer*?

   _____

2. Divide the word *controlled* into syllables. Put in an accent mark where it belongs.

   _____

3. What is the prefix in the word *perennial*? What does it mean?

   _____ _____

4. Give the suffix and its meaning in the word *application*.

   _____ _____

5. Divide the word *recognize* into syllables. Put in the accent mark

   _____

6. Divde the word *easily* into syllables. Put in the accent mark.

   _____

FOR THE . . .

"Ecology Minded"

Gardener

- 100% ORGANIC
  (NO CHEMICALS)
- SAFE (FOR ALL PLANTS)
- COMPLETE
  (21 TRACE ELEMENTS)

Pint $1.35 Quart $2.25
Gallon $5.50

Atlas FISH FERTILIZER

865 LIND AVENUE, S.W.
RENTON, WASHINGTON 98055

Exercise 5

Directions: Chose the correct syllabication for the following words in the ad and write the proper letter in the space provided. Check your answers with the dictionary.

1. _____ ecology:	(a) e col'o gy (b) ec'ol o gy
2. _____ organic:	(a) or'gan ic (b) or gan'ic
3. _____ gardener:	(a) gar'den er (b) gar de'ner
4. _____ fertilizer:	(a) fer ti'li zer (b) fer'ti liz er
5. _____ elements:	(a) e le'ments (b) el'e ments
6. _____ chemicals:	(a) che'mi cals (b) chem'i cals
7. _____ complete:	(a) comp'lete (b) com plete'

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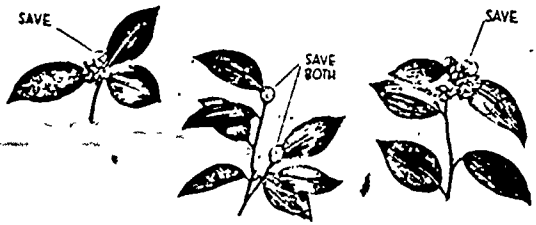
Disbudding

Certain varieties of camellias, roses, and other shrubs produce more buds than they can mature properly. For this reason, many gardeners (especially those who enter flowers in shows) remove some of the buds so that the plant's energy can be concentrated in the remaining ones. Of course, some varieties are famed for their multiplicity of smaller or medium sized flowers. If this is the case, there is no point in disbudding.



If you want fewer but larger camellias, pinch off buds marked X. Some varieties thin buds naturally.

DISBUDDING

(dis bud' ing)

Exercise 6

Directions: Read the short explanation of *disbudding* on the opposite page. Then mark the following statements True or False. Use your dictionary for help.

1._____ In the word *disbudding* there are three syllables.

2._____ The suffix in the word disbudding is *ing*.

3._____ The root word in *disbudding* is *disbud*.

4._____ *Disbudding* means removing buds.

5._____ Another word for *mature* is *discard*.

6._____ The word *varieties* means *types* or *kinds*.

7._____ The accent in the word *concentrated* is on the third syllable.

8._____ The accent in *camellia* is on the second syllable.

9._____ The word *especially* has five syllables.

10._____ For *especially* you could use the word *particularly*.

11._____ *Multiplicity* means *multiplication*.

12._____ The word *energy* is pronounced e ner'gy.

13._____ The word *produce* contains the prefix *prod*.

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HERBS

Rosemary is used in meats, dumplings, biscuits, cauliflower, and corn. It's a flavor complement with garlic powder and parsley. Fresh, sweet, potent.

Sage is best liked in pork, turkey, chicken, stuffings, and clam chowder. Try in tomato soup or even in cheese spreads.

Sweet basil can be used either fresh or dried in all kinds of meats, vegetables, salads, and vinegars.

Exercise 7

Directions: The following phonetic pronunciations are of words that appear in the readings on HERBS. Some of them are wrong. Match the correct phonetic pronunciations in column 1 with the words in column 2 by writing the correct number in column 2.

Column 1	Column 2
1. bis′kwit	_____ tomato
2. sal′əd	_____ parsley
3. chik′ən	_____ biscuit
4. vin ē′gər	_____ cauliflower
5. bis′kit	_____ vegetable
6. tə mā′tō	_____ turkey
7. pärs lē′	_____ salad
8. char′dər	_____ chowder
9. vin′ə gər	_____ chicken
10. vej′tə bəl	_____ vinegar
11. tar′ki	
12. tər′ki	
13. pärs′li	
14. chou′dər	
15. kô′li flour	

If you want to have

BEAUTIFUL FLOWERS

and you don't want to harm the environment, use

ECOLOGICALLY DESIRABLE

BLACK LEAF 40

ORIGINAL NICOTINE SULPHATE SOLUTION

BLACK LEAF 40 has been helping gardeners attain beautiful results for over 90 years . . . *without* harming or destroying birds, beneficial predatory insects and pollenizers.

Exercise 8

Directions: Read the ad on the opposite page. Many of the words contain more than one syllable. They also contain prefixes and suffixes. Answer the following – use your dictionary if you need help.

1. Divide the word into syllables that refers to a branch of science.

   _____

2. Divide the word into syllables that means: surroundings; conditions that affect living things.

3. Give the root words of the following:

   1. desirable _____
   2. pollenizers _____
   3. destroying _____

4. Give the suffixes of the following words.

   1. original _____
   2. sulphate _____
   3. gardener _____
   4. solution _____

5. The following are the phonetic pronunciations of words in the ad. Choose the correct word from the ad for each phonetic pronunciation.

   1. (pred′ə tô ri) _____
   2. (päl′ə nīz ərz) _____
   3. (nik ə tēn′) _____
   4. (flou′erz) _____

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The china pinks, or annual carnations, are actually biennials, but they flower readily from seed the first year. There are many colors available and some with fringed and picoteed petals

CARNATIONS

(kär nā'shən)

Reprinted from Horticulture, Volume LI, No. 4
April, 1973

Exercise 9

Directions: Answer the following statements by marking them True (T) or False (F). Use your dictionary if necessary.

1. _____ In the word *carnations* there are four syllables.

2. _____ The accent in the word *cultivate* is on the last syllable.

3. _____ The prefix in the word *biennial* is *bi*, meaning *half*.

4. _____ Another name for the carnation is "china pink."

5. _____ The prefix *dis* in *disbud* means *take away*.

6. _____ The root in *propagation* is the word *proper*.

7. _____ The word *orchid* is pronounced ôr'chid.

8. _____ The word *scion* includes the suffix *on*, meaning *piece of*.

9. _____ The prefix *com* in *compost* means *together*.

10. _____ The word *picoteed* is pronounced pik o'ted.

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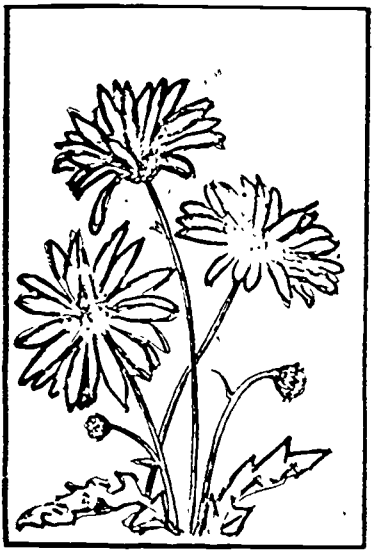

Gerberas, or Transvaal Daisies, are actually African perennials hardy only in warmer parts of the U. S.

Didiscus, or lace flower, is an Australian relative of our native Queen Anne's lace. They are difficult to transplant, prefer a cool but sunny place.

Nicotiana, the flowering tobacco, is prized for its delightful fragrance. It grows to 4 feet in rich soil and a sunny location.

Reprinted from:
Horticulture, April 1973
Volume No. 4

Exercise 10

Directions: Read the short descriptive paragraphs on the three species of flowers on the opposite page. The following words are taken from the readings. Use your dictionary to answer the statements about the words.

1. Find the word *Transvaal* in your dictionary. Give:
   a. phonetic pronunciation:_____
   b. meaning:_____
2. Find the word *perennial* in your dictionary. Give:
   a. phonetic pronunciation_____
   b. prefix of the word:_____
   c. horticultural meaning of the word:_____
   _____
3. Find the word *transplant* in your dictionary. Give:
   a. prefix of the word:_____
   b. root of the word:_____
   c. meaning of the word:_____
4. Find the word *nicotiana* in your dictionary. Give:
   a. origin of the word:_____
   b. another name for the flower:_____
   c. syllabication of the word:_____
5. Find the word *fragrance* in your dictionary. Give:
   a. plural spelling of the word:_____
   b. meaning of the word:_____
   c. syllabication of the word:_____

State of New Jersey
Department of Education
Division of Vocational Education

VOCABULARY SKILLS — HORTICULTURE

BOOKLET NO. 3 — WORD MEANING

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Building 4103 — Kilmer Campus
New Brunswick, New Jersey

ERIC Full Text Provided by ERIC

VOCABULARY SKILLS

For

Horticulture Students

Booklet No. 3

Word Meaning

Student's name _____

Starting date of this unit _____

Date completed _____

Grade _____

September 1974

ERIC Full Text Provided by ERIC

DIVISION OF VOCATIONAL EDUCATION
Stephen Poliacik, Assistant Commissioner

CURRICULUM LABORATORY
Rutgers – The State University
Building 4103 – Kilmer Campus
New Brunswick, New Jersey

Introduction:

Words that we use in everyday speech can at different times have different meanings. In this booklet you will show that you know the meanings of some words and terms used in Horticulture.

For some people it is easy to look up a word in a dictionary; others may find it more difficult. Some words have several meanings. Therefore, to use the dictionary effectively, we must know *how the word is being used at the particular time.* We call this the use of the word in its *context.*

Objectives:

1. You will be able to identify the meaning of words used in your trade.

2. You will be able to differentiate between different meanings of words according to their context.

Exercise 1

Directions: In the following exercise you will write *your own meanings* for each of the words listed below. The meaning should refer in some way to horticulture. If you are not sure of the meaning of a word, discuss it with your teacher or a fellow student.

Word	Meaning
1. arbor	_____
	_____
2. bark	_____
	_____
3. bed	_____
	_____
4. branch	_____
	_____
5. breaker	_____
	_____
6. bud	_____
	_____

Word	Meaning
7. capsule	
8. cone	
9. filler	
10. graft	

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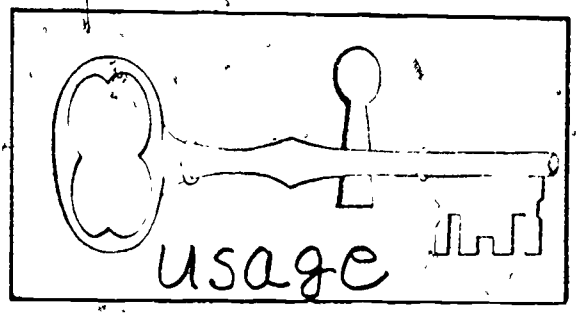
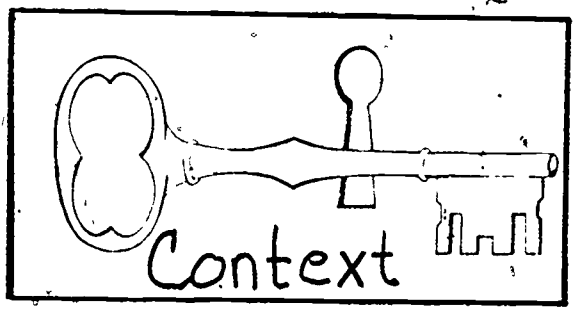
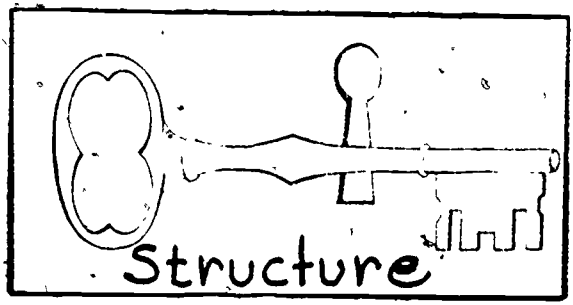
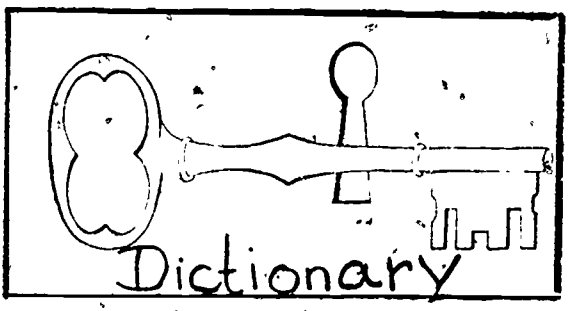
KEYS TO WORD MEANING









Exercise 2

Directions: Below is a list of meanings of the words you worked with in exercise 1. Compare your meanings with those listed below. If your meaning has the same general idea, mark yours with a checkmark (✓). If your meaning does not correspond, mark yours with an x.

1. arbor
   – a place *shaded* by trees or shrubs

2. bark
   – outside *covering* of a tree trunk or woody stem

3. bed
   – a *plot* of ground prepared for plants

4. branch
   – woody *extension* from a tree trunk, stem, or bough

5. breaker
   – a device on a water hose that reduces the *force* of water

6. bud
   – a small swelling on a plant that is an *undeveloped* shoot; an incompletely opened flower.

7. capsule
   – a *case* or pod containing seeds or spores

8. cone
   – fruit of an evergreen tree, containing *scales* and seeds

9. filler
   – matter added to increase *bulk*

10. graft
   – a shoot or bud of one plant or tree *inserted* into the stem or trunk of another

Exercise 3

Directions: On the preceding pages you compared the definitions of words to what you had written down. Go back and reread the printed definitions. Notice the italicized word within each definition of exercise 2.

On each line below write the letter of the best meaning that could be substituted for the italicized word in the definition.

1. _____ shaded

   a. dimmed
   b. lighted
   c. blinded

2. _____ covering

   a. wrapping
   b. blanket
   c. cutting

3. _____ plot

   a. scheme
   b. measured piece
   c. graph

4. _____ extension

   a. shortening
   b. addition
   c. stretching

5. _____ force

   a. strength
   b. weakness
   c. restraint

6. _____ undeveloped

a. ripe
b. mellow
c. immature

7. _____ case

a. container
b. opening
c. situation

8. _____ scales

a. weighing instrument
b. set of musical notes
c. thin, woody bracts

9. _____ bulk

a. volume
b. roots
c. package

10. _____ inserted

a. opened
b. fitted into
c. closed

Exercise 4

Directions: The following terms or words are used in horticulture. However, the same terms can be used within other trades – they may have the same or different meanings. (A) Give your definition of the following words as used in horticulture and then (B) name another field of work or trade that uses the same term.

Example:

season

A. (Meaning) *a period of the year*

B. (Other trade) *Food Trades*

1. pot

A. _____

_____

B. _____

2. sand

A. _____

_____

B. _____

3. syringe

A. _____

_____

B. _____

4. prune

A. _____

_____

B. _____

5. lime

A. _____

_____

B. _____

6. rotation

A. _____

_____

B. _____

7. shade

A. _____

_____

B. _____

8. cutting

A. _____

_____

B. _____

9. flat

A. _____

_____

B. _____

10. layer

A. _____

_____

B. _____

Exercise 5

Directions: The words in the following list can be placed in one of the three categories shown: Horticulture, Auto Mechanics, and Law Enforcement. Copy each word in the correct column.

Word	Horti-culture	Auto Mechanics	Law Enforcement
Ex. hormone	*hormone*		
1. organic			
2. alibi			
3. piston			
4. pistil			
5. perjury			
6. carburetor			
7. defendant			
8. scion			
9. chassis			
10. node			
11. irrigation			
12. probation			
13. felon			
14. fumigation			
15. police			
16. brakes			
17. ignition			
18. peat			
19. tires			
20. stalk			

Exercise 6

A *synonym* is a word that has the same meaning as another word (or almost the same meaning).

Directions: Pick out a synonym for each of the following words, writing its number in the blank space.

Example: _c_ border
(a) center (b) inside (c) edge

1. ___turf
(a) filter (b) sod (c) toughness

2. ___specimen
(a) sample (b) species (c) artificial

3. ___drought
(a) dryness (b) drink (c) wind

4. ___decay
(a) slip (b) rot (c) bacteria

5. ___pruning
(a) bedding (b) tying (c) cutting

6. ___blanch
(a) smooth (b) darken (c) bleach

7. ___fertile
(a) fruitful (b) barren (c) deep

8. ___foliage
(a) green (b) leaves (c) wet

9. ___organic
(a) musical (b) heartfelt (c) living

10. ___B and B
(a) brandy (b) balled and burlaped (c) bigger and better

Don't Use DDT! use safe

TRI-EXCEL DS™

the

ORGANIC

insecticide!

Tri-Excel DS protects vegetables, flowers, fruits and shrubs from insects and mites . . . yet it contains *absolutely no poisonous chemicals* and is approved under the Miller Bill! Composed of natural occurring insecticides derived from flowers and roots. Use as dust or, suspended in water, as spray. Proven effective. Economical. Protect everything you grow without the use of DDT or other toxic pesticides!

Exercise 7

Directions: Above is an ad that offers a substitute for DDT. Read the ad and notice the underlined words. On the opposite page, write down each underlined word and its meaning. Consult your dictionary if you are not sure of the word's meaning or how to express it in your own words.

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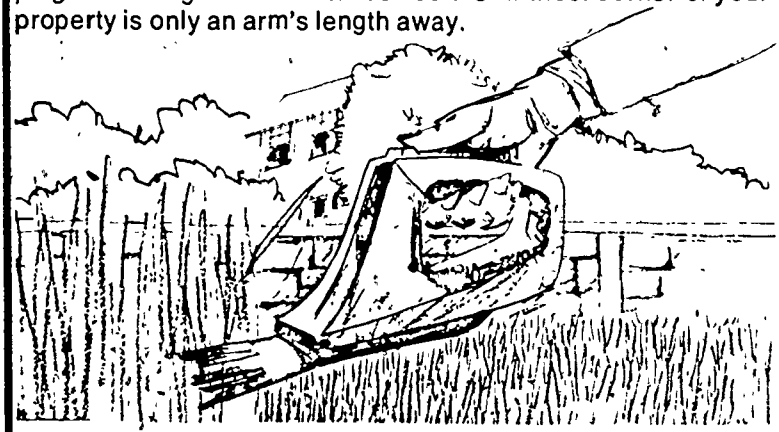
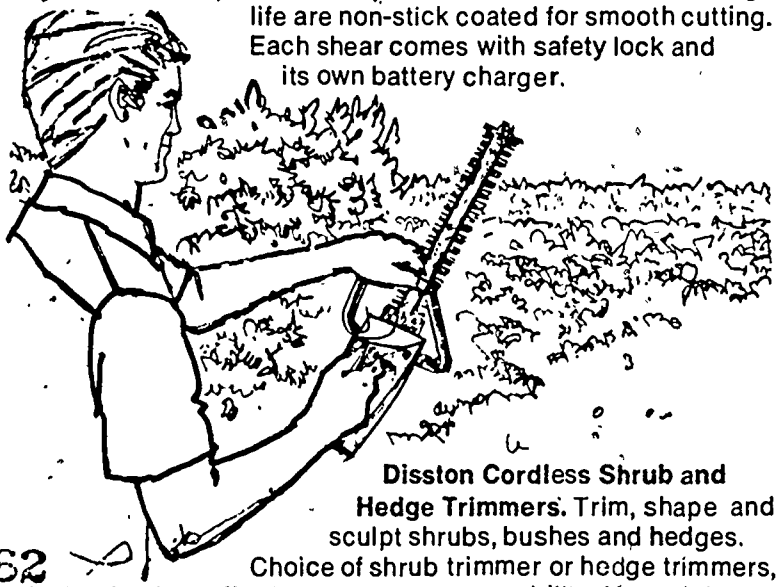
	Word	Meaning
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		

How to trim your edges and hedges without a hangup

Do it with Disston Cordless Electric Rechargeable Grass Shears, Shrub and Hedge Trimmers. No electric cord to trip over, tangle or cut. No electric cord to tie you to the nearest wall plug. Disston goes the distance—so the farthest corner of your property is only an arm's length away.



New Disston Heavy-Duty Cordless Grass Shears. Trim walkway and flowerbed edges, under fences, along walls. Hand-held and upright models come in different sizes to suit your particular needs. Super-hard tempered steel blades built for long life are non-stick coated for smooth cutting. Each shear comes with safety lock and its own battery charger.



Disston Cordless Shrub and Hedge Trimmers. Trim, shape and sculpt shrubs, bushes and hedges. Choice of shrub trimmer or hedge trimmers, ideally sized for effortless, easy maneuverability. Non-stick alloy steel blades. All with UL-approved charger.

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Exercise 8

Directions: Here is an ad advertising the Disston Shears. Read it carefully and then answer the questions below. Put the proper letter in the blank space.

1. ____ What is the trade name of the shears?

   a. cordless
   b. Disston
   c. trimmers

2. ____ What does the ad mean by *rechargeable?*

   a. re-energizable
   b. refundable
   c. receptive

3. ____ "No electric cord to tie you to the nearest wall plug" means:

   a. extension limited
   b. extension unlimited
   c. cord unwindable

4. ____ "easy maneuverability" means:

   a. easy payments
   b. easy handling
   c. easy work

5. Find a word in the ad for each meaning.

   a. _____ cutting instrument for grass
   b. _____ cutting part of a knife or shears
   c. _____ device to store electrical charge
   d. _____ hardened by reheating and cooling during manufacture
   e. _____ land owned by someone

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Exercise 9

Directions: Find a word in the ad on the preceding page that matches each of the following meanings. Write the word on the line beside the meaning.

1. Substance that supplies needed chemicals to plants _____
2. One who studies flowers, fruits, and vegetables _____
3. To drive or force into a passage _____
4. Small, hard balls _____
5. Product to replace a used-up supply _____
6. To applaud, praise highly _____
7. Immediately useful _____
8. Melt; pass into a solution _____
9. Accessible; obtainable _____
10. Selling directly to the consumer _____

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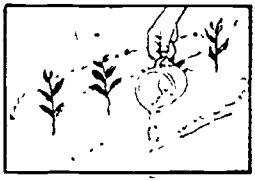
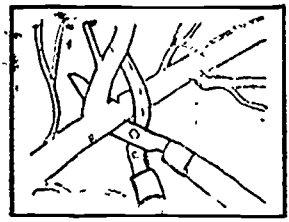
bulbs



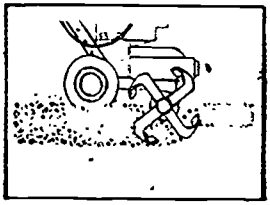
fertilizing

repotting

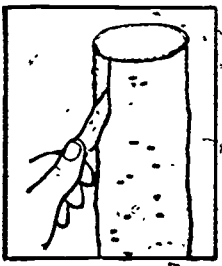


pruning

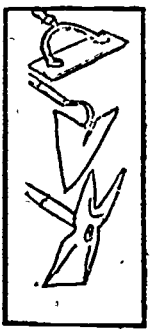
herbs



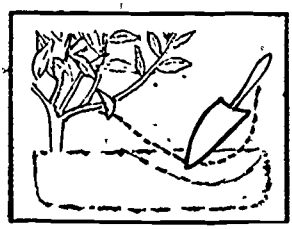
cultivator



grafting



hoes



layering

trowels

Exercise 10

Directions: On the opposite page are 10 terms used in horticulture, with illustrations of each. Fill in one term for each definition below.

Meanings

1. _____ underground buds
2. _____ machine for loosening earth
3. _____ tools for planting small plants
4. _____ providing chemicals for plants
5. _____ tools for killing weeds
6. _____ replanting of small potted plants
7. _____ simple method of reproducing a plant
8. _____ plants used for seasoning or medicine
9. _____ method of reproducing a plant by using a different plant
10. _____ removing unwanted parts of a plant

ACCESSION NUMBER: VT101448

TITLE: MANAGEMENT BY OBJECTIVES AND PROGRAM PLANNING AND BUDGETING SYSTEMS: A GUIDEBOOK FOR DEVELOPING A MODEL ANNUAL PLAN AND A MODEL LOCAL FIVE-YEAR PLAN FOR VOCATIONAL EDUCATION.

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ABSTRACT: THIS GUIDEBOOK IS INTENDED TO ACQUAINT VOCATIONAL EDUCATORS WITH TWO SPECIFIC MANAGEMENT STRATEGIES: MANAGEMENT BY OBJECTIVES (MBO) AND THE PROGRAM PLANNING BUDGETING SYSTEM (PPBS). CHAPTER I PRESENTS THE RATIONALE FOR THE DEVELOPMENT OF THE MBO SYSTEM AND EXAMINES ITS BENEFITS AND PITFALLS. CHAPTERS II THROUGH V DETAIL THE THEORY AND PRACTICAL APPLICATIONS OF THE FOUR PHASES OF MBO. CHAPTER VI DEFINES PPBS AND DISCUSSES ITS ADVANTAGES AND DISADVANTAGES. WORKSHEETS AND EVALUATION FORMS ARE APPENDED. (AUTHOR/KB)

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VT 101 448

MANAGEMENT BY OBJECTIVES

AND

PROGRAM PLANNING AND BUDGETING SYSTEMS:

A Guidebook for Developing

A Model Local Annual Plan

and

A Model Local Five-Year Plan

For Vocational Education

by Dr. Edward Ignas

State of Indiana

The State Board of Vocational and Technical Education

State Office Building

Indianapolis, Indiana 46204

VT 101 448

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PREFACE

This guidebook is intended to acquaint vocational educators with two specific management strategies: Management by Objectives (MBO) and the Program Planning and Budget System (PPBS). The long range goal of this project is the formation of a model local annual plan and a model five year plan for vocational education in local districts and schools throughout the state of Indiana. For this purpose, it will be necessary to examine the theoretical bases for MBO and PPBS as well as to develop detailed, practical steps for implementing the systems on the local level.

Chapter I presents the rationale for the development of the MBO system, and examines its benefits and pitfalls. Chapters II through V detail the theory and practical application of the four phases of Management by Objectives. Chapter VI defines PPBS and discusses its advantages and disadvantages.

It is our hope that, through familiarity with the concepts and skills of MBO and PPBS, school administrators will strengthen their forward-thinking approach to vocational educational planning, and these attitudes and skills will not only promote greater growth on the part of students, but also contribute to the increased personal efficiency and enthusiasm of individual vocational administrators themselves.

CHAPTER I

ORIENTATION TO PLANNING

Since the launching of Sputnik in 1957, our country's leaders have often and emphatically noted the need for more individuals with higher levels of technical skills. The Vocational Education Act of 1963 and the subsequent Ammendments of 1968 have also underscored these manpower needs. Recent mandates for state and local vocational educational evaluations call for ways of determining whether the intentions of this legislation are being met. These phenomena have led to a growing interest in MBO and PPBS as means of developing quality programs to meet increased manpower needs.

In recent years, MBO has captured the imagination and support of many top managers as they attempt to respond to the nation's changing needs. Governmental agencies and school districts are beginning to adopt the system as a means of improving their environments. MBO is also in use in territories as varied as North and South America, Africa and Europe, and in both small family concerns and giant public corporations. In spite of the setbacks experienced in the implementation of such a newly developed system, Management by Objectives has matured steadily in its philosophy and techniques.

MANAGEMENT BY OBJECTIVES DEFINED

Management by Objectives is a strategy of planning and getting results that integrates two processes: (1) achieving the administrative and edu-

cational goals of the institution and (2) fulfilling the needs for job satisfaction and self-development on the part of individual administrators and staff members. MBO is a means of gearing the individual plans and needs of administrators and staff towards the accomplishment of large-scale institutional objectives within a specific period of time. There are four basic characteristics which distinguish the Management by Objectives system:

1) The statement of objectives. These are statements of important results that are planned and expected to happen. Results may be phrased in terms of student or ogranizational performance. Statements of objectives evolve from an assessment of student and community needs and commitments to meet these needs.

2) Creation of Time Strategy. Time strategy is the timetable by which individuals and school administrators are to achieve long and short range results. It is the "when" portion of the objective and sets forth a deliberate coordination of resources within the calendar. Time strategy calls for administrators to propose, initiate and complete activities at designated periods of time.

3) Involvement of total administration and staff. MBO requires a formalized effort to involve each individual administrator and staff member and coordinate his contributions toward a common goal. The system brings together resources (people and equipment) to carry out the school district's functions.

4) Stimulation of Individual Motivation. Individual administrators and staff members participate in the objective setting process. Such involvement helps develop the desire and willingness to achieve the objectives stated.

MBO AS A FOUR PHASE PROCESS

In practice, Management by Objectives consists of four main phases that are carried out in a specific order. Of course, many additional steps may be required, and these are incorporated as necessary during the four main phases, which are:

Phase I. Determining local school district goals and commitments which are summarized in the MISSION AND ROLES STATEMENT (Chapter 2);

Phase II. Setting and validating OBJECTIVES (Chapter 3);

Phase III. Implementing the objectives by means of an ACTION PLAN (Chapter 4);

Phase IV. Evaluating results and reporting the status of objectives by means of a PERFORMANCE APPRAISAL (Chapter 5).

One can readily see that MBO is, in effect, a return to the fundamentals of good general administration; however, it is more than just another planning system or better in-service training. Management by Objectives offers the following special advantages:

a) MBO gives us insight into the relationships and the inter-dependence of existing management methods. For example, a school district

may have both stated objectives and administrative development programs, but the two are often unintegrated.

b) MBO may provide the stimulus for school administrators to challenge their habitual assumptions and practices. Quite frequently school districts and administrators operate within the self-imposed constraint of "we've always done it this way."

c) MBO can enable school administrators to improve their performance by creating a demanding environment and a set of comprehensible, down-to-earth techniques to help achieve their goals.

d) MBO can help draw together, in a practical way, the results orientation of the "quantitative school" and the teamwork and motivational concepts of the behavioral scientists.

e) MBO can foster the development of a vital, forward-looking, and mutually supportive spirit in an organization.

CHARACTERISTICS OF EFFECTIVE MBO PROGRAMS

When an effective system of Management by Objectives is operating in a school district, there is a continuous process of:

1. Critically reviewing and restating the school district's strategic and tactical plans.
2. Clarifying key results and performance standards with each staff member and gaining his contribution and commitment to these.
3. Reaching agreement with each staff member on a job improvement plan which makes a measurable and realistic contribution to the department and school.

4. Providing conditions in which it is possible to achieve the key results and improvement plans.
5. Using systematic performance reviews to measure and discuss progress towards results, and reviews to identify personnel with potential for advancement.
6. Developing administration in-service training plans to help each administrator and staff member overcome his weaknesses, build on his strengths and accept responsibility for self-development.

MBO AND ADMINISTRATIVE CHANGE

MBO should be embarked upon only in a district or organization that demonstrates a total commitment to professional management and therefore to intensive management education. In an age of high technology and rapid change there is little tolerance left for amateurism in any field, especially in the field of education. The "seat-of-the pants," "catch-as-catch-can" approaches to management of the last generation of administrators are no longer acceptable. Because of its proven usefulness in providing professional administrators with an effective system of management, MBO has become the most widely used system today.

Within recent years it has become evident just how revolutionary MBO can be, as educators begin to realize the system's implications for performance, for results, for organization, for planning, for communication, for evaluation, and other aspects of school administration. MBO means replacing the archaic management system inherited from the industrial period

(1800-1950) by a new system now emerging for the post-industrial period (1950-2000). The radical differences between the two systems can be enumerated thus:

	Traditional Management		MBO
1.	Day-to-day managing	1.	Future-focused managing
2.	Amateur, seat-of-the-pants management	2.	Professional management
3.	Authoritarian style	3.	Participative style
4.	Activity-centered style	4.	Goal-directed, results-seeking style characterized by purposefulness and planning
5.	Emphasis on administration of routines	5.	Emphasis on stimulating innovation
6.	Emphasis on <u>how</u> to do it	6.	Emphsis on <u>what</u> to do
7.	Administrative reliance on money, machines and materials	7.	Reliance on men, minds, methods
8.	Emphasis on centralized, technocratic, functional control	8.	Emphasis on decentralized initiative
9.	Reliance on directives and supervision	9.	Reliance on delegation and reporting
10.	Promotion of individualism	10.	Development of team work

MBO AND COMMUNICATION

Few elements of school administration have generated the amount of concern, worry, work or writing as has the area of communications. In view of the complex nature of the demands placed upon a school administrator, this is not surprising. Through years of our sincere efforts to educate

children, we have come to realize the fact that communication is the key factor that can help keep purposeful and relevant activities focused on the child and his needs. Furthermore, it is the key element that can keep the crucial parts of a school organization functioning together.

Throughout the past two decades, considerable attention has been given to the subject of communication by the behavioral scientists. Through their efforts, a large variety of approaches ranging from non-directive counseling to sensitivity training have been developed to facilitate more open and growth-producing forms of communication.

However, while much attention has been given to issues dealing with how to communicate, little focus has been given to what should be communicated. MBO is concerned with the what problem. There are two basic issues that people have to (and want to) communicate about: (1) what they are required to accomplish and (2) whether they have been successful in accomplishing it. Dialogue between the MBO administrator and subordinates is characterized by the following dynamics: (1) high levels of empathy and concentration, (2) increased involvement of both parties, and (3) greater commitment to the subject under discussion. Under the MBO system this "dialoguing" is commonplace from top to bottom of the organization. It is within this setting that one finds an atmosphere charged by a sense of commitment, purpose and direction.

PITFALLS IN MBO

Many articles have been published presenting some of the pitfalls of

introducing MBO into an organization. For example, difficulties frequently arise when Management by Objectives is over-emphasized as being chiefly for administrators, thus preventing its acceptance by others who might also benefit from the system.

Another common distortion of MBO is its use as a means of performance appraisal. In a number of cases, well-intentioned but poorly informed governmental agencies have sold their colleagues on the idea of introducing MBO as a technique of personnel evaluation. It should be emphasized that MBO is primarily a way of managing and only very incidentally a new way of performance appraisal. Perhaps the main cause of this error lies in a lack of understanding of and/or interest in school administration problems.

Authorities on MBO also emphasize the point that this system requires fundamental changes in attitudes and approach and that the price to pay in time and effort is great. Furthermore, it must be acknowledged that unless the top administrative staff manages by objectives, it is difficult for lower echelons to both relate effectively with the top and to apply the MBO concept.

Another aspect of MBO which is sometimes criticized is its stress on delegation. Administrators often object to delegation on the grounds that "it is quicker to do it yourself." This may be true, but only until subordinates have learned how to perform delegated tasks. Then it is quicker to delegate, thus freeing the administrator for his own work of planning, organizing, innovating, etc. However, effective delegation presupposes that

the administrator and the subordinate share the same objectives. This aspect of MBO will be discussed thoroughly in Chapter III.

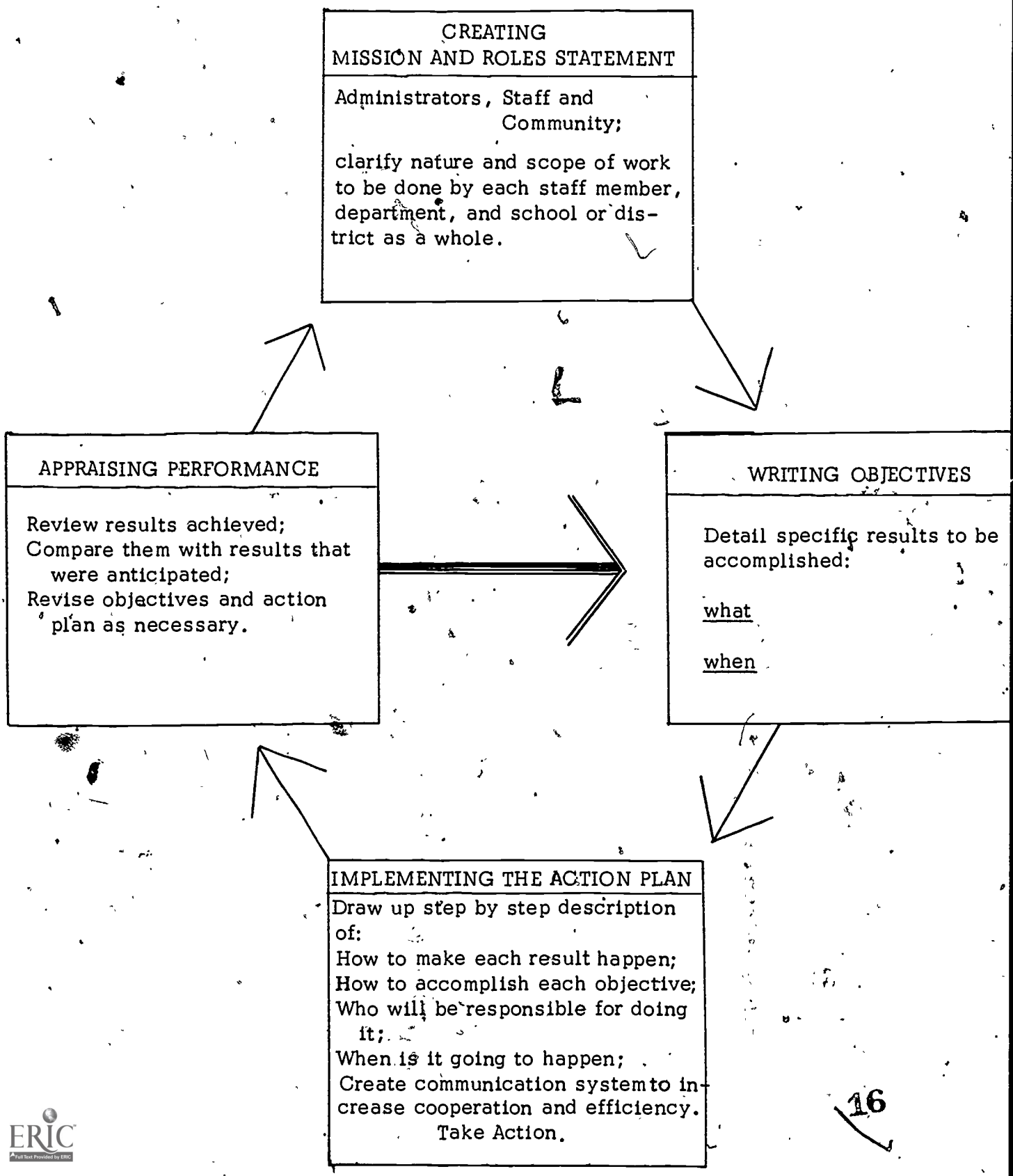
SUMMARY

Management by objectives attempts to integrate the school district's objectives for more student learning and growth with the need for personal satisfaction in the part of its administration and teaching staff. Although the techniques of MBO are continually being improved, they have already demonstrated high levels of effectiveness. New insight is being gained into the interdependence of the techniques viewed as a total management system in the context of a changing educational and world milieu. Above all, it is becoming increasingly evident that the real key to success in education is the more efficient use of human resources. The talent and drive are there; all that is required is the system to release them.

FIGURE #1

SCHOOL MANAGEMENT BY OBJECTIVES

PROCESS CHART



CHAPTER II

ESTABLISHING THE MISSION AND ROLES STATEMENT

Management by Objectives begins with a systematic identification of the basic functions to be performed by a corporation, district, school, department or staff position. This determination of goals and commitments is called the Mission and Roles Statement. It is a statement of the reasons for which the organization exists and of the work for which it is accountable.

The Mission and Roles Statement is the foundation for the specific objectives and action plans that will be established later. It is through the M&RS that the validity of objectives is determined. The M&RS describes both the overall purposes of the organization and those of each department and staff position, thus providing a mechanism for coordinating the total organization and helping to define how each part fits into the total system. On the individual level, the M&RS clarifies the scope of duties and responsibilities of each staff position. It encourages an administrator or staff member to examine his unique contributions to the total process. On the level of the school or district, the M&RS identifies the nature and scope of the work to be done, and distinguishes which services and activities will receive major focus.

Before a school district can write meaningful, measurable objectives, district personnel must arrive at an understanding of the mission and roles to which they are committed. The failure to do so will result in objectives

which are not specific and not responsive to the real needs of the school, department or total district. It is through the establishment of a clear and accepted Mission and Roles Statement, therefore, that the school district creates a solid foundation for the remaining phases of the Management by Objectives system.

EXAMPLES OF MISSION AND ROLES STATEMENTS

A. Mission and Roles for Director of Counseling and Guidance, _____ School District:

To promote the efficient functioning of all the services directed toward the total growth and development of all students of the _____ School through the Counseling and Guidance Department in the following specific areas:

1. Group Counseling: Schedule students for group counseling to assist them in solving problems related to their present and future lives; help students develop greater self-understanding, self-acceptance and self-direction; help each group member understand the mechanisms of the group and ways of gaining acceptance.
2. Individual Counseling: Help the individual student gain more understanding of himself, his values, attitudes and needs, and thus to become more mature and productive.
3. Career and Vocational Guidance: Assist students in utilizing their potential and in selecting meaningful goals by means of field trips, visits to community agencies, conver-

sations with employees, career days, guest speakers and visual aids.

4. Teacher-Counselor-Parent Consultation: Consult with parents; make test interpretations; consult on college placement; advise teachers; inform parents of children's needs; program workshops; direct college and work placement.

5. Testing: Administer college entrance tests; score, interpret, diagnose these and other tests of interests and abilities; conduct vocational analyses and reading tests; make referrals to special services.

6. Scholarship and Financial Aid Information and Placement: Assist students in understanding of procedures for making applications and planning finances in order to further their education, to pursue trade careers, or to acquire part time employment; organize work-study programs; present programs by college placement officers.

7. Follow-up and Referral Work: Help in meeting special needs which require referral to other specialists or community agencies; keep records of graduates; make curriculum evaluations, market analyses, and recommendations based on these.

B. Mission and Roles for _____, Principal of _____ School:

To promote the efficient functioning of services directed toward the total

growth and development of all students of the _____ School.

Major areas of responsibility:

1. Students: Provide guidance and counseling; determine placement and promotion; confer with students regarding educational problems; assist students and teachers with new programs; write reports and evaluations; supervise attendance and child welfare.
2. Educational Program: Assist in designing curriculum according to the needs of the students; create optimal learning climate; schedule classes; obtain and allocate materials; initiate and conduct staff meetings; evaluate program effectiveness.
3. Teachers: Create effective climate with staff; help all teachers carry out their teaching responsibilities; confer with teachers regarding personal problems; make evaluations and reports; facilitate communications; support in-service activities.
4. External Relations: Confer with community sources; communicate and consult with parents; work with institutions of higher education.
5. Central Administration: Maintain communications system regarding school activities and programs; obtain approval for new policies and procedures; arrange for personnel, services and materials.

6. Operations: Maintain school accounts; manage custodial staff; check attendance; maintain cafeteria; collect fees; administer extra-curricular activities.

7. Professional and Peer Relationships: Develop involvement in professional associations; participate in research activities; assist with local and state committees and meetings.

ADVANTAGES OF ESTABLISHING MISSION AND ROLES STATEMENTS

There are a number of definite advantages that result when a school district, school, or department establishes a Mission and Roles Statement. The basis of everything that is done in the organization rests with a clear Mission and Roles Statement. Within this framework individual and departmental responsibilities become crystallized, and the contributions of all segments of the school district are examined and, where necessary, revised.

With the establishment of the M&RS, an organization may increase cooperation and communication among staff members, thus facilitating higher levels of learning. The organization becomes better able to clarify the focus of the curriculum, the services to be provided and the relationships and responsibilities that follow.

With the development of a Mission and Roles Statement, duplication of roles, activities, and assignments may be reduced, eliminating much confusion and waste that are common in organizations without such established missions. The mission statement helps meet all important needs within all departments of the school system. Under this arrangement, all

important tasks are identified, assigned and carried out. In addition, a clear M&RS will reduce the possibility of assigning a department or an individual to inappropriate work areas.

SOURCES OF DATA FOR MISSION AND ROLES STATEMENTS

A local school district must develop Mission and Roles Statements that are concerned with two important categories: (1) students and (2) the system. The students should be given primary importance since they are the fundamental basis for our schools. Focusing on the student and on desired learning outcomes can provide a framework for objective-setting. Chapter III will expand on the process of developing student-centered objectives. Other portions of the Mission and Roles Statements deal more directly with questions such as how the school or district's various departments, offices, and support programs can assist in accomplishing the student-centered objectives. System-centered objectives may be developed for each of the following functions of the school:

1. Philosophy and objectives	2. Curriculum
3. Instructional staff	4. Administration
5. Physical facilities and equipment	6. Instructional materials and supplies
7. Guidance program	8. Student organizations
9. Community involvement	10. Advisory committees
11. Students with special needs	12. Occupational experience

OBTAINING DATA

Each school district has information and data which can be useful in beginning to develop the Mission and Roles Statement. Local school districts as well as departments within the system may obtain previous North Central Association evaluations, as well as statements from other districts. A district's Board of Education may wish to develop a draft of Mission Statements and provide these statements to various individuals and community groups for reactions and suggestions. Another approach might be to organize a series of "open-ended" meetings with various community organizations. These meetings could be organized to determine student and system needs and their priorities.

Since the school's graduates will ultimately become a productive part of their community, it is important that the school district and all departments seek the advice and counsel of various publics and clients of the district (students, parents, lay citizens and employers). Given the diversity of the many school districts throughout the State of Indiana, there is no "one right way" to achieve community involvement in this process. Therefore, a local school district should ask itself the following questions in determining the most appropriate means of setting Mission and Roles Statements:

1. Who are the different clients and publics?
2. What kind of vehicles can we develop that will allow clients and publics a voice in this process?
3. Should we establish different avenues for different groups?

It is essential to provide opportunities for district and community representatives to participate in this M&RS process. Several techniques are presented here as suggestions for community involvement in determining Mission and Roles Statement.

1. Special surveys might be administered to various groups in the district and community.
2. A sample of the community might be interviewed by the district staff.
3. The local school district or school might sponsor a series of special public meetings to solicit community advice.
4. An advisory council for district planning and development might be established.
5. Community representatives might present their ideas of Mission and Roles Statements to the local school board.

RESPONSIBILITY FOR WRITING MISSION AND ROLES STATEMENTS

It would probably be most desirable if the school district as a whole could provide the leadership to deliver a clear and comprehensive outline of the Mission and Roles Statement. This system might then provide the framework for Mission and Roles Statements for all subordinate units in the school district. However, often no district-wide statement exists. Each department and its administrative staff must assume the responsibility for developing its own statement. A draft of the M&RS should then be presented to the school board, staff and community for their review and

reaction. In the event that there are substantial reactions or criticisms, the goals should be modified and again submitted for review.

Each administrator and staff member involved in the process of preparing a M&RS should be forewarned of the substantial time and effort required. They should also be encouraged because, despite the often frustrating, tiresome and time-consuming tasks, the process is an essential and invaluable phase of the Management by Objectives system.

When one is preparing the M&RS it is important to include all the major commitments or responsibilities of each staff position or department. The work for which each one is accountable should be clearly and briefly stated, with an attempt to eliminate inconsistencies or duplication of roles. Finally, the unique contribution of each administrator and staff member should be related as much as possible to the school-wide or system-wide M&RS.

The following sequence of activities is suggested as a workable procedure for developing an M&RS suitable for local conditions:

Step 1: Obtain existing needs analysis information from all the appropriate sources in your community. Some of these sources might include administration and staff surveys, meetings with community groups, recommendations developed as a result of previous North Central evaluations and special advisory councils.

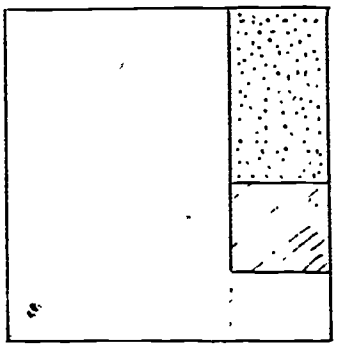
Step 2: Arrange information from Step 1 in appropriate categories, e.g., "Student Needs" and "System Needs."

Step 3: In writing the Statement, start with the phrase: "To promote the efficient functioning of the services directed toward the total growth and development of all students of the _____ School by _____." Here one summarizes in one or two statements the nature or scope of his work as a director, principal or coordinator. For example, a director of vocational education might add: "by directing the vocational services in the following areas." Then he would list the individual work areas or services and what is done in each. If one is not an administrator of a group, but rather an individual contributor concerned with providing direct services, one may simply state, for example, "by performing the following services" -- and then list the services provided.

Step 4: The next task is to clarify the total scope of each job and its key areas for results. Several important steps must be included in this stage:

A. Divide the overall job into sub-areas as follows:

YOUR JOB



Identify all key areas of the job. These probably range from 6 to 15 key areas in total.

B. It is very important to cover both what these areas are as well as what they should be. If there is a need for another service or key area for results, include it with those already listed.

C. Label each key area as indicated. Usually a noun may be used to label each part of the job. Limit the labeling to one or two words. (Use Worksheet #1, in Appendix A.)

D. Once each key area has been identified, describe it in a few sentences. See the examples provided earlier on pages 12-15. Notice that phrases after each key area describe the work performed and the accountability for each.

E. You are now ready to review and rank the key areas for results. This may be done by placing the most important key areas first, followed by areas that are less important. (Use Worksheet #2, Appendix B.) After this ranking, you may rewrite your M&RS and proceed to Step 5.

Step 5: Present M&RS to other administrators, professional and non-professional staff, and the public for review of priorities, responsibilities and opportunities for improvement. Attempt to reach a consensus on these.

Step 6: Make necessary changes to establish proper priorities of key

areas and responsibilities as a result of information and recommendations in Step 5.

Step 7: Present your reviewed M&RS to your supervisor. The aggregate statements may be presented to the school board for review and adoption.

Step 8: The M&RS may be re-evaluated, modified or improved whenever necessary, and should be reviewed on a regular basis.

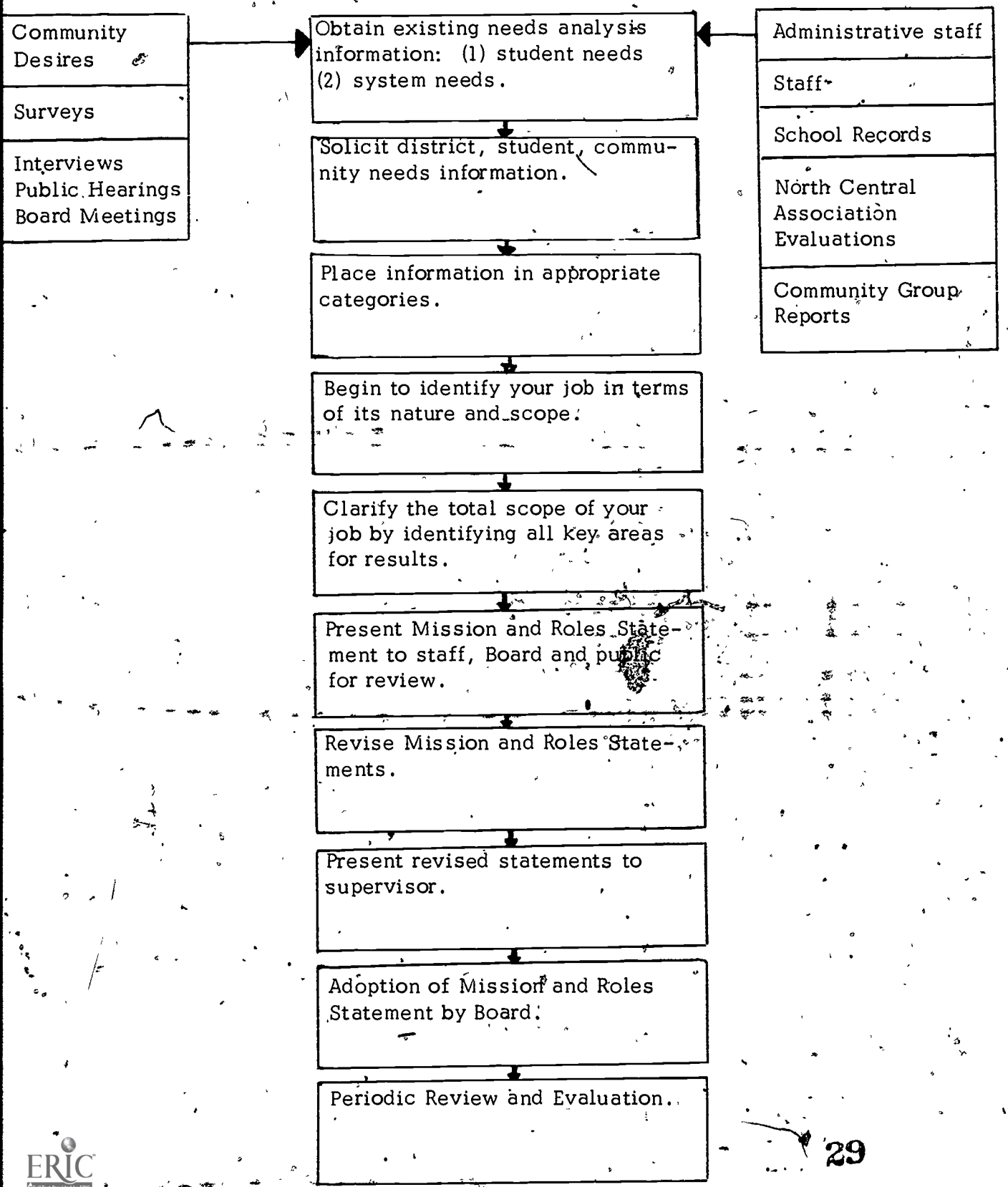
SUMMARY

This first phase of MBO identifies the areas of responsibility that are critical to the long range success of the school district. These are broad areas, including such functions as curriculum development, in-service activities, fiscal policies and learning evaluation. As these key areas for results are defined, it is necessary to specify performance measures for each one. For example, in the Mission and Roles Statement for a Vocational Education Director, curriculum development may be measured by program quality and quantity, and by test scores; student selection may be measured by enrollment data, graduation totals and results of employer questionnaires; and operational liasons with business and industry, by the number of contacts made, services provided and new programs developed. Chapter III will discuss in detail the next phase of MBO, setting objectives that serve as standards against which performance is measured.

FIGURE #2

THE STRATEGY:

NINE STEPS FOR DEVELOPING THE MISSION AND ROLES STATEMENT



CHAPTER III

INTRODUCTION TO SETTING OBJECTIVES

The central process in Management by Objectives is setting objectives, that is, determining the key results to be accomplished within a specified period of time. By drawing up the Mission and Roles Statement, the school administration, staff and community have obtained a picture of where the school should be going and of how well the school is currently performing in relation to its goals. Noting shortcomings in current performance helps to identify existing needs from which objectives are formed. Each department within the school system can then proceed to develop specific statements of who will accomplish what by what date in order to attack the problems and reach the goals implicit in the M&RS.

THE NEED FOR OBJECTIVES

The assumption that every school administrator knows exactly what he is trying to achieve is often incorrect. It is quite common for directions of pursuits to get lost in the shuffle and bustle of the many demanding and anxiety-provoking duties of school administration. Consequently, administrators need to keep clearly in mind both objectives and the steps necessary to achieve them.

To accomplish this, an administrator must first determine his mission within the organization: For what is he really accountable? The answer to this question constitutes the Mission and Roles Statement, which must then be translated into specific, realistic and measurable objectives.

These objectives, in turn, play a role in the accomplishment of the objectives of all other departments and of the school or system as a whole.

PEER OBJECTIVE SETTING

Peer objective setting means that the individuals at a given organizational level, whether it be the top-level administrative staff or peers at considerably lower levels, develop their objectives together. Several major benefits appear to result from such an approach. First, peers (school principals, for example) may be in a position to give a particular manager unbiased viewpoints of those things to which he should be applying a major portion of his time, and they may be able to suggest solutions to recognized problems. Second, individuals in a lateral relationship often develop clearer mutual understanding than do non-peers. Finally, by working out their objectives together administrators in a given organization may reach a better mutual understanding of how their various activities interrelate and how their efforts should be integrated for the good of the over-all school system.

GUIDELINES FOR CAREFUL FORMULATION OF OBJECTIVES

I. Characteristics and content of an objective:

1. An objective is an important result to be achieved.
2. It is written so it can be analyzed and reviewed from time to time.
3. In each objective, only one big result is identified, covering the what that is to be achieved.
4. Objectives may also include who is to be involved, such

as "students in grades 6-9."

5. Objectives are written forcefully, using such terms as "achieve, completely and replace." The terms suggest performance stretches.

6. Each objective is stated concisely, briefly and in terms of the measurable quantity and quality of the end result.

7. All objectives are written to meet school district requirements for organizational improvements such as curriculum improvements, research, in-service training for personnel, student counseling, and return on investment.

8. Each objective may be assigned a risk factor to indicate the level of confidence about its completion.

9. An objective is written so as to be significant and perhaps even critically important to the individual who is responsible for carrying it out.

10. All objectives are designed as a commitment between the administrator or staff member and his supervisor.

11. Objectives are written with emphasis on opportunity, setting a climate for a leap forward in performance and improved results for the individual and the organization.

12. Objectives should be written in quantifiable terms that are easily measurable and hence easily reportable.

13. Each objective is communicated to superiors as well as subordinates. This is a vital part of the M B O system

and is given major consideration during in-service training.

To write an effective and meaningful statement of objectives appears quite simple. However, without adequate training, people often write only fuzzy collections of commitments that ultimately result in misunderstandings and considerable confusion. While fuzzy statements may comfort those who wish to avoid commitment, they do not provide an adequate description of results to be achieved, nor do they suggest a guide to action.

Robert Mager has drawn up two lists of words contrasting vague, unhelpful language with terminology that is more precise and constructive:

Words Open to Many Interpretations	Words Open to Fewer Interpretations
to know	to write
to understand	to recite
to really understand	to identify
to appreciate	to differentiate
to fully appreciate	to solve
to grasp the significance of	to construct
to enjoy	to list
to believe	to compare
to have faith in	to contrast

Besides being written as concretely as possible, objectives must reflect consideration for the people involved in them: what they think and how they feel. It is important to remember that people of varied backgrounds are involved. Two-way communication is essential in the objective setting process.

METHODS FOR QUANTIFYING OBJECTIVES

Useful objectives are written in specific, concrete terms. Because staff objectives cannot always be completely quantified, it is easy to lapse into vague but expedient generalities. Such relative terms, called "motherhoods," have a tendency to creep into statements of objectives because they sound appropriate, are readily acceptable, and frequently offer a comfortable distance and range. Even though "motherhoods" may be an acceptable part of our day to day language in school administration, they are not acceptable in a statement of objectives. Here are some examples of the kinds of phrases to avoid:

"Achieve greatest educational efficiency. . ."

"Improve administrative effectiveness. . ."

"Attain greatest achievement possible . . ."

"Gain reasonable improvement . . ."

"Render better educational service . . ."

"Improve educational conditions . . ."

"Increase reading levels . . ."

"Accelerate learning rate . . ."

"Decrease drop out rates . . ."

"Maintain morale and attitude . . ."

ELIMINATING GENERAL TERMS IN OBJECTIVES

The following guidelines might be of value in eliminating generalities from statements of objectives:

Avoid: Oversimplifications; opinions subject to change; sensational terms; understated or overstated words; exaggerations; inexactness; terms that can take a range of meanings.

Use: Words that describe how much; terms that can be proven or demonstrated; precise terms identifying actions that can be controlled and measured; terms that lend themselves to clarification by numbers, rates, percentages, averages, index numbers, correlations, and standard deviations.

Objectives must be quantified. Stating the quantity of results -"how much"- is just as important as describing the type or kind of results. Quantified objectives include measurable points built into the written formal statement and specify both the quantity of results expected and the period of time in which they are to be achieved. The more concrete information a school administrator can build into his objective statement, the more likely it is that he will be able to achieve a real meeting of minds among the individuals involved in the project.

ADVANTAGES OF QUANTIFYING OBJECTIVES

1. Quantified objectives define and clarify the elements of expected results better than any verbal description could.
2. Quantified objectives provide a built-in measure of effectiveness. Using a measure to describe a future result also provides a way of measuring the current

activities that will make it happen.

3. Quantified objectives can be enlarged or reduced for progressive performance stretches. This is not possible with vague verbal descriptions.

4. Quantified objectives lower the limits of the unknown. The quantitative feature also helps us see the effects the result will have on other areas. For example, to reduce the drop-out rate from 175 to 25 implies a need for better methods of student supervision and drop-out identification. If training is necessary, the objective should tell how much it will cost, when it can be conducted, and what the program will consist of.

LIMITATIONS OF SETTING QUANTITATIVE OBJECTIVES

1. Numbers can be misleading and suggest a precision that does not exist. Furthermore, numbers may be over-simplified.

2. Mathematics, statistics and other quantifying techniques are not always known by the average person. Those who do not understand these techniques may regard this quantified statement as impractical or too theoretical.

3. It has been suggested that quantification of human judgement is not possible. In this context, critics

of MBO add that the mechanical manipulation of numbers is no substitute for intelligent, mature and experimental decision making.

4. A final limitation is concerned with the difficulty of quantifying certain areas of behavior and leadership. How does one measure qualities such as sincerity, open-mindedness, integrity, impartiality, and tactfulness, which are known to be important elements in achieving results? A response to this problem would be to look upon these qualities as objectives, and to use performance indicators of some type to assess the acquisition of such qualities. For example, a training skill can be measured by before and after examination scores.

While these limitations are significant, they do not outweigh the advantages and benefits offered by quantification. Objective statements must be formulated carefully with built-in means of measuring results.

DETERMINING THE NUMBER OF OBJECTIVES

The number of objectives to pursue during a given period of time varies with different districts, schools and departments. Different community expectations, occupational interests, available resources, and traditions will cause corresponding differences in the number and type of responsibilities which the school superintendent, vocational education director, and school principals must manage within their organizations. The impor-

tance of achieving the same objective may vary with the school district. An inner city school principal may give great importance and devote long-term time strategy to objectives for solving the critical reading problems in his school. On the other hand, a suburban school principal might give a time limit of one year for objectives dealing with reading problems of his students. Most school districts will agree on certain key areas in which objectives should be specified. However, few will agree on the importance to be assigned to each of the key areas within a given period of time. The most suitable number of objectives will be unique to each school district, school and department because each situation differs in the type and number of improvements that must be made within a period of time.

The beginning practioner of Management by Objectives will tend to adopt a great number of objectives, thus diluting his efforts and spreading himself too thin. The number of objectives should be small but significant in terms of results for the enterprise and the individual.

CHARACTERISTICS OF ACCEPTABLE OBJECTIVES

If the Management of Objectives approach is to be effective, objectives must be structured along certain definite lines. In reading the following sample objective statements, ask yourself whether the objectives and results are

1. Significant - Having a major effect on educational improvement;
2. Scheduled - stating starting and completion dates;

3. Measurable - considering all possible quantitative and qualitative approaches;

4. Programmed - for the department and the individual;

   a. personnel - considering staff capabilities;

   b. materials - taking into account supply and cost;

   c. coordination - remembering flexibility and timing;

   d. administrative goals - recalling educational needs;

   e. cumulative processes - being consistant with the Mission and Roles Statement;

5. Realistic - attainable, but not so easily attainable that they generate complacency.

This list of poor and better sample objectives covers many crucial areas of a school organization such as personnel, vocational education, curriculum, and pupil personnel services. It is important to remember that objectives must be specific and must be stated in terms of what must be accomplished and when it must be completed. As much as possible, objectives should be quantified, that is, written in terms of test units, units of production, dollar volume, and the like.

1. Overall School District

   Poor - Achieve a substantial increase in reading achievement by January 1, 1974.

   Better - A total school individualized reading program will be developed by January 1, 1974.

   (Specify what is to be accomplished.)

Poor - To make a reduction in plant heating operating costs.

Better - A plan to reduce total plant heating and electrical-costs by 20 percent will be developed by March 15, 1974.

(Be more specific and include the <u>when</u>.)

2. Personnel Objectives

Poor - To reduce substantially recruiting costs.

Better - A plan to reduce the cost of recruiting each new teacher from $285 to $210 will be developed by May 1, 1974.

(Be more specific with the <u>what</u> quality and include the date.)

Poor - To reduce the loss of clerical employees.

Better - A plan to decrease the termination rate of clerical employees from 25 to 15 percent will be developed by September 1, 1974.

(State the <u>what</u> more clearly, quantify, and include the date.)

3. Vocational Education Objectives

Poor - To make an effective evaluation of drafting programs.

Better - An evaluation of the drafting curriculum for grades 9-11 will be undertaken by each principal by January 15, 1974.

(State the what more specifically and include the date.)

Poor - The school policy manual for parents will be revised.

Better - A school policy manual for vocational education will be developed by the area vocational director by March 1, 1974.

(Be more specific with who and what and include the date.)

Poor - A resource center for vocational education materials and an economics department will be established by June 1, 1974.

Better - A resource center for vocational education materials for grades 9-12 will be established by June 1, 1974.

An economics department for grades 9-12 will be established by June 1, 1974.

(State each objective independently.)

Although none of the objectives labeled "better" is perfect, the second version is consistently more vigorous, detailed and precise than the first.

RELATIVE IMPORTANCE OF OBJECTIVES

A school administrator must select the objective or objectives that will give students the greatest return on total investments of time, money and resources. Therefore, it is essential to base objectives upon the problems

and needs that are most severe and that have the greatest potential for improvement. In the face of a wide range of needs and problem areas, one must determine which objectives will yield the greatest gain. One can do this by ranking objectives according to their relative value and weighing them according to the time they will require, thus obtaining a picture of the current situation and of future possibilities.

A form for "Ranking Objectives for School Improvement" in Appendix C may be helpful in arranging objectives beginning with number one (most important), and ending, for example, with number ten (least important.) After ranking objectives according to the importance of their results, the next step is to assign to each objective the amount of time in percentages that will be required for its realization. If one has ten objectives all of equal importance, each would have a value of 10%. Or, the first objective on the list might be weighed much more heavily than less important ones. Note, however, that the most important objective does not necessarily receive the greatest weight in percent of time.

SUMMARY

An objective states the key results to be accomplished within a given period of time. The objective should be written as concretely as possible, in quantifiable terms, and in language that is meaningful to those committed to its implementation. As the second phase of MBO, setting objectives is not a single event but a process which flows naturally into phase three, developing Action Plans, as discussed in Chapter IV.

CHAPTER IV

DEVELOPING ACTION PLANS TO ACHIEVE OBJECTIVES

An Action Plan is a set of activities or steps which must be completed in order to accomplish the desired results stated in an objective. After writing the Mission and Roles Statements and developing objectives, the school district or department is ready to design Action Plans to accomplish each stated objective. An objective states specifically in measurable terms what result is to be achieved and when it is to occur. Each Action Plan that is designed for an objective employs a series of steps that describe how the objective is to be accomplished, by whom and when. The Action Plan may consist of appropriate methods, systems, techniques, courses, or tasks that are carefully established to accomplish each stated objective. In essence, the MBO system requires that there be an Action Plan related to specific objectives and that it be possible to determine whether or not the plan is being carried out.

The development of an Action Plan is a most important part of school administration planning in that it is concerned with not only setting objectives, but developing the strategies to achieve them. A serious and frequent problem encountered by organizations employing MBO is the failure to give adequate attention to the development of Action Plans. Although stating objectives provides the basis for effective planning and for all of the other primary school administration functions, it is formulating step-by-step plans for their achievement that produces the sense of direction and unity of purpose that are essential for long range effectiveness.

FIVE GUIDELINES FOR DEVELOPING ACTION PLANS

There are five basic principles that may be followed in developing effective Action Plans. These guidelines should serve as a reminder that objectives alone do not achieve important results. Unfortunately, many organizations that are unskilled in MBO do not follow through with this important part of the system. Consequently, refined objectives are sometimes not carried out, and the organization loses its effectiveness. These five guidelines for developing an Action Plan can help realize stated objectives:

I. The initial concern of the school administration in developing Action Plans is to divide into steps all of the necessary tasks and activities. This procedure helps the administrator give attention to each phase of the plan, identify the purpose of each step, and state what is required to perform it.

Almost any activity can be arbitrarily divided into smaller steps or units; however, a step should be logical groups of self-contained activities that have a beginning and an end or product. Appendix D may be of help in preparing subsequent action plan steps for your school district.

II. It is important to identify criteria for the completion of each step. In the MBO system it is assumed that there are criteria for each step or task to be performed. Without such criteria it is difficult to know when the step has been completed. For example, an Action Plan may call for hiring three industrial arts teachers. The criterion for the achievement of

this step might be: three industrial arts teachers with full teaching credentials hired. Another action step might include: orientation of total business education staff. The criterion for this step might be: all education staff completed in-service workshop.

The school administrator should indicate the relationships among steps, and carefully attempt to identify any time sequences. Sequential steps tend to lengthen the time required for the completion of the action plan, since often the next step cannot begin until the previous one has been completed. However, scheduling can be improved if steps are overlapped whenever possible.

III. Next it is necessary to identify who is responsible for carrying out each step of the Action Plan. "Who" may be a school principle, a project director, an entire department staff or a single teacher, depending on the size, complexity and duration of the task in question. Administrators must furnish whatever information is needed to the person or persons responsible for a task and encourage communication among all staff members concerned with a given action.

IV. At this stage, the school administrator must analyze what resources will be needed. This analysis will help provide cost information that may be needed in meeting state and federal guidelines and requirements. Furthermore, it is crucial to ascertain who should be contacted for these resources. Having complete knowledge of the required resources will also enable the administrator to determine the completion date for each step.

V. Finally, the administrator must estimate the time required to

perform each step. A specific date is assigned for each action step in order to emphasize the time requirement for achieving each objective as a whole.

OBJECTIVE REVISION AND CONTINGENCY PLANNING

Within an effective MBO system, the school administrator's job is to achieve his objectives, not change them. However, should it become difficult to accomplish a given objective, the administrator may need to develop new Action Plans or to revise existing ones in the light of the encountered difficulties. This approach suggests a change of plans, not of objectives. This should hold true unless conditions have changed so much that achieving an objective becomes impossible or irrelevant.

Contingency planning is the process of anticipating potential problem areas and tentatively deciding what might be done to overcome them. By developing contingency plans, school administrators may force themselves to foresee problems and to prepare in advance for dealing with them should they occur. In this way, school administrators may become more flexible and capable of coping with change.

The MBO system enables administrators to learn not just to anticipate change, but actually to incorporate it into the planning process. This greatly increases their chances of obtaining positive results. The Interim Evaluation Form in Appendix E may be used as a tool to help increase planning efficiency.

SUMMARY

Upon the completion of the first three phases of Management by Objectives -- establishing a Mission and Roles Statement, setting objectives, and developing Action Plans -- the school administrator should have established a solid base for making change. This position of strength may permit him to take advantage of many opportunities that arise in his school organization. With this management tool, he should be able to handle effectively the problems that otherwise might reduce his ability to achieve predetermined objectives.

The development and implementation of the Action Plan is the heart of a successful MBO system. An effective Action Plan demands critical skills on the part of the administrator: awareness of the dynamics of the MBO system; ability to break down objectives into specific, sequential, steps; and skills in human relations that will encourage high performance, personal commitment and growth on the part of all subordinates.

By means of combined MBO and human relations skills an administrator can help subordinates participate in programs not because they are driven to, but because they want to. Such enthusiastic cooperation between administration and teaching staff is one key to higher levels of learning in our schools.

CHAPTER V

DEVELOPING A PERFORMANCE-APPRAISAL SYSTEM

INTRODUCTION

The fourth phase of Management by Objectives, the Performance Appraisal, is a joint process of evaluation by which superiors and subordinates determine the extent to which objectives are being accomplished. The tools of appraisal include operations auditing of an entire program and individual performance appraisal interviews, as well as more informal types of self-evaluation, observation, and feedback.

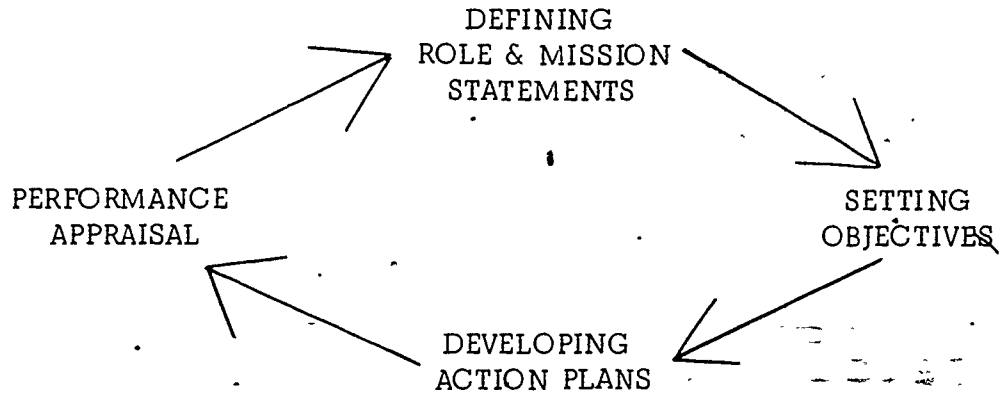
The two basic requirements for effective Performance Appraisal are (1) standards against which to measure performance, and (2) a flow of information keeping personnel aware of progress toward objectives or significant deviations from standards.

In implementing the Management by Objectives system, an organization must arrive at a clear understanding of what constitutes good performance. The statements of objectives provide standards against which the individual can measure his performance. Effective performance may be defined as the individual's ability to get results. The Performance Appraisal is based on progress being made toward completing objectives.

The importance of feedback stems from the principle that "the motivation to achieve results increases as people are informed about matters affecting those results." People in a school organization tend to perform at higher levels when they are aware of the objectives they seek, and how well they are doing in relation to those objectives.

THE ANNUAL PERFORMANCE REVIEW

The annual performance review has a two-fold purpose: to review what has been done, and to begin preparing for the next year. In the following figure, the Performance Appraisal system both completes the M B O cycle and initiates the next:



The annual performance review is concerned with two important factors -- the individual and the results. It is important to note that the annual performance review is not the only established evaluation structure. Periodic reviews are also conducted to keep all levels of the administration completely informed of progress toward objectives. Such periodic reviews must be an integral part of the total information flow in the organization. Reports should be in time for decision-making, correcting and adjusting Action Plans. Record keeping, follow-up reports, and information on status of results should be working tools which help the administrator take the best possible action at the best possible time.

OPERATIONS AUDITING

In the practice of Management by Objectives, it has become apparent that more and more school administrators are operating their programs out of sight of their superiors and other administrators. Hence, an overview of the entire program is difficult to obtain. The larger the school district, the greater its need for administrators to be knowledgeable and effective in areas beyond their direct observation. Operations auditing, a recent management technique, has come into existence because of the need to manage from a distance and out of sight. Operations auditing is particularly important for top administrative personnel who are involved initially in the objective-setting process, but who withdraw during the Action Plan and Performance Appraisal phases. Periodic reviews, which are a form of operations auditing, should give the top administration an overview of progress at a glance. Instruments that provide such a view of progress in a time basis may be developed by school districts or individuals. Reports on results, time, and performance can be very useful in making decisions. An example of a Performance Appraisal instrument is given in Appendix F.

INDIVIDUAL PERFORMANCE APPRAISALS

Developing commitments to objectives during the first three phases of MBO provides a meaningful basis for evaluating performance of a school system or department, and it presents significant advantages for establishing individual Performance Appraisals. Within the Performance Appraisal interview both superior and subordinate may use as a basis for appraisal the data produced in the MBO process. The individual who has established the performance objectives looks forward to participating

in and commiting himself to those challenges in which he is involved. Within this setting, a climate of mutual respect and equality is fostered.

The technique of individual performance appraisal offers specific advantages not found within other appraisal methods. Performance appraisal may increase personal performance as well as job satisfaction when it is done in the following manner:

1. Empñasis in on the results to be achieved. All appraisal reviews focus on work results and job requirements rather than on an individual's personality traits or character. During the appraisal interview, each objective is dealt with specifically and the evaluation is tailored to this unique organizational situation. At no time during this relationship is the individual's worth as a human being to be evaluated and confused with the job performance.
2. Individual appraisals focus on positive and active elements. It is important that the individual performance appraisal be seen as an analytical technique which is designed to improve the school organization, rather than as an administrative club to maintain order and control. The appraisal encounter actively involves two professionals who are mutually attempting to assess job performance. Within this appraisal framework communication improves and commitment is strengthened. Unlike other appraisal systems, MBO calls for no uni-

lateral actions. Only when objectives and goals are established jointly can commitment and results be improved.

3. Individual appraisals are objective and work-centered. Deficiencies in performance should not be cited without presenting accurate and reliable information that relates directly to the job description and stated objectives. A sufficient amount of representative information should be provided, reflecting comprehensive periods of time and work performance. All limitations in obtaining information should be discussed. In all cases, the sources from which information has been obtained should be identified.

4. Individual appraisals are opportunistic. The appraisal interview should always be oriented toward work improvement. In following this principle, the individual has freedom to deviate from past practices and procedures. Innovation and creativity should be encouraged. This approach flows naturally from the future orientation of the entire structure of the Management by Objectives system.

5. Individual appraisals encourage performance stretches. Encouragement is focused on two primary areas: (1) the achievement of the work and its effect on the total

educational organization; (2) the individual job fulfillment, motivation and personal growth and development. Within this relationship there are many opportunities to help increase individual performance and personal fulfillment. The mission of promoting personal satisfaction and job improvement is an essential element of Managing by Objectives.

ETHICAL CONSIDERATIONS OF INDIVIDUAL APPRAISAL

The individual appraisal should be objective, work-centered and focused on the desired work results and the individual's growth. The emphasis should be placed on the work and not on the personality of the person being interviewed. Nor should an appraisal interview be conducted in an autocratic setting. The appraisal data is privileged and should be presented only to those who have a good reason to review it.

THE UTILIZATION OF PERFORMANCE APPRAISALS

There are a variety of ways in which individual school districts may use the results of evaluative techniques discussed above. Performance appraisals may serve any or all of the following functions:

1. Determining annual salary increases. This method of performance appraisal is commonly known as "merit rating." Prior to the adoption of MBO some school organizations attempted to base compensation on so-called "merit" principles. However, merit was a highly

elusive term, and few school districts succeeded in realizing "merit rating" in actual practice. MBO can provide the means of compensation relating to achievement of objectives, allowing payment of staff in proportion to the degree to which objectives have been achieved or exceeded.

2. Identifying personnel for promotion. During this form of Performance Appraisal, the central administration or other administrative team members may evaluate an individual's performance with reference to future positions and opportunities. Focus may also be placed on skills or training necessary in anticipation of prospective promotion or placement.

3. Motivating and coaching for greater professional and personal advancement. The appraisal system can also provide the vehicle for stimulating better performance and coaching individuals to become more effective in their work, thus increasing their personal growth and development.

4. Career planning. The appraisal interview can be an excellent opportunity to counsel the individual with regard to his interests and personal aspirations. In doing so, it may be valuable to observe the individual's present "KASH" position, that is to take stock of his

-- Knowledge and experience

-- Abilities and aptitudes

-- Skills and proficiencies

-- Habits and work relationships

Discussing these factors may help the individual grow in the self-awareness and self-direction that foster optimism and career development. These gains, however, presuppose that the appraiser possess a positive regard and willingness to listen to and accept the individual being guided.

The appraisal system can combine any or all of these functions. Performance appraisals are part and parcel of the school administration process and can be concerned with virtually all elements of administration: Organizational planning, delegation of tasks, evaluation of results, control, communications, development, motivation, and coordination. The performance appraisal technique of MBO provides results-oriented job descriptions and clear cut school district objectives from which accountability and measurability are derived.

STEPS IN DEVELOPING A PERFORMANCE APPRAISAL SYSTEM

Performance Appraisal should be tailored to meet unique requirements of the school, department, or individual. The steps for developing a Performance Appraisal system begin even in the first phase of MBO:

Step 1 The school district or individual work units prepare and refine a Mission and Roles Statement which analyzes the nature and scope of each job and its over-

all contribution to the school district. The M&RS also helps determine each person's accountability for results to be accomplished.

Step II Upon completion of the M&RS, specific objectives are to be established stating the key results to be accomplished. Each objective is linked to the broad goals of the M&RS. These objectives form the basis for discussion and subsequent joint agreement between subordinate and superior.

Step III Upon completion of statements of objectives, Action Plans to accomplish the projected results are prepared. Both superiors and subordinates strive to agree upon methods and activities necessary to reach stated objectives within a specified timeframe. Each individual then applies his skill, ingenuity, effort, time, and energy in getting done what has to be done.

Step IV During the ensuing months there are periodic formal disscussions of the objectives that were set. These meetings are usually designed as quarterly progress reviews. The purpose of these reviews is to keep the administration informed of progress toward projected results. These encounters are characterized by mutual respect, empathy, pro-

gress assessment and problem solving.

The annual performance review is conducted in order to get feedback about results achieved and about progress expected. The administrator prepares in advance the annual review, summarizing achievements and suggesting ways to improve.

SUMMARY

Step IV is based on the principle that progress can only be measured in terms of that towards which one is trying to make progress. This phase of MBO attempts to measure and evaluate all activities according to a schedule in order to report the current status and progress toward completing the objective. The individual reporting and approval techniques attempt to note deviations from expected progress and report these for corrective action. Emphasis is placed on evaluating results rather than on an individual's personality or intrinsic worth. Methods of feedback (evaluating past progress) and feed forward (measuring anticipated progress) give the school administrative team an idea of their present position in relation to where they are going. Thus, the Performance Appraisal provides the basis for renewed commitment to the goals of the school in the ongoing process of Management by Objectives.

CHAPTER VI

THE PROGRAM PLANNING AND BUDGET SYSTEM*

INTRODUCTION

Public schools in Indiana are currently facing an economic crisis of sorts. The State Legislature voted in its last general assembly to freeze local tax levies at the 1973 rate for school purposes and to allocate an additional $36.00 per pupil during fiscal 1974 and $38.00 per pupil additional money in fiscal 1975. This in effect puts very stringent limitations on the amount of money available for new programs, for increased operational costs and for maintenance of present programs. School corporation budgets have sky-rocketed the past few years. Although there seem to be many "good causes" in the field of education for which money could be spent, the legislature was probably accurately reflecting the "will of the people" and the general "tenor of our times" in limiting the amount of money available for public education. This means more than ever that educators must make decisions regarding how to best utilize the dollars available. To accomplish our goals and objectives, the legislature has forced us to recognize that there are many good causes competing for available dollars, and that we as educators must set priorities and choose between several alternatives in getting the most benefit out of the dollar. We are forced to consider alternative methods of accomplishing an objective in light of the cost involved as well as quality of out-put.

The author is indebted to Robert A. Hoffman, Director, Connersville Area Vocational School, for his generous assistance in preparing this chapter.

We in Indiana have been most fortunate in experiencing tremendous growth in vocational education during the past few years. This growth has been one of our goals and it is being accomplished. But while it is being accomplished, federal funds have not increased proportionately. Consequently, during the past year available monies for program reimbursement were approximately 5% less than in the prior year, while vocational enrollments across the state increased nearly 10%. This makes some form of Program Planning and Budget System necessary to obtain maximum benefit per dollar.

DESCRIPTION OF SYSTEM

The system of accounting suggested for use by an area vocational school or district is basically a program-by-program accounting method utilizing the accounting code as prescribed by the Indiana State Board of Accounts for school accounting purposes. Costs are broken down into two main catagories:

1. Indirect Charges Series Control
2. Direct Charges Series Control

The indirect charges are those which are applicable to all programs such as administrative costs, secretarial and bookkeeping costs, care of buildings and grounds, heat, utilities, power, telephone, and other costs associated with plant operation. Also, fixed charges such as maintenance, group insurance, etc., are charged to the indirect catagory. Direct charges are then made for each program of instruction. These are broken down as instructional salaries, audio-visual materials, books, instructional supplies, travel and other expenses, and repair or replacement of furniture and

equipment. Each program has its own control number code in this particular system. The program control code is assigned in alphabetical order. For example: Agri-Mechanics - .01; Appliance Repair - .02; Auto Body - .03; Auto Mechanics - .04; and so on down the line with each separate program having a separate project number.

A monthly management report is available within a week after the last day of the month and gives the original appropriation, expenditures to date, outstanding encumbrances, and the free balances as of the end of the month. Coupled to this information of expenditures is a supplemental monthly report which shows receipts from sale of materials or supplies in each project. This information is needed in order to show the actual cost of a program utilizing tax monies. For instance, in Agri-Mechanics or Auto Mechanics it would not be unusual to spend a $1,000 in a month on materials and supplies. This does not however reflect the true cost of the program because we may take in $1,000 or $1,100 in receipts. Therefore, the monthly report of receipts is important in evaluating the particular cost of a program. It should be pointed out that many times there is time lag between the purchase of saleable materials and the receipts for those materials. For instance, receipts are very light the first two months of the school year and very heavy the last two months of the year (May and June).

The accounting system is basically self explanatory as can be seen by the attached example, pages 68 through 79.

IMPLEMENTATION OF THE SYSTEM

To implement such a system of accounting would be nearly impossible without firm support from top school authorities, whether they be a local school board or a joint vocational board of a given area vocational school. For any school system utilizing a fairly late programable bookkeeping machine, it would be relatively easy to implement such a system. The advantages of an accounting system are considerable, since they give an administrator accurate cost analysis of each program which can help him identify problems and alternative solutions to those problems. A thorough, detailed and accurate accounting system is basic to the process of developing alternatives in education to get more "bang for the buck."

ADVANTAGES AND DISADVANTAGES

Advantages of the system are obvious.

1. The system gives an accurate accounting of the costs in each separate program.
2. The accounting system provides a basis for analyzing costs as they relate to number of students placed in full time employment and number of students in the field for which they were trained, etc.
3. Information gained through accurate cost analysis provides the basis for setting up alternative solutions to meet educational objectives.
4. The accounting systems tells quickly when spending exceeds budget allocation.

Disadvantages:

1. Some programs naturally cost more than others. For example, welding takes a considerable expenditure for supplies and has very little return, in comparison to the operation of a drafting program. There is a tendency when looking at the cost to base tuition or per pupil billing on a program cost basis. This may be particularly attractive to superintendents who are sending students outside the school corporation to cheaper programs. An area vocational school does not necessarily transfer tuition costs on a program basis. All costs are figured and divided by total enrollment so that students outside the local corporation all pay the same tuition regardless of the program in which they are enrolled.
2. Basing tuition costs on a program basis could seriously hinder a valid counseling program in that there might be a tendency on the part of administration to encourage participation in low cost programs and discourage participation in expensive programs.
3. The monthly management report, while valuable, does take time to prepare. It probably could not be done economically without the benefit of some type of bookkeeping machine. However, most school corporations in Indiana now have such equipment.

SUMMARY

With the general trend toward more accountability in public schools and with less federal reimbursement on a per pupil basis, some form of Program Planning and Budgeting System is rapidly becoming a necessity. Determining priorities and having a method of cost analysis in education are essential. We need a system to set alternatives for consideration in meeting educational objectives. Basic to this process is an understanding of objectives to be obtained and an accurate accounting method to monitor the cost of such a program. This cannot be attained without the support of top echelon administrative leadership in the local educational agencies. The system has the advantages of accurate cost analysis at any given time and will provide information necessary to correct inadequacies and excess expenditures. However, there is danger in slanting the vocational guidance program toward the lower cost program, thus possibly reducing the breadth of offerings available to students.

CONCLUSIONS

The age of accountability is in full swing in Indiana with the action of the legislature limiting the amount of monies available on a per pupil basis. It is imperative that we implement some type of PPBS in the administration of our vocational programs. We must recognize that there are many good causes competing for the expenditures of funds, and it's up to the educational leadership and the people in a community to determine their priorities and in what way the limited dollars available for education

shall be spent. We must recognize that we as educators cannot be all things to all people, that we cannot solve all problems in society with our educational system, and that we must establish priorities in education and a system by which we can evaluate the attainment of objectives in reaching educational goals.

MODEL PPBS SYSTEM FOR AN AREA VOCATIONAL SCHOOL

Accounting of Projects

Month of April

PROJECT:	RECEIPTS: Services & materials	EXPENDITURES: Supplies	BALANCES:	REPAIR AND REPLACEMENT OF EQUIPMENT:
AGRI-MECHANICS	812.11	1,027.46	- 215.35	-0-
APPLIANCE REPAIR	6.35	45.49	- 39.14	-0-
AUTO BODY	159.48	446.82	- 287.34	-0-
AUTO MECHANICS	833.91	590.99	- 242.92	7.10
BUILDING TRADES	6.50	42.52	- 36.02	-0-
BUSINESS	33.15	410.09	- 376.94	118.44
COSMETOLOGY	165.80	250.00	- 84.20	-0-
DRAFTING	-0-	58.41	- 58.41	-0-
ELECTRONICS	-0-	28.79	- 28.79	-0-
MACHINE SHOP	11.65	150.40	- 138.75	32.50
WELDING	2.30	350.00	- 347.70	85.48
TOTALS FOR: APRIL	2,031.25	3,400.97	- 1,369.72	243.52
PREVIOUS BALANCE	11,583.24	39,050.26	-27,467.02	13,358.19
BALANCES:	13,614.49	42,451.23	-28,836.74	13,601.71

FIGURE #4

JOURNAL OF APPROPRIATIONS, ENCUMBRANCES, DISBURSEMENTS AND BALANCES

AREA VOCATIONAL SCHOOL

APRIL, 1973

DESCRIPTION	ENCUMBRANCE		Appropriations	BALANCES		
	Encumbered	Liquidated		Outstanding Encumbrances	Expenditures To Date	Free
INSTRUCTION-SALARIES-PRINCIPALS & ASSISTANTS SUMMER SCHOOL BOOKKEEPERS & CLERKS MATERIALS & SUPPLIES MILEAGE & CONFERENCES, IN SERVICE VOCATIONAL INSTRUCTION SUBSIDIARY CONTROL						
OPERATION OF PLANT-SALARIES-CARE OF BLDGS & GROUNDS CONTRACTED SERVICES REMOVAL OF REFUSE AND GARBAGE LAUNDRY & DRY CLEANING HEAT FOR BUILDINGS UTILITIES-WATER AND SEWERAGE LIGHT & POWER TELEPHONE MATERIALS & SUPPLIES OPERATION OF PLANT SUBSIDARY CONTROL						
MAINTENANCE OF PLANT-REPLACEMENT OF FURNITURE-NON INST.						

DESCRIPTION	ENCUMBRANCE		Appropriations	BALANCES		
	Encumbered	Liquidated		Outstanding Encumbrances	Expenditures To Date	Free
MAINTENANCE OF PLANT SUBSIDIARY CONTROL						
FIXED CHARGES-EMPLOYEE RETIREMENT SOCIAL SECURITY PUBLIC EMPLOYEES' RETIREMENT EMPLOYEE GROUP INSURANCE RENT OF EQUIPMENT FIXED CHARGES SUBSIDIARY CONTROL						
INDIRECT CHARGES SERIES CONTROL AGRI-MECHANICS-SALARIES FOR INSTRUCTION AUDIO VISUAL BOOKS ETC. TEACHING MATERIALS & SUPPLIES OTHER EXPENSES OF INSTRUCTION REPLACEMENT OF FURNITURE & EQUIPMENT AGRI MECHANICS PROJECT SUBSIDIARY CONTROL						
APPLIANCE REPAIR PROJECT-SALARIES FOR INSTRUCTION BOOKS, REPAIRS, AUDIO VISUAL & TELEVISION TEACHING MATERIALS & SUPPLIES OTHER EXPENSES OF INSTRUCTION REPLACEMENT OF FURNITURE & EQUIPMENT						

DESCRIPTION	ENCUMBRANCE		Appropriations	BALANCES		
	Encumbered	Liquidated		Outstanding Encumbrances	Expenditures To Date	Free
APPLIANCE REPAIR PROJECT SUBSIDIARY CONTROL						
AUTO BODY PROJECT-SALARIES FOR INSTRUCTION BOOKS, REPAIRS, AUDIO VISUAL & T.V. TEACHING MATERIALS AND SUPPLIES OTHER EXPENSES OF INSTRUCTION REPLACEMENT OF FURNITURE AND EQUIPMENT AUTO BODY PROJECT SUBSIDIARY CONTROL						
AUTO MECHANICS PROJECT-SALARIES FOR INSTRUCTION BOOKS, REPAIRS, AUDIO VISUAL & T.V. TEACHING MATERIALS AND SUPPLIES OTHER EXPENSES REPLACEMENT OF FURNITURE AND EQUIPMENT AUTO MECHANICS PROJECT SUBSIDIARY CONTROL						
BUILDING TRADES PROJECT-SALARIES FOR INSTRUCTION BOOKS, REPAIRS, AUDIO VISUAL & T.V. TEACHING MATERIALS AND SUPPLIES						

DESCRIPTION	ENCUMBRANCE		Appropriations	BALANCES		
	Encumbered	Liquidated		Outstanding Encumbrances	Expenditures To Date	Free
OTHER EXPENSES REPLACEMENT OF FURNITURE & EQUIPMENT BUILDING TRADES PROJECT SUBSIDIARY CONTROL						
BUSINESS PROJECT-SALARIES FOR INSTRUCTION BOOKS, REPAIRS, AUDIO VISUAL & T.V. TEACHING MATERIALS & SUPPLIES OTHER EXPENSES REPLACEMENT OF FURNITURE & EQUIPMENT BUSINESS PROJECT SUBSIDIARY CONTROL						
COSMETOLOGY PROJECT-SALARIES FOR INSTRUCTION BOOKS, REPAIRS, AUDIO VISUAL & T.V. TEACHING MATERIALS & SUPPLIES OTHER EXPENSES REPLACEMENT OF FURNITURE & EQUIPMENT COSMETOLOGY PROJECT CONTROL						
ELECTRONICS PROJECT-SALARIES FOR INSTRUCTION BOOKS, REPAIRS, AUDIO VISUAL & T.V. TEACHING MATERIALS AND SUPPLIES						

DESCRIPTION	ENCUMBRANCE		Appropriations	BALANCES		
	Encumbered	Liquidated		Outstanding Encumbrances	Expenditures To Date	Free
OTHER EXPENSES REPLACEMENT OF FURNITURE & EQUIPMENT ELECTRONICS PROJECT SUBSIDIARY CONTROL						
MACHINE SHOP PROJECT-SALARIES FOR INSTRUCTION BOOKS, REPAIRS, AUDIO VISUAL & T.V. TEACHING MATERIALS & SUPPLIES OTHER EXPENSES REPLACEMENT OF FURNITURE & EQUIPMENT MACHINE SHOP PROJECT SUBSIDIARY CONTROL						
WELDING PROJECT-SALARIES FOR INSTRUCTION BOOKS, REPAIRS, AUDIO VISUAL & T.V. TEACHING MATERIALS AND SUPPLIES OTHER EXPENSES REPLACEMENT OF FURNITURE & EQUIPMENT WELDING PROJECT SUBSIDIARY CONTROL						
STAFF PROFESSIONAL DEVELOPMENT PROJECT-SALARIES FOR INSTRUCTION STAFF PROFESSIONAL DEVELOPMENT PROJECT SUBSIDIARY CONTROL						

DESCRIPTION	ENCUMBRANCE		Appropriations	BALANCES		
	Encumbered	Liquidated		Outstanding Encumbrances	Expenditures To Date	Free
DIRECT CHARGES SERIES CONTROL						
AREA VOCATIONAL OVERALL CONTROL						

APPENDIX A

WORKSHEET #1

DIVIDE YOUR TOTAL JOB INTO ITS

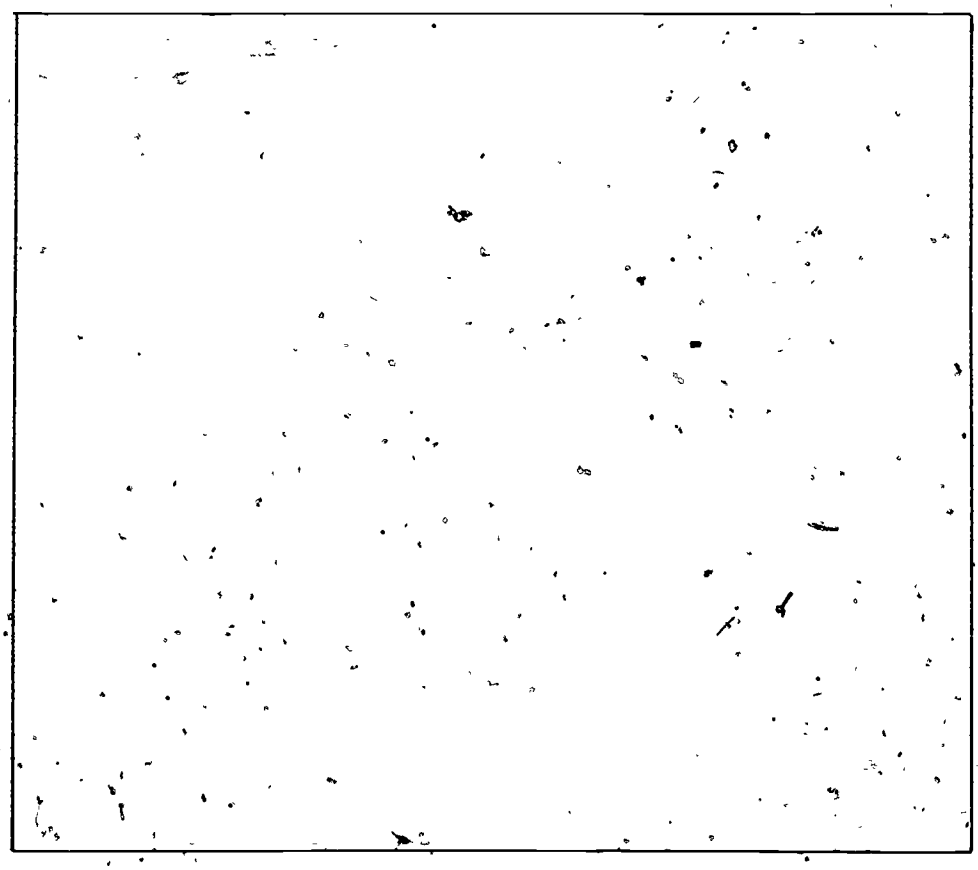
KEY AREAS FOR RESULTS

INCLUDE THE KEY AREAS

THAT ARE PART OF YOUR JOB NOW

AND ANY THAT YOU FEEL SHOULD BE ADDED.

YOUR JOB



APPENDIX B

WORKSHEET #2

COMPARATIVE RANKING OF KEY AREAS FOR RESULTS

LIST THE KEY AREAS FOR RESULTS	PROBLEMS & PRIORITIES	PROBABILITY OF ACCOMPLISHMENT	TENTATIVE ACTION PLANS

APPENDIX C

RANKING OBJECTIVES FOR SCHOOL IMPROVEMENT

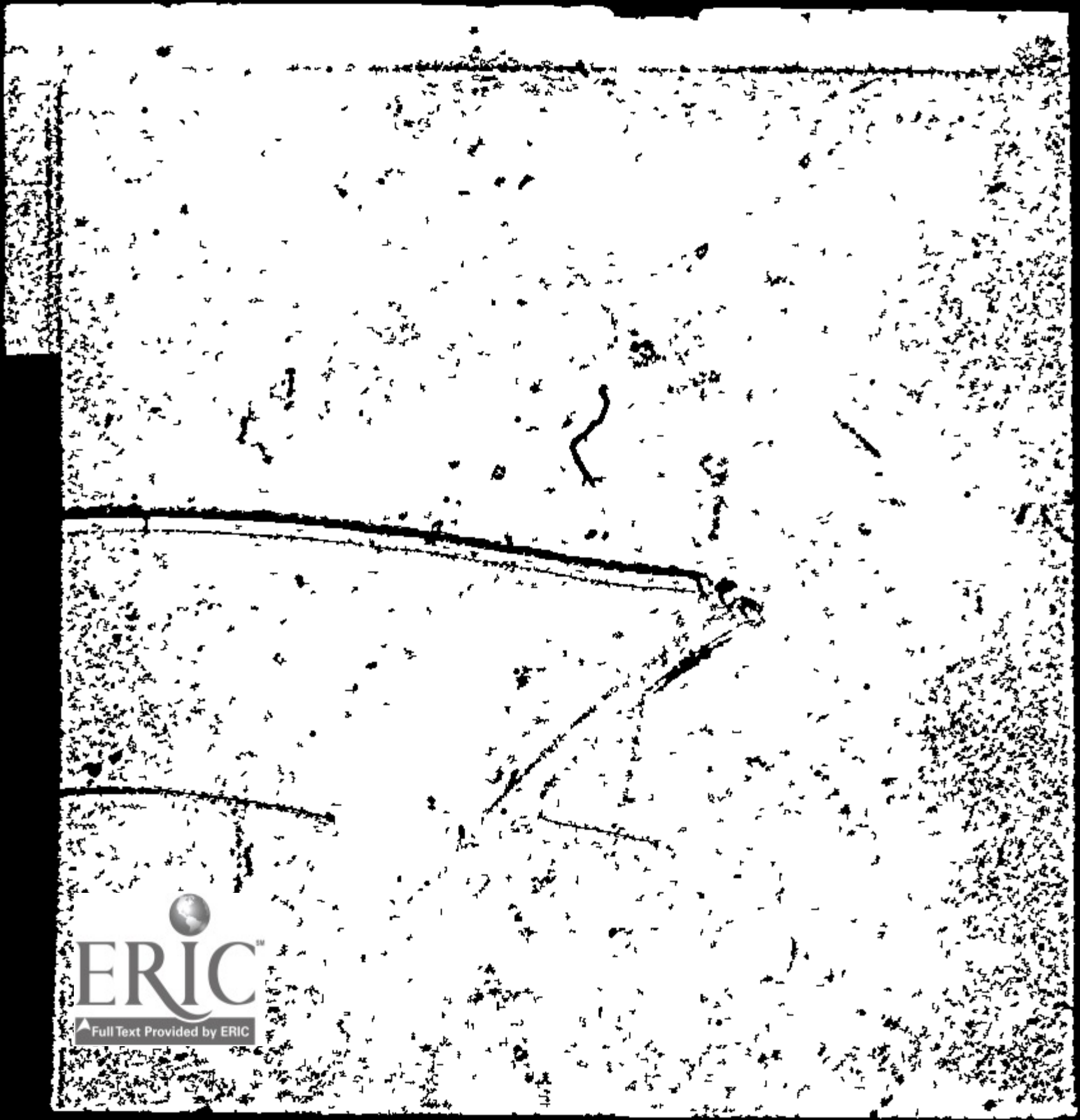
For the Period Beginning and Ending

Objective No.	Statement of Objective	Degree of Importance (%)	Target Date(s)	Periodic Performance Check			
				Date	Deficient	Adequate	Superior
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							

APPENDIX D:

FORMAT FOR DEVELOPING AN ACTION PLAN

PHASE III Objectives & Action Plans	Presented By: Date:	POSITION: School or Department:				
Objective # ____ of ____ Weight ____ %	Reviewed By: Date:	Department:				
THE KEY RESULT TO BE ACHIEVED: WHAT, WHEN, & COST BENEFIT	STEPS IN THE ACTION PLAN How to accomplish the Objective	Completion Criteria	Who is to Complete	Contact Whom	Completion Date (When)	Check Date Completed
State Objective: Circulated to:						


ERIC
Full Text Provided by ERIC

APPENDIX E

INTERIM EVALUATION FORM

SCHOOL _____ POSITION _____

ADVISOR _____ SCHOOL YEAR _____

PROGRAM OBJECTIVE: _____

_____

STEP: _____ PRESENT DATE: _____

COMPLETION CRITERION: _____

SCHEDULED COMPLETION DATE: _____

DAYS REMAINING _____

1. As of this date, how certain are you that this step will be completed on schedule? (Check one)

   _____ (1) definitely certain

   _____ (2) very probable

   _____ (3) appears probable

   _____ (4) uncertain

   _____ (5) doubtful

   _____ (6) will not be completed on schedule

   (If 4, 5, or 6 is checked, please explain on back of form).

2. In your opinion should there be a review or revision of this plan?

   ( ) YES ( ) NO

_____ _____

NAME LOCATION

APPENDIX F

PERFORMANCE APPRAISAL

NAME DATE

POSITION SCHOOL DEPARTMENT

STEP I	OBJECTIVE	PRIORITY	STARTING DATE	COMPLETION DATE	SET UP PERFORMANCE STANDARDS

STEP II BRIEFLY DISCUSS RESULTS ACCOMPLISHED FOR OBJECTIVE LISTED ABOVE.

STEP III AREA WHERE PERFORMANCE IS STRONGEST AREA WHERE PERFORMANCE IS WEAKEST

STEP IV	SPECIFIC WAYS TO IMPROVE ACTION PLAN:	RESPONSIBILITIES	DATES

SUPERVISOR DATE SUPERINTENDENT DATE

ACCESSION NUMBER: VT101449

PUBLICATION DATE: AUG74

TITLE: SCRIPTS FOR GATEWAY'S TELEPHONE INFORMATION ON CAREERS (G.T.I.C.). FINAL REPORT.

PERSONAL AUTHOR: BERNS, DONALD J.

DESCRIPTOR: *SCRIPTS; *TELEPHONE INSTRUCTION; *DIAL ACCESS INFORMATION SYSTEMS; *VOCATIONAL EDUCATION; INFORMATION DISSEMINATION; *CAREER PLANNING; VOCATIONAL INTERESTS

IDENTIFIER: GATEWAY TECHNICAL INSTITUTE

EDRS PRICE: MF AVAILABLE IN VT-ERIC SET.

DESCRIPTIVE NOTE: 210P.

ABSTRACT: THE PURPOSE OF THIS PROJECT WAS TO DEVELOP A SERIES OF 55 TO 60 CAREER INFORMATION CASSETTE TAPES DESIGNED AS A COUNSELING-GUIDANCE-INFORMATION TOOL TO BE USED TO INFORM POTENTIAL STUDENTS, THEIR PARENTS AND THE PUBLIC OF THE PROGRAMS, SERVICES AND ACTIVITIES OFFERED IN THE GATEWAY TECHNICAL INSTITUTE DISTRICT. THE INFORMATION IS DISSEMINATED VIA THE TELEPHONE THROUGH A CONTRACTED 24 HOUR ANSWERING SERVICE. EACH TAPE VARIES IN LENGTH FROM THREE TO SEVEN MINUTES AND CONTAINS INFORMATION ON THE CHARACTERISTICS OF EACH PROGRAM, THE DEMANDS OF EACH PROGRAM, AND THE REWARDS TO THE PERSON WHO COMPLETES THE PROGRAM. THE SCRIPTS FOR EACH TAPE ARE PROVIDED. (AUTHOR/KB)

INSTITUTION NAME: GATEWAY TECHNICAL INST., KENOSHA, WIS.

SPONSORING AGENCY NAME: WISCONSIN STATE BOARD OF VOCATIONAL, TECHNICAL, AND ADULT EDUCATION, MADISON.; OFFICE OF EDUCATION (DHEW), WASHINGTON, D.C.

VT 101 449

FINAL REPORT

Project No. 06-180-151-314

G.T.I.C.

Gateway's Telephone Information on Careers

August 1974

GATEWAY TECHNICAL INSTITUTE

VOCATIONAL, TECHNICAL & ADULT EDUCATION

KENOSHA, WISCONSIN

VT 101449

FINAL REPORT

Project No. 06-180-151-314

G.T.I.C.

Gateway's Telephone Information on Careers

Donald J. Berns
Counselor, Student Services

Gateway Technical Institute
Kenosha, Wisconsin

August, 1974

The research reported herein was performed pursuant to a grant or contract with the Wisconsin Board of Vocational, Technical and Adult Education, partially reimbursed from an allocation of Federal funds from the U.S. Office of Education, U.S. Department of Health, Education and Welfare. Contractors undertaking such projects under Government sponsorship are encouraged to express freely their professional judgment in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent official State Board or U.S. Office of Education position or policy.

The purpose of this project was to develop a series of 55 to 60 career information cassette tapes designed as a counseling-guidance-information tool to be used to inform potential students, their parents and the public of the programs, services, and activities offered in the Gateway Technical Institute district.

The information will be disseminated via the telephone through a contracted 24 hours answering service. Career information becomes instantly available to 31,884 subscribers in Kenosha and 46,212 in Racine.

G.T.I.C.

GATEWAY'S TELEPHONE INFORMATION ON CAREERS

Thousands of potential students, counselors and area citizens annually telephone the Student Services Offices on the three campuses of our district seeking information on the career programs offered.

The information presently provided by telephone is not adequate in informing the person about programs so they can make intelligent decisions about applying or not applying or even whether they should pursue further information.

A means was needed to thoroughly inform potential students of the characteristics of each program, the demands of each

program, and the rewards to the person who completes the program.

1. Sometimes critical judgments are made by the switchboard operator regarding who gets the call, i.e. "I understand your school has a Horticulture program. I would like to talk to someone about it." Should the call go to a teacher, a coordinator, the Student Services receptionist, a specific counselor, etc?
2. The information the caller receives would differ, sometimes to a considerable extent, depending upon the receiver. The response from a department clerk may be satisfactory, discourage further investigation, or encourage the caller to seek further information.
3. The depth as well as correctness of data will also vary.
4. The availability of information varies with the time of day or week, however, the telephone is available 24 hours a day and every day of the year.
5. Counselors and others receiving phone calls now must continually repeat such information on a random basis to potential students.
6. Counselors believe there is a decided lack of detailed requirements and content of each program by the general public.

7. Gateway counselors have found that information given by counselors in other institutions and agencies (high schools, etc.) is often inconsistent with existing conditions and requirements at the post high school vocational, technical institute.

Gateway Telephone Information on Careers (G.T.I.C.) will be of particular value with economically, culturally and educationally disadvantaged youth. These persons often have the poorest perception of programs and occupations. These G.T.I.C. tapes will enable these individuals to make more intelligent decisions, and encourage more of them to enroll in vocational, technical education programs which would match their interests, abilities, and occupational goals.

The specific objective of this effort was to develop 55 to 60 ten to twelve minute audio cassette tapes to inform individuals of the programs and activities available to them in the district.

These audio cassette tapes will serve the following functions:

1. The availability of the G.T.I.C. tapes would be through a 24 hour telephone answering service. A second set of G.T.I.C. tapes will be available for mailing to schools, agencies or individuals on a loan basis.
2. These G.T.I.C. tapes will incorporate information on the most frequently asked questions about each program and activity. This will result in a more productive counseling interview if sought later by the applicant.
3. These G.T.I.C. tapes will contain authoritative and standardized information approved by instructors teaching in each concerned program.
4. Calls might be expected to emanate from counselors working with individuals at an agency, school, Adult Learning Center, as well as from the general public.
5. Persons unable to come to the school due to transportation, work schedule, illness, child care service, etc. could instantly obtain vocational, technical career information at home.

6. The impersonal nature of listening to a tape recording is not considered a problem because the caller would be fully aware of this before initiating the call. The caller has the option of getting more personalized information if he chooses to call a campus after getting the general data via the G.T.I.C. tapes.

The objective of this project was accomplished with fifty-six cassette tapes recorded. The tapes vary in length from approximately three to seven minutes.

COMPLETED G.T.I.C. TAPES

Admission to Gateway Technical Institute
Apprenticeship
Adult High School

ASSOCIATE DEGREE PROGRAMS

Accounting
Aeronautics-Pilot Training
Automotive
Aviation Mid-Management
Civil Structural Technology
Court & Conference Reporting
Data Processing
Electronic Computer Technology
Electronic Technology
Fire Science Technology
Fluid Power
Food Service Management
Horticulture - Marketing
Horticulture - Production
Hotel-Motel Management
Industrial Engineering Technician
Instrumentation Technology
Interior Design
Land Surveying Technician
Library Media Technical Assistant
Marketing
Marketing - Fashion Merchandising
Marketing - Industrial
Mechanical Design
Nursing - Technical
Police Science
Secretarial Science

VOCATIONAL DIPLOMA PROGRAMS

Account Clerk
Airframe & Powerplant Mechanic
Auto Body
Automotive Mechanics
Clerk Typist
Cosmetology

Data Processing Machine Operations
Dental Assistant
Drafting - Mechanical
Electronic Servicing
Farm Training
Fluid Power Maintenance
Food Service Assistant
General Sales - Hotel/Motel
Machine Tool Operation
Medical Assistant
Operating Room Assistant
Power Mechanics
Practical Nursing
Pre-Service Nursing Assistant
Production Agriculture
Sales & Merchandising
Stenography
Upholstery & Auto Trim
Ward Clerk
Welding

Personnel involved:

Donald J. Berns, Ed.S. Counselor (Gathered career information for scripts, wrote and critiqued scripts, critiqued narrations and overall implemented and supervised the total project.)

David Scheunemann, A.A.S. Technician (Wrote a few scripts, assembled materials, recorded and duplicated the cassette tapes.)

Johnathan Green, (Professional radio announcer for WTMJ recorded forty-two G.T.I.C. tapes.)

Virginia Peterson, B.S. (Experienced radio announcer, recorded twelve tapes.)

Rita Dosemagen, B.S. (Experienced radio announcer, recorded ten tapes.)

Implementation:

Gateway Technical Institute has purchased the services of a twenty-four hour answering service in Racine to disseminate the recorded information. Initially two lines with one number (414-552-7933) will be used. It will be toll free to the cities of both Kenosha and Racine. Newspaper advertisements will announce to the public the number to call for career information together with the career tapes available. Brochures will also be developed. The service will be in operation September 6, 1974.

When a caller requests a career tape, the switchboard operator inserts the cassette into a playback unit coupled to the telephone line. When the recording ends, the line disconnects automatically and becomes available for another call. Each tape ends with instructions to the listener to talk to a counselor at a Gateway campus for further information. The switchboard operator is not expected to answer any questions and will refer the caller to a counselor at Gateway.

It is expected that the system can handle several hundred calls a week, however, other lines can be added if it becomes necessary.

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ADMISSION TO GATEWAY TECHNICAL INSTITUTE

Hi . . . . I'm a counselor at Gateway Technical Institute. The information on admissions which follows pertains to you if you plan to enter a career program of study in the associate degree or diploma divisions as a full time student. Part time students need only consult with a counselor and then register for a class or two. You must, however, be at least eighteen years old or a high school graduate before entry.

Gateway is somewhat complex in that we offer hundreds of courses designed to meet the individual needs of our many students. We have over fifty career programs of study. Each program consists of a number of specialized courses. We want to help you select those courses in which you will find success. In some cases this may mean granting credits transferred from another college, or credits through special examinations. In other cases, it may be advisable to begin with some refresher courses. In order for us to help you plan your new career in more than a, "by guess and by gosh" manner we wish you to complete the following admissions steps:

One . . . Complete an application form. We need to know what you wish to study and when you want to begin in order for us to provide you with further information.

Two . . . You should send transcripts from your high school as well as college if any work was completed. Often we find applicants apologizing for their poor or incomplete past education, however, as counselors our greatest satisfaction comes from seeing these same persons achieve the successes at Gateway that were previously only in their dreams.

Three . . . Counseling tests are given every month on a Saturday morning at Gateway. If, however, you took the A.C.T. (American College Test) it may not be necessary to take Gateway's Counseling test.

If you plan to enter one of the health career programs you will be required to have an interview with a specialized health occupations counselor when your application, transcript, and testing is completed. Applicants for the associate degree nursing program must show sufficient achievement through tests in Biology, Chemistry and Arithmetic before becoming eligible for entry.

After completion of these three steps you will be notified of your status in writing.

I wish to emphasize that the admission process for full time student applicants is only to advise you in choosing classes where you will meet with success. We have no maximum or minimum number of classes which must be taken, but rather only what seems most advisable for each individual.

Unfortunately in some programs, such as nursing, the demand for entry far exceeds the available space. All applicants are accepted on a "first come first serve" basis after completion of admission procedures.

Some programs of study have special requirements before entry. We strongly recommend you discuss your educational plans with a Gateway counselor.

Physical exams are required in all health programs of study. The Aviation-Pilot program requires a minimum of a class two F.A.A. physical examination.

Some careers have certain characteristics which other people have found to be important in acheiving success. This information may be obtained from Gateway counselors. Although some programs are more costly because of material fees, tools or equipment, you may expect that most will not exceed $150 per year for fees and books if you live in the Gateway district.

Let us help you begin a new career. We are available Monday through Friday from 8:00 a.m. to 5:00 p.m. and evenings by appointment. If we may be of further assistance telephone your nearby campus of Gateway Technical Institute and ask for the Student Services office.

ADULT HIGH SCHOOL

Hello . . . . I'd like to tell you about the Adult High School Diploma program offered at Gateway Technical Institute. Hundreds of people, ages eighteen to eighty, have participated in this program. To date several hundred have graduated.

This program is a cooperative one offered by Gateway Technical Institute in conjunction with the public high schools in the Kenosha, Racine and Walworth counties.

To be eligible for this program, you must be at least eighteen years of age and out of school for at least one year or an eighteen year old whose class has graduated.

To begin you need only to fill out a one page application blank and request your previous high school to send your transcript to student services at Gateway Technical Institute. Desire and determination to complete your high school diploma are the only other requirements for success in this endeavor.

The requirements for graduation include 4 units of English, 1 unit each of Math, Science, American History and Social Studies. You are allowed 8 units of Electives to complete the total required 16 units. You may wish to take proficiency tests and thereby earn up to eight credits. To do so, you must write a standardized test in the area of your choice, completing a minimum number of answers correctly. The credits gained by these tests can be used for either required and elective courses. Students entering who need work in required subjects must take a minimum of one course in the classroom.

Other post-high school credits which you may wish to transfer to this program will be evaluated by counselors at Gateway Technical Institute. You may obtain credit towards your diploma through work experience, which must also be evaluated.

You do not have to take these proficiency tests, however it may be to your advantage since you may be awarded credits based on test results. If you take a proficiency test and fail, you will be counselled to enroll in the class. There is no penalty for not achieving a high score on the tests. You can prepare for the tests by independent study or with the help of personnel at Gateway Opportunity Center or Adult Learning Centers. Sample test questions are also available from Gateway counselors.

The Adult High School Program provides not only an opprotunity for people at least eighteen through eighty years of age to complete requirements for a high school diploma but also to meet requirements for apprenticeship in the skill trades. In addition, this program will provide you with minimum requirements of most employers, as well as qualifying you for promotion or prepare you for a new occupation. Having your high school diploma will, in some cases, improve your earning power. The personal satisfaction obtained is, however, the most important factor.

You can take day or evening classes, maintaining privacy about your status if you so desire. The classes generally meet once a week for 2, 2½ or 3 hours and continue from twelve to eighteen weeks, depending on the class. You may enroll in as many or as few classes as you wish. The length of time it will take you to complete a diploma will depend on the number of credits you still need. Students are graded on a A, B, C, D, and NC (No Credit) basis.

It is never too late to begin working on a high school diploma. If you have doubt about your ability to handle the work, you should know that studies indicate many persons reach their peak level of learning two or three decades after their teen years.

If you are a veteran, you will qualify for Veterans Benefits. Furthermore, the total number of months of entitlement is not reduced as a result of participating in the High School Program. While you are enrolled in the Adult High School Program, you may also take Associate Degree or Diploma classes to fulfill high school requirements.

Whenever a sufficient number of students are ready to graduate, a short formal graduation ceremony is scheduled. You do not have to attend the ceremony, however, most students do since it represents the culmination of a good deal of time and effort as well as the achievement of a goal.

The diploma which is awarded is identical to the one awarded by local high schools except the words Adult High School are included in the text.

Talk to students and instructors in the program. Don't delay . . . now is a good time to contact a Counselor at Gateway Technical Institute, and to enter the Adult High School Diploma Program.

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APPRENTICESHIP

Hi . . . I would like to give you some general information about apprenticeship training.

An apprenticeship is a legal agreement between an employer and his employee, who becomes known as an apprentice. The contract is known as an "indenture".

To promote the interests of all parties and to assist in the enforcement of the agreement, a third neutral party is given the authority to supervise the apprenticeship--The Wisconsin Department of Industry, Labor and Human Relations.

Under the terms of this agreement, the employer assumes the responsibility of teaching a trade to the apprentice, and the apprentice assumes the responsibility of learning that trade. Generally speaking, through this system, a young worker (usually between the ages of seventeen and twenty-five) is given thorough instruction and experience, both on and off the job, in all of the practical and theoretical aspects of the work in a skilled trade.

According to Wisconsin State Law, each apprenticeship contract must contain certain items: First, the term of training. The typical apprenticeship lasts anywhere from two to five years.

Second, school attendance requirements. Classroom attendance in subjects related to the trade that the apprentice is learning is a very critical part of the contract. These classes are reserved for those already accepted as apprentices and are not open to the general public.

Gateway Technical Institute co-operates with many area employers, industrial and commercial apprentice committees, to provide instruction in areas directly related to many apprenticeable trades. Of interest and importance to the apprentice is the fact that the employer pays full wages for time spent in the classroom.

Third, this contract must specify the various phases of the trade to be taught and the amount of time to be spent on each phase.

Fourth, the wages to be paid to the apprentice. Most employers base the apprentice's wages on those earned by skilled craftsmen, who are known as journeymen. Most employers start the apprentice at about fifty percent of the journeyman's rate, and grant five percent raises every six months; however, these percentages vary with each craft and employer.

The selection of the apprentice is the responsibility of the employer, so the first step, if you are interested in learning a skilled trade which utilizes the apprenticeship program, is to let the employer know of your intentions. This can be done in several ways.

For example, you could register with the Wisconsin State Employment Security Office. In addition you could contact individual employers or the various union trade committees which select apprentices, you could also contact the Gateway Technical Institute co-ordinator of apprenticeship programs or counselor for information about how to apply for apprenticeships.

Past experience has shown that most trades prefer candidates who have completed high school or its equivalent, and who are willing to take a vocational aptitude test battery to validate their ability to learn. These tests are given by the state employment security, the Gateway Technical Insitute, and by the various trade advisory boards.

The list of trades which use this method of obtaining and training new employees is quite lengthy. If you have a question as to whether or not the particular trade in which you are interested uses the apprenticeship program, contact Gateway for current information. As a rule, most skilled trades such as masons, die makers, electricians, machinists, and welders require apprenticeships.

There are three licensed trades--plumbers, cosmetologists, and barbers--which, by state law can accept new employees only if they have completed apprenticeship programs.

The advantages of apprenticeship are many. This program provides a real opportunity to develop your skills to the highest degree, thereby creating a greater demand for your services.

The program gives you advanced training and education--both with pay. Upon completion, you have gained the recognition due to a skilled craftsman, financial security which accompanies significant employment and state certification.

If you would like to become an apprentice, we suggest that you take action on the procedures described earlier. You might begin by contacting the apprenticeship office at Gateway Technical Institute. The demand for entry into some apprenticeships is greater than the number which can be accepted. Waiting lists are maintained.

If you find that apprenticeships in the area of your choice are not immediately available you might wish to investigate the more than fifty technical and vocational career programs offered at Gateway.

Some of these programs are pre-apprentice oriented, and many employers will give you credit for them towards your apprenticeship, in effect reducing the length of time needed to complete your apprenticeship training.

At the Gateway Technical Institute, there are trained professionals available to assist you in your career choice, whether it involves apprenticeships or not. Why not contact them?

You are an individual with special abilities; select your career by choice, not by chance.

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ACCOUNTING

Hello . . . You can become an accountant after completing the Associate Degree program at Gateway Technical Institute. I'd like to explain some things about his career.

The accountant, whether is a small firm or a large business, is really at the hub of the activity. The accountant's records tell the story on a day-to-day basis of whether a business is operating profitably. Management uses these reports in making decisions for the company's future. The accountant's language is numbers--numbers which indicate costs, payments, bill collections, profits and losses. The tools are modern business machines which become mathematical aids.

The duties of an account with an associate degree depend upon the size and nature of the firm or institution in which you are employed.

Private accountants, sometimes called industrial or management accountants, handle financial records of the firm of which they are salaried employees.

Government accountants work on the financial records of government agencies or, when necessary, audit the records of private companies. In the federal government, many accountants are employed as bank examiners, internal revenue agents, and investigators, in addition to regular accounting positions.

Each of these areas employs accountants specializing in a particular aspect of accounting. The general accountant installs, and develops general accounting, budget, and cost systems, and supervises other workers. You are responsible for maintaining records, balancing the books, and preparing and analysing statements on all financial aspects of business for administrative officers.

As an accountant, you may work in one branch of accounting, for example: preparing payrolls, analyzing costs, paying bills, collecting amounts due from customers.

Accountants are employed wherever business, industrial or government organizations are located. Most accountants work in the stimulating atmosphere of a large metropolitan area where there is a heavy concentration of public accounting firms and central offices of large business organizations.

As accountant, you must be able to work independently and with machines. You may also supervise the work of others who perform the more routine phases of the operation such as the account clerk. Personal qualities necessary for both functions are: facility in working with figures and ability to think logically; clarity of both oral and written expression; neat, accurate, and orderly habits of work. Because you will work with large amounts of money, if only on paper, you are expected to be absolutely trustworthy. You must show good judgment in interpreting financial data.

An interest in and aptitude for figures is high on the list of qualifications for a prospective accountant. There should be a curiousity about problem solving, indicating mathematical ability. You should be able to understand and apply instructions and principles of a complex nature.

You should be willing to do routine work for long periods of time, and be able to work alone or around others. You should have a good vocabulary and be able to make reports both orally and in writing.

Some helpful high school courses are Accounting, Mathematics, Bussiness Arithmetic, English, Bookkeeping, Marketing, Speech, Business Machine Operation, Economics, and Statistics.

The two-year associate degree program in accounting at Gateway Technical Institute will prepare you with a well-rounded basic knowledge of the field.

The courses that you will take are: Business Math, Economics, Business Law, and four semesters of Accounting, Machine Caculations, Income Tax Accounting, Cost Accounting, Introduction to Data Processing, and Office Management. Two electives are Auditing and Managerial Accounting.

To complete your program you will also take courses in Communications, Effective Speaking, American Institutions, and Psychology of Human Relations.

You will become familiar with most of the business machines used in the accounting offices. In the two year program, Gateway Technical Institute offers a double major of accounting and data processing with only an additional semester of study. This familiarity with data processing systems as related to accounting may be an important advantage to you in greater flexability for employment.

As an Accounting graduate, you will be prepared to enter public, private or governmental employment, and may specialize in auditing, budgeting, cost, systems or taxes.

Accountants who want to get to the top of their profession and remain there usually find it necessary to continue their study of accounting and related problems in their spare time. Thousands of practicing accountants have enrolled in college courses and professional associations in order to specialize in certain areas of skill, and become eligible for advancement and promotion.

Employment opportunities for Accountants are expected to remain steady, due to an increase in the number and size of businesses and corporations. Highly trained accountants are being used to a greater extent as consultants in business and government.

The Wisconsin State Employment Service reports a shortage of accountants in the state, indicating a continuing need for workers in this career.

Talk to the students and teachers who are involved in the program. Go out and interview professionals already in the field. After you have gathered all the information that you can, then you will be able to decide on a career as an Accountant.

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AERONAUTICS--PILOT TRAINING

Hi . . . I would like to tell you about a career in aviation as a pilot. An associate of applied science degree in aeronautics--pilot training is offered at Gateway Technical Institute.

While the various kinds of piloting jobs involve a variety of special circumstances, there are a number of conditions that are common to all career pilots.

They all work in a cockpit crowded with instruments, switches, and dials. Noise and vibration, particularly noticeable on propeller aircraft are always present. They operate the aircraft controls to taxi, takeoff, cruise and land.

They have a concern for safety including the safe condition of air-worthiness of the plane; weather factors affecting the safety of the flight; and flight regulations, air traffic control procedures, and air navigational aids designed to provide maximum safety in the air.

They have dual responsibility. They must not only satisfy their employer, who might be an air taxi operator, fixed base operator or an airline, but they must also convince the Federal Aviation Administration that their flying skills, knowledge, and state of health are at all times acceptable for the particular flying jobs they perform.

They must submit to frequent physical examinations and meet certain medical standards which vary according to the license which the pilot holds. A Class I certificate requires the highest standards of vision, hearing, equilibrium, and general physical condition. A Class II certificate demands less rigid standards but still requires a high degree of physical health. A Class III certificate is adequate for the private pilot license but is not sufficient for employment or a professional career pilot.

The higher the number of flying hours and the more versatile the flying skills, the more varied are the opportunities for advancement as a pilot. There are opportunities to transfer from one kind of pilot job to another as flying hours are accumulated and additional skills are mastered.

Frequently a pilot doubles as a flight instructor and air taxi pilot, or may also operate an aircraft repair station with flight instruction and air taxi operations as sidelines. Many jobs are with governmental agencies, such as the Federal Aviation Administration.

Professional flying has five major divisions, each requiring its own set of standards. The Airline pilot is the most glamourous, and the agriculture or "Ag" pilot is the most dangerous. The Corporate pilot is employed by industry and the air taxi, charter pilot and flight instructor can be found employed by aviation businesses at most airports.

Flight instruction is not an uncommon entry job for young associate degree graduate from Gateway Technical Institute. Flight Instruction provides excellent opportunities to gain much needed experience and flight time so essential for other professional flying.

The professional commercial pilot plans each flight with the flight dispatcher and meterologist. As a pilot you check out take off procedures, and satisfy yourself that the plane is operating normally before take-off, you fly the plane over the designated route, and at final destination, file a trip report. You are in command of the plane and are responsible for the safety of the aircraft, its passengers, crew, and cargo.

Since airlines often require a bacalaureate degree and a thousand or more hours of flight time, associate degree graduates from Gateway should not expect

to enter these positions without further education and experience. You should also consider that airlines positions make up a very small portion of jobs available to the professional pilot.

The corporate pilot, on the other hand, flies aircraft owned by business and industrial firms, transporting company executives on cross-country flights to branch plants and business conferences. As a corporate pilot you may arrange for in-flight passenger meals and ground transportation at destinations, and be responsible for supervising the servicing and mantenance of the aircraft, and keeping aircraft records.

As an Air Taxi Pilot you fly fare-paying passengers "anywhere-anytime", but usually for short duration over varying routes in single engine or light twin-engine airplanes.

As an agricultural pilot you would fly specially designed aircraft (including helicopters) to dust or spray herbicides, insecticides, seeds, and fertilizers on crops, orchards, forests, fields, and swamps. The majority of this flying is done less than 50 feet altitude. It is the most dangerous and demanding of the professional pilot fields.

The Career pilot program at Gateway Technical Institute combines academic and technical studies to qualify you for a position requiring professional piloting knowledge. As a student you will receive classroom instruction in Navigation Meteorology, Aero-Science, Engines, Structures. and Systems Theory, and other course work pertaining to flight.

Several courses of actual flight instruction are required, and these will enable you to complete the airman certification requirement of the Federal Aviation Administration for the ratings of Private Pilot, Commercial Pilot,

Instrument Pilot, and Certified Instructor Pilot. Electives of multi-engine and Instrument Instructor ratings are optional. The required ratings will total 220 hours of flight time. As a student you must pay the costs of flying the aircraft used in instruction. Total flight fees will exceed $4,000 for this two year degree.

In addition to the technical study, you will receive an education in the academic area with such courses as Written Communications, Effective Speaking, Economics and Psychology of Human Relations. You should be particularly adept in Algebra, Mathematics and Science as you will be expected to enter immediately into college level algebra and trigonometry followed by aerophysics.

The general trend in air transportation has been upward and there are enough positive factors in the picture to conclude that this trend will continue. The increasing volume of airline passengers, the explosive growth of air cargo service, and new short-haul aircraft for local service add up to a large air transport fleet and a rise in the number of additional pilots required. The aviation industry is, however, closely related to the general economic conditions of our nation.

If you have what it takes to become a career pilot contact a counselor at Gateway Technical Institute. We suggest you also talk to students and instructors at Gateway and get their viewpoints. Then, can you decide on a career as a professional pilot.

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AUTOMOTIVE TECHNOLOGY

Hi . . . I would like to tell you about a challenging career in Automotive Technology. Preparation for this career may be accomplished through completion of the associate degree program at Gateway Technical Institute.

The day of the "grease monkey" who grew into a career through tinkering on his own or serving an apprenticeship in a back alley garage is drawing to an end. Relatively few technicians are still being developed that way. The motor vehicle has become increasingly complex and requires competently trained, highly skilled technicians to service it.

Not everyone has the qualities needed to become a successful technician. The major requirements are mechanical aptitude and a degree of manual dexterity. If you enjoy doing minor repair jobs on the family car or appliances, you may have some ability in this direction.

You should enjoy working with your hands, taking things apart and putting them together again. The good technician keeps abreast of new developments by reading and studying the technical literature published by manufacturers and trade magazines.

Reasonably good health and average strength are essential. Although machines have eliminated much back-breaking labor, a certain amount of pushing and pulling of heavy parts is still required. Energy and stamina are needed to accomplish tasks that demand much standing and stooping and at times working in cramped quarters.

The Automotive Technician should also be endowed with certain traits of character and personality. Above all, he should be honest and reliable. Lives can hinge on the thoroughness and honesty of his work. Patience in great measure is needed--the problems of identifying troubles and fixing them can be exasperating.

Emótional stability and a pleasant personality in dealing with supervisors, fellow workers, and the public are important in an automotive technicians career. This is especially necessary for the technician who wants to advance to the ranks of supervisors or go into business for himself.

The service technician who specializes is in the greatest demand and, in most cases, commands the largest salary. This specialist works on only one or sometimes several parts or systems; ordinarily you choose your specialty after you have acquired a general familiarity with the service problems of the enitre car. The tendency toward specialization has one very definite benefit, aside from producing greater efficiency and better service. If provides numerous outlets for individual skills and interests.

The aim of many Americans is a business of their own. The training and experience a technician receives in the automotive field can be a stepping stone to the goal. Many a successful dealer or independent businessman can trace his start back to experience as an automotive technician.

As a graduate of the automotive technology program, you will have opportunities in the manufacturing and research field. The performance of these jobs require the ability to analyze and solve engineering problems and prepare formal reports on experiments, tests and related tasks. Also, automotive manufacturing or research technicians frequently use complex electronic and mechanical instruments, engineering handbooks and computing devices.

Upon entering a two year associate degree program in automotive technology at Gateway Technical Institute, you will be concerned more with theory of operation and design fundamentals.

As a student, you will attend classes in: Technical Math, Written Communications, Fundamental Electricity, Technical Report Writing, Physics, Standard Transmissions and Power Train, Brakes and Suspensions Systems, Automatic Transmissions, and Economics.

This Automotive Technology degree has additional courses in Fuel Systems, Psychology of Human Relations, Chemistry, Instrumentation and Testing, Component and System Analysis, and American Institutions.

If you choose to follow this path in preparing yourself for a career in automotive technology, lots of hard work, study, and self discipline are necessary. This has always been the case with men who have risen to the top in automotive manufacturing and development.

The first auto mechanics and designers were wheelwrights and blacksmiths, who were attracted to the horseless carriage and learned what they could by trial and error. They did not have the advantage of schools, manuals, films and over half a century of accumulated knowledge, as you will have. Never before has there been such a need for skilled specialists--nor such rewards for competent ones.

Now is the time to do something. Talk to professionals out in the field. Talk to students and instructors involved in this program of study. Then, talk to a guidance couselor at Gateway Technical Institute. The future for automotive technicians is bright; how you will fit into that future is up to you.

AVIATION MID-MANAGEMENT

Hi . . . the information which follows is about a career in aviation mid-management. Preparation for this career may be accomplished by completing an associate degree at Gateway Technical Institute.

The Aviation Mid-Management field is not a single job function. The term is used to cover all of the support activities necessary to run an airport, an airline, or an aviation business. The term even spills over into the Federal Aviation Administration, to cover tower operator and control personnel.

Let's start with the area of Mid-Management that is most familiar to everyone. The Fixed Base Operator runs the Airplane Sales and Service business that is prevalent at most every airport. This person is in a retail business, and normally has an airplane dealership along with maintenance facilities. They may also have an air taxi, charter, or flight instruction business with it, but their main business is in retail sales. This requires a knowledge of business administration.

The fixed base operator employs a lineman who greets arriving aircraft, guides them to a parking area, and performs the familiar duties of a "gas station attendent". They fill the tanks, check the oil, and clean the aircraft windshield.

On the other side of the airport, you can find the airline reservations office. The reservations agent handles all requests for complex flight schedules, fares, and connecting flights. They reserve seats and cargo space for customers. One must be able to recommend services which fit the customers requirements and be familiar with routes and schedules of other airlines. This work may be done at a downtown office.

The ticket agent works along with the reservation agent, but is primarily responsible for writing tickets and handles cash and credit card sales. They may have to handle baggage if they work at the air terminal ticket counter.

Theground host or hostess assists passengers in the terminal with problems about flights such as: fares, lost baggage, missed connections, illness or a need for wheelchairs.

The passenger Service Agent responds to abnormal conditions-passengers needing special assistance, oversold flights, missed connections, to expedite loading or unloading of passengers. They may also perform the duties of ticket agent and supervise the ticket office and handling of air mail.

The Passenger Assistance people, the fixed base operator and his lineboy, are considered to be the external area of the mid-management field. They are the people that are seen by the public, but, the people behind them, the internal management, are also in the picture.

In cooperation with the pilot, the flight dispatcher furnishes a flight plan that enables the aircraft to arrive at its destination on schedule, with maximum payload, and with the lowest operating cost. This person must be able to hold weather briefings, be familiar with navigational aids along the desired routes, and the operating characteristics of all aircraft used by an airline.

The schedule Co-ordinator keeps track of the whereabouts of aircraft and crews; handles delays and cancellations, and substitutes alternate aircraft if maintenance difficulties arise. This individual handles crew scheduling, vacations, crew training, and seniority bids on flights selected by crew members. All this work is in the interest of maintaining on-time, efficient service for passengers and shippers of air freight.

The Station Managers or agent is responsible for all flight and ground operations for his airline at his airport. At a small airport they may be called upon to fill in any of the positions under their jurisdiction, but in large terminals, they are mainly concerned with the operation of their area alone.

The airline management trainee learns the airline business from the ground up, with short term assignments and on-the-job training in various departments, such as ticketing, air cargo, passenger service, and finance. The purpose of this training is to provide an employee with a well-rounded experience and with good potential for management duties.

The next area of the mid-management field takes place in the operation of the airport itself.

It is not up to the individual airline or the fixed base operator to supply the runways, airport support equipment or maintenance crews, or the enforcement of rules and regulations. This department is under the jurisdiction of the Airport Director.

Airports are usually operated by a director or manager responsible either to the owners of the airport or to the local government authorities. This person has been described as a "mixture of aviation expert, real estate operator, construction engineer, electronics wizard, management genius, and politician."

Depending upon the size of the airport, they may or may not have one or more assistants such as assistant director, engineer, controller, personnel officer, maintenance supervisor, and supporting office workers.

The assistant airport director helps the director carry out a variety of responsibilities and may be in charge of maintenance employees, airport equipment, airport tenant relations, or any of the other kinds of work associated with an airport.

One of the support operations that the airport management must supply is a control tower.

The Air Traffic Control Specialist at FAA airport traffic control tower directs air traffic so it flows as smoothly as possible. There are very few vocational technical schools in the U.S. that have an Air Traffic Controller course available, but the FAA does have an academy located in Oklahoma City, Oklahoma.

Before we continue any further in our discussion of the Aviation Mid-Management field, I would like to clarify something. Of all of the jobs that have been briefly talked about, none can be filled from outside the organization.

The airlines, and even the FAA, promote from within only, and have what they call "entry level positions." This means that you start on the bottom and work your way up the ladder. In the airlines, this level is in ticket sales, ramp attendants, and administrative support. In the airport management area, it is the airport maintenance crews and support personnel. In the FAA, the person is hired and trained locally first, then sent to the F.A.A. Academy.

As a prospective mid-management student, you should be able to communicate ideas and information both in writing and verbally. You should be able to demonstrate sound judgment in planning work and in handling problems.

You should be friendly and tactful in dealing with co-workers and customers, and be able to handle inquiries and complaints with patience and courtesy. In doing this, you should be able to shift attention readily from one problem to another to devote full interest in the transportation of passengers and freight by air.

Some of the courses that you will be taking at Gateway are varied enough to give you a well-rounded study of the mid-management field. The courses include: Airline Management, Aviation Marketing, Airport Management, Air Transportation, Aviation Laws and Regulations, Aviation Development, Effective Speaking, Salesmanship, Economics, and Accounting for Business.

All of these courses are designed to give you a basic knowledge necessary to perform somewhere within the mid-management field. You receive a cross-section of aviation oriented mangement courses, and you attend classes in business administration that will help in your career.

Graduates of the mid-management course must be prepared to study after they start working. To succeed in your goal, you are required to gain all the knowledge and experience that you can.

To get a complete picture of the associate degree program in Aviation Mid-Management, it is advisable to discuss your plans with a guidance counselor at Gateway Technical Institute. Then, talk to the students who attend these courses, and to the instructors that teach them. Go to people already in the field and find out from them what the jobs are like. Then, if you should decide, enter the associate degree program in Aviation Mid-Management for a rewarding career in the aviation business.

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CIVIL-STRUCTURAL TECHNOLOGY

Hello . . . thank you for asking for information on the Civil-Structural Technology Program. We hope that the information you will be receiving shortly will increase your knowledge and desire to become part of this fascinating career field.

The general field of Civil Technology covers the design and construction of roads, buildings, airfields, tunnels, bridges, water supply, and sewage systems. This career field is such that specialization in one of the afore mentioned areas is the rule, not the exception.

The specialized area of structural Technology covers the design, construction, and/or maintenance of new or existing buildings, bridges, or water systems. The Civil Engineer has the direct responisbility for the administration of the work done in this exciting field. The Structural Technician has the most important position on the design team. It would be your responsibility for the planning, research, inspection and even supervision of construction.

The technician becomes the right hand of the design engineer. You may have to know the mechanics of design--drafting, surveying, building construction, mechanical and electrical equipment, steel and concrete design, and even testing of materials. You are required to spend time working over the drafting table, as well as spending time researching the engineer's ideas, and finally you may be required to supervise part of the actual construction of the design.

The work of the structural technician is not limited to large urban centers, nor is it solely restricted to civil service positions. Private industry engaged in housing construction, corporate structures (large office buildings or factories), heavy construction companies, are but a few of the varied types of positions.

The actual work center may be located in a plush office, or it can be located in a panel truck on the job site. The structural technician may even be required to trouble-shoot after the design has been built. This would depend upon the position held.

Technicians assist professional engineers in three basic activities; data research, interviewing and field work, and drawing. Depending on your talents and interests, as well as where you work, you may choose to specialize in any one of these activities or to participate in a combination of all three. Technicians may also choose to specialize in data processing work, administration, applied research, or public relations.

The Civil-Structural Technician must have a basic interest in people and be able to get along well with others. You must be willing to participate in joint or cooperative activities and be open to a variety of attitudes and viewpoints. A technician's work, especially if it involves cartography, delineating, statistical tabulations, and graphic display, requires a high degree of accuracy and the ability to be extremely thorough.

To become a Civil-Structural Technician, start planning; start checking into a two-year program leading toward an associate degree at Gateway Technical Institute. Students here take courses which will give them a general background on the issues, problems, and techniques of Civil-Structural Technology. In addition, you will learn specific skills such as architectural drafting, statics, Physics, Structural Design, Materials Testing, Surveying, and Mechanical and Electrical Equipment for Buildings. The curriculum also includes course work in other relevant disciplines; such as Written Communications, Economics, Psychology of Human Relations and American Institutions.

Upon graduation, with an Associate Degree, you will find that working conditions in this career field will vary from location to location. Some outdoor work will be required, such as surveys in the field on building construction jobs. A Technician's responsibilities may include direct contact with people of the community. Occasionally you may be expected to work overtime in order to meet an important deadline, or perhaps to accompany your supervisor to meetings or seminars.

There is a shortage of Civil-Structural Technicians. Therefore, in the years ahead, technicians will have good employment opportunities in this career field. Now then, is the time for you to prepare yourself. Talk to people already employed, talk to students involved in the course, and finally talk it all over with the guidance counselor. With this background information and advice, you may be able to make a decision regarding a career in Civil-Structural Technology.

COURT AND CONFERENCE REPORTING

Hello . ... I'd like to tell you about a career in court and conference reporting. This two-year Associate Degree course is available at Gateway Technical Institute.

Although shorthand reporting is one of the lesser-known professions, it has ever-growing employment opportunities for both men and women. The expansion of both government and business the past quarter century has caused a remarkable growth in the demand for Shorthand Reporters of all types.

There are approximately 11,000 Shorthand Reporters in the United States, with about sixty percent of them men. Shorthand Reporters are in the top echelon of the stenographic field. Reporters are the men and women who report verbatum everything that is said at a trial, hearing or meeting. Later, they (or a typist) type a copy of the proceeding from the shorthand notes and deliver it to the proper person.

There are two general groups. Official reporters and free-lance reporters. The larger group is made up of official reporters who work in courts and hearings conducted in agencies and in legislative bodies including the United States Congress. The free-lance reporter does much the same kind of work, although they may be in business for themselves or they may work for an agency. They are called upon for a specific assignment. They are paid on a fee basis by the person or company requiring their services.

If you plan to become a Court and Conference Reporter, the demands of the work require generally good vision, health, and hearing. You should possess strong powers of concentration, as well as patience. You will find this reporting to be highly specialized and highly paid; but it also highly skilled. To keep pace with the flow of the

spoken word, you must be able to get, with accuracy, a mimimum of 225 words a minute. Such accuracy is vital, and legal proceedings call for an understanding of what is being said regardless of speed or the idiosyncracies of speech, such as slurred accents. This requires you to have a clear understanding of English grammar, an extensive vocabulary, and a broad general knowledge.

It is useful to you if you can maintain an interest in current events. Helpful high school courses are Economics, Office Practice, English and Bookkeeping.

This highly skilled work usually requires you to complete a two-year associate degree such as the one offered at Gateway Technical Institute. The program includes four semesters in machine shorthand to achieve a miminum of 225 words per minute and three semesters of typing. The curriculum requires courses in Business Law, Business English, Transcription and Court Orientation, two semesters of Testimony, and Advanced Legal Dictation as well as a course in Anatomy.

You will also take courses in Written Communications, Psychology of Human Relations, Business Mathematics, American Institutions, and Economics. To complete your education, you will also have 100 hours of actual court room dictation.

There are some things that you, as a potential student, should know prior to application for this program. Since this form of reporting is based on a shorthand form using the alphabet, not on the Gregg system, you should be prepared to purchase your own machine. The cost of this special dictation will be $150-$200. This is generally purchased during the first week of school.

Secondly, the emotional pressure in training is a continous one both as a student and after graduation. You cannot allow yourself to become complacent or the skill becomes rusty and unuseable. While reporting, you will have to sit for

long periods of time. The Court Reporter is expected to do concentrated work for extended periods of time, you may take dictation two - four hours at a session. In addition you might be in the middle of a trial at 5 o'clock and receive directions that a certain witnesses' testimony must be typed by the next morning. You may have to stay up late at night to do this.

It has been found that finger dexterity is quite important to obtaining high speed shorthand. That is, if you can play the piano, saxaphone, or clarinet or some multi-finger instrument, it seems to be easier to master the keyboard of the stenographic machine.

You should be willing to move to other areas of the U.S. where jobs are open since many opportunities exist all over the country.

Some states have a Certified Shorthand Reporters Law, and this means that examinations are given and a certificate of proficiency is granted at 225 words per minute. A certificate of merit may be earned at 260 words per minute. This can be very helpful for future employment.

All federal court reporting jobs require the reporter to take the U.S. Civil Service Examination. Some state jobs also require a special examination, but this varies from state to state.

Besides court work, a court and conference reporter can be called upon to handle many jobs, such as recording business meetings, conference, or legislative sessions.

Some typical duties of a graduate in court and conference reporting would be to write portions of transcripts during the trial at the judge's request.

You may ask speakers to repeat or clarify inaudible statements, transcribe recorded materials using a typewriter, dictate materials into a recording machine,

take notes in technical language from many speakers for extended periods of time.

For further information, we suggest you talk to a Counselor at Gateway Technical Institute. Talk to students and instructors involved in the courses; visit a court room and talk to a Court Reporter. Then, you can decide about a career as a Court and Conference Reporter.

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DATA PROCESSING

Hello . . . The Data Processing field is an exciting career you can prepare for at Gateway Technical Institute. After completing this two-year program, you will ge prepared to work wherever data processing computers are used. Operators who are familiar with several kinds of mechanical equipment may be required to prepare, for example, a payroll, as well as process other data.

First, the computer's "input" must be prepared in a "programming language" which will enable the computer to process the data. Then, the computer console must be operated while the work is being done. Finally, the computer's "output" must be translated back into words and numbers which can be read with ease and speed.

Although several languages are used, Fortran, Assembler, and Cobol are taught as a part of the associate degree program at Gateway Technical Institute.

The procedures used in accomplishing this work vary from one computer system to another. A small computer system--and some computers are no larger than an office desk-may be operated entirely by one or two employees. A large system, on the other hand, usually requires more workers, each of whom performs a specific task.

In other words, the number and kinds of personnel required to operate a computer and the auxiliary equipment that goes to make up a computer operation, depends upon the size and type of system, and the nature of the information to be processed.

The use of computers for data processing is one of the most important technical innovations that has occurred since World War II. Today, computers are being used in a variety of activities in all branches of industry, business, and government.

Electronic computers require detailed instructions (called a program) to direct them in processing data. It is your job as a programmer to determine the problem, decide on what data is to be used, to establish the order in which the problem is to be solved, and write step-by-step instructions to the computer for solving the problem.

For programming many business records, it is not always necessary to have a college degree. Important requirements for programming include the ability to reason and think logically and the capacity for patience and accuracy. If you have experience in machine tabulating or accounting so that you can understand and analyze complex business transactions, you will find this a valuable asset in programming. You should be able to concentrate on details for long periods of time, as well as organize your work. You should like to work out problems on your own assuming responsibility for the quality of your work.

Once the program has been made, the console operator has the job of feeding it into the computer. Some operate the auxiliary equipment such as card readers and teleprinters. Console operators are responsible for cuing and scheduling the total work load. The operator is responsible for communication with the computer.

The future programmer or computer operator will learn and apply mathematical and statistical concepts, and apply these concepts and relate abstract ideas by means of symbols.

Chiefly, it is necessary to be able to work with precision and accuracy, to have good reading comprehension so that clerical errors can be avoided, and be willing to follow instructions in performing work of a routine or organized nature. It is also necessary to be familiar with the different aspects of clerical work, and to be able to motivate people to work cooperatively and conscientiously.

In hiring outsiders, private employers usually require at least high school graduation. For positions as console operators, on the jobtraining may be demanded. The associate degree program prepares you for entry into a junior programmer's position, and through additional education and experience, this can lead to work as a senior programmer and maybe later as a Systems Analyst.

While attending classes at Gateway Technical Institute, you will receive instruction in several programming systems, Computer Concepts, Accounting, Computer Software, Systems Development and Design, and Office Management. You will also take several courses in Communications, Speech, Psychology of Human Relations, American Institutions, and Economics.

In many courses, you will be able to get "hands-on" training with the newest data processing equipment. This is done so that you can gain experience in the type of equipment available in industry.

For high school students wanting to enter the field, a background in Algebra, English and business machine operation is considered most helpful. Any of the business courses taught would also be helpful. Educational requirements in this field are still flexible. Some employers ask for more than an associate degree for programmers, whereas others are experimenting with on-the-job training.

The shortage of personnel has produced a constant need for workers in the computer field. Perhaps there is no other field where the salaries have increased more rapidly in the last five years. The demand for men and women in this field is continuing to outstrip the supply.

To get the complete picture of what is involved, talk it over with a guidance counselor at Gateway Technical Institute. Ask students who are enrolled in the program, and also to the instructors who teach them. Ask a professional about their ideas, then make your decision. Then, you can decide to make data processing your career.

ELECTRONIC COMPUTER TECHNOLOGY

Thank you for requesting information about a career in Electronic Computer Technology. We hope that during the next few minutes that you can use the information we will give you to make a decision to become part of this rapidly changing career field. You can prepare for a career in Electornic Computer Technology at Gateway Technical Institute..

The computer revolution is happening right now everywhere in the United States, and it is spreading all over the world. The technician with computer related electronic training can find themselves involved in various phases of computer-based projects in the areas of research, design, development, production, installation, and operation servicing.

Along with the upsurge in demands for computers and in the number of installations, there are increasing needs for technicians who service and maintain these complex machines. It is of utmost importance that the computers used in such varied areas as the space program, medical research, sports and entertainment; the stock market, television and communications, finance, merchandising, publishing and printing--all areas of business and industry--be kept running properly. Such technicians are well-paid specialists vital to the successful operation of a computer installation.

You, as a graduate of the Electronic Computer Technology program, can find employment as a development technician where you will be responsible for building and testing systems; as a test equipment development technician in devising and testing equipment and methods of production; or as a tester of electro-mechanical systems, performing tests to locate and correct faults in the over-all computer system.

You may also be called upon to apply electronic theory and related subjects to layout, build, test, trouble shoot, repair, and modify computers and other electronic equipment, following schematics and manufacturer's specifications.

If you have an interest in algebra and physics, if you are interested in building and repairing things, have a special talent for understanding physical and mechanical objects, you may be well-suited for a career in Electronic Computer Technology.

As you study, you will; learn and apply scientific priniciples and technical knowldege, handle and manipulate tools and equipment, perform mathematical computations, evaluate data revealed by tests and observations, work to precise standards and tolerances, learn to use judgement in planning a sequence of operations, and to select proper tools and materials.

As an electronic computer technician, you should be interested in work of a scientific and technical nature; like to do mechanical work requiring measurements and accuracy and you should be willing to assume responsibility for quality of your work. You should also enloy problem-solving on your own, and be able to follow through on an assignment with a minimum of supervision. You should be in good health with good eyesight and hearing and be able to distinguish colors.

Once you enroll in the electronic computer technology program, you will find that the courses are geared towards the design, installations, and maintenance of computerized systems. The courses are not concerned with computer usage in the sense of data processing.

The Electronic Computer Technology program is a two-year program leading to an associate degree. Some of the courses you will be enrolled in, include: Technical Mathematics, Physics, Technical Schematics, Computer logic, Digital circuits, Computer Systems, Electronics, Computer Applications, and courses in Written Communications, Psychology and Economics. All of these courses are formulated to give you a basic knowledge and understanding necessary for a successful career in Electronic Computer Technology.

Upon graduation, you will find that the working conditions in the computer industry are good. In this fast growing industry, the installations are most often in modern, well-lighted, and cleanly maintained locations. The pay is above average, the chance for advancement is excellent, there is strong job security, and there is prestige in being associated with a career field that is new and growing.

If you are interested in Electronic Computer Technology and feel capable, now is the time to make your decision. Talk things over with people already employed in the field, and also with students and instructors involved in the course. When you have done this, then talk it over with the guidance counselor at Gateway Technical Institute. After you have done these things, you will find yourself in the position to become part of the Electronic Computer Technology field.

ELECTRONIC TECHNOLOGY

Thank you for requesting information about a career as an Electronic Technician. During the next few minutes you will learn what you may expect in this career field. You can prepare for a career in Electronic Technology at Gateway Technical Institute.

The field of electronic technology covers a wide spectrum. It includes, radio, radar, sonar, telemetering, television, telephony, and other forms of communication; industrial and medical measuring, recording, indicating, and controling devices; navigational equipment; and many other types of equipment using vacuum tubes, transistors, semiconductors, and printed circuits. Because the field is so broad, technicians generally become specialists in one area.

The jobs of the electronic technician are more specialized than those of a professional engineer or scientist, and they have a greater practical orientation. All technicians must have the ability to analyze and solve engineering problems and to prepare formal reports on experiments, tests, or other projects. Most of these jobs require an aptitude in mathematics; others, the ability to visualize objects and make sketches and drawings. Design jobs often require creative ability. Technicians working with engineering assignments in the field of electronics, do complex technical work that is more difficult than routine operation and repair.

You, as an electronic technician, would apply electronic theory, principles of electronic circuits, electronic testing procedures, mathematics, physics and related subjects in order to lay out, fabricate, test, trouble shoot, repair, and modify developmental and production electronic equipment. You may assemble experimental circuitry; recommend changes in the electronic circuitry; test and analyze the performance of new projects and supervise lower grade technical personnel.

Each electronic product must be developed, produced, and then maintained. You, as a technicain, will play a vital role in all of these phases.

In the development phase, you will work directly with engineers and scientists. You will be involved in building, testing, and modifying prototypes for new electronic products.

In production, you must be able to communicate ideas to both engineers and craftsmen. Some maintain complex automated machines used to build products. During the course of your career, you may be called upon to supervise and train production teams in methods of testing or building new products as they are released for production. Other duties may include the maintenance and calibration of test equipment that is used in all phases of production. Your specific duties would depend upon your particular place of employment.

If you were to be employed as a service technician, you would deal directly with customers. The range of jobs in this category of the electronics field is the broadest, but the central concern is to service customer equipment and solve customer problems.

Beginning wages for graduates entering industry are good. After demonstrating ability, responsibility, and experience, you may expect to move to more responsible positions with better salaries.

In general, you should be in good health with good vision and hearing and you must be able to distinguish colors.

An excellent way to get into this exciting career field is to obtain an Associate degree from Gateway Technical Institute. Here you will find modern classrooms with up-to-date equipment.

The course of study that you will become involved in is specific and includes the study of electronics, technical mathematics, physics, report writing, schematics electronic circuits, industrial electronics, and electronic laboratory courses.

You will also take courses in Written Communications, Psychology and Economics. The program you will be undertaking is designed to help you develop proficiency in electronics as well as to supply you with enough general background to aid you in advancing to positions of greater responsibility.

Now is the time for you to decide whether the field of Electronics Technology is for you. The best way for you to do this, is to visit and talk to technicians already working in the field; talk it over with instructors and students involved with the courses. Then, talk to a guidance counselor at Gateway Technical Institute. When you have all of this information, then you make the final decision to begin a career in Electronics Technology.

FIRE SCIENCE TECHNOLOGY

Thank you for asking for information about a career in Fire Science Technology. During the next few minutes you will receive information that will help you in your decision to become part of this important career field. You can prepare for a career in Fire Science Technology at Gateway Technical Institute.

Every year more than 12,000 people in the United States lose their lives due to fire. Property destroyed by fires cost more than one billion dollars each year. Today, each community expects adequate protection in the form of well-staffed, conveniently located fire departments. The public wants these departments to have a sufficient supply of good fire fighting equipment. It expects these departments to have warning and fire extinguishing devices, and to inspect exits, corridors, stairways, and thoroughfares designed to carry traffic in an emergency.

Realization of the need for carefully planned, well-organized fire protection has created a demand for trained personnel. Specialists are needed who are skilled in the newest methods of fire prevention protection and fire fighting, and are familiar with new chemicals and their special application to burning materials.

The range of duties of a professional fireman vary with the size of the fire department and the population of the city in which you are employed. However, each persons particular responsibilities are well defined and clear cut. For example, firemen know, when their department goes into action, whether they are to man the life nets, try to rescue persons caught in fires, raise ladders, connect hoses to hydrants, or attempt to break down doors, windows, or walls with fire axes so that other firemen can enter the area with hoses.

The Fire service specialist employed by an insurance company makes recommendations for fire protection and safety measures in specific buildings. The specialist

may help set insurance rates based on the size and condition of buildings. Water supplies and sprinkler facilities may also be examined and suggestions made to correct hazardous conditions. As a specialist, you may be part of an arson investigation squad, or an adjustment team to determine the amount of personal injury or property loss caused by fire.

In industry, the fire specialist is often part of an industrial safety team. The specialist inspects areas for possible fire hazards and formulates company procedures in case of fire. The duties also include periodic inspection of fire fighting equipment such as extinguishers, hoses and hydrants, fire doors, automatic alarms, and sprinkler systems. Fire protection seminars may be part of the job to keep department heads informed of hazards involved in their particular areas, and of proper conduct and responsibility during emergencies.

Many government agencies employ Fire Science specialists whose main responsibility is the inspection of government-owned buildings for possible hazards and for adequate alarm systems and fire protection devices. They may be required to organize a fire fighting unit in a government agency or assist with plans for complete sprinkler systems in various buildings.

Fire specialists may also be employed by companies which manufacture fire protection devices and alarm systems since their training enables them to explain technical functions and to advise customers on installation and application. They also help locate appropriate and strategic areas for fire protection devices.

Very rigid physical examinations are usually required for the job of fireman, as well as physical performance tests which may include running, climbing, and jumping. Firemen must keep themselves physically fit and conditioned since they may be required to work in all typed of weather, sometimes for long hours. These

examinations are clearly defined by local civil service regulations but may vary from one community to another.

Firemen who have characteristics of adaptibility, flexibility, resourcefulness, and emotional stability will find greater satisfaction in their work than those who do not possess these traits. Some firemen, in the ever-present anticipation of being called to active duty, can never fully relax and find the occupation creates in them a state of nervous tension.

The occupation of fireman is one that demands courage and constant mental alertness, especially under emergency conditions. A mechanical aptitude is helpful, since firemen must operate equipment. A desire to be of service to others is one of the principle motivating factors which influence a person to become a fireman.

An excellent way to become a Fire Science Specialist is to enter Gateway Technical Institute and begin a two-year program leading to an associate degree. During the program of study, you will learn the skills and technical information necessary to develop an expert judgement in fire department administration and fire fighting. Courses involve the study of Technical Mathematics, Physics, Chemistry, Building Construction together with numerous technical courses in fire science. You will learn about fire insurance, fire prevention, administration, organization, and fire and arson investigation. Skill in communications, both written and oral, is also emphasized. After graduation, a civil service examination will usually be required.

As new products become available to fire fighters, new fire fighting techniques must be developed. The ever-changing techniques of fire prevention and protection make this a most challenging field with unlimited opportunities for anyone with ambition and imagination.

If this is what you want, talk it over with the firemen at your nearest fire station. Talk to students already attending school, and finally to the guidance counselor at Gateway Technical Institute. When you have done this, you can wisely decide whether your career should be in Fire Science Technology.

FLUID POWER

Hello . . . I'd like to tell you about a career in Fluid Power. The two-year program in Fluid Power at Gateway Technical Institute leads to an associate applied science degree.

Many different devices and machines use a fluid for developing a push or a pull for moving an object, and for controlling an action. In most automobiles, for example, hydraulic brakes are used to stop the car.

In road construction and repair, as another example, compressed air is used for chipping hammers.

Many fluids units are used in various plants and factories. Countless applications can be cited. Devices and machines have become more automatic.

First of all, let us define a fluid system. Essentially, there are three main or basic features in the usual simple fluid system: (1) an oil pump or an air compressor; (2) an actuator with either a piston or a rotating member driven by the fluid; and (3) piping and valve devices to control the flow of the fluid.

With these basic fectures of a simple system as a beginning, one can imagine various combinations. Several simple systems can be combined. One or more oil pumps can be used to actuate one or more cylinders. More than one valve can be used.

Where can fluid power be used? A quick trip through a few industries basic to our country's economy can reveal the widespread use of fluid power.

In agriculture, fluid power is used to lift the plow its furrow and to lower it for the next, as the farmer plows his field. Fluid power is used in machines which cultivate the land, plant the seeds, harvest the grain, and finally to put it into storage.

Power brakes, power steering and automatic transmissions on your car are run by fluid power. It is also used in the production of your car, the operation of the punch presses that form the body, the automatic welder that welds the body panels together, and it also powers the equipment that produce engine parts and bolt the car together.

Everyone has seen a construction project at one time or another. Fluid power is used to amplify manual power in this case. A power shovel run by a hydraulic system, amplifies the power of the operator to move dirt, dig holes, load trucks, and even mix and lay asphalt.

In aviation, the pilot controls his aircraft thru the use of fluid power. He lands his aircraft on a hydraulic system, and fluid power controls many systems on larger aircraft. Fluid power is also used in the construction and fabrication of aircraft and their component parts.

The fork lift trucks that you see at airports, railway stations, and warehouses use fluid power. Conveyors, cranes and hoists also utilize fluid power to move and handle all types of packages or large materials.

What does this all mean to Fluid Power Technology? The foregoing examples were given to show the widespread use of fluid power. As soon as a system is developed, it must be tested and be easily maintanable.

Gateway Technical Institute has a fluid power program which is divided into two separate fields, each reaching different goal. One is the diploma program of Fluid Power Maintainance, and the other is the two year Associate Degree Program in Fluid Power Technology.

The Associate Degree program provides theoretical and laboratory training for careers in the hydraulics and pneumatics fields on a technician level.

As a graduate of this program, you may be expected to develop, fabricate, and assemble new or modified mechanical components for machinery and equipment. You may set up and conduct tests and experiments on complete units. You will record test results, procedures, and suggestions for improvement. You may develop hydraulic and pneumatic circuits which apply to the machine tool industry, presses, molding machines, rolling mills, die casting machines, and agricultural and construction equipment.

To be successful in this program you should be able to use independent judgment in planning the sequence of operations and in selecting the proper tools and materials. You should be able to perform mathematical computations accurately. You should be able to stand for long periods of time, and have use of your arms and legs, hands, and fingers. On the job you may work in narrow, cramped areas. You should have good vision and hearing, and be able to distinguish colors.

You should have graduated from high school or the equivalent. You should be proficient in mathematics, including geometry and algebra, and be willing to keep abreast of technological developments in this field. It is helpful to have taken such high school courses as Algebra, Physics, Geometry, Chemistry, and Mechanical Drawing.

During your two years at Gateway Technical Institute, you will study Basic Fluid Power, Pneumatics, Technical Math, (which is college algebra and Trigonometry) Physics, Instrumentation and Testing, Electricity, Fluid Power Circuitry, Fluidics, Fluid Mechanics, and Component testing and Analysis. You will complete a well-rounded curriculum through studying other courses such as Written Communications, Psychology of Human Relations, Economics, Speech and Sociology.

While enrolled in these courses, you will develop the basic skills necessary to perform your job, be able to apply the principles and technical knowledge quickly and easily and be able to use your own judgment in the planning and executing your work.

The opportunities for employment in Fluid Power exist in almost every part of the country, from the smallest farming community to the largest industrial city, and from the full time mechanic working with and without constant immediae supervision to engineering assistants in design and prototype work. The development of fluidics is a relatively new field and is expanding rapidly. With the advent of automation in recent years, much emphasis has been placed on electronic control and fluid power actuation of machine processes.

Now is the time for you to find out more about fluid power. Talk the program over with a guidance couselor, talk to students and instructors involved in the courses at Gateway Technical Institute, then talk to professionals out in the field. When all of your questions are answered, you can make a decision on a career in fluid power.

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FOOD SERVICE MANAGEMENT

Hi . . . I'd like to tell you about the two-year associate degree program in Food Service Management, a career Program offered at Gateway Technical Institute.

More families are eating meals out than ever before, often eating foods which were grown thousands of miles away, days or weeks earlier. Serving this increasing public demand is the job of the food services industry.

Food service specialists are trained in the purchase, preparation, and serving of all food in all types of business establishments-from hotels and hospitals to restaurants and airplanes.

Men and women who are food service specialists enjoy the responsibility of meeting the public and meeting their needs. The type of work they do falls generally in two areas, although in some places they are combined. These are: (1) food preparation and production, (2) and food service to customers.

In jobs involving production and preparation of food, food service technicians are concerned with cooking and baking, with assembly, and with preparation of dinner meals away from home. The kind of food offered and the ways in which it is prepared depends upon the size, type, location and financing of the restaurant operation as well as on the customer it seeks to attract.

In those jobs involving service, marketing, and distribution of food, food service specialists are directly concerned with customers. As with a food production job, the kind of food and the kind of operation shape the work of the specialist.

You may be purchasing and managing food costs, preparing or supervising preparation of food in a hotel, restaurant, cafeteria or other establishment. You may plan appropriate menus, and aim at maintaining quality while conserving foods and controlling waste.

Normally, however, you will probably be responsible for supervising waiters and waitresses, countermen, busboys and other service employees. Meeting the customers needs by providing the type of service appropriate to the food and the customers of the establishment is your goal.

In many cases, if you are a food service manager, you will hold both a production/preparation and a food service job sometime during the course of your career.

As a prospective food service manager, you should enjoy the challenge of being a part of a growing and changing industry. Although job satisfaction can be found at every level in the industry, the food service manager should be a person who works toward personal growth and self-improvement throughout his career.

To be successful in this field, you should have the desire and ability to work with other people, especially both in supervising and directing others on the job. Both food production and food service are team operations, each member having their own duties but always alert to cooperation toward mutual goals.

You should like variety since food service operations provide a constant opportunity to gain new skills, to develop poise and self-confidence, and to gain statisfaction in a job well done.

You should like people, should be tactful, and pleasant, and should not be afraid of long hours and hard work. You should be able to communicate information and instructions clearly, as well as plan and organize work and sequence of operations. You should have a keen interest in food preparation and cooking and enjoy experimenting to develop new food combinations. You should be interested in work which involves the attainment of high standards, and willing to assume

responsibility for quality work. You will need to be prepared to work under pressure of mealtime schedules. You should also be emotionally able to handle emergency situations. You will need stamina and good manual dexterity. You should enter the food service industry with the knowledge that you will be expected to work very hard. Yet you should also know that the rewards, both personal and monetary, more than make up for the demands.

Within the two-year Food Service Management program, you will receive from one third to one half of your schooling in general education courses in addition to the "hands-on" occupational courses open to you.

At Gateway Technical Institute where the Food Service Management is taught, you will usually be given the task of preparing and serving food for the school's "gourmet room."

During the two year associate degree course of study, you will study: Meat Analysis; Food Purchasing and Marketing: Quantity Food Preparation; Nutrition and Menu Planning; Commercial Food Service Operation; Specialty Food Preparation; Food Service Equipment and Layout; and Supervision for Food Service. In addition, you will complete your well-rounded program by studying Communications, Business Math, Business Organization, Speech, Psychology of Human Relations, Accounting for Business, Economics, Business Law, and Small Business Management.

Upon graduation, you will find sore feet, long hours, and difficult customers are as much a part of the food industry as are its many rewards.

You will find that in an industry as large as food service, installations and equipment vary greatly from location to location. Most food service establishments use stainless Steel, mirror-like ranges and ovens, modern dishwashers, and the most up-to-date electrical equipment available.

Other operations are in a state of transition. In all establishments, however, an emphasis is placed on maximum sanitation and safety. The food service industry, which is a public industry, must necessarily meet the highest possible standards for the protection of the public.

The demand for food service managers has greatly exceeded the supply in recent years and will continue to do so in the foreseeable future. Skilled, talented people will always be needed in this industry whose basis is personal service.

Before you jump into this wholeheartedly, see a guidance counselor at Gateway Technical Institute. Talk to the students and the instructors who are involved in the course. Talk to graduates now working in Food Service Management get their opinions and ideas. Then, you can make an honest decision about a career in Food Service Management.

HORTICULTURE MARKETING

Hello . . . Horticulture Marketing is a specialized business which takes many different forms. This Associate Degree Program is offered at Gateway Technical Institute. Thousands of different kinds of plants are produced and sold with the assortments varying from one area to another. Many plants are sold for only indoor use as opposed to outdoor use. The wide range in the products of the industry requires many different ways of producing them as well as selling them.

As a graduate of the associate degree program in Horticulture Marketing, you may work in a florist shop which is concerned chiefly with retail sales of plants intended entirely for indoor use, and other functions, such as making corsages, wedding or memorial floral designs, or special occasion designs. Of equal importance is time spent watering, potting, fertilizing or spraying, as well as paper work.

You should be able to follow procedures and work to prescribed standards. A good eye, good color sense and design ability are all desirable aptitudes for the florist. Imaginative judgment in creating designs, and a talent for visualizing forms and shapes from sketches and diagrams are necessary qualities. As an employee in a florist shop, you must enjoy working with other people, be willing to assume responsibility, like physical work, and of course enjoy working with living, perishable materials.

Much of the florist's work is done under pressure, peaking out on weekends, holidays, and for other special events. Florists must be patient, friendly and tactful in dealing with customers who are often emotionally involved.

All the career opportunities for horticulture marketing graduates are not centered in the florist shop. Today the bulk of retail nursery business is done by garden centers or shops, a comparatively new kind of operation in the nursery business. This establishment can be defined as a retail business devoted primarily to the sale of nursery stock. It may also, and usually does, sell related merchandise necessary for the care and culture of plants: fertilizers, plant sprays, and garden tools. It might be called a "super-service" or "one-stop" nursery.

More elaborate garden centers branch out into other lines of merchandise. They may handle power mowers, garden tractors, garden furniture, pets and pet supplies, cut flowers, pottery, and other garden and yard accessories.

One of the greatest needs of the retail nursery business is for retail salesmen, which nearly every type of nursery operation needs. As a salesman, you may receive a salary only, but quite often additional compensation in the form of commission, which is a percentage of sales, is given. An aggressive salesman can earn a good income.

To be well qualified as a retail salesman, you must have a broad knowledge of trees, shrubs, evergreens, vines, perennials, and other plants and their uses. It is a big advantage if you have some knowledge of landscape design. More important, of course, is the ability to sell. Successful salesmen not only must acquire a knowledge of plant materials, but must also be proficient in communicative skills.

The salesman may work in a garden store to take care of drive-in trade, or call on prospective customers to sell them landscape jobs. Quite often a salesman will be employed in both capacities, working in the garden center during peak seasons and making outside calls the rest of the time.

Another desirable career in the nursery business is that of garden center manager, someone who is responsible for the supervision of all activities of the business. As a manager you may be involved in buying merchandise and supplies, planning sales programs including advertising, supervising and training salesmen, and keeping records. If the garden center offers landscape service, you may supervise the work of planting crews. It can readily be seen that the job of a successful garden center manager demands a broad knowledge of the nursery business and considerable experience.

The future horticulture salesman or retailer should have the following basic aptitudes and interests. He should be able to follow procedures and work to prescribed standards; not be color blind, be able to pay attention to details to avoid errors, and handle and manipulate delicate materials and a variety of tools rapidly and skillfully.

Upon entering Gateway Technical Institute for the two-year associate degree program, you will receive instruction in Basic Horticulture, Floriculture, Floriculture Marketing, Customer Services, and several Horticulture courses that you may elect depending upon the direction you want to take.

You will receive academic instruction along with your major area of study. You will be given courses in: Basic Marketing, Psychology of Human Relations, Salesmanship, Accounting, Economics, Written Communications, and Speech. These courses are designated to round-out your personal education regarding the basic outlook of a business viewpoint.

The future of horticulture marketing is very good because of the aesthetic value that people place on flowers. Flowers are given on all occasions, and there is always a demand present.

Now is the time to start thinking about your career. Talk to professional already in the field, talk to students and instructors involved in the course. Finally, talk to a guidance counselor at Gateway Technical Institute. Then, you will able to determine whether or not your future is in a Horticultural Marketing career.

HORTICULTURE PRODUCTION

Hi . . . I want to tell you about a career in Horticulture Production, an associate degree program offered at Gateway Technical Institute.

A nursery is defined by Webster as "an area where trees, shrubs, or plants are grown for transplanting, for use as stocks, for budding and grafting, or for sale." A nurseyman, according to Webster, is "one whose occupation is scientific cultivation of trees, shrubs and plants."

A student in horticulture production will be concerned with the products around which the nursery industry is built: trees of various kinds: shade, forest, fruit, nut, flowering and ornamental; shrubs, vines, hedge plants, evergreens, roses, ground covers, berry plants, and perennial flowers. Included are all plants which are intended for out-of-door planting.

Nursery industry products are essential for certain businesses and professions, such as orchardists who grow tree-fruits such as apples, pears, peaches and soon may propagate their own trees, but usually depend upon nurserymen for their stock.

The landscape architect, while not involved directly in the use of nursery products, is dependent upon nurserymen to supply trees and shrubs. The landscape architect is limited in the materials he can specify in his plans by the scope or variety of plants the nurseryman produces.

The greater part of the nursery stock grown is produced by wholesale growers. As a wholesale grower, you would not sell directly to the customer, but to retailers who, in turn, sell to customers. Wholesalers usually are growers of large quantities of a wide assortment of plants or they may specialize in quantity production of a few items, or only one, for example: roses. Their sales are made by means of advertisements in trade papers, mailing of wholesale price lists and,

catalogs, and by salesmen who call on retail nurserymen.

Another type of nursery operation is known as the landscape nursery. In this business, you would be entirely devoted to designing, selling, and planting landscape jobs. Landscape nurserymen prepare plans and execute them, too. In other words, they offer a complete service.

The facilities of the landscape nurseryman differ from those of other nurserymen. You would need trucks to haul nursery stock and equipment, power tillers to prepare soil for planting, special equipment for handling large trees and all sorts of hand tools. You would also need an area where you can care for your trees, shrubs, and plants, and house your equipment.

You may prefer to go into some area other than wholesale sales. Nursery careers are now open in other industries and institutions as well. Lumber and paper companies who grow their own trees for reforestration employ nurserymen to supervise their nursery operations. The United States Forest Service as well as a number of state conservation commissions have their own nurseries employing trained nurserymen.

To produce plants for their own use, nurseries are sometimes operated by municipal park departments, hospitals, colleges, universities, and arboretums. The supervisors of these nurseries may also act as groundskeepers, employing their knowledge in the use and care of plants.

People trained in landscape design, planting and maintenance are employed by state highway departments. Career opportunities for trained nursery or plant production men in these areas will multiply many times as federal efforts to beautify highways grow.

The physical requirements of any of these positions are such that you should be able to move around easily, have adequate manual dexterity, be able to lift and carry heavy loads, and have good vision and hearing and free from color blindness. You should also be non-allergic to chemicals and plants.

Once you enroll in the two year associate degree program, you will receive instruction in Basic horticulture, Basic Chemistry, Soils and Plant Nutrition, Plant diseases & Pests, Selection & Application of Agricultureal Chemicals, and Woody Plants. The student is also given a number of elective courses pertaining to the area of his specialty.

In addition to horticulture studies, you will be taking courses in Tech Math, Written Communications, Speech, Psychology of Human Relations, and Economics. These courses are presented to give the you a good technical background in which to apply your skills.

The demand for horticulturists is increasing greatly at the present time. Many job opportunities are expected to occur over the next several years as more people become interested in using ornamental plants to beautify their homes. This interest will indirectly result in a greater demand for horticulturists, and the products and services they offer.

So, now is the time to prepare yourself. Talk to professionals already in the business. Talk to students and instructors involved in the course. Finally, talk to a guidance counselor at Gateway Technical Institute. Then, when you have all the information, you can decide whether or not a career in horticulture production is for you.

HOTEL-MOTEL MANAGEMENT

Hello . . . I'd like to tell you about a career in Hotel-Motel Management, an Associate Degree program at Gateway Technical Institute.

The innkeeping business is as old as civilization itself. Small wayside inns built along trade routes to provide for the needs of travelers first appeared thousands of years ago. Inns and hotels also served the needs of the community by providing space for town meetings or even religious services.

Today's hotels, motels, motor hotels and resorts serve thousands of guests every night, providing sleeping accommodations and food, and sometimes recreation areas and business facilities such as conference rooms, typewriters and stenographic services.

The type of work done by the hotel-motel specialist will vary widely according to the size of the business and the job description. Hotel-motel jobs are usually classified as "front-of-the-house" or "back-of-the-house".

Front-of-the-house refers to all the jobs that relate to the sale of rooms or food, or any direct guest service. Back-of the-house refers to food purchasing and preparation, housekeeping and maintenance. There are supervisory or technical jobs in all of these areas which require specialized skills and knowledge.

If you aspire to a top management position, training and experience in both front of the house and back of the house operations are necessary.

Knowledge of food preparation and service, taught in the hotel-motel curriculum at Gateway Technical Institute is usually required of the hotel-motel manager. You should be able to analyze food cost records and sales data to determine the distribution of costs among various departments. You should be familiar with the technical equipment used, housekeeping services, room reservation, procedures, and all aspects of sales.

Some hotels and motels have several specialty restaurants or public dining rooms in addition to their banquet or catering departments. In an operation of this size there are excellent career opportunities in management for the hotel-motel specialist.

You will need to be able to formulate policy on advertising, publicity and cerdit. You should be able to plan dining room, bar and banquet operations, and establish food policies and the type of food services to be offered.

The work in a hotel or motel is seldom routine. The surroundings very from the unpretentious "homey" inn to glamorous, sophisticated city hotels or fancy resorts for members of international society.

Interest and liking for people, as well as the ability to get along with others in all kinds of situations, is a very important personal trait for success in the hotel-motel industry. As a prospective hotel-motel manager, you should be broad-minded, tolerant and understanding. You should be able to make sound judgments and decisions, and acquire and apply technical knowledge of materials and products. You should be able to learn new methods and ideas easily, and assume responsibility for financial decisions. You should be interested in the world of business and in changing trends. Being able to concentrate on details and working under pressure are also important assets.

One successful hotel manager has said there are three essential traits necessary for success in the hotel business-intelligence, initiative, and industry. To the young person with these qualities the hotel field offers all kinds of opportunities.

You will be most successful in this career if you have a pleasant personality and speaking voice, and are poised, well-groomed and well-dressed. It is helpful to take such high school courses as Mathematics, Bookkeeping, English, Marketing, and Merchandising and Sales. The two-year Hotel-Motel curriculum at Gateway

Technical Institute is designed to train mid-management or supervisory personnel.

You will take courses such as Business Mathematics; Hotel and Motel Management; Supervisory Housekeeping; Hotel-Motel Maintenance and Engineering; Business Accounting; Food and Dining room service; Salesmanship; Business Law; and Marketing. To complete a well-rounded curriculum, you will take Written Commications, Psychology of Human Relations, Speech, Economics and American Insittutions, as well as some elective courses.

While attending school, you will learn where to locate Land finance a hotel/motel operation. You will receive the basic skills necessary to operate, maintain, and manage a hotel or motel business. You will be capable upon graduation to step into a training program for a mid-management position in the hospitality industry.

It is tempting to say that the future of the hospitality industry in truly unlimited. In the past few years, growth has been unprecedented. Chains and franchises are expanding as rapidly as they can find locations and complete construction.

Because of the increased development of transportation systems, more leisure time, longer weekends, shorter work weeks, and the increasingly higher standards of living, the need and demand for the services of the hotel-motel industry is increasing. More business means more jobs and increased advancement opportunities.

So, now is the time to do something about it. Talk things over with a guidance counselor at Gateway Technical Institute. Talk with the students and instructors who are involved in this two-year course. And finally, talk to professionals. Then, when all of your questions are answered, you can decide on a career in hotel/motel management.

INDUSTRIAL ENGINEERING TECHNICIAN

Hi . . . The information which follows is about a career as an Industrial Engineering Technician. Preparation for this career may be accomplished by completing an associate degree at Gateway Technical Institute.

The intent of the program at Gateway is to train people to run factories. It does not mean that you will be running the company or be leaders in the industry or be in top management. It simply means that you will be trained to go into technical jobs such as people doing a specific task; quality control, inspection, methods work, time study, production control and supervisory and foreman tasks.

It is expected that in the long run, if you are better qualified, more intelligent and aggressive you will end up in some area of mid-management. Students, of course, will not leave school with only a degree and immeidately move into mid-management or into supervision positions. After your education you must gain a knowledge of the company and of the field, and with experience and maturity, you should eventually move into mid-management or supervisory positions.

The industrial engineering technician generally is very similar to that discipline know at the University level as Industrial Engineering and Industrial Management. These full management positions, of course, take not only higher academic knowledge, but also experience, as well as maturity. Gateway graduates of the two-year associate degree either go out into foreman's or supervisory positions or are offered such jobs.

The work tends to be in the area of Industrial Engineering and Industrial Management. Quality control and inspection work are typical jobs where you will

inspect items or work in a quality control situation where you will check the output of inspectors. Production control is the area of controlling the facilities resources and allocating those resources manufacturing the products themselves. This area tends to be clerical in nature.

Methods, work measurement, and time and motion study are often found in the time study or the industrial engineering department. This is the examination of jobs, establishments of rates, the improvement of jobs and the setting of standards of work. Other duties include conducting plant safety studies, planning the flow of work, record and analyze test procedures and results, and make suggestions for the improvements.

As a graduate, you will have a sound, theoretical base in management technique and theory so that not only will you be able to cope with the day to day relatively simple problems of keeping the factory running, but you will be able to help plan for a much more efficient modern facility, that is, one which is run with modern techniques, not only modern machinery and buildings.

As an Industrial Engineering Technician you must be able to learn and apply mechanical, scientific, technical and mid-management principles; be able to concentrate on details for long periods; be able to visualize shapes and forms from blueprints and sketches; perform mathematical computations accurately, and be able to handle and manipulate tools and equipment skillfully.

As a technician, you should like work of a scientific, technical and managerial nature; be willing to work under supervision and follow instructions carefully; be able to work under pressure of production deadlines; be willing to assume responisbility for the quality and accuracy of your work; and to be able to supervise workers, manage resources and have a broad insight of operations.

The physical requirements for entry are such that you should be able to stand, walk, and move around easily in a shop, have adequate use of arms, legs, hands, and fingers; be able to work at desk or drawing board for long periods; have good vision and hearing (normal or corrected) and be able to distinguish colors.

The actual in-school course tends to be similar to other technical areas in respect to the general education and the mathematics area. As a student at Gateway, you will take two semesters of Physics along with nine credits of college level algebra and trigonometry; Written Communications; Effective Speaking; Technical Drafting; Statistics; and an Industrial Economics course.

Industrial Relations is a required subject which covers the work environment and the psychological problems of management and union, along with human relations. Testing Design is a unique course that goes into the theoretical aspects of designing tests of not only machinery and materials but also of ways of doing things.

As a student you will get courses in Manufacturing, Processes and Materials, Plant Layout, and Materials Handling, Manufacturing Management, and Industrial Supervision, and Leadership.

In the long run, the outlook for employment is excellent because graduates are moving into areas of employment where there is a shrinking labor force. The area of supervision and middle management is declining because many of the top people who are in these positions have been promoted. In the future, these people will not be available simply because many of them are taking advanced courses necessary for their new positions. Therefore, the employer must seek potential supervision and technical personnel outside of the factory.

Now is the time to think about a career as an Industrial Engineering Technician. Talk to people already in this career. Talk to students and instructors involved in the program. Finally, talk to the guidance counselor at Gateway Technical Institute about the Associate Degree Program. Then, and only then, can you decide on a career as an Industrial Engineering Technician.

INSTRUMENTATION TECHNOLOGY

Thank you for requesting information on the Instrumentation Technology. This is an associate degree program of study at Gateway Technical Institute. We hope that during the next few minutes you will receive enough information to make a decision about becoming involved in this important career field.

Complex instruments are used for scientific measurement and control. Instruments are responsible for the fields of Space Exploration, Ocean exploration, and medical studies. Without instrumentation, these fields would not have advanced as far as they have. This is where the need originates for a qualified technician to prepare and maintain the complex instrumentation in these fields.

The person who calibrates, maintains, and installs these delicate instruments in called an instrumentation Technician. They concern themselves with these instruments and circuits as they are used in electronics, hydraulics, and pneumatics.

The instrumentation technician works with engineers to design, test, install, repair, and maintain these instruments and circuits. They work with the instruments that are used to measure, transmit, and monitor information such as pressure, level, flow, temperature, motion, and composition.

Instrumentation Technicians may find themselves employed in one of many major industrial groups including aeronautics, chemistry, petroleum, foods, metals, ceramics, pulp and paper, power, textile, or in the emerging fields of space, oceanography, air and water pollution, biomedical instrumentation, and national defense systems.

To enter the field of instrumentation technology, you should have an interest in electro-mechanical devices, a determination to complete tasks, ambition and a liking for people. The nature of the work requires clear and precise understanding of written and pictorial information and the ability to communicate competently in scientific and engineering terms. A calm, well-controlled approach to work is essential, as the job requires dexterity, judgement, willingness to accept responsibility and ability

to work under pressure.

A background in high school mathematics and physics and other laboratory sciences will be an advantage for you, and this will give you a head start. Women, as well as men, will find job opportunities in this field.

Because of the interdependence of electronic, electrical, and mechanical functions, it is important for you to understand throughly the theories of electrical and electronic circuitry before applying them to instruments. You should be adept in the use of tools and have the scientific interest to study and understand electrical, hydraulic, and pneumatic theory. Such courses of study are absed on a strong foundation of physics, mathematics, and communications in which technical report writing assumes an important function.

You, as a student, will graduate from the Instrumentation Technology Program, after two years of study, with an associate degree. Competent instructors will help you learn to use mathematics, to interpret and analyze facts, and to present information graphically, orally, and in writing.

Working situations for the Instrumentation Technician vary. They may be found in oil cracking plants, in a space laboratory, in an atomic power plant, the surgical room of a hospital, and in many other industries.

You work surroundings will be pleasant. It is possible for you to advance faster if you are free to move from place to place when opportunities present themselves.

In addition to working in a lab under the supervision of an engineer, you may find employment installing and servicing control manufacturers. You may be required to demonstrate and sell instruments and control systems to other industries. Or, you may assist the engineer responsible for process control in an industry.

Entry level jobs are most often for maintenance instrument technicians, in order to develop skills with the equipment involved. The practical application of

general knowldege in relation to the instruments utilized by a specific industry generally takes in a basic program offered by the industry upon employment. You will then advance to learning the specific skills required by the firm.

Employment opportunities for the Instrumentation Technician are expected to be very good through the 1970's. As the population grows, manufacturing becomes more mechanized, new and more complex instruments are introduced into research laboratories and hospitals, more measuring and controlling instruments will be needed to meet the public demand for progress.

Therefore, now is the time to make the decision to become part of this important field. Talk it over with professionals in the field, talk to students and instructors involved in the course, and finally, talk it over with a guidance counselor at Gateway Technical Institute. Then, you will be able to decide whether or not a career in instrumentation technology is for you.

INTERIOR DESIGN

Hello ... thank you for requesting career information on Interior Design. The information which follows should increase your knowledge and appreciation for this specialized career.

If you are the person who helps others furnish their homes or commercial establishments, you may be called an interior designer or decorator. As a person working in this area, you will achieve certain desired effects through the understanding and skillful manipulation of the many elements of design-color, line, texture, proportion, balance and emphasis.

As a graduate of a two year interior design program, you can work as a decorator or an interior designer.

You may become a retailing specialist in an area of home furnishings such as bedding, paint and wallpaper, draperies, carpeting, accessories, furniture, etc. You may become an interior designer in a retail store where you would work with the total home furnishings offerings of that store--in the areas of selling, selecting and designing. Another placement possibility is as an assistant to a professional designer. It takes considerable experience to establish yourself as a professional interior designer.

As an interior designer, you will generally operate on a retail basis, that is, revenue derived from the difference between wholesale and resale prices. As a retailing specialist on the other hand, you receive a salary from the store in which you work and may also earn commissions on furnishings sold.

As a decorator working for a store, you will use furnishings from the store or from the catalogs of its suppliers, If you work at a studio, your selections are from catalogs and showrooms.

In each case, as an interior designer you will have many responsibilities in addition to the design or idea function. Probably foremost is the selling aspedt of the work-displays, promotions, orders, deliveries, possibly buying as well as keeping samples up-to-date and in order. You will find that there is much paperwork with the retail procedures, with contracts, checking bills and shipments, and billing clients.

In entering the home furnishings field, you must like people. In fact, you must have a special liking for, and be willing to accept people for what they are. There has to be an understanding of the kind of life they lead and of their likes and dislikes. This involves even more than having patience and being tactful and considerate.

You must also have some artistic bent with an interest in good design, although the ability to paint and draw is not a necessity. Sketches and renderings are a designer's means of presenting ideas, but presentations can be simplified to the use of layouts, swatches, samples, and pictures, especially in the case of the store-employed furnishing consultant. It is more important here to enjoy working with color, fabric, furniture and furnishings. A development of good taste is the vital factor.

As an interior designer you must enjoy selling. This is a highly competitive field, therefore, when entering it you must be certain of your aptitudes.

Your personality will play an important part in the success of your career. You must have a good disposition and the ability to get along with many kinds of people. As a decorator, designer, or consultant, you must always be careful not to force your tastes on your clients or customers, but rather to suggest ideas.

These factors, combined with good business ability and a practical regard for time and money, should spell success if you are willing to work hard and train properly for a career in home furnishings.

Your enrollment in a two year program with an emphasis in marketing or retailing along with interior design and decoration is an excellent path to a career in the field. This two year curriculum leads to an Associate of Applied Science Degree at Gateway Technical Institute.

During the two year program, you will develop skills in line, color and design, Color Theory, Fundamentals of Structural Design, Fundamentals of Interior Design, Textiles, Furniture Selection and Arrangement, Display, Retailing, and Studio Procedures.

Your education will be expanded with courses in Psychology of Human Relations, Effective Speaking, Economics, Salesmanship, and Business Math.

As an interior design graduate, you will find that the marketing of home furnishings, and the entire field of interior design, is highly competitive. As with everything competitive, not everyone wins. The person with aptitude and ability, plus training and experience has hope of eventual advancement. The speed of advancement depends on your ability and on availability when a good opportunity arises.

With solid training at the post high school level, it takes six or eight years for an interior designer to become firmly established. During this time as an aspiring decorator, you may need to work at any job which will provide relevant experience. You should give strong preference to the positions in which it is possible to build a future clientele.

People presently in the home furnishings field are highly optimistic as to prospects for the future. The industry is, of course, greatly dependent upon overall business conditions. People must be interested in furnishings, be knowledgeable, and have money to spend.

An increasing number of decorating studios are opening across the country and more department stores are employing decorators, because customers are asking for their services.

To completely answer your questions, it is advisable to talk to a counselor at Gateway Technical Institute. Talk to the students and instructors involved in the program of study. And finally talk to professionals in the field. When this is done, you will be able to decide upon a career in Interior Design.

LAND SURVEYING TECHNOLOGY

Thank you for requesting information concerning a career in Land Surveying. Gateway Technical Institute offers an associate degree program in this interesting career. We hope that during the next few minutes you will get a better picture of this important career field.

Surveyors play an important part in the construction of highways, airfields, bridges, dams, and other structures, by providing information on measurements and physical characteristics of construction sites. They also locate land boundaries, assist in setting land valuations, and collect information for maps, charts, and plates.

The primary task of the surveyor is to determine the precise measurements and locations of elevations, points, lines, and contours on or near the earth's surface, and the distance between points. The supervisor is directly responsible for the survey and its accuracy. They plan the fieldwork, select survey reference points, and determine the precise location of natural and manmade features of the survey region. They record information disclosed by the survey; make mathematical calculations based on such information; verify the accuracy of survey data; and prepare sketches, maps, and reports.

In making his detailed measurements in the field, the surveyor is assisted by workers in a field party which require direction. A typical party is made up of three to six members in addition to the surveyor (sometimes called the party chief). Included in the typical field party are instrumentmen who set up, adjust, and operate surveying instruments (including the theodolite, transit, level, altimeter, and electronic measuring devices) at the points designated by the surveyor; the chainmen who measure distances between points, using a metal tape or surveyor's chain; and the rodmen, who use a level rod, stadia board, or range pole to assist in measuring, between selected points, elevations, distances, and directions.

Surveyors often specialize in one particular type of survey. Those doing highway surveys are concerned with establishing the points, grades, and lines needed for highway locations. Those performing land surveys locate boundaries of a particular tract of land, prepare maps, record plats of the land, and prepare legal descriptions of it for deeds, leases, and other documents. Surveyors doing topographical surveys determine the elevations, depressions, and contours of an area, and indicate the location of distinguishing surface features such as farms, buildings, forests, roads, and rivers.

The Land Surveying Technician is primarily engaged in locating boundaries, layout of roads, pipe lines, power lines, and right of way from the written description of the boundaries; subdividing property into smaller parcels, and making graphic representation of such property.

A land Surveying Technician must learn to apply theoretical principles and technical knowledge easily; be able to visualize shapes and forms from survey data or sketches; handle complex mathematics; concentrate on details for long periods to avoid errors, handle drawing, drafting, and surveying tools skillfully; use good judgement; like to work with others; like work involving the preparation of maps; be able to work under the pressure of deadlines.

The Land Surveying Technician needs good physical health and stamina. They must be able to stand the rigors of weather when they are outside. When inside, they will use drafting and calculation skills for long periods of time. It is important to have sufficient use of arms, legs, ears, and eyes to perform a wide variety of job functions.

During the course of attendence of the 2 year associate degree program, the fundamentals which will provide the foundation in math, science, communication skills and surveying techniques will be stressed. The second year courses stress the training

Employment opportunities for surveyors are expected to be good through the next decade. It is anticipated that employment in the field will grow rapidly. In addition to new positions, many openings will result each year from the need to replace those who transfer to other occupations or retire. Prospects will be best for people with an associate degree.

Now is the time for you to do something about your future in Land Surveying. Talk to persons working in the field, discuss it with students and instructors involved in the program. Then talk it all over with a counselor at Gateway Technical Institute. After all that, you will be in a position to decide whether or not a career in Land Surveying Technology is for you.

LIBRARY MEDIA TECHNICAL ASSISTANT

Hi . . . I would like to tell you about a career as a Library Media Technical Assistant.

This career program at Gateway Technical Institute leads to an associate of applied science degree. The library media technical assistant may correlate the work of volunteer parents, student assistants, and a library clerk.

You may answer basic reference questions, supervise the circulation area, be responsible for periodical record keeping, plan and execute displays, assist in story telling, determine bibliographical information for book orders, handle library correspondence, keep financial records, and assemble statistical information.

In school libraries, you help instructors in preparation of audio-visual materials, circulate equipment and perform other related audio-visual tasks. You may also process library and audio-visual materials as well as order films.

In some cases, a library media technical assistant in a public school system may be responsible for running an elementary school library under the supervision of a professional librarian who is in charge of several elementary school libraries. You may supervise clerks, students and volunteers.

Colleges, universities, and vocational-technical schools also need the skills of the graduate library media technical assistant.

If you have artistic talent, you may do displays, posters, bookmark designs, and so forth.

The children's department of a public library may utilize you to tell stories and assist in the organization and supervision of summer reading programs.

Many Colleges and Universities have combined their library services and their audio-visual services into one department. In such cases, you may work exclusively with audio-visual materials.

You may classify, process, and catalog instructional materials, supervise listening centers and music or recording rooms and work in many facets of reproduction services including microfilm, photography, copying, printing, and so on.

Special libraries, which serve a particular subject field such as art, medicine, music, space, industry, business, or geology, for example, require the general library media technical assistant, but there is also a need for more specialized assistants with a background in chemistry, art, music, or whatever the subject area might be.

As in all professions where the public is served, the field of library work requires that employees be people oriented. There are many facets of library work which are not directly involved with the public, but even these positions require a desire to serve people because they concern preparation of materials used by the public.

A library is part of the education system of the community it serves, providing research materials for students at all school levels, data for businessmen which help them to make decisions, and materials for people to improve themselves personally, or in their jobs. As in a school, everyone working in the library must be service oriented. This is the only reason for the library's existence.

Most jobs in a library require an ability to handle detailed work. There is much filing of cards, alphabetizing and patient searching for answers to questions. One card misfiled can eventually create chaos in a filing system. A feeling of superiority on the part of the librarian could make a patron reluctant to ask questions or seek further information. The Library Media Technical Assistant must have the ability to overcome this feeling.

You should also have the ability to understand and follow written and oral directions to communicate effectively. A certain amount of decision making is required, particularly in regard to problems which should be reported to the supervising librarian.

A quick examination of the curriculum at Gateway Technical Institute will show that courses in Written Communications, Effective Speaking, Psychology of Human Relations, and Typing are essential. Other courses include Technical Terminology, Library Procedures, Resources, and Communications Media. The general courses give you a broad knowledge in the basic skills for personal performance on the job, whereas the technical courses give you the knowledge needed to perform as a Library Media Technical Assistant.

Working conditions are generally favorable in the Library field. There has been a rapid expansion in Library Services in the past ten years. Although libraries are rarely over-staffed, the library media technical assistant is usually given an equitable work-load. At present there is no license or certification required for general library work, but if employment is sought in a government library, a civil service examination is required.

Library employees constantly handle newspapers, magazines, books, business forms, and stamp pads. Although this is not considered dirty work by manual labor standards, it is not the clean work that is normally associated with librarians. You must be prepared to do some lifting. This would apply to lifting books onto higher shelves, carrying stacks of magazines, and pushing loaded book carts around the library.

Salaries will vary according to the type of library, or multi-media center, the size of the system, and the responsibility of the position. Graduates will start as trainees. With experience, and proven competency on the job, salaries will increase accordingly.

If you are seriously considering entering this field of training, we urge you to talk to a counselor at Gateway Technical Institute. Talk to instructors and students involved in this program of study. Ask questions about the field from their viewpoints. Then talk to a professional librarian. This information should give you a good idea whether or not you should become a Library Media Technical Assistant.

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MARKETING

Hello , I'm going to tell you about a career in marketing, an Associate Degree program at Gateway Technical Institute.

Retail Marketing - selling manufactured goods to individual consumers - is tomorrow today. It is planning for Christmas in July, buying Spring clothes in October, and summer furniture in January. Retailing is a constant challenge to change, to innovate, to come up with better ideas, better merchandise, better service and better promotion.

Therefore, retailers are constantly looking for young men and women with fresh outlooks and new approaches who can not only spot trends but predict them. Marketing challenges them to make the most of themselves and to use all their talents, particularly since retailing techniques are changing at a revolutionary pace.

Marketing is everywhere. A person's interests and life may change, but there will always be a nearby retailing job available. Marketing offers so many choices that people can tailor their careers to their own specifications. Retailing, in more ways than one, is a "choice" career.

Retailing is a field that is open to students while they are still in school. An enthusiastic, concerned, attentive person who is willing to work and study can probably learn all he needs to know to succeed in a lifetime career in retailing. In fact, a summer retailing job or work in a store on nights or weekends provides you with an opportunity to earn while learning. This work and study program will prepare you for advancement and give you an opportunity to build a future in selling - an industry which puts a premium on performance.

Marketing has several major areas of opportunity; merchandising, store operations, control and credit, sales promotion, personnel and employee relations

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Sales promotion and publicity work would be of interest to you if you like to write. The advertising department writes newspaper ads, radio and television commercials, mailing pieces and catalogs, and publicity releases.

If you like to draw, photograph, or design displays, you may work along with the store's copywriters to design ads and catalogs, television spots, window displays and interior displays. Those who do not draw, write, or design are equally valuable to the store, since these creations have to be printed, built, sent, or set up. Other employees have to coordinate various projects, supervise and disperse work load, and administer the department as a whole.

The control and credit department provides opportunities in retailing for those who like to work with figures. Control and credit is retailing's nerve center. This department is where a store's vital statistics, income and expenses are gathered, processed and translated into meaningful information for the store's merchandising and operating executives. If you have an ability to work with figures, matched by the imagination and intelligence to interpret them properly, you may enjoy this area of Marketing. If you have good judgement, a basic requirement for this kind of crucial decision-making, you will enjoy this part of retail merchandising.

Merchandising is the area of retailing best suited to those who thrive on diversity. As a merchandiser, you may negotiate favorable prices and discounts one day, the next day train a new sales-clerk, and the next day work with a manufacturer on an exclusive line of merchandise.

A desire for travel would make you lean toward buying, since traveling is a very necessary part of a buyer's job. As a buyer, you are a store scout who will cover the market for merchandise - to showrooms, factories, and big-city buying offices.

Retailing is always looking for young men and women who have potential, even without experience or training. If you are interested in recruiting or interviewing, you will help select the store's most important asset, its personnel. You may train them to jobs that give them a chance to learn, and advance them as they become more valuable so that the store will not lose them to the competition. Department stores helped to pioneer modern personnel practices long before they were widely used in other businesses.

Another facet of retail merchandising is store operations which may be of interest to those who have administrative ability. Operating a store is very much like running a small, complete community with all the variety of services involved. Customer services; merchandise handling, store maintenance, modernization and expansion; store security and the purchasing of supplies, fixtures and equipment are all handled in store operations.

In the public contact occupations in retailing, you will need the ability to deal with all types of temperaments. When a sales person's feet hurt after a long day on the job and he or she is confronted with an irate customer, a ringing phone, and an inventory deadline, self control and calmness will make the difference between an unpleasant scene and a workable situation.

In the behind-the-scene areas, clear reasoning and the ability to work efficiently with details are other important qualifications you will need. In all retailing occupations, responsibility for one's decisions, the ability to think and act quickly, and the willingness the pay attention to detail and procedure are highly important personal characteristics. You should also be interested in the world of business, and in changing trends and fashions. You should be able to communicate ideas verbally and in writing.

Helpful high school courses are Mathematics, English, Marketing, Merchandising and Sales.

While attending the two-year associate dgree program at Gateway, you will be given the functional theories of marketing and retailing as a basis of study. You will take courses in Salesmanship, Business and Merchandise Math, Business Organization, Advertising, Display, Retailing, Credit Procedures, Business Law and Marketing Management.

Along with these technical courses, you will also take courses that will give you an understanding of Psychology of Human Relations, Written Communications, Speech and Economics.

The two-year associate degree program will qualify you upon graduation to start work in a trainee position, to start as an assistant buyer in order to become familiar with markets, prices, buying trends and other pertinent information with respect to the merchandise handled by the firm.

You will be qualified for job entry in retail and wholesale sales, financing, manufacturing, storage, transportation, credit and insurance.

The retailing field needs both generalists and specialists; the intuitive and the logical; creators and systematizers; the thoughtful and the aggressive. There are opportunities for every kind of talent, personality, and temperament. An employee can move from one department to another and use his or her special training in both. Once trained in retailing, the specialist is a professional with skills that qualify them to work anywhere, or even to start one's own business.

Young executives are common in retailing, and their companies pay them very well. There are more executive careers available in retailing than in any other

business. Retailing is a growth industry. It is an industry that offers not just a job, but a challenge, a chance, a choice and a career.

To have all of your questions answered, you should talk to professionals in the industry of business. Talk to students and instructors who are involved in the courses. Finally talk it all over with a guidance counselor at Gateway Technical Institute. Then you can decide on a career in Retail Marketing.

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FASHION MERCHANDISING

Hello ... thank you for asking for career information on Fashion Merchandising. The information which follows should increase your knowledge and appreciation for this specialized career.

The basic function of fashion merchandising is providing fashions that customers want. By purchasing apparel and accessories from manufacturers and marketing them, apparel retailing serves both consumer and manufacturer.

It provides the manufacturer with an outlet for their production, and provides an attractive setting where the consumer may examine and obtain a wide assortment of merchandise.

The retailing industry includes the merchandising of all goods -- clothes, hardware, furniture, food, machinery, etc. The largest segment of the retailing industry is in the apparel field -- the merchandising of all the many types of clothes we wear and the accessories that go with them (hats, gloves, footwear, nightwear, jewelry).

Fashion merchandising plays an important part in the overall functioning of the store, since the sales volume of the various apparel departments is one of the largest, if not the largest, source of income for the store.

The skills the fashion merchandiser brings to the store, the experience they gain through store work, and the results

of their efforts are the deciding factors in their advancement and worth to the company.

As a graduate of a two-year associate degree program who is interested in fashion merchandising you may begin your career in an executive training program of a department store.

In this program, you will be rotated through several departments in the fashion field--children's clothing, women's better dresses, the college shop, budget fashions, men's furnishings--and also to non-selling activities such as advertising and customer services--to obtain an overview of the store's operation. The training program is generally from six months to a year in length.

At the end of the training period, you may be placed in a merchandising department. If there is no opening in the precise area you prefer, the management of the store will do its best to place you in a closely related area.

After considerable experience as a fashion merchandiser, you may work in what is called resident buying offices. Resident buying offices represent department stores in fashion markets, such as New York and Los Angeles. Prior to each fashion season, resident buying offices buyers accompany clients to the market to select new merchandise.

The usual career route for a fashion merchandiser is from a two year retailing degree to an executive training program, to department manager or assistant buyer, to a buyer's position.

Many specialists choose to remain buyers, others become divisional merchandising managers.

As a buyer, you must have a real fashion sense. You must reflect customer wants, rather than individual tastes, in making purchases. Each fashion department serves a certain clientele with a specific fashion image, and the buyer's purchases must reflect that image and keep it up-to-date.

As a buyer, you must know where to look for new ideas and sources of supply and must be tireless in establishing and maintaining the highest possible standards for that department. This is done by careful selection and training of all personnel in the department. A buyer's department is his own miniature store, and should be run as such.

The most important quality necessary for a successful career in fashion merchandising is a positive personality--the ability to get along with people, work well with them, and to give them confidence in your abilities. Alertness, good grooming and self-confidence are also essential.

An apparel specialist must be interested in merchandise. You should want to know all about fashion,--like to feel fabrics and judge their quality, and know how to distinguish well-made products from inferior ones.

The physical requirements for the fashion merchandiser are such that you should have complete manual dexterity, be able

to stand and move about for long periods of time, be free from color blindness and have normal vision and hearing, and finally be able to lift objects of at least 25 pounds.

As a specialist, you need to use good judgement, both in buying for the department and in all your dealings with people. Leadership qualities are essential, and employers look for leadership experience in extracurricular acitivities in school as an indication of the value of a potential apparel specialist.

To get a well-rounded education in Fashion Merchandising, it is best to enroll in the two-year associate degree program. This is offered at Gateway Technical Institute. During your course of study, you will be exposed to the basics of fashion, Marketing, textiles, advertising, display techniques, salesmanship, fashion buying, trends in fashion merchandising, and fashion production and coordination.

In addition to the technical courses, you will have courses in effective speaking, accounting, economics, business and merchandising math, written communications, business law and psychology of human relations. These courses are designed to give you an understanding of yourself, other people and general business principles and practices.

The area of fashion merchandising is one field in which you can gain practical experience while attending school. A part-time job on weekends or evenings can help you enlarge your

knowledge of fashion merchandising. By working while attending school, you can apply your classroom work on the job, thereby gaining needed experience.

The entire retailing industry, and especially the fashion field, has undergone dramatic growth. Many new stores have opened, established stores have expanded into chain operations with suburban branches, and some suburban stores have opened center-city branches in an attempt to revitalize old business sections.

The shopping centers that have sprung up in every part of the country have brought high fashion to medium sized and small towns and have greatly increased job opportunities. Positions in fashion are available in the stores themselves, and in fashion reporting for magazines and newspapers.

This is one industry which pays its many women executives the same as its men. A woman who will work hard, and who has the ability to do her job well, will not find any barriers to advancement.

Now is the time to ask questions about the fashion merchandising career field. Talk to professionals in the business, talk to students and instructors involved in the program. Finally, talk to guidance counselors at Gateway Technical Institute. Then, and only then, can you decide upon a career in fashion merchandising.

INDUSTRIAL MARKETING

Hi . . . I'd like to tell you about a career in Industrial Marketing offered by Gateway Technical Institute.

Practically all manufacturers--whether they make electronic computers or everyday can openers--employ salesmen. Manufacturer's salesmen and sales representatives sell mainly to other businesses--producers, users, wholesalers, and retailers. They also sell to hospitals, schools, other institutions, and to federal, state and local governments.

As a salesman of highly technical products, such as electronic equipment, you may be a sales engineer or an industrial salesman. In addition to having a thorough knowledge of your firm's products and the art of selling, you must be able to help prospective buyers with technical problems.

There is a great majority of sales people in manufacturing who sell non-technical products. Their customers are chiefly other users, wholesalers, and less often big retail stores. If you are in sales in this area, you must be well informed about your firm's products which sometimes number in the hundreds, and also about the special requirements of your customers.

Although the manufacturer's salesman primary responsibility is visiting with customers and prospects, they also do some paperwork. As such, plan work schedules, make appointments, compile lists of prospects, conduct sales correspondence, make out expense accounts, keep up dated on product knowledge and write sales reports.

You may also be involved in the advertising and pricing of your products. Competition in the area of technological change, as well as Social, political, ethical and legal considerations will be important to you.

Some manufacturer's salesmen work out of the company "home offices" which are often located at manufacturing plants. The majority, however, work out of branch sales offices, which usually are in big cities where the greatest numbers of prospective customers are found.

More salesmen work for companies which produce food products than any other industry. Industries which also employ large numbers of salesmen include printing and publishing, chemicals, transportation, fabricated metal products and electrical and other machinery. Large employers of sales engineers are companies producing transportation equipment, fabricated metal products, heavy machinery, and large basic industries.

Although as a prospective salesman, you may be hired by applying directly to sales offices of manufacturing concerns, you may be recruited by manufacturers who send representatives to interview students at Gateway Technical Institute. Recruiters look for students who are well qualified academically and who have participated in extracurricular activities.

As a salesman, you must be able to meet and get along well with many types of people. You should be able to make sound judgments and decisions, as well as learn new ideas quickly and easily. Since you will be making some financial decisions, you will need to be willing to assume responsibility for these. An interest in the world of business and changing trends will be imperative to you. You should be able to concentrate on details amidst distractions, as well as to work under pressure. Recruiters also consider the student's personality traits and appearance. Preference is likely to be given those with pleasant but forceful personalities who make a favorable impression in manner, speech, and dress, and

who can communicate ideas verbally and in writing. A recruiter may hire directly for his company or he may arrange for those applicants he feels are qualified to be interviewed by company officials before final selections are made.

Some helpful high school courses include Mathematics, English, Marketing, Merchandising, and Sales.

While attending Gateway Technical Institute, you will be given a comprehensive background in industrial marketing. You will receive instruction in Marketing fundamentals, Industrial Marketing, Industrial Purchasing, Marketing Research, Industrial Graphics, Sales Management, Cost Analysis and Credit, Manufacturing Processes, and Manufacturing Materials.

To round out your curriculum, you will receive a balanced instruction in Accounting for Business, Business Math, Psychology of Human Relations, Written Communications, Testing. Design and Practices, Business Law, American Institutions and Effective Speaking.

Beginning salesmen are often given specialized training before they start on the on the job. Some companies, expecially those manufacturing complex technical products, have formal training programs, in order to familiarize new employees with markets, prices, business trends and other pertinent information. Therefore, as a graduate of this industrial marketing program, you should expect to be involved in continued education and study.

If you build a good sales record and show leadership ability, you may advance to positions such as sales supervisors, office managers, or district managers. Those having unusual ability and managerial skill eventually may advance to sales manager or other executive positions; many top executive jobs in industry are filled by men who started as salesmen.

Because you will have frequent contacts with businessmen in other firms, you may often find opportunities to transfer to better jobs. Some salesmen go into business for themselves as manufacturer's representative, or as manufacturer's sales agents, selling similar products of several manufacturerers, or just one manufacturer's products. Experienced salesmen often find opportunities in advertising, financing, storage, transportation, credit and insurance, market research, and other fields related to selling or functional marketing.

Since there will always be a place for the industrial salesman in our society, now is the time to think about it as a career. Talk to professionals already employed. Talk to students and instructors involved in the industrial marketing program. Talk to a guidance counselor at Gateway Technical Institute. Then, you will be able to decide upon a career in industrial marketing.

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MECHANICAL DESIGN

Hello . . . Mechanical Design is an Associate Degree program at Gateway Technical Institute. I'd like to tell you about this career.

Engineers develop methods for converting the raw materials and sources of power found in nature into useful products at a reasonable cost in terms of time and money.

They use basic scientific principles to solve the problems involved in designing goods and services and developing methods for their production. The emphasis on the application of scientific principles, rather than on their discovery, is the main factor that distinguishes the work of the engineer from that of the scientist.

In designing or developing a new product, engingers and their staff must consider many factors. Experiments must be conducted which relate these factors to various manufacturing materials as well as to the many possible sizes, shapes, and weights. Equally important are the human needs and limitations of the people who must operate the equipment.

The mechanical design technician is an all important person in the engineering team. He works together with the design engineer in development, and in turn, puts the details into the system. In other words, the design engineer develops the basic idea, and the mechanical designer removes the "rough edges", puts in left out details, and finalizes the design that was not included by the chief engineer.

As a mechanical designer, you will review project instructions and blueprints to determine test specifications, procedures, objectives, test equipment, problems involved and possible solutions, such as redesigning drawing or sketches to scale for the drafting room, or when requesting fabrication by machine, wood, or sheet metal shops.

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After completing this two-year associate of applied science degree, you will develop, fabricate, and assemble new or modified mechanical components or assemblies for machinery, such as industrial equipment and machinery, power equipment, machine tools and measuring instruments. Initially, you will spend most of your time at the drafting board after graduation. But eventually, you will be required to set up and conduct tests and experiments of complete units and components to investigate engineering theories regarding improvement in design or performance of equipment, or to subject equipment to simulated operating conditions and for such purposes as development, standardization and quality control. You will then analyze indicated and calculated test results against design or rated specifications and objectives of test and modify equipment to meet these new specifications. You will also record test results, and procedures, and offer suggestions for improvements.

The mechanical designer should be able to stand, walk and move around easily in the shop and on field assignments; have good manual dexterity; be able to work at a desk or drawing board for long periods; have good vision and hearing; and be free from color blindness. You should be able to learn and apply mechanical, scientific and technical principles to actual situations. You should be able to concentrate for long periods of time, and visualize shapes and forms from blueprints and sketches. You should be able to perform mathematical computations accurately, and handle and manipulate tools skillfully. You will have to work under pressure of production deadlines, and be willing to assume responsibility of quality and accuracy of work.

You will need neat, legible handwriting. You will be expected to buy and use drafting tools and instruments. You should try to keep abreast of the latest technological developments in the field. It's helpful to take such high school

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courses as Algebra, Physics, Machine Shop, Blueprint Reading, Chemistry, and Mechanical Drawing.

Upon enrollment at Gateway Technical Institute, you will receive technical instruction necessary to gain the basic skills in mechanical design. Your classes will include: two semesters of Technical Drafting, two in Technical Math, Manufacturing Processes and Materials, Tool Design, Statics, Physics, Descriptive Geometry, Machine Design, and Strength of Materials, Introductory Electricity, Computer Assisted Design, and Design Problems.

The academic portion of instruction necessary to complete the requirements of the associate degree include courses in Written Communications, Psychology of Human Relations, American Institutions, Economics, and Technical Report Writing.

Financial as well as personal rewards of mechanical designing are good. Creative satisfactions of following through with design problems, including the testing of prototypes, are apparent.

The national demand for Mechanical Design Technicians is expected to rise rapidly during the next ten years. The expansion of industry and the increasing complexity of modern technology combined with the growth in research and development will require more engineers; and this in turn, will necessitate additional engineering technicians to assist in the complex tasks involved in the development of new machines, materials and processes.

Now is the time to consider a career as a Mechanical Design Technician. Talk to professionals already on the job. Talk to students and instructors involved in the program. Finally, talk to a guidance counselor at Gateway Technical Institute. Then, after all your questions have been answered, you can decide on a career in Mechanical Design.

TECHNICAL NURSING

Hi . . . the information which follows is about a career as an associate degree nurse. Preparation for becoming a registered nurse may be accomplished by completing this two year associate degree at Gateway Technical Institute.

Nurses provide care for the sick and injured, using procedures requiring prescirbed education, experience and skill. They work in hospitals, clinics, schools, nursing homes, and other institutions.

The nurse administers ointments, medicines, and drugs as directed by a physician. The nurse gives nursing care - including such treatments as changing the dressings on wounds or injuries, applying moist compresses, bathing and massaging patients, and feeding the helpless. Tasks may include giving injections or other treatment as prescribed the physician. The nurse may administer intravenous fluids, evaluate patients on cardiac monitoring or work in intensive care units.

Observing symptoms, and recording temperature, pulse and respiration and charting these according to standard practice are important parts of the job.

As a graduate of this program, you may undertake many specific jobs which answer the varied needs of patients. You may perform principally administrative duties as head nurse or concern yourself with community education and disease prevention as a public health nurse, you may choose employment in the private sector working as an industrial nurse at a factory or office building, as a private nurse, or as a nurse in a physicians's office.

The largest group of nurses work in hospitals, where they may be assigned to a general medical-surgical unit, operating room, obstetrical ward or psychiatric unit. They may also work in caring for sick children, or be assigned to any number of other hospital duties.

As a nurse you must be able to walk and stand constantly, have good manual dexterity, be able to handle instruments, be free from color blindness, and have good vision and hearing.

You may be required to work nights, weekends and holidays. Nurses daily deal with some of the strongest human emotions: fear, despair, anger, affection on the job. The professional nurse must fully know and understand themselves in order to be understanding, supportive, warm, and comforting as well as knowledgeable to the patients.

The industrial nurse has become an important part of many large firms. As such, you may maintain a clinic at a plant or factory and be engaged in rendering preventive, remedial and educational nursing services. You will work under the direction of an industrial physician, may give advice on accident prevention, visit employees on the job to see the conditions under which they are working, and may advise management personnel about the safety of such conditions. At the plant, you will render first aid treatment in any emergency.

All registered nurses must be educated for the work which they do. While completing this two-uear course, you will receive hospital training from cooperating hospitals in the general vicinity of Gateway Technical Institute.

You will take academic as well as professional courses in the following areas: General Psychology, Written Communications, Speech, Economics, Sociology, and several electives that the student may choose from.

At the conclusion of this program, the student becomes a graduate nurse. They are not, however, a registered professional nurse until they have taken and passed the licensing examination which is required in all states. After they have been licensed, the initials "R.N." can be proudly written behind their name.

Before entering such a course the applicant must be at least 17 years old and have a high school diploma or G.E.D. Biology and chemistry are required before entering a technical nursing program. A background in algebra is also helpful. The prospective nurse will need good health and stamina. You should have an even temperament and an ability to keep your head in emergencies. You must have a real liking and respect for all sorts of people. You must have a real desire to devote your life to the service of others.

Employment prospects for both male and female nurses are good because of the general nationwide expansion of hospital facilities, because of the extension of prepayment programs for hospitalization and medical care, and for the Federal Medicare Program. Other future opportunities include teaching in clinics and assisting with principles of preventive medicine.

The program of study in nursing continues to attract more applicants than can be accepted each year. Prospective students are taken in order <u>after</u> completion of admission requirements. This may mean a year or more wait before entry.

Act now. Talk to R.N,'s already employed, talk to the students and instructors who are involved in the course, and finally to guidance counselors at Gateway Technical Institute. Then, you can decide on a career as a professional nurse.

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POLICE SCIENCE

Hello . . . the information which follows is about a career in Police Science. Preparation for this career may be accomplished by completing an associated degree at Gateway Technical Institute.

The history of police work goes back many years. Man has always sought and had some form of protection as the knights of old for his life and property and to help preserve his welfare.

Policemen and women are municipal government employees and on or off duty they are sworn to protect and preserve society.

Their duties may be many and varied, or in very large city police departments, their duties may be more specialized and well defined. In any place of employment, they are charged with the responsibility of preserving law and order for the welfare of the people.

Most law enforcement officers are employed by the government, either on the federal, state or local level. However, graduates may also be hired by railroads, department stores, airlines, or other agencies.

In the federal government, much time is devoted to the conducting of security and background investigations on prospective employees. Another large amount of the agent's time may be devoted to internal security investigations which determine improper conduct on the part of federal employees, and subversives operating among the general public.

Law enforcement officers are employed by various federal agencies and their responsibilities differ accordingly. Perhaps the best known agency is the Federal Bureau of Investigation, which requires agents to have a minimum of a bachelor's degree, most frequently in law or accounting. The second agency is Secret Service, which also requires a baccalaureate degree.

There are many major federal enforcement agencies however, which employ two-year college graduates in various areas of responsibility. For example, the Immigration and Naturalization Service employs officers who work with laws pertaining to border secruity, alien registration, and deportation of aliens when necessary..

Customs specialists investigate smuggling activities, collect import revenues at ports of entry, and enforce regulations concerning articles imported or brought into this country. They may work closely with other federal officers because of their connection with the problems of gun running, narcotics, liquor and immigration.

The Internal Revenue Service employs officers in several divisions. The Intelligence Department investigates racketeers, gamblers, and those who violate tax laws. Officers in the Bureau of Narcotics and Dangerous Drugs are involved in legally regulating the manufacture, importation, and distribution of all narcotic drugs.

On the state level, the State Police Officer has full law enforcement powers while the highway patrolan is generally limited to the enforcing of motor vehicle code laws. In addition to uniformed officers, there are many officers employed in the motor vehicle registration department, in driver license examination and motor vehicle inspection agencies.

The majority of law enforcement officers work at the city or county level. Their duties relate to the enforcement of laws and ordinances for the protection of life and property.

Much of a local officers time is spent enforcing parking and traffic regulations, providing first aid in times of emergency, answering a variety of requests for miscellaneaous services and obtaining information from citizens who may have been victimized by criminals. Local police officers concern themselves with crime prevention and therefore must identify a potential hazard and take action to eliminate it.

Despite frequent pressures and frustrations, police service offers unequalled opportunities for those who enjoy working with a variety of people in unpredictable circumstances. Law enforcement offers excellent opportunities for both men and women.

Female employees such as metermaids, typists and clerks are rarely college graduates. The female two-year graduate from a vocational-technical school is usually a sworn policewoman. She possesses the same power of arrest as a policeman. Policewomen are sometimes assigned to juvenile delinquency, domestic relations and vice cases.

Law enforcement officers generally must be U.S. citizens, 21 years old, be able to pass an rigid physical examination, have good vision and hearing, and good color vision and depth perception.

As a police officer you must accept the realities of dealing with human problems and be able to accomplish your duties with uncommon emotional stability.

Psychologists who have studied police officers and their behavior have concluded that law enforcement is one of the most demanding professions. Because law enforcement encompasses a broad spectrum of services, it can not be described as a career in which certain characteristics are absolutely essential and others generally unimportant.

However, most authorities agree that law enforcement officers should possess emotional stability, strong moral character, reliability, and a sense of responsibility. Police officers must be able to communicate both verbally and in writing.

Some of the courses you will take as a student includes: physical training and defense tactics, history and philosophy of law enforcement, criminal law, rules of evidence, traffic law, patrol procedures, criminal investigation, lab work, arrest-search, and seizure, and behavioral pshychology, just to name a few.

You will also take general courses in effective speaking, written communications, sociology and psychology. You may elect to take additional courses.

It is very common for many students, sometimes the majority in these classes to already be police officers in the surrounding areas. These officers are enrolled in school to upgrade their knowledge, improve their abilities and increase their salaries as a result of further education.

When there is a mixture of experienced students and inexperienced ones, more and better exchanges of ideas and information can be had early in the inexperienced students career to make each a better law enforcement officer. At the same time, the uniformed student will be in the role of a leader or supervisor to help themselves up the promotion ladder.

Many state employment services report an acute shortage of candidates qualified in the police science area.

You should talk to as many students as you can who are enrolled in this program of study. Talk to the instructors who teach the courses. Talk to policemen in the field, find out from them what you need to prepare for a career in law enforcement. Finally, contact a guidance counselor at Gateway Technical Institute for further information about a police science education and career.

SECRETARIAL SCIENCE

Hello . . . The secretarial science program at Gateway Technical Institute is an exciting career I'd like to tell you about.

Secretaries are a vitally indispensable component of the American enterprise system. They work as important links between plans and their implementation.

They work in large, medium, or small offices in government, education, medicine, law, publishing, manufacturing, broadcasting, advertising, research, and construction industries. Most secretaries are women, but men are favored in such fields as transportation, oil and rubber industries, heavy manufacturing and law.

Generally secretaries are responsible to an executive or supervisor, but as they advance and gain experience, they may have their own responsibilities or may supervise others in an office or department. The secretary with a good educational background and good personal qualities will have excellent career possibilities.

As a secretary, you will act as an assistant to an executive, have a mastery of office skills, have the ability to assume responisbility without direct supervision, display initiative, exercise judgement, and make decisions within the scope of your authority.

The terms stenographer and secretary are often confused. Actually, they are alike in only one major respect; both stenographers and secretaries take dictation and transcribe it into letters, memorandums, or reports. A stenographer's job generally ends there. She may have other duties such as telephoning, filing, and receiving callers, but most of her work is routine, performed under close supervision, and requires a minimum of initiative, judgement and responsibility.

Your job as a secretary may require you to perform activities such as: relieving executives and other organization officials of minor executive and clerical duties; taking dictation using shorthand or a stenotype machine and trascribing dictation; making appointments for the executive and reminding him of them; answering and making telephone calls; writing routine correspondence on your own initiative; talking with people coming into the office, directing them to the executive or another appropriate person; arranging for travel reservations for your employer; supervising and training clerical staff; keeping confidential reports and personnel records; recording minutes of staff meetings.

The prospective secretary should possess a pleasing disposition, pleasant personality, the ability to work under pressure and the flexibility to follow commands from an executive. To be a successful secretary, you must have an interest in detail and an ability to live with details and see them through to completion.

You will help the executive with communications and must therefore be above average in punctuation, vocabulary and spelling ability. The work requires intelligence, accuracy, good judgement, perserverance, resourcefulness, tact, loyalty and objectivity. You should be able to learn new methods and procedures easily as well as to suggest improvements in the system in which you're working. You should be able to perform arithmetic computations quickly and accurately, as well as perform responsible work of a detailed nature without close supervision. If helps to be interested in meeting different kinds of people, and to be able to adapt to emergencies and changing situations without getting flustered.

You should have a pleasing telephone voice, as well as being poised and neat in appearance. Depending on the type of firm in which you will be employed, you should also have a knowledge of terminology in medical, legal or other technical areas. Having a good grasp of English usage and being able to express ideas verbally and in writing is essential.

You must be flexible in adjusting to changing situations and must have the ability to recognize and meet a deadline. A neat, attractive, personal apprearance and good taste in personal attire are additional assets.

Many employers have a strong preference for secretaries with a two-year college degree specifically designed for secretaries, such as the one offered at Gateway Technical Institute. These programs are usually entitled secretarial science. The two-year course includes Written Communications, Effective Speaking, Psychology of Human Relations, Economics, Accounting for Business, Business Law, Office Management, and Business Math.

This program also includes courses in typing, shorthand, office machines, records management, filing, business English and administrative secretarial procedures.

The demand for secretaries has always been great, but during the past few years, the demand has been far greater than the supply and is expected to continue for some years to come. The present competition for the well-trained secretary has boosted salaries and prestige.

Secretaries may eventually be promoted to jobs such as administrative assistant, office supervisor, executive secretary, or some ohter responsible position requiring specialized knowledge of the employer's industry or business.

The continuing growth of industry, business, education, and government throughout the world will result in an increasing number of opportunities for secretaries. Well qualified men and women will continue to find jobs and advancement possiblities very favorable. You will find that opportunities are numerous and the outlook for the future is excellent.

Now is the time to do something about your future. Talk things over with people already in this career, talk to students and instructors involved in the courses, and finally see a guidance counselor at Gateway Technical Institute. Then make the decision to enter the career field of Secretarial Science.

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ACCOUNT CLERK

"I . . . I'd like to tell you about a career as an Account Clerk. This one-year diploma program is offered through Gateway Technical Institute.

The account clerk is a specialized employee involved in the day-to-day transactions of a large or small business or government agency, probably working under a general accountant. As an account clerk, you will perform routine calculating, posting and typing duties related to accounting procedures. You will also handle one or more of the many kinds of work involved in keeping a complete set of books. You will post details of business transactions such as allotments, disbursements, payroll deductions, pay and expense vouchers, checks and claims. You will total accounts using the adding machine; compute and record interest, refunds, charges and rentals. You will type vouchers, invoices, statements, payrolls, reports and records. You will collect data from sales slips, invoices, check stubs and inventory records.

The account clerk may also specialize in one specific area of record keeping, such as Accounts Receivable, Credit Customers, Accounts Payable, or other similar areas.

Because you will be working with figures most of the time, you should be neat and accurate. You should be able to perform arithmetic computations quickly and accurately, and follow instructions and established procedures. You should be interested in systematic numerical record keeping, and be able to work rapidly for long periods of time. You should be able to work under pressure, and have a good memory for details.

To be most successful in this program, it is helpful to have a high school background in English, bookkeeping and business arithmetic with proficiency in

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doing percentage, fraction and decimal problems. You should be able to use various office machines such as an adding machines, a calculator, and a typewriter. You should have neat, legible handwriting.

The one-year program which prepares you to become an Account Clerk at Gateway Technical Institute requires you to take courses in Office Mathematics, Clerical Typing, Basic Accounting, Filing, Job Orientation, Copy and Material Reproduction, Office Practice and Commercial Law, and Calculators.

In addition to these, you will take courses to give you a well-rounded background in Communications and Social Behavior.

Employment opportunities for account clerks who are qualified to assume responsibility are expected to continue to be plentiful during the next ten years. Employment in this field is expected to rise mainly because of business expansion and the increasing complexity of bookkeeping and accounting procedures. As on-the-job experience is gained, more responsibilities will be assigned, and salary increases can be expected.

Why not ask people who are account clerks about their jobs. Stop in at Gateway Technical Institute and talk to student and teachers in the program. See a Counselor in Student Services. You career as an account clerk may be just around the corner!

AIRFRAME & POWERPLANT MECHANIC

Hi . . . I would like to tell you about a challenging career in airplane and powerplant mechanics. It is a specialized two year diploma at Gateway Technical Institute.

Aviation mechanics have the important responsibility of keeping airplanes airworthy and in a safe and efficient condition to fly. They service, repair, overhaul, airframes, engines, propellers and aircraft systems.

Aviation mechanics are licensed by the Federal Aviation Administration in two categories: the Powerplant Maintenance Technician and the Airframe Maintenance Technician. A person may qualify for these certificates by completing a prescribed course of study or by having served an apprenticeship of a given length of time--usually 36 months for the combined rating. These certificates are issued upon the successul completion of oral, practical, and written examinations.

Apprentice mechanics may work on various parts of the plane under the supervision of a licensed mechanic who must sign approval of the work before the aircraft or its equipment is condered airworthy.

Aviation mechanics employed by the airlines perfrom either line-maintenance work, such as routine maintenance or emergency repairs at airline terminals, or major repairs or periodic inspections at an airlines overhaul base.

Aviation mechanics employed in general aviation do maintenance and repair work similar to airline mechanics; however, the equipment they service is generally smaller.

Depending upon the type of work they do, aviation mechanics work in hangars, on the flight line, and in repair shops. They use hand and power tools and test equipment.

Flight line mechanics sometimes must work out-doors even in disagreeable weather in order to make emergency repairs. This is sometimes precarious work because of the use of a ladder or scaffold.

The physical demands can be heavy, with frequent lifts or pulls of up to 75 pounds. Physical requirements include stooping, kneeling, crouching, crawling, reaching, handling, fingering and feeling. Noise and vibration are common. The mechanic should be free of allergies to dust, dirt, oil and grease. It is also necessary to be able to distinguish colors.

Aviation mechanics must often work under the pressure of time to maintain airline flight schedules, or in general aviation, to keep from inconveniencing customers beyond a reasonable time. At the same time, the aviation mechanic cannot sacrifice their standards of workmanship to speed up the job.

While a high school diploma is not required to become an apprentice aviation mechanic, employers give preference to applicants who are high school or vocational-technical school graduates; thus, such a diploma is actually essential.

Mathematics, physics, chemistry, English and aerospace education courses are suitable subjects to pursue while in high school, as the aviation mechanic must understand many physical principles involved in the operation of the aircraft and its systems.

The ability to read maintenance manuals and air regulations and to maintain aircraft logs and records is also important. As as aviation mechanic you will be expected to continue your education even after you are on the job in order to keep abreast of the continual technical improvements to aircraft and aircraft systems.

You should be in good health, with no physical handicaps that would prevent you from carrying out your duties which, at times, can be rigorous.

To become a successful aviation mechanic you should have an above average mechanical ability and desire to work with your hands and with tools. You should have an interest in aviation, an appreciation of the importance of doing a job carefully and thoroughly, and a desire to learn throughout your career.

The course is taught as a two year vocational diploma program, graduates are qualified to take the FAA written and practical examinations.

Particular emphasis is placed in the curriculum on the inspection, repair, and maintenance of various aircraft components and systems. The correct use of manufacturers technical manuals and the FAA's Regulations is also presented.

The program at Gateway is quite demanding in two respects; first, a minimum of a "C" average is required in all course and second, as a full time student, you will spend thirty hours a week in class and laboratory.

In addition to the shop courses in the program at Gateway, you will receive a broad education in Communications, Social Behavior, Mathematics, and Physics.

As a student, you will receive all the training necessary for the diploma program, but you must realize that only special tools are furnished by the school. Each student should have their own set, and this can usually be purchased through the school.

The outlook for the aviation mechanic in the next ten years is very encouraging. The needs of the air carrier industry are expected to double.

The best place to gain information about the aviation mechanics program is from the guidance counselor at Gateway Technical Institute. Talk it over with them, ask the instructors and students involved in the course. By all means, ask mechanics already on-the-job. Then, after all of your questions have been answered you can decide whether or not you want to become an Airframe and Powerplant mechanic.

AUTO BODY

Hello ... thank you for asking for career information on auto body repair work. We trust the information which follows will increase your knowledge and appreciation of this skilled career.

Due to carelessness of the driving public, there will continue to be plenty of work for the auto body repair workers.

As an auto body repair worker, you are a skilled craftsman who repairs damaged motor vehicles by straightening bent frames, removing dents from fenders and body panels, welding torn metal, and replacing damaged parts.

You usually are qualified to repair all types of vehicles, although most work is on automobiles and small trucks. You may specialize on repairing large trucks, buses, or truck trailers.

Before making repairs, you generally receive instructions from your supervisor, who determines which parts are to be restored or replaced, and who estimates the amount of time the repairs should take.

When repairing damaged fenders and other body parts, you may first remove body hardware, window operating equipment, and trim, in order to gain access to the damaged area.

To reshape the metal, you may push large dents out with a hydraulic jack or hand prying bar, or knock them out with a hand tool or pneumatic hammer.

You smooth the remaining small dents and creases by holding a small dollie against one side of the damaged area while hammering on the opposite side. Very small pits and dimples are removed from the metal by pick hammers and punches.

As a body repair worker, you may remove badly damaged sections of body panels with a pneumatic metalcutting gun or acetylene torch, and weld in new sections. If the damage tears the metal, you must weld the torn edges.

You shrink stretched metal by repeatedly heating the area with an acetylene torch and striking it with hammer to restore the metal's original shape.

You use solder or plastic to fill small dents that you cannot work out of the metal. Before applying solder, you must clean the dent and coat it with liquid tin so that the solder will adhere to the surface.

You then soften the solder with a torch and use a wooden paddle or other tool to mold it to the desired shape.

When the solder has hardened, you must file or grind it down to the level of the adjacent metal.

After being restored to its original shape, the repaired surface is sanded in preparation for painting. In most shops, auto painters do the painting. Some smaller shops employ workers who are combination body repair workers and painters.

As a skilled auto body repair worker, you use special machines to aline damaged vehicle frames and body sections. You chain or clamp the machine to the damaged metal and apply hydraulic pressure to straighten it.

You also may use special devices to aline damaged vehicles that have "unitized bodies" instead of frames. In some shops, the straightening of frames and unitized bodies is done by a body repair worker who specializes in this type of work.

As an auto body repair worker, you will usually work by yourself with only general directions from foremen. In some shops, you may be assisted by helpers.

If you are interested in becoming an auto body repair worker, you should be free from allergies to dust, paints, solvents and fumes; have full use of hands, arms, legs, including kneeling and crouching; and be able to lift up to 60 pounds; be able to handle and finger small tools and parts; be able to distinguish colors. You should have a high tolerance for noise as the job involves loud hammering and grinding sounds.

Although completion of high school is not generally a requirement for an entry job, many employers believe graduation indicates that a person can "finish a job".

Auto body repair work is taught at Gateway Technical Institute. While attending the one-year diploma program at Gateway, you will be given instruction in auto body repair, auto body science and sheet metal, shop math, oxyacetylene welding, body servicing principles, auto body electricity, and estimating.

Along with the various shop courses, you will also receive instruction in Communication Principles, Job and Community Relations, and Bills and Records. This is done to prepare your business background in addition to vocational training.

Although there is a rising number of motor vehicle accidents, this will be offset somewhat by developments that will increase the efficiency of body repair workers.

For example, the growing practice of replacing rather than repairing damaged parts, the use of plastics for filling dents, and improved tools which will enable workers to complete jobs in less time.

Now is the time to start thinking about a career in auto body work. Talk to skilled workers already employed. Find out the facts from students and instructors involved in the program and finally talk it all over with a counselor at Gateway Technical Institute. Then you can decide on a career in auto body repair work.

AUTOMOTIVE MECHANICS

Hello ... thank you for requesting career information on Automotive Mechanics. The information which follows should increase your knowledge and appreciation of the skilled career.

Today's automotive engine is a complex piece of precision machinery. Keeping it in tune requires sophisticated multi-purpose diagnostic equipment and skilled, trained workers to use that equipment. It is becoming impossible, or at least impractical, to attempt a major tune-up with single-purpose instruments.

As a trained mechanic, you can obtain information from waveform displays on the oscilloscope of a modern engine analyzer that you could not get in any other way. You can detect marginal, and even intermittent, conditions.

The test equipment will analyze compression of the air/fuel mixture in the cylinders. It will measure the timing between the crankshaft, cam shaft, valves, and pistons. It will also help you when you set up the idling speed of the engine.

Through the use of the same equipment, you will also be able to check out the electrical generating system on the engine.

In addition to making adjustments and replacing components on the engine, you as the automotive mechanic should visually inspect the underside of the automobile and replace

brake assemblies, balance wheels, check and replace exhaust assemblies if necessary.

You must be able to adjust to a variety of tasks ranging from simple "point and plug" work to initiating a series of tests to localize and isolate defects, and adjust, and repair automotive vehicles.

You must be able to make decisions concerning performance of engine and related systems based on factual information such as gauge readings, oscilloscope displays, and specification sheets to isolate and identify faulty adjustments or parts.

As a skilled mechanic, you must adjust to working with precise and established standards of accuracy indicated by written specifications at a speed sufficient to adhere to a work schedule.

You also must apply judgement based on experience, as when interpreting customer's description of malfunction that will not show up under no-load conditions in the shop, or when recognizing the effect a single adjustment will make on inter-related systems.

The work involves almost constant standing and walking within the service area, lifting and carrying materials, and infrequent bending, stooping, and crouching.

Another physical demand is normal visual acuity and the ability to read handbooks, bulletins, and specification sheets. You should have the ability to make adjustments while observing meters or an oscilloscope, and identify surface defects such as oxidation, cracks or pitting.

Due to the increased complexity and cost of modern automobiles, few people want a "by gulse and by gosh" mechanic working on their car. As an aspiring auto mechanic, you are advised to get a thorough education designed to prepare you as a skilled mechanic.

The Automotive Mechanics program at Gateway Technical Institute is offered as a one-year diploma program. The course is considered a laboratory course because the majority of your time is spent in the automotive lab. This is done so as to give the student "hands on" training.

While attending the program, you will be given instruction in automotive mechanics, machine shop, welding, automotive sales, shop math, and drawing interpretation.

In addition to the lab courses, you will be given instruction in Communication Principles, Job and Community Relations, and Bills and Records. These courses are offered to fulfill the requirements of the diploma program.

There will be many thousands of job openings for automotive mechanics during the next ten years. Employment of automotive mechanics is expected to increase mostly because

of the increase in the number of automobiles and the need to replace experienced mechanics who have the industry..

Now is the time to do something about your career. Talk it over with someone in the business. Talk to students and instructors who are involved in this program of study. Finally, talk to the counselor at Gateway Technical Institute. Then, can you decide on a career in auto mechanics.

CLERK TYPIST

Hi . . . I'd like to tell you some things about a career as a clerk typist. Gateway Technical Institute offers a one-year diploma program in this area.

The clerk typist is an indispensable link in large, medium, or small offices in governments, education, medicine, law, publishing, manufacturing, broadcasting, advertising, research, and construction indrustries. In a large office, the clerk typist may be assigned to one or a few tasks. In a smaller office, your duties may offer greater varicty.

As a clerk typist, your duties will be clearly explained. You must be able to follow directions accurately. For example, in statistical or report typing, you must understand the form to be used, with often a model to follow being provided. You must be able to transform the material from a rough or Hand-written state to the professional looking typed page. You may be asked to compile and type bills, application froms, shipping tickets or other documents, and address envelopes.

The more job skills the clerk typist can bring to the job, the more satisfaction there will be. You will be responsible to an executive or a supervisor under whom you will be closely supervised. The clerk typist spends most of the time typing and performing such clerical assignments as filing, record keeping, distribution of mail, operate telephone switchboard and receptionist, and use office machines, such as cutting stencils for duplicating machines or compute amounts using the adding machine.

You will not only need to know how to type and file, but you must also enjoy being with people. You need to have an interest in the work you will be doing. A good vocabulary and knowledge of grammar, punctuation and spelling skills are also a must for the efficient clerk typist.

You will need to be able to work to prescribed quality and quantity standards, and to learn new methods and ideas easily. You should enjoy doing office work and handling a variety of routine tasks. You should be able to concentrate amidst distractions, and be willing to work under the direction of others.

A wide variety of interests and a planned reading and study program on a continuing basis are invaluable aids to you as a clerk typist. You will want to be able to adapt to changes as the business world grows and changes.

Most offices are clean, well ventilated, climate controlled and attractive. As an office worker, you are expected to pay close attention to your appearance and grooming as a positive reflection on your employer. Most office workers today enjoy good salaries and benefits, and employment prospects remain good for the qualified clerk typist.

You should be at least 18 years of age, and have at least 2 years of high school. Previous training in clerical skills are not necessary for entering this program since all of the basic courses are included. You should have legible handwriting and have a good telephone voice. High school courses which are helpful but not required for this program are Business Arithmetic, Typing, English, and Bookkeeping.

You will be taking the following courses at Gateway Technical Institute for the clerk typist diploma: Clerical Typing, Office Practice, Reocrd Keeping, Filing, Calculators, Copy and Material Reproduction, Transcription, and Business Arithmetic.

In addition to these the student will develop a well-rounded personality by taking courses in Communications and Social Behavior.

During the next ten years, as the volume of record keeping grows, the number of clerk-typists is expected to increase very rapidly. The rate of increase, however, will be somewhat slower than that in the past because duplicating machines and other mechanical equipment will probably be used for most of the routine clerical and typing work usually performed by clerk-typists.

The Wisconsin State Employment Service reports that 40% - 60% of the openings in the state were hard to fill which indicates a continuing need for workers in this field.

Why not take the time now to talk to some clerk typists now working in that area. Stop in and see a Counselor at Gateway Technical Institute to investigate your future as a clerk typist.

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COSMETOLOGY

Hello.....thank you for requesting career information on cosmetology. The information that follows is general in nature and will help you understand and appreciate a career in the field.

A person that takes professional care of another's skin, hair and nails is a cosmetologist. As a professional working in this field you will be skilled in such areas of hair care as styling, cutting, conditioning, coloring and permanent waving. You will also be qualified to give complete skin and hand care. This includes scalp, hand, and facial massage and manipulations, the application of correct cosmetics and complete care of the nails.

Cosmetology is governed by the Wisconsin State Board of Health, which regulates all schools of cosmetology and all beauty salons in the state of Wisconsin. The State Board classifies a cosmetologist as an operator, manager, or instructor depending on the examinations passed and the time spent as a practicing operator. On completing the course in beauty culture you will have to take and pass a state board examination to get your operator's license. With this license you can work in any salon in the state, under the supervision of a manager. After working two years as an operator you will be eligible to take an examination for a manager's license. With this license you could start a business of your own or manage a shop for someone else. To be eligible to take the examination

for an instructor's license you must have one full year of experience as a manager. With an instructor's license you are then qualified to teach in any school of cosmetology in the state of Wisconsin.

An important quality for someone going into the field of cosmetology is that you must like people. In fact, you must be able to appreciate people for who they are and what they are and understand their likes and dislikes.

Your personality will play an important part in your career as a cosmetologist, since you will always be working with people. You must develop a good disposition and the ability to get along with many different kinds of people. Having a good sense of humor and being tactful, patient, and considerate are all very important assets to the cosmetologist. The beauty business is a highly competitive field and a good part of your salary will be based on a commission of the services you sell to customers. Therefore, you must enjoy selling. Besides selling services you must be able to sell retail over-the-counter items handled by your salon.

These factors combined with good business sense and a practical regard for time and money should spell success if you are willing to work hard and train properly for a career in cosmetology.

Enrolling in the one year diploma program at Gateway Technical Institute will offer you an excellent path to a career in cosmetology. This one year program involves 1,500 hours of classroom and practical work.

Here you will develop skills in the correct selection and application of hair and skin chemicals, in the fundamentals of hair styling and hair cutting, in the fundamentals of manicuring and in the techniques of massage. You will also receive a well rounded background of courses in Psychology, Communications and Social Behavior.

A background in basic sciences and an artistic and creative ability are definite assets to the prospective cosmetologist, although it is not a necessity.

The State Board of Health requires that a person be at least 18 years of age or have a high school diploma before he or she can enroll in a school of cosmetology; however, you do not have to be a high school graduate to enroll.

After having completed the cosmetology course and passing the state board examination you would be ready to enter the ever competitive world of cosmetology. Depending on your personality, dependibility, attitude and abilities plus training and experience the opportunities for advancement are almost limitless. General beauty operator, hair stylist, make-up artist, salon manager, salon owner, teacher of cosmetology, lab technician, manufacturer's representative, beauty consultant, platform artist, and beauty editor are among the many opportunities and positions available to you.

I hope the information you have just heard answered many of the questions you had about cosmetology, its requirements and its opportunities. If you have additional questions please feel free to call or see a counselor at Gateway Technical Institute for the answers. You should also talk to students who have taken the course, to the instructors involved in the program and finally, to the professionals in the field. Then you can truly decide on whether or not you want a career in the field of cosmetology.

DATA PROCESSING - MACHINE OPERATIONS

Hello . . . I'd like to tell you about a career in Data Processing Machine Operations. This is a one-year diploma program of study offered at Gateway Technical Institute.

Wherever data processing computers are used, operators who are familiar with several kinds of mechanical equipment will be required to prepare, for example, a payroll or to process other data.

The use of computers for data processing is one of the most important technical innovations that has occurred since World War II. Today computers are being used in a variety of activities in all branches of industry, business and government.

The data processing machine operator operates such data processing machines as a computer, a card-tape converter, a sorter, a collator, and high speed printer to transfer data from one form to another, print output, and read data into and out of a digital computer.

As a machine operator, you might be required to mount and position materials such as reels of magnetic or paper tape onto spindles, or decks of cards into hoppers, output forms and carriage tape in printing devices. You might set guides, keys, and switches according to instructions to prepare equipment for operation. You might be required to insert specified wired control panels into the machine or wire the panels according to diagram and insert them into the machine. After starting the machine, you must watch it and check the error lights to detect machine malfunctions. You will be expected to remove faulty materials and notify the supervisor of machine stoppage or error. In addition, you will unload and label cards, tape input and output, and place them in the storage or library sections of the office. You will also separate and sort printed output materials to prepare them for distribution.

Important requirements for being a machine operator include the ability to pay attention to detail to avoid errors and follow instructions and established procedures. You should be able to communicate ideas and information clearly. You should be interested in the operation of business machines. You will need to be able to work under pressure, and be willing to work under the direction of others.

You should be able to stand and move around for long periods of time, as well as have good vision and hearing.

To be successful at machine operations, it is preferred by some employers that you have some training or experience in the operation of data processing equipment. Some employers require you to take pre-employment tests designed to measure aptitude for this kind of work. Some employers will offer on-the-job training of approximately six months.

The diploma program at Gateway Technical Institute offers courses in data preparation and entry, clerical typing, record keeping, Business Arithmetic, Office Practice, and copy and Material Reproduction.

In addition, you will take courses in Communications and Social Behavior to complete a well-rounded program of study.

Some helpful high school courses before entry include English, Mathematics, Typing and Office Machine Operation.

In many of the courses you will be able to get "hands-on" training with up-to-date data processing equipment. This is done so that you can gain experience in the type of equipment available in the field of work.

The shortage of personnel has produced a constant need for workers in the computer field. Perhaps there is no other field where the salaries have increased more rapidly in the last five years, than that of computer operations. The use of

electronic data processing equipment is expected to continue to increase very rapidly during the next 10 years.

Thousands of peripheral equipment operators will be needed to fill new jobs both in firms with their own computer installations and in service centers which rent computer time.

To get the complete picture of what is involved, talk to workers on the job. Ask students who are enrolled in the program, and instructors who teach them. Talk now to a guidance counselor at Gateway Technical Institute about entering the Data Processing Machine Operations field.

DENTAL ASSISTANT

Hi . . . I would like to tell you about a career as a Dental Assistant. Preparation for this specialized career may be obtained through one year of study at Gateway Technical Institute.

Today's busy dentist often needs one or more dental assistants - and out of this need has grown a career which many find both interesting and satisfying. The dentist's assistants must be aware that they, too, are a member of an important health team.

Dental assistants work with dentists as they examine and treat patients. The assistant makes the patients comfortable in the dental chair, prepares them for treatment, and obtains their dental records.

As the dentist works, the assistant hands the proper instruments and mateials to him and keeps the patient's mouth clear by using suction or other devices.

Dental assistants may prepare impression and restorative materials for the dentist's use, and also may expose, process and mount x-ray film as directed by the dentist. In addition, they sterilize and care for dental instruments.

Although dental assistants spend most of their time at chairside, they also perform a variety of other duties that do not require the dentist's professional knowledge and skill. Some assistants perform simple technical work in the office laboratory such as making models of the teeth and mouth from impressions taken by the dentist.

Some dental assistants are responsible for managing the office, and may arrange and confirm appointments, keep treatment records,send statements and receive payment, and order dental supplies and materials.

As a dental assistant, you deal with patients during most of your working day, therefore, it is important that you like people and that they like you. You need a pleasant, sympathetic, and cheerful disposition. If the dentist has specialized in treating children, you should have a gift of getting along with them.

You should be able to take responsibility and carry it through - carelessness in sterilizing instruments, for example, might have serious consequences. A guarded tongue is also important since the dentist's relationship with his patients is confidential.

Gateway Technical Institute offers an excellent program of study to prepare you to become a dental assistant.

Although the program offered at Gateway in one year in length, as a student you should be prepared to work hard. The first semester will be devoted to acquiring the basic skills of Chairside Functions, Dental Lab Procedures, Medical Terminology, Dental Theory, and Dental and Human Anatomy.

During the second semester, these basic skills will be reviewed and practiced by being assigned to work on-the-job as a practicing assistant in a dental office or clinic. The basic theory courses taken during the first semester are also included, so that as a student you will have a firm working knowledge of the skills necessary to perform the job satisfactorily. You will also take courses in psychology, communications, typing, and office practice.

Graduates of approved dental assistant programs may take a national examination administered by the American Dental Assistants Association and then may become Certified Dental Assistants. Certification is acknowledgement of an assistant's qualifications but is not a general prerequisite for employment.

Although the 40-hour workweek prevails for dental assistants, the schedule is likely to include work on Saturday - a two or three-week paid vacation is common. Sick leave and other benefits are dependent on the individual dentist.

Now is the time for you to find out more about the program. Ask students who are already in the program, and instructors who teach the courses, and finally, talk it over with a guidance counselor at Gateway Technical Institute. Then you can decide on a career as a dental assistant.

MECHANICAL DRAFTING

Hello . . . I'd like to tell you about a career in Mechanical Drafting through the program offered at Gateway Technical Institute. This program is a one-year diploma granting course designed for the person who wants to enter the job market as a draftsman.

The draftsman is considered the backbone for the manufacture of machine parts. As such you spend most of your time at the drafting board using modern drafting machines. Your specific task will be to produce complete and accurate working plans and detail drawings of machinery and mechanical devices, indicating dimensions and tolerances, fasteners and joining requirements, and other engineering data. You will be utilizing the triangle, T-square, and other drafting tools to prepare drawings from rough or detailed sketches or notes. You will make the final sketch of a proposed drawing, checking dimensions of parts, materials to be used, relation of one part to another and relation of various parts to the whole structure. You will make necessary or desired adjustments or changes, as well as draft multiple-view assembly and subassembly drawings as required for the manufacture. You will ink in all lines and letters on pencil drawings as required, draw charts for representation of statistical data, and draw finished designs from sketches,

To be successful mechanical draftsman, you should be able to manipulate drawing instruments and tools skillfully, as well as visualize shapes and forms from blueprints or sketches. This job involves applying creativity and logic in solving problems, and perceiving pertinent detail in pictorial or graphic material. You should be able to perform mathematical computations accurately, and have a preference for scientific and technical activities. You should be able to follow instructions and work to set standards. Willingness to work with others on a

joint project is an important asset. You should be able to concentrate on details for long periods of time, as well as to work under pressure to meet deadlines.

Mechanical Drafting requires that you have legible handwriting and be able to do free hand drawing. It is helpful if you have graduated from high school with background work in mathematics, drafting, machine shop, Blueprint Reading, and Mechanical Drawing. You will be required to purchase drafting tools and instruments.

This one-year diploma program at Gateway Technical Institute requires that you take courses in Mechanical Drafting, Applied Math, and Properties and Procedures of Materials.

In addition, you will take Communications and Job and Community Relations or Social Behavior. Two suggested electives are Concepts of Physics and Chemistry, and Machine Shop-Welding Fundamentals.

Nationally, the demand for draftsmen is expected to rise rapidly as a result of increasingly complex design problems of modern products and processes. Automation will eliminate more routine aspects of a draftsman's job, creating a demand for the highly trained worker. As the engineering and scientific occupations grow, more mechanical draftsmen will be needed as supporting personnel.

Talk to persons now working in the field, as well as students and teachers in the program. Stop in now and see a Counselor at Gateway Technical Institute for information about career as a Mechanical Draftsman.

ELECTRONIC SERVICING

Hi . . . Thank you for requesting information about a career in Electronic Servicing. You can prepare for this career at Gateway Technical Institute. In the next few minutes you will be given information upon which you can base a decision to become part of this career field.

Skilled radio and tlelvision service technicians use their knowledge of electrical and electronic parts and circuits to install and repair a growing number of electronic products. Of these, television sets are the most prominent. Other major electronic products are radios (including home, automobile, and two-way mobile radios), intercommunication equipment, phonographs, high-fideltiy and stereo equipment, tape recorders, and public address systems. Many service technicians specialize in repairing one kind of equipment; for example, color television sets or automobile radios.

The electronic serviceman will be most apt to work in radio and television repair shops, stereo phonograph and tape outlet sotres, and the service centers of the larger stores handling household appliances.

The serviceman will often be required to go to the home, office, or business location to install the new appliance or equipment. Then they may be required to go to these places to service or repair the equipment which has been installed. On other occasions the appliances will have to be picked up from the residence and taken to the service center to be repaired and then returned.

Typical duties of the electronic servicemen would be to observe the equipment or appliance, analyze the trouble, inspect the equipment for defects, do the necessary testing from diagrams, learn to make minor repairs in the cusotmer's home, learn how to transport equipment properly when necessary, and make out the bill, and collect charges.

It is necessary for the electronic serviceman to be able to use judgement in planning the sequence of operations and to select the proper tools and materials, and to learn to apply electronic principles and techniques.

The electronic serviceman should be able to assume the responsibility for the quality of their work, be friendly and tactful in dealing with customers, and like to work out problems on their won.

You should have interest in work of a scientific and technical nature. Your work will primarily concern testing and repair of equipment.

The one-year diploma program is taught utilizing modern tools, equipment, and instruction and contributes to the success of its graduates.

The course material is concentrated upon the problems involved with servicing television sets, radios, stereo phonographs, tape recorders, and such small household appliances as irons and mixers. The maintenance of larger equipment like clothes washers and dryers is also given attention, at the option of the student.

While in the program, you learn the use of such servicing equipment as voltage meters and vacuum tube testers, as well as the techniques involved in rewiring and checking circuits presently used to maintain complex electronic appliances.

The mathematics taught in the program for servicing is math applied to this occupation rather than theoretical mathematical concepts. The laboratory courses deal with the fundamentals of circuits and components.

Employment in this occupation is expected to rise moderately as a result of the increase in the number of television receivers, radios, phonographs, and other electrical appliances in use. Factors that will contribute to this growth include expression in population and rising levels of personal income. Servicing television receivers, radios and related equipment is a changing field with constant technological advances.

Service repairmen are expected to keep their training up to date to cope with such changes.

Does electronic servicing interest you as a career? If it does, talk to people in the field. Talk to students and instructors in the program, and talk to a guidance counselor at Gateway Technical Institute. If electronic servicing is what you want, then now is the time to become part of this career field.

FARM TRAINING

Hello . . . I'd like to tell you about a career in the area of Farm Training, a diploma program offered at Gateway Technical Institute.

This educational program is for those who are actively engaged in or planning to enter farming as a career. This includes operators, owners, renters, partners, farm managers, and hired men. It offers 5 years of specialized instruction combining both classroom and individualized on-the-farm training.

Farming has come a long way since the use of the horse and plow. Today farmers find themselves in an industry that requires ever-larger farms, more investment, and better management to stay in business. In fact, management is the key to success in modern farming. Today's farmer needs a much higher level of knowledge and skills than his precessor, which is why higher, more specialized education is becoming the rule rather than the exception for the young commercial farmer today. It gives him the technical basis he needs to keep up with research and technology, and teaches him how to apply them intelligently on his own farm.

To be successful in this career, you should enjoy living and working on a farm. You will be working outdoors in any kind of weather and should be willing to work seven days a week when necessary. You should be willing and able to invest in expensive equipment and supplies. You should be prepared to learn about the increasingly complex machinery you will have to work with. Farming is an occupation which involves frequent changes of operations as well as a variety of skills, therefore, you should be able to organize and plan your activities quickly and keep accurate records. A great deal of physical stamina is required for success in this career in addition to willingness to introduce new technological ideas in your approach to farming. Because most types of farming are dependent on weather conditions which vary greatly, you should be able to accept disappointments as well as successes.

Some courses you can take in high school to better prepare you for this career are Agriculture, Industrial Arts, Mathematics and Welding.

As a Farm Training student, you will have a combination of classroom lecture and practical application of this knowledge on your farm. The emphasis of instruction will be tailored to meet your own special needs. For example, if you are a cash crop farmer your study will emphasize correcting problems and learning about new developments in this area, but if you are raising hogs or dairy cattle, your educational neds would be different.

Courses in this program include some of the following: Feeds and Feeding; Dairy Herd Record Analysis; Animal Breeding; Producing and Marketing Quality Milk; Livestock Diseases; Soil Utilization; Soil Testing and Fertilizer Use; Crop Production; Weed and Insect Control; Farm Chemicals; Accounts, Records Analysis, and Management; Farm Power and Machinery; Income Tax; Farm Buildings; Marketing; Insurance; Government Programs; and Financing.

If you are a person who has the training, the capital and the managment ability the modern farm can offer much higher incomes than the old-style farm ever did. Increased success and production in agriculture, whether you are a farm worker, farm manager, livestock or dairy farmer, or cash crop farmer can offer fulfillment to you as a career. There are also many other possibilities for work in this field, such as animal breeder, sales of farm equipment or supplies, and other related agri-business careers where a knowledge of agriculture is important for success.

Talk to students and instructors in the program. Talk to people now in the farming field, and also to a counselor at Gateway Technical Institute. Inquire today about a career in Farming.

FLUID POWER MAINTENANCE

Hello . . . I'd like to tell you about a career in Fluid Power Maintenance. This is a one-year diploma progarm offered at Gateway Technical Institute.

Many different devices and machines use a fluid for developing a push or a pull for moving an object, and for controlling an action. In most automobiles, for example, hydraulic brakes are used to stop the car.

In road construction and repair, as another example, compressed air is used for chipping hammers.

Many fluid units are used in various plants and factories. Countless applications can be cited. Devices and machines have become more automatic.

First of all, let us define a fluid system. Essentially, there are three main or basic features in the usual simple fluid system: (1) an oil pump or an air compressor; (2) and actuator with either a piston or a rotating member driven by the fluid; and (3) piping and valve devices to control the flow of the fluid.

With these basic features of a simple system as a beginning, one can imagine various combinations. Several simple systems can be combined. One or more oil pumps can be used to actuate one or more cylinders. More than one valve can be used.

Where can fluid power be used? A quick trip through a few industries basic to our country's economy can reveal the widespread use of fluid power.

In agricultural, fluid power is used to lift the plow from its furrow and lower it for the next, as the farmer plows his field. Fluid power is used in machines which cultivate the land, plant the seeds, harvest the grain, and finally to put it into storage.

Power brakes, power steering and automatic transmissions on your car are run by fluid power. It is also used in the production of your car, the operation of the punch presses that form the body, the automatic welder that welds the body panels together, and it also powers the equipment that produce engine parts and bolt the car together.

Everyone has seen a construction project at one time or another. Fluid power is used to amplify manual power in this case. A power shovel run by a hydraulic system, amplifies the power of the operator to move dirt, dig holes, load trucks, and even mix and lay asphalt.

In aviation, the pilot controls his aircraft thru the use of fluid power. He lands his aircraft on a hydraulic system, and fluid power controls many systems on larger aircraft. Fluid power is also used in the consturction and fabrication of aircraft and their component parts.

The fork lift trucks that you see at airports, railway stations, and warehouses use fluid power. Conveyors, cranes and hoists also utilize fluid power to move and handle all types of packages or large materials.

What does this all mean to Fluid Power Technology? The foregoing examples were given to show the widespread use fluid power. As soon as a system is developed, it must be tested and be easily maintainable.

Gateway Technical Institute has a fluid power program which is divided into two separate fields, each reaching a different goal. One is the diploma program of Fluid Power Maintenance, and the other is the two year Associate Degree Program in Fluid Power Technology.

As a Fluid Power maintenance student, you will be trained for employment as a fluid power repairman in the machine and heavy equipment industries, and also as a service person providing preventive maintenance.

As a graduate of this program, you will be expected to connect hydraulic and pneumatic units and systems, and attach supplementary equipment, such as hoses, valves, gates, and vigrations equipment. You will need to know how to use mechanical, electrical, or electronic control devices at designated locations using handtools. You should be able to start jumps which force liquid or air through a unit or system at various pressures to test for leaks. You will learn to start test mechanisms and manipulate controls to test the functional operation of units and systems under various stresses and conditions.

A successful fluid power maintenance student should be able to learn and apply mechanical priciples, as well as use good judgment in planning work and handling problems. You should be able to follow procedures and work to prescribed standards while handling and manipulating tools and equipment skillfully. Being able to visualize forms and shapes from blueprints and diagrams is a definite asset. You should be interested in working with tools and making repairs. It may be necessary to work under pressure of emergency assignments, so you should be adaptable to handling a variety of duties, and able to shift attention readily from one task to another.

You will have to stand and move about for long periods of time, and will need the full use of your hands and legs. You may be lifting equipment up to 75 pounds in weight. You should be free of allergies to solvents, paints, grease and dirt, and have good vision and hearing.

High school courses which will help prepare you for success in this program are Mathematics, Blueprint Reading, and Mechanical Drawing.

In the one-year diploma program at Gateway Technical Institute, you will be taking comprehensive courses in Fluid Power Maintenance and Shop Mathematics. You will also take Drafting, Basic Electricity and a Machine Shop-Welding course. Other courses include Communications and Social Behavior or Job and Community Relations.

The opportunities for employment in Fluid Power exist in almost every part of the country from the smallest farming community to the largest industrial city.

The development of fluidics is a relatively new field and is expanding rapidly. With the advent of automation in recent years, much emphasis has been placed on electronic control and fluid power actuation of machine processes.

Find out more now about Fluid Power Maintenance. Talk the program over with students and teachers. Talk to professionals in the field, and Talk to a counselor at Gateway Technical Institute about a Fluid Power Maintenance career.

FOOD SERVICE ASSISTANT

Hello . . . Food Service Assistant is a one-year diploma program offered at Gateway Technical Institute. I'd like to tell you some things about this career.

Food Service Assistants are qualified for jobs related to serving food under the supervision of a Foods Service Supervisor. As such, you may work in a hospital, nursing home, day care center, school cafeteria, supper club, or other eating establishments.

With more and more families eating meals out than ever before, the public demand on the food services industry has greatly increased.

Some typical duties of the Food Service Assistant include preparing trays and serving food, taking orders for food, assisting in setting up steam table food for serving in a cafeteria. As an assistant, you may also help the person in charge in basic food preparation of soups, salads, pastries, and some meats. You may have to operate large equipment such as mixers, blenders and coffee makers. You will learn to plan nutritious meals and prepare attractive food. You will need to be able to apply safety, health and sanitation principles in working with food.

To be successful in this program, you should be able to grasp information and instructions quickly. You will be expected to be able to meet and deal effectively with people. Your job will require that you will have learned and be able to apply principles and techniques of cooking and baking. You should be able to plan and organize work and the sequence of operations. You should have a keen interest in food preparations and cooking, and enjoy experimenting to develop new food combinations and recipes. You should be interested in work which involves the attainment of high standards, and be responsible for quality work. You should be willing to work under spressure of mealtime schedules, and

be emotionally stable to handle emergency situations.

You will need good physical health and be capable of hard work. You must be able to pass a physical examination; you will be expected to walk and stand for long periods of time.

The one-year program at Gateway Technical Institute includes courses in Orientation to Food Services; Menu Planning and Nutrition; Food Production and Service: and Food Production Practium. In addition, other courses you will be required to take are Communications; Business Arithmetic; and Social Behavior. There will be room for an elective in the second semester such as Advertising and Sales Promotion; Marketing; Waitress Training; Visual Merchandising; or Job Orientation. This program will give you the skills necessary for jobs in food service businesses.

The demand for food service assistants has exceeded the supply in recent years and will continue to do so in the foreseeable future. A recent need has developed because of the increased number of nursing homes and extended care facilities. New methods of food preparation require a basic understanding of food preparation. Skilled, talented people will always be needed in this industry whose basis is personal service.

Talk to students and instructors in the program at Gateway Technical Institute, as well as workers on the job. See a counselor now about a career as a Food Service Assistant.

GENERAL SALES-HOTEL-MOTEL DIPLOMA

Hello . . . The hotel-motel general sales is a one-year diploma program. I'm going to explain more about how you can prepare for this career at Gateway Technical Institute.

A person who chooses this occupation might work in a variety of settings, ranging from a small roadside motel to a large resort that hosts international guests. As a room clerk in a typical hotel, you will make advance reservations and keep track of which rooms are occupied. When guests arrive, you will register them in the hotel's books, issue keys, and see to it that someone takes their luggage to their rooms. You will also answer questions about hotel rates that come in the mail. Occasionally the room clerk might help tabulate the guests' bills and do other book work for the hotel. You will sort and rack incoming mail, as well as transmit and receive messages using telegraph, telephone, teletype and switchboard aids. Some other examples of hotel-motel jobs are bellmen, housekeeper, front office manager and cashier.

Other jobs in the hospitality industry include food service, housekeeping and maintenance, guest services, convention planning and catering.

People who enter the hotel-motel industry should enjoy working with the public. You will need a neat personal appearance, self-confidence, and poise. Although the hours are long, you will find a job in this field to be a good chance to meet interesting people.

To be successful in this field, you should be able to follow instructions and established policies, paying attention to detail to avoid clerical errors. It is important to be able to perform arithmetic computations quickly and accurately. You should be courteous and tactful at all times in dealing with customers. You should also be willing to work under pressure at peak times.

You should be a high school graduate or the equivalent, and at least 18 years old. Some helpful high school courses to take are Business Arithmetic, Bookkeeping, Business Machines, and Typing.

This two-semester diploma program at Gateway Technical Institute, provides courses in; an Introduction to the Hotel-Motel Industry, Front Office Procedures, Sales Training, Orientation to Food Service, Waitress Training, Mechanical Operations of the Hotel-Motel, Hotel-Motel Promotion, and Housekeeping Aide Training. To complete a well-rounded education, you will also take courses in Business Arithmetic, Social Behavior and Communications.

You will find this training immeasurably helpful in the multi-faceted hotel-motel world of work. Today's hotel, motels, motor hotels, and resorts serve thousands of guests nightly providing food and sleeping accommodations, recreation areas, and business facilities such as conference rooms, typewriters and stenographic services.

It is tempting to say the future hospitality industry is unlimited due to unprecendented past growth. Because of increased development of transportation systems, more leisure time, longer weekends, shorter work weeks, and the increasingly higher standard of living, the need and demand for the services of the hotel-motel industry is increasing.

Now is the time to talk to people in hotel-motel businesses, to students and instructors in the program. Stop in and see a counselor at Gateway Technical Institute about your preparation for a career in General Sales--Hotel/Motel work.

MACHINE TOOL OPERATION

Hello ... thank you for asking for career information on Machine Tool Operation. The information which follows should increase your knowledge and appreciation of this skilled career.

As a machine tool operator, you remove metal to precise demensions by the use of machine tools. Most operators can operate only one or two types of machine tools; some can operate several.

Many operators are semi-skilled and perform simple, repetitive operations that can be learned quickly. Other operators, however, are skilled workers who can perform complex and varied machining operations.

A typical job of a semi-skilled operator is to place rough metal stock in a machine tool on which the speeds, feeds, and operation sequence have already been set by a skilled worker.

The operator watches the machine and calls the supervisor when it is not functioning correctly. Special, precision instruments help to measure the work accurately and quickly.

The operator who has limited training may make minor adjustments to keep his machine tool operating, but he depends on more highly skilled workers for major adjustments.

As a skilled machine tool operator, your work would usually be limited to a single type of machine and would involve little or no hand fitting or assembly work. You would plan and set up the correct sequence of machining operations

according to blueprints, layouts, or other instructions.

You would adjust speed, feed, and other controls, and select the proper cutting tools for each operation.

You must be able to use all the special attachments of your machine. Adjustments during machining operations and changes in the set-up may be required.

Upon completing your work, you measure tolerance limits with micrometers, gauges, and other precision-measuring instruments to see whether the work meets specifications.

Lathes, drill presses, boring machines, grinding machines, and automatic screw machines are among the machine tools used by machine operators. Both skilled and semi-skilled operators have job titles related to the kind of machine they operate, such as turret lathe operator, milling machine operator, and drill press operator.

While most machine tool operators can be learned on-the-job, a one year vocational program of study will give you an added edge on your semi-skilled companions. Gateway Technical Institute offers this program of study.

During your schooling, you will receive a balanced curriculum of study. You will be exposed to all types of machine tools and their operation, the use of measuring instruments, blueprint reading, applied mathematics, and metallurgical science.

As a machine tool student, you should be able to perform mathematical computations rapidly and accurately. Be able to visualize shapes and forms from blueprints and sketches, and also follow instructions and adhere to prescribed standards.

You should be interested in how machinery works, and be willing to assume responsibility for the quality of your work.

Your individual ability and effort largely determine how long it takes to become a machine tool operator after graduation. Semi-skilled machine tool operators generally learn their jobs within a few months. However, it usually takes 1½ to 2 years of on-the-job training and experience to become a skilled machine tool operator.

As a skilled machine tool operator, you can advance to jobs as all-around machinists, and tool and die makers. You also may advance to jobs in machine programming and maintenance. You may even enter a formal apprenticeship program to up-grade your knowledge and skill.

As a machine tool student, you must have full use of your arms, hands, fingers and legs. You must be able to stand and move around for long periods of time, and be able to lift and carry up to 75 pounds or more. You must also have good eyesight and hearing and be non-allergic to grease and oil.

The future of machine tool operators is expected to show little change through the 1970's despite the anticipated expansion of metal working activities. This is due, in part, to the increasing use of automation.

Workers who have thorough backgrounds in machining operations, mathematics, blueprint reading, and a good working knowledge of the properties of metals will be better able to adjust to the changing job requirements that will result from any future technological advances.

If you have questions about entering Machine Tool Operation as a career, there are several ways of finding answers. One is to talk to a counselor at Gateway Technical Institute. Then, talk to students enrolled in the courses and the instructors that teach them. Finally, talk to skilled machine tool operators. When you have found your questions answered, then you will be able to decide if machine tool operation is the career for you.

MEDICAL ASSISTANT

Hi . . . I would like to give you some information about a career as a Medical Assistant. This specialized one year program of study is offered at Gateway Technical Institute.

The versatile education of the Medical Assistant will enable you to work in Physicians offices, hospitals, clinics, and industrial first aid stations.

The Medical Assistant, for example, has general duties which are much like those of the responsible secretary serving a top executive in any business or professional setting. Answering the phone, making appointments, and acting as a receptionist, you will handle mail and with experience, be able to handle routine correspondence on your own.

In many physicians offices you also manage all financial details, sending bills, completing insurance forms, keeping track of payments and ordering supplies. But all of these duties have a more specific medical side.

In all contacts with patients, there are many special responsibilities, you must be alert to emergencies and be level headed in handling any unusual situation. You must be trained in the preparations to be made before the physician makes his medical examination of the patient. You must have the kind of personality combining friendliness and sympathy with the matter-of-fact common sense which can give reassurance to people who are anxious or distressed.

The work usually includes a considerable amount of medical record-keeping. For example, you may interview new patients to obtain routine facts which the physician will want to know as background for consultation.

These duties require an acquaintance with medical terms. Because of your extensive medical terminology background and dictaphone work you will be an asset in the Medical Records Department of hospitals.

The Medical Assistant is directly concerned with the clinical and office procedures of the physician's office practice. You will be called upon to prepare treatment rooms for patients, prepare patients for treatment, gather, sterilize, and clean instruments, and any other duties that the physician may require you to perform.

The medical assistant is qualified to make routine clinical lab tests during the normal performance of your duties, such as; blood counts, urinalysis, Electrocardiograms, and blood collection.

Like other occupations dealing with people, the Medical Assistant calls for a warm sympathetic personality and the ability to get along well with everyone. Basic secretarial skills are needed in English, Typing, and office practice in addition to having aptitude for mathematical details to keep simple accounts. The Medical Assistant will find that absolute accuracy and neatness in work is essential. Discretion and good judgment are even more important.

The Medical Assistant should have good use of her arms, legs, and fingers. Have good vision and hearing, have a pleasant speaking voice and be poised and mature. A physical examination is required before entrance into a school offering this program.

The person who likes a small office with a wide variety of tasks will find satisfaction in working for a physician or a group of physicians in private practice. You will enjoy the feeling of personal responsibility, of being necessary to the smooth running of the office. You usually develop a strong sense of partnership with the physician who employs you and takes an interest

in the welfare of his patients.

Medical Assistants employed at hospitals may work in the offices of x-ray, laboratory, surgery, physical therapy or admissions departments, and medical records. You must become skillful in typing from a dictaphone and make use of your newly learned medical terminology. You may also expect to type insurance and accident reports.

Because the graduate receives a Red Cross first aid certificate, along with typing and dictaphone skill, you are an economic asset to industry especially as an assistant in a large industry first aid complex and are adjunct to the small industry.

Working hours for the Medical Assistant depend to a great extent on the kind of work you take. For example, a private physician's office usually has a more irregular schedule than an institution. Earnings also may vary according to the community, but starting salaries are similar to those received for occupations in other institutions and businesses.

If an Medical Assistant is industrious eager and willing to work the rate of increase in compensations is quicker and larger.

Some other points that the interested applicant could consider, is that although the pay may be somewhat lower for this field in terms of time invested in education than other programs, there are other compensations.

The working conditions for example are generally very comfortable. The laboratories and offices are generally air-conditioned and clean desirable places in which to work. You should also consider this type of training as quite specialized and as a graduate from the program you should be able to take a job outside the local community.

For further information about the Medical Assistant program, the training and career, it is suggested that you contact a counselor at Gateway Technical Institute. Discuss your problems and questions with a counselor, talk to instructors in the department that teaches these courses, talk it over with students who are enrolled in this program. Try to talk to graduates from this program as well as employers in the field who may give you further information. Then, you can decide whether or not you should make your career as a Medical Assistant.

OPERATING ROOM ASSISTANT

Hi . . . I would like to tell You a little about the challenging career of an Operating Room Assistant.

Of all the career opportunities available to you through Gateway ~~County~~ Technical Institute, among the most personally rewarding are those related to the health field.

If the humanitarian mission of the health careers appeal to you, and if you want to be employed at the very center of health activity, you might decide to become an operating room assistant.

In this career, you will be an integral part of the surgical team, working in close proximity with doctors, nurses, anaesthesiologists, and other certified technicians.

Most of your time will be spent in the surgical suite. There are two basic types of operating room assistants, designated "scrub" assistants and "non-scrub" assistants.

As a "scrub" assistant, you will be helping to prepare the operating room for surgery, handing various instruments to the surgeon during surgical procedures, cleaning the operating room after the operation, and observing, recording, and reporting information associated with the operation.

If you work as a "non-scrub" assistant, your responsibilities will include caring for the patient immediately before and after surgery, assisting with instruments during the operation, and performing other necessary tasks during surgery.

In addition to your duties in the operating room, you will be qualified to assist in the emergency room; and with minimal training beyond the scope of this nine month course, you could become qualified to assist in the delivery room of the maternity ward. Opportunities for advancement are also yours with additional training.

There is a demand for operating room assistants, and the rewards of this occupation are great. There is a great deal of responsibility, due to the critical nature of the work.

The work is of a professional nature, and you will be performing very valuable services. In order to enter this program, you must be in good health, and have lots of stamina.

You must be able to stand the stresses and strains of working under pressure, and be capable of working in close quarters. While at Gateway Technical Institute, you will be following a prescribed course of study which is truly challenging.

You'll study medical terminology, so that you will be able to understand and use the precise language demanded by this occupation.

You'll learn about basic body structure, and applied human psychology. You'll learn about the legal and ethical considerations which medical personnel must make.

The major part of your studies, however, will deal with operating room procedures. This course is a combination of lecture, lab, and actual hospital experience. During your first semester, you'll spend six to eight hours each week gaining experience in actual surgical conditions.

By the second semester, your "on-the-job" time will increase to approximately 20 hours a week, occasionally requiring duty before seven A.M. Your off-campus experience will provide training in both large and small hospitals. Because of the small number of applicants that can be accepted for this program, you are urged to apply at the earliest possible time, perhaps during your senior year in high school. You will be required to purchase a uniform and shoes to complete this course. The field is open to both males and females.

Could you handle the tremendous responsibility involved in a career as an operating room assistant? Can you cope with the emotional pressures of the surgical situation? If so, you can enter the health field as an operating room assistant; a career for you, in one year, through Gateway Technical Institute.

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POWER MECHANICS AND SMALL ENGINES

Hi . . . I would like to tell you about a career in Power Mechanics and Small Engine repair. This one-year diploma program of study is offered at Gateway Technical Institute.

Due to an increase in the number of outboard motors, power lawnmowers, garden tractors, snow blowers, chain saws, and power generators in use in the city, suburban, and farming areas, the employment outlook for gasoline engine mechanics is expected to be favorable over the next several years.

Increases in population, consumer purchasing power, more leisure time, and new home ownership all contribute to the number of small-engine powered machines operated for labor-saving, recreational, and utilitarian purposes.

Small engine mechanics are needed to service and repair these fractional-horsepower gasoline engines. The person who has the mechanical skill and the theoretical knowledge of two and four cycle engines will be well-qualified for job entry opportunities.

As a small engine mechanic you can expect to find jobs with marine equipment distributors, lawn and garden sales and service, farm equipment dealers, service stations, and related service businesses.

You duties as a small engine mechanic include examine and test engines to locate cause of malfunction; use hand tools and test instruments, disassemble engine, and inspect and clean parts such as cylinder heads, pistons, rings, and cylinder sleeves using cleaning solvent, scrapers, adn wire brushes. You would adjust, repair, or replace parts such as valves, valve guides, and tappets, assembe the engine, and clean and adjust plugs, carburetor, magneto, and other components according to specifications to insure a smooth performance. You would ckeck the performance of the repaired engine by listening to its sound and by testing with instruments, making any adjustments required. You would change oil and lubricate moving parts of the engine, and finally

prepare a shop repair record and the customer's bill.

If you go into this kind of work, you should like working with machines and tools and making mechanical repairs involving fine adjustments. You should have the ability to learn and apply mechanical principles and technical knowledge and be able to plan a sequence of operations and select the proper tools and materials. You should have the ability to visualize the arrangement and relationship of stationary and moving parts as represented in diagrams, and be able to handle and manipulate tools and equipment skillfully.

As a small engine mechanic you will be required to move around easily--bending, stooping, kneeling, crouching, or standing for lond periods. You should be able to lift and carry materials weighing up to 50 pounds, have good vision and hearing, and not be allergic to dust, dirt, oil, and grease.

You should also expect seasonal highs and lows in employment, and be prepared to re-locate for the best job possible.

Power mechanics and small engine repair are taught at Gateway Technical Institute as a one-year diploma program. As a student, you will have the opportunity to work on small engines used in garden and lawn equipment, outboard motors, snowmobiles, small farm equipment, and general service station automotive repair work. In addition, you will take classes in electricity, shop mathematics, communications, how to keep bills and records, welding, and the fundamentals of selling. Many graduates expect to be self-employed and need this variety of background training. Mathematics, automobile mechanics, machine shop, electricity, and welding courses taken in high school are good preparatory experience.

Investigate now--Talk to students and instructors in this program of study as well as mechanics in the field of work. Talk to a guidance counselor at Gateway Technical Institute. Then maybe you can decide whether you wish to prepare for a career in Power Mechanics and Small Engines.

PRACTICAL NURSING PROGRAM

Hi . . . I would like to give you some information about a career as a practical nurse. This is a one year program of study offered at Gateway Technical Institute.

Licensed Practical Nurses assist in caring for medical and surgical patients, convalescents, handicapped people, and others who are physically or mentally ill.

Under the direction of physicians and registered nurses, they provide nursing care which requires technical knowledge but not the professional training of a registered nurse.

In hospitals, licensed practicals nurses provide much of the bedside care needed by patients such as taking and recording temperatures and blood pressures; changing dressings; administering certain selected medicines; and bathing bed patients and helping them in other ways with physical care.

Other duties include assisting physicians and registered nurses in examining patients and in carrying out nursing procedures; assisting in the delivery, care and feeding of infants; and helping registered nurses in recovery rooms by reporting any adverse changes in patients who are recovering from the effects of anesthesia.

LPN's employed in private homes care mainly for patients whose day-to-day care seldom involves highly technical procedures or complicated equipment.

In addition to providing the nursing care ordered by physicians, they may prepare patients meals and perform other tasks essential to patients comfort and morale. Licensed practical nurses also teach family members how to perform simple tasks which are directly related to basic health.

About one-half of all LPN's are employed in hospitals. Most of the others work in nursing homes, clinics, doctor's offices, sanatoriums, and other long-term care facilities. Public health agencies and welfare and religious organizations also employ many LPN's. Some have worked in the homes of their patients.

All states and the District of Columbia regulate the preparation and licensing of practical nurses. Licenses are issued only to those candidates who have completed a course of instruction in practical nursing which has been approved by the state board of nursing, and who have also passed a licensing examination.

Persons seeking to enroll in state-approved training programs must be at least 17 or 18 years old and have a high school diploma or be able to pass an equivalency examination. Physical exams are required and aptitude tests are given.

Essential personal qualities needed in practical nursing include mental alertness, patience, understanding, emotional stability, and dependability. Good health is extremely important.

The training offered includes both classroom study and clinical practice. Classroom instruction covers nursing concepts and principles and related subjects such as anatomy, physiology, medical-surgical nursing administration of drugs, nutrition, first aid, and community health. This work is supplemented by laboratory practice and by supervised work in hospitals and nursing homes where students apply their skills to actual nursing situations.

Opportunities for advancement upon graduation and certification are limited, unless workers take additional training. Through in-service educational programs, some licensed practical nurses may prepare to work in specialized areas such as rehabilitation. Practical nurses, cannot become registered nurses, however, unless they undertake additional schooling.

The applicant should also consider certain aspects of this career which are not too glamorous. For example: the practical nurses may be required to work nights, weekends and holidays. They are daily dealing with some of the strongest emotions - - - fear, despair, anger, and affection. The practical nurse must fully know and understand themselves in order to be understanding and supportive, warm and comforting as well as knowledgable.

The practical nursing program continues to attract more applicants than can be accepted each year. Prospective students are taken in order after completion of admission requirements. This may mean a year or more wait before entry.

Now is the time to find all the answers about practical nursing. Talk to professionals already employed. Talk to students and instructors involved in the course. Finally, talk to the guidance counselor at Gateway Technical Institute. Then, and only then, can you decide on a career in Practical Nursing.

PRE-SERVICE NURSING ASSISTANT

Hi . . . I'd like to tell you about a career as a Pre-Service Nursing Assistant, a program offered at Gateway Technical Institute.

Nursing assistants help in the care of medical and surgical patients, convolescents, handicapped people and others who are physically or mentally ill. Nursing assistants are under the direction of the nursing and medical staff.

As a nursing assistant or Nurses Aide, you will be answering signal lights and bells to determine patient needs, as well as bathing, dressing and undressing patients. You will serve and collect food trays. You will be transporting patients to treatment rooms, and draping patients for examinations and treatments. You will also be taking and recording temperature, pulse, and respiratoin rates, as well as checking food and liquid intake and output as directed. Your job will entail other things beside actual paitent care. You will be dusting and cleaning patients' rooms; changing bed linens; and running errands. You will be directing visitors and answering the telephone.

To be successful in this career you should be emotionally stable, and be able to adjust to diversified personalities. You should be able to work under supervision and perform a variety of routine tasks. You should be willing to follow prescribed procedures carefully and completely. You will especially need to be sympathetic and tactful in dealing with patients, visitors, and other medical staff.

Having good vision and hearing as well as a non-allergenic skin are important qualifications for a career as a nursing assistant. You will be lifting and moving patients to and from bed, with assistance. You must be able to handle delicate instruments and equipment, and to distinguish colors.

To enter this six-week program at Gateway Technical Institute, you must be at least 17½ years old with good physical and emotional health. High school graduation is desirable but not necessary unless you are under 18 years of age. Students over 18 must have graduated from 8th grade or have the equivalency of an 8th grade education.

The program at Gateway Technical Institute offers training in the classroom, Lab and Clinical areas. A certificate is issued upon the successful conpletion of the 180 hours of study.

Recent legislation as well as a growing population and increased health consiousness have greatly increased employment opportunities for nursing assistants. Medical institutions are expanding their facilities to meet the needs of the ever-growing patient load and this will create more jobs in this occupation. Many jobs are available in nursing homes and extended care facilities for the elderly.

Talk to nursing assistants now working in the field, as well as students and instructors in the program. Talk to a counselor at Gateway Technical Institute about a career as a Nursing Assistant.

PRODUCTION AGRICULTURE

Hi . . . I'd like to tell you about a career in Production Agriculture, a diploma program offerred at Gateway Technical Institute.

This educational program is for those who are actively engaged in or plan to enter agriculture production. It includes 3 years of specialized classroom instruction. Farmer-students will receive instruction of a practical nature which can be translated directly into the day-by-day operation of a farm.

Today farmers find themselves in an industry that requires ever larger farms, more investment, and better management to stay in business. In fact, management is the key to success in modern farming. Today's farmer needs a much higher level of knowledge and skills than his predecessor.

For example, the dairy farmer used to feed each cow an amount of grain based on the amount of milk she had produced the previous day or week. The modern dairyman feeds his cows on the basis of their potential--"pushing" potentially high-performance cows to their limits, and cutting back on expensive feed for cows that have already "peaked out." The modern dairyman knows that figuring the potential is a much more difficult technique than weighing milk.

Similar management problems face today's farmer in many other areas--which is why higher more specialized education is becoming the rule rather than the exception for the young commercial farmer today. It gives him the technical basis he needs to keep up with research and technology, and teaches him how to apply them intelligently on his own farm.

To be successful in this career, you should enjoy living and working on a farm. You should enjoy working outdoors in any kind of weather and be willing to work seven days a week when necessary. You should be willing and able to invest in expensive equipment and supplies. Farming is an occupation which involves frequqnt changes of operations, as well as a variety of skills. You should be prepared to learn about

the increasingly complex machinery you will have to work with. You should be able to organize and plan your activities quickly and keep accurate records. A great deal of physical stamina is required for success in this career in addition to willingness to introduce new technological ideas in your approach to farming. Because most types of farming are dependent on weather conditions which vary greatly, you should be able to accept disappointments as well as success. The Production Agriculture course at Gateway Technical Institute consists of about 30 classes specifically tailored to serve those who are working as farm workers, renters, partners or owners. The best way to be a successful farmer is to start out by growing up on a farm--but is some cases persons may wish to enter this career without the advantage of this background.

As a Production Agriculture student you will take twelve hours of classroom instruction weekly at a Gateway campus convenient to the students enrolled in the program. This program operates on a year-round basis, for a total of 44 weeks of instruction; vacations come at fall harvest, Christmas time and spring planting time.

Some of the courses you will take, will help you understand and successfully use new agricultural chemicals such as those in fertilizers, in feeds, and for insect and disease control. You will learn about livestock Breeds and Selection, as well as keeping Farm Records and Accounts. Special courses on operating farm shop and operating and repairing Farm Machinery are also included. You will take courses in Small Grain Production; Vegetable Production; Forage Crop Production; Water and Waste Management; Agricultural Marketing; Swine, Beef and Dairy Cattle Management; Farm Insurance; Farm Business Analysis; Welding; Farm Building; and Transfer of Property. To complete your well-rounded education you will take courses in Communications and Social Behavior.

Some helpful courses which you can take at the high school level are Agriculture, Industrial Arts, Mathmematics and Welding.

If you are the person who has the training, the capital, and the management ability, the modern farm can offer much higher incomes than the old-style farm ever did. Increased success and production in agriculture, whether you are a farm worker, farm manager, livestock or dairy farmer, or cash crop farmer, can offer fulfillment to you as a career. There are also many other possibilities for work in this field such as animal breeder, sales of farm equipment or supplies, and other related agri-business careers where a knowledge of agriculture is important for success.

Talk to students and instructors in the program. Talk to people now in the farming field, and also to a counselor at Gateway Technical Institute. Inquire today about a career in Production Agriculture.

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SALES AND MERCHANDISING

Hello . . . I'm going to tell you about the diploma program in Sales and Merchandising offered at Gateway Technical Institute.

Jobs in sales and merchandising include retail and wholesale selling, arranging window and store displays, working as a stock control clerk, or shipping and warehouse clerk.

As a typical worker, you might be a retail salesperson in a particular department such as sportswear. As such, you would handle any of a large variety of merchandise, assist customers in selecting merchandise, make out sales slips, compute tax, collect cash, make change and wrap merchandise. You would operate a cash register. You would keep the merchandise arranged neatly on counters, shelves and racks, and be expected to replenish the stock as necessary. When helping customers, you might have to make out re-order slips or charge and credit card slips. You would have to take inventory periodically, and mark or tag items with purchase prices. You would be expected to keep track of your daily sales records as well.

A different job you might have could involve setting up eye-catching window displays. You may arrange sports clothes, tennis rackets and bicycles to make the customer think of a day in the park--and therefore want to buy something in the display.

To be a successful sales and merchandiser you need a pleasant, tactful personality, with both co-workers and customers. You should enjoy talking with people about merchandise and helping them make their selections. You may have to work under pressure at times to complete a deadline such as taking inventory. You will need to be able to follow procedures carefully in making out credit and

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salesslips as well as other related areas. You should also be able to perform arithmetic calculations quickly and without errors. You should be able to communicate ideas and information verbally in a pleasant speaking voice. A creative imagination is a real asset to this career choice.

It would be helpful if you had some background in retail work as a result of training or experience. You may be able to complete the employer's on-the-job training in two to four weeks.

High school courses which will help you are Salesmanship, Business Arithmetic, Merchandising, and Speech. A salesperson should be able to stand and move around for long periods of time. You should be well-groomed and poised.

During the one-year program at Gateway Technical Institute, you will take courses in Business Arithmetic, Marketing Concepts, Visual Merchandising, Retailing Operations, Sales Training, Record Keeping in Retailing, Retail Credit Policies, Retail Survey and Job Orientation, and Advertising and Sales Promotion. In addition, you will complete your education with courses in Social Behavior and Communications.

Advancement in the field of merchandising and sales is usually dependent on the person's proved ability. A top salesperson might receive some on-the-job training in special sales techniques or business practices. You might rise to a supervisory position in your department or store. Most executive positions, however, require additional business and management training. You might wish to continue your training upon graduation from this program in Gateway's Marketing program leading to an Associate Degree. This does not assure you of advancement, but you will probably be given close consideration when promotions are being made.

Employment in sales occupations is expected to rise during the next 10 years because of business expansion, population growth, and rising income levels. As

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new products and marketing techniques are developed, increased competition will result in the need for an expanded sales force, offering more job openings for sales people.

Talk to people working now in sales. Talk to teachers and students in this program. Then stop in and see a counselor at Gateway Technical Institute. Sales and Merchandising may be your future career.

STENOGRAPHY

Hi . . . I'd like to tell you about Gateway Technical Institute's diploma program in Stenography. This career revolves around the need in most offices for people who can take dictation, type and transcribe, file and use office machines.

The stenographer today has a vital role to play in the office. As a stenographer, you will be an important link between planning and implementing in the American free enterprise system.

Most offices today are clean, well-ventilated, climate controlled and attractive. Office workers today enjoy good salaries as well as extra benefits. Jobs are available in large, medium, or small offices in government, education, medicine, law, publishing, manufacturing, advertising, research, and construction industries.

You will probably be responsible to an excutive or supervisor. As you gain experience, you may have your own responsibilities or may superivse others in an office or department. But your main responsibilities will be to take dictation, transcribe you notes or from a recording machine, answer the telephone, filing, and receive callers and work under close supervision. In addition, you may have to type letters and reports; post information by hand or using the the typewriter; compute and check figures; compose routine letters; and operate various office machines.

You will need to be flexible in adjusting to changing situations, and have the ability to recognize and meet a deadline. You should be able to move your fingers and hands rapidly and accurately. You should be able to pay attention to detail to avoid clerical errors, as well as to follow instructions and established procedures.

You should be able to communicate your ideas verbally and in writing. You should be able to work alone or in a group, concentrating in the midst of distractions. You should be willing to work under the direction of others. You should be neat in your personal appearance and dress in good taste. A pleasing disposition, as well as the ability to work under pressure are both helpful attributes.

A proficiency in spelling, grammar, punctuation, and Business English will help you, as well as writing legibly and having a good telephone voice. You will probably be asked to take and pass on employer's pre-employment test in shorthand and typing. It is essential for practically all positions that you graduate from high school, and employers prefer additional technical training in a program such as the one offered at Gateway Technical Institute. To qualify for positions in the Federal Government and for employment in many firms, stenographers must be able to take dictation at the rate of at least 80 words per minute and type 40 or more words perminute.

Some high school courses which will be helpful to you in the program are Business English, Business Arithmetic, Typing, and Bookeeping.

The business courses you will take for this 1-year program include Clerical Typing, Stenographic Shorthand, Business Arithmetic, Filing, Record Keeping, Office Practice, Shorthand Laboratory, and Basic Business.

To complete this well-rounded program, you will also take courses in Communication Principles, Social Behavior, and one elective course.

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The demand for workers with stenographic skills has been greater than the supply for more than a decade, and this shortage in expected to continue for the next 10 years. Many thousands of stenographers will gethired to fill new jobs, but an even greater number will be needed to replace workers who retire or stay working for other reasons.

The Wisconsin State Employment service reports that 60-80% of the openings in the state were hard to fill. This indicates a continuing need for workers in this field.

This is a good time to talk with stenographers already in this career, as well as students and instructors involved in the courses. Come to Gateway Technical Institute and talk to these people as well as a Counselor so you too can become a career stenographer.

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UPHOLSTERY AND AUTO TRIM

Thank you for requesting information on Gateway Technical Institute's Upholstery and Auto Trim Program. We hope that during the next few minutes, you will receive enough information to help you make the decision to become part of this interesting career field.

Individual expression is the theme of today's interior design. This theme is found in your home and can even be found in your own car. With all of this individualism in your homes and automobiles, the future of the upholstery and auto trim worker is assured.

With the frequent redecoration of home interiors, furniture is re-upholstered to fit in with a desired "new look." There is also an interest in restoring and refurbishing antique chairs and sofas, not only for museums, but for the average home.

Automobile interiors come in for their share of attention as antique cars are lovingly restored, or when worn interiors need the lift of bright color and new fabrics.

Furniture upholsterers recondition sofas, chairs, and other upholstered furniture. These craftsmen repair or replace fabrics, springs, webbing, frames, and other parts that are worn or damaged.

Automobile trimmers, frequently assisted by installation workers, replace and repair upholstery and other automobile fabrics. Trimmers and installers together are called "automobile upholsters."

Automobile trimmers are skilled upholsterers who custom-make convertible tops; coverings for automobile seats, floors, and door panels; and other items. They also repair upholstery that has been torn, cut, burned or otherwise damaged. They may repair power-window and convertible top mechanisms, and cut and install automobile glass.

The furniture upholsterer usually places the furniture on padded wooden horses so that they may work at a convenient level. Using a tack puller or chisel and mallet, they pull out the tacks that hold the fabric in place and remove the fabric. They also may remove padding and burlap that cover the springs. They examine the springs and remove the broken or bent ones. If the webbing that holds the springs in place is worn, all of the springs and the webbing are removed. The upholsterer then repairs the frame, replaces the springs and webbing puts in new padding and re-covers the chair with new fabric.

Upholsterers use a variety of handtools in their work, including tack and staple removers, pliers, hammers and shears. They also use special tools such as webbing stretchers and upholstery needles. Upholsterers who work in small shops lay out patterns and use hand shears or machines to cut the upholstery fabric. They also operate sewing machines to form new upholstery covers. In large shops, however, seamstresses usually perform these tasks. Sometimes upholsterers pick up and deliver furniture. Those who own shops order supplies and equipment, keep business records, and perform other managerial and administrative tasks.

As a student, you may enter the Upholstery and Auto Trim Program at Gateway for a variety of reasons. You might enjoy the sense of craftsmanship that come with restoring a particularly battered chair or sofa. Or, you might find satisfaction in replacing the torn top and frayed seat covers of a late model car.

To be successful student, you must be able to visualize shapes and forms from sketches and diagrams; be able to follow instructions and established procedures; perceive differences and similarities in colors, use good judgement in planning sequences of operations; handle and manipulate tools and equipment skillfully; and make precise measurements to fit work and avoid waste.

You should be tactful and courteous in dealing with customers; be willing to assume responsibility for quality of work; enjoy working out problems independently and be able to follow through on assignments with a minimum of supervision.

You should have a working knowledge of mathematics. It is well to have good use of your arms, legs, hands and fingers; be able to stand, stoop, kneel, crouch, push and pull; have good vision and adequate hearing; be non-allergic to dust, lint, and related materials, and be able to distinguish colors.

Upon entering this program of study, you will be trained to upholster simple furniture pieces, performing such operations as spring tying, stuffing, determining the amount of material needed, and laying out material for cutting.

Learning to operate the power sewing machine will be next on your adjenda. You will learn to make various seams and to be able to construct cushions and pillows. The care, maintenance, and adjustment of the machine will be shown to you as you become more proficient.

You will also be given instruction on how to work on a wood frame, the type and construction of frames, and renovation and replacement of frame components.

Many of the same operations are observed in the auto trim classes. You will learn to layout, cut, sew fabric on the power machine for headliners, panels, arm rests, and cushions. You will be taught to apply fabric using hog rings, staples, spring clips, and adhesives.

You will receive complete and practical training at Gateway Technical Institute in this one-year diploma program. Your education will be provided by compentent instructors and you will use the latest materials and methods which can lead you to a successful and rewarding career. If Upholstery and Auto Trim interests you, contact people who have chosen this career. Talk to a guidance counselor at Gateway Technical Institute and instructors and students involved in the program. Then, you will be ready to make a decision on an Upholstery and Auto Trim career.

WARD CLERK

Hello . . . I'd like to tell about a career as a Ward Clerk. This 18-week diploma program is offered at Gateway Technical Institute.

If you want real involvement in a health career, and if you want to be performing duties essential to medical team work, then you might want to be a ward clerk. As a ward clerk, you'll be in a unique position: it is an allied health occupation requiring little close patient contact. Your job, which will be a pleasant blend of office and health work, will offer variety and be rewarding. You may be able to work in a hospital, nursing home, or medical clinic with regular hours.

You will be preparing and compiling records in hospital nursing units such as obstetrics, pediatrics, or surgery. As such, you will record the names and address of your patients as well the names of the attending physician. You will copy information such as the patient's temperature, pulse rate, and blood pressure from the nurse's records onto the patient's medical record. You will record diet instructions, and keep a file of the medical records on patients in your unit. You will prepare notices on patients who are discharged and inform the proper departments. You will answer the telephone and relay messages to the patients and staff, as well as direct visitors to the patients' rooms. You will transcribe doctors orders, and requisition the proper lab tests, equipment and treatments.

Perhaps one of your most rewarding functions will be maintaining a pleasant environment for patients, visitors and staff.

To be a successful ward clerk, you should be able to pay attention to details and avoid clerical errors, as well as follow instructions in performing routine work. You should be sympathetic and tactful as a professional in dealing with patients and visitors. You should be able to work under pressure, and have the ability to get along with other people.

A high school diploma is not required for admission to this program at Gateway Technical Institute, however, most hospitals require an employee to have an diploma or pass a G.E.D. test, and be at least 18 years of age when ready for employment. Good physical and mental health are necessary, and you will be required to have a physical examination as well as regular immunization before admission to the program. If you plan to apply for admission to this program, you should do so well in advance of your anticipated entrance date. It is helpful to take typing in high school before entering the Ward Clerk program.

During the 18 weeks you will be enrolled in this diploma program, you will take Communications, Social Behavior, Clerical Typing, Medical Terminology, Ward Clerk Functions, Seminar, and Practicum, which is actual field experience.

This exciting career as a Ward Clerk can be yours with advanced training at Gateway Technical Institute. Talk to those now working in the field. Ask present students and instructors about this program, and stop in to see a counselor today.

WELDING

Hello ... thank you for asking for career information on welding. The information which follows should increase your knowledge and appreciation of this skilled career.

Welding is one of the most common and dependable methods of joining metal parts. It is a method of joining pieces of metal by applying heat, pressure, or both, with or without filler metal, to produce a permanent bond. Although there are more than 40 different welding processes, most fall under the following categories: Arc, gas, and resistance welding. M.I.G. is a gas shielded wire and this is used basically in production welding. T.I.G. or heliarc welding is used for ferous and non-ferous metals. Flux core welding utilizes a wire which contains the flux in the core rather than being separate. Arc and gas welding can be performed manually or by machine, whereas, resistance welding is mainly a machine process.

A considerable amount of knowledge and skill must be acquired before you become a skilled welder.

Closely related to welding is oxygen and arc cutting (often referred to as flame cutting). As an oxygen and arc cutter, you trim or cut metal objects to a desired size or shape.

You also remove excess metal from castings and cut scrap metal into pieces of manageable size.

Most manual welding is done by arc welders, gas welders, and combination welders who do both arc and gas welding. Manual welders may be either skilled or semi-skilled.

As a skilled, all-round manual welder, you must be able to plan and layout work from drawings, blueprints or other written specifications.

You acquire a knowledge of the welding properties of steel, cast iron, bronze, aluminum, nickel, and other metals and alloys with which you may be required to work.

You also are able to determine the proper sequence of work operations for each job and to weld all types of joints held in various positions (flat, vertical, horizontal, and overhead).

The semi-skilled manual welder usually performs repetitive work; that is, production work which, more often than not does not involve critical safety and strength requirements. The surfaces welded by this person are primarily only one position.

Your principle duty as a welder using the manual technique is to control the melting of the metal edges by directing heat to the edges, either from an electric arc or from a gas welding torch, and to add filler metal where necessary to complete the joint.

In one of the most commonly used manual arc welding processes, you obtain a suitable electrode and adjust the electric current.

You must first "strike an arc" by torching the metal with the electrode. After the arc is made, you guide the electrode at a suitable distance from the edges to be welded. The intense heat caused by the arc melts the edge and the electrode tip. The molten metal from the electrodes is deposited in the pint, and with the molten metal edges, solidifies to form a solid connection.

Workers other than welders frequently use welding in their work. In the construction industry, for example, the structural steel workers, plumber and pipefitter, and sheet-metal worker may at times do manual arc and gas welding.

Also, maintenance and repair work provide many welding opportunities for other metal working and related occupations.

Generally, it takes several years of training to become a skilled manual arc or gas welder, and somewhat longer to become a combination welder. Some skilled jobs may require a knowledge of blueprint reading, welding symbols, metal properties and electricity.

As a future welder, you should have complete manual dexterity, be able to stand or work in one position for an extended period of time; be in good physical condition, and be able to lift and carry heavy loads. You should also be free of allergies to dirt, dust and fumes.

Welding and oxygen and arc cutting work require manual dexterity, a steady hand, good eye-hand coordination, and good eyesight. For entry in manual welding jobs, most employers prefer to hire persons who have high school and vocational school training in welding methods. Courses in shop mathematics, and blueprint reading also are necessary.

While attending the one semester diploma program at Gateway Technical Institute, you will receive training in the above mentioned courses, along with an intensive training program in various types of welding and cutting. This intensive program of study includes approximately 400 hours of welding experience.

After graduation, the skilled welder may qualify as a welding technician. Generally, workers in this small but growing occupation interpret the engineer's plans and instructions. Occasionally, welders may be promoted to jobs as inspectors, where they check welds for general conformance with specifications and for quality of workmanship.

Welders also may become foremen who supervise the work of other welders. A small number of experienced welders establish their own welding and repair shops.

It has been taken for granted up to this point that you know about the equipment that the welder wears. Safety precautions and protective devices are extremely important for welders because of the many hazards associated with welding.

The use of this equipment and the following of proper procedures cannot be overemphasized:

Now is the time to make up your mind about becoming a welder. Talk things over with skilled welders. Talk to students and instructors involved in the courses, and finally to a counselor at Gateway Technical Institute. Then, and only then, can you decide on a career in welding.

VOCATIONAL EDUCATION ACT
FINANCIAL REPORT
VE-VE-3 (Rev. 10/71)

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1. Project No. 06-180-151-314

2. Project Title Telephone and Information Career Occupational Service

3. a. Budget Number 1 b. Expenditure Report Number _____

Proposal ☐ Revision ☒ Partial ☐ Final ☐

4. Report Period From July 1, 1973 To June 30, 1974

		Amount	Total
5.	SALARIES		
	a. Supervisory	$	
	b. Guidance Counseling		
	c. Clerical	400	
	d. Custodial		
	e. Instructional	3,000	
	f. Other Supporting Salaries Itemized		$ 3,400
6.	EQUIPMENT		
	a. Repairs & Services		
	b. Rental of Instructional Equipment		
	c. Instructional Equipment	120	
	d. Other Capital Expenditures		120
7.	CONSTRUCTION		
8.	TRAVEL		
9.	INSTRUCTIONAL MATERIALS AND SUPPLIES		
	a. Audio Visual Aids	240	
	b. Reference Books		
	c. Textbooks and Work Books		
	d. Supplies and Materials		240
10.	OTHER COSTS		
	a. Rental of Space - Not in Building		
	b. Utilities		
	c. Other Costs Itemized		
11.	TOTAL COSTS		$ 3,760
12.	Federal Funds	45 %	$ 1,692
13.	Matching Funds	55 %	2,068
14.	TOTAL COST		$ 3,760

District Director _____ Date 7/23/73

Agency Administrator _____ Date _____

Wisconsin Board of Vocational, Technical and Adult Education
Madison, Wisconsin 53703

PROJECT PROPOSAL

PURPOSE:

The purpose of this project is to develop a series of 55-60 career information cassette tapes designed as a counseling-guidance - information tool to be used to inform potential students, their parents and the public of the programs, services, and activities offered in the Gateway Technical Institute district.

The information would be disseminated via the telephone through a contracted 24 hours answering service. The implications are huge as career information becomes instantly available to 31,884 subscribers in Kenosha and 46,212 in Racine.

DURATION:

Beginning - May 1, 1973

Ending - June 30, 1974

INITIATED BY:

Donald J. Berns
Counselor - Admissions
Gateway Technical Institute
3520 - 30th Avenue
Kenosha, WI 53140

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G.T.I.C.

GATEWAY'S TELEPHONE INFORMATION ON CAREERS

PROBLEM:

Thousands of potential students, counselors and area citizens annually telephone the Student Services Offices on the three campuses of our district seeking information on the career programs offered.

The information presently provided by telephone is not adequate in informing the person about programs so they can make intelligent decisions about applying or not applying or even whether they should pursue further information.

A means is needed to thoroughly inform potential students of the characteristics of each program, the demands of each program, and the rewards to the person who completes the program.

1. Sometimes critical judgments are made by the switchboard operator regarding who gets the call, i.e. "I understand your school has a Horticulture program. I would like to talk to someone about it." Should the call go to a teacher, a coordinator, the Student Services' receptionist, a specific counselor, etc?
2. The information the caller receives would differ, sometimes to a considerable extent, depending upon the receiver. The response from a department clerk may be satisfactory, discourage further investigation, or encourage the caller to seek further information.
3. The depth as well as correctness of data will also vary.

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4. The availability of information varies with the time of day or week, even though the telephone as an instrument is available 24 hours a day and every day of the year.

5. Counselors and others receiving phone calls now must continually repeat such information on a random basis to potential students.

6. Counselors believe there is a decided lack of detailed requirements and content of each program by the general public.

7. Gateway counselors have found that information given by counselors in other institutions and agencies (high schools, etc.) is often inconsistent with existing conditions and requirements at the post high school vocational, technical institute.

Gateway Telephone Information on Careers (G.T.I.C.) will be of particular value with economically, culturally and educationally disadvantaged youth. These persons often have the poorest perception of programs and occupations. These G.T.I.C. tapes will enable these individuals to make more intelligent decisions, and encourage more of them to enroll in vocational, technical education programs which would match their interests, abilities, and occupational goals.

OBJECTIVE:

The specific objective of this effort is to: develop 55-60 ten to twelve minute aduio cassette tapes to inform individuals of the programs and activities available to them in the district.

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These audio cassette tapes will serve the following functions:

1. The availability of the G.T.I.C. tapes would be through a 24 hour telephone answering service. A second set of G.T.I.C. tapes will be available for mailing to schools, agencies or individuals on a loan basis.
2. These G.T.I.C. tapes will incorporate information on the most frequently asked questions about each program and activity. This will result in a more productive counseling interview if sought later by the applicant.
3. These G.T.I.C. tapes will contain authoritative and standardized information approved by instructors teaching in each concerned program.
4. Calls might be expected to emanate from counselors working with individuals at an agency, school, Adult Learning Center, as well as from the general public.
5. Persons unable to come to the school due to transportation, work schedule, illness, child care service, etc. could instantly obtain vocational, technical career information at home.
6. The impersonal nature of listening to a tape recording is not considered a problem because the caller would be fully aware of this before initiating the call. The caller has the option of getting more personalized information if he chooses to call a campus after getting the general data via the G.T.I.C. tapes.

ACTIVITIES AND PROCEDURES:

G.T.I.C. tapes will be developed for all vocational and technical programs offered by the Gateway district.

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Each G.T.I.C. tape will relate the following information concerning specific programs and activities:

1. Description of the program including courses, costs, facilities, and requirements.
2. Descriptions of the general personality characteristics of individuals who succeed in the program or activity.
3. Recommended mental, physical, and emotional abilities of individuals in the program or activity.
4. Entry jobs, duties, pay, advantages and disadvantages of positions for graduates of the program.
5. Answers to the most frequently asked questions about the program.
6. Differences between the academic experiences and on-the-job experience.
7. Most frequent problems students experience in the program or activity.

Additional tapes for admission procedures, financial aids, housing, clubs, activities and sports, adult high school program, community services courses, apprenticeships, Adult Learning Centers, veteran's assistance, and Adult Basic Education programs will also be developed.

In some cases one G.T.I.C. tape may deal with two or more closely related programs (i.e. Fluid Power Technology and Fluid Power Maintenance).

NOTE: Thirty career information scripts were written in 1972 for Project Number 06-046-151-312, Career Information Packets, 135 programs of which 20 are Associate Degree and 15 are Vocational Diploma). This information is recent, however, it must

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be reviewed and edited for use in this G.T.I.C. project. Thirteen career programs remain to be researched, written, and recorded. Eleven other tapes including activities, admissions, Adult High School, etc. remain to be researched and written prior to recording.

TIME DESIGN:

A total of 55-60 G.T.I.C. tapes will be developed from May 1, 1973 to June 30, 1974.

During May, June and July, 1973 no fewer than 25 G.T.I.C. tapes will be recorded.

During the months of August, 1973 through June, 1974 the remaining 30 to 35 G.T.I.C. tapes will be completed.

G.T.I.C. tapes will be made available on a loan basis for duplication to VTAE Districts, high schools, the Department of Public Instruction, and other agencies dealing with the occupational needs of the general public.

DESCRIPTION:

The G.T.I.C. tapes will be produced by a counselor and two media specialists in cooperation with personnel knowledgeable in the program or activity to be developed. One media specialist will write the scripts. The other media specialist will do the vocal recordings. The counselor will research, coordinate the project, and review all data for each G.T.I.C. tape.

The dissemination of the taped information will be accomplished through a six month contract with a telephone answering service in Racine and in Kenosha. An evaluation of the effectiveness and utilization of G.T.I.C. system will be done at the end of this time.

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Wide publicity must be given as soon as the system is operable. News articles, brochures, posters, letters to counselors and agencies, and radio spot announcements are some suggestions to notify the various publics to be served of the 24 hour availability of this new service.

One master tape for each program or activity would be recorded and three duplicate sets would be made. One set for Kenosha, one for Racine and one for loaning.

PERSONNEL & FACILITIES

The district has some of the personnel necessary to accomplish this project.

Counselor - Donald J. Berns, Specialist Degree in Guidance and Counseling, experience with 1972 Career Information Packet, project number 06-046-151-312, and five years experience in Student Services with the District.

Media Specialist - David Scheunemann, Associate Degree in Telecasting, also experienced with project 06-046-151-312, as he did the script writing, and two years experience in the District.

Media Specialist - An individual yet to be selected for the narrator for each G.T.I.C. tape.

The facilitites of the District's Instructional Resource Center are adequate for the reproduction of the G.T.I.C. tapes.

This project will be part of the district individual's assignment for the coming year, however, they will need extended time beyond their contract to accomplsih the project. Additional hours will be compensated for at the normal hourly rate for that individual. It is anticipated the total of 55-60 G.T.I.C. tapes will involve 200 additional man hours.

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BUDGET:

SALARIES:

Counselor	$ 1,600	
Media Specialist (script writing)	$ 800	
Media Specialist (narrator)	$ 600	(30 min. per script at $20 per hour)
Clerical	$ 400	350 pages typing (5 pages per hour at $3 per hour), estimated total 100 hours typing = $300

EQUIPMENT:

$150 for each cassette player and hookup hardware
(Plan "A" answering service requires one, whereas Plan "B" requires two)

SUPPLIES:

240 cassette tapes	$ 240
4 storage cases to hold tapes	$ 120

ANSWERING SERVICE CONTRACTS:

Plan "A" - (One contracted answering service)

Telephone company will install a Racine line to Kenosha and charge $50 per month service. In addition, we would subscribe for 24 hours, 7 day a week answering service from Tri-Bell in Kenosha for $25 per month. Total charge of $450 for six months service. The capacity would be approximately 300 incoming calls per month. A second Kenosha line would be $8 per month extra.

Plan "B" - (Two contracted answering services)

$300 total cost estimate for two, six month contracts. One answering service in Kenosha and one in Racine. $25 per month for each contract of one line, 24 hour, 7 day a week service. This would accept 300 calls per month. Estimate by Tri-Bell Answering Service of Kenosha. $1 per month service charge to the telephone company.

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EVALUATION:

Evaluation of this project will be continuous during the first six months of operation and beginning July 1, 1974.

The basis for evaluation will be:

1. A count of the number of calls received requesting G. T. I. C. taped information.
2. A measurement of the degree to which high schools and other agencies use the G. T. I. C. service.
3. An opinionaire instrument will be developed to measure the quality of the information as rated by listeners of the G. T. I. C. tapes.
4. The number of other schools, agencies, or departments who wish to duplicate the G. T. I. C. tapes for their own use.
5. To insure tapes will be kept up-to-date as information becomes outdated, they will be critically reviewed at the end of the first year of operation and every second year thereafter.

ACCESSION NUMBER: VT101450

PUBLICATION DATE: 74

TITLE: VOCATIONAL EDUCATION STATE INSTRUCTIONAL MATERIALS FOR DISTRIBUTIVE EDUCATION. REVISED 1974.

DESCRIPTOR: *ANNOTATED BIBLIOGRAPHIES; *ABSTRACTS; *VOCATIONAL EDUCATION; *INSTRUCTIONAL MATERIALS; *DISTRIBUTIVE EDUCATION

EDRS PRICE: MF AVAILABLE IN VT-ERIC SET.

DESCRIPTIVE NOTE: 64P.

ABSTRACT: THIS ANNOTATED LISTING OF CURRICULUM MATERIALS FOR DISTRIBUTIVE EDUCATION IS PROVIDED IN ORDER TO APPRISE PLANNERS, ADMINISTRATORS, VOCATIONAL EDUCATORS, AND OTHERS INTERESTED IN OFFERING OR INVOLVED IN VOCATIONAL PROGRAMS OF THE AVAILABLE CURRICULUM MATERIALS DEVELOPED BY VARIOUS STATES. THE CURRICULUM MATERIALS HAVE BEEN IDENTIFIED WITH THE INSTRUCTIONAL TITLES AND CODES FROM THE CLASSIFICATION SYSTEM OF THE OFFICE OF EDUCATION. THE TITLE OF THE DOCUMENT, PUBLICATION DATE, THE NUMBER OF PAGES, PRICE, AND A SUMMARY OF THE CONTENT IS PROVIDED FOR EACH ANNOTATION. (KB)

CONTRACT NUMBER: OEG-0-72-4682

INSTITUTION NAME: OKLAHOMA STATE DEPT. OF VOCATIONAL AND TECHNICAL EDUCATION, STILLWATER. CURRICULUM AND INSTRUCTIONAL MATERIALS CENTER.

SPONSORING AGENCY NAME: OFFICE OF EDUCATION (DHEW), WASHINGTON, D.C.

VT 101 450

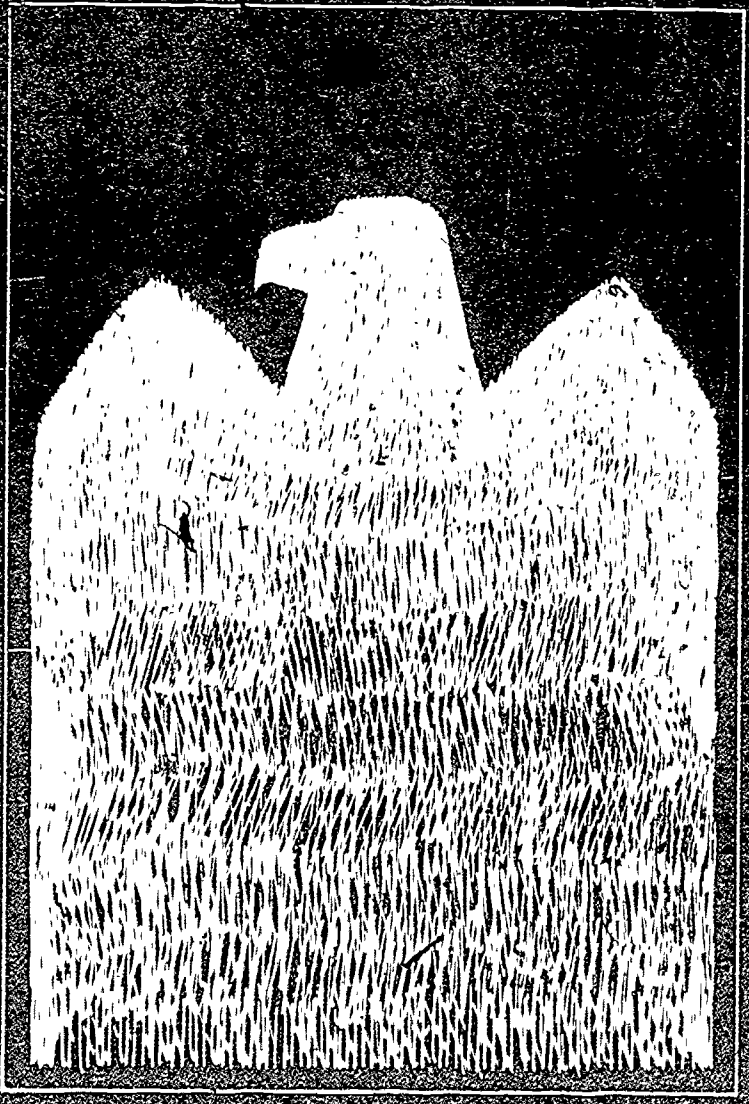
VOCATIONAL EDUCATION

STATE INSTRUCTIONAL MATERIALS

for...

DISTRIBUTIVE EDUCATION

Revised 1974



VT 101 450

AVAILABLE FROM STATE EDUCATION AGENCIES

ERIC Full Text Provided by ERIC

Discrimination Prohibited - Title VI of the Civil Rights Act of 1964 states: "No person in the United States, shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance." Therefore, the Vocational Education program, like all other programs or activities receiving financial assistance from the Department of Health, Education, and Welfare, must be operated in compliance with this law.

The project presented or reported herein was performed pursuant to a contract from the U.S. Office of Education, Department of Health, Education, and Welfare. However, the opinions expressed herein do not necessarily reflect the position or policy of the U.S. Office of Education, and no official endorsement by the U.S. Office of Education should be inferred.

VOCATIONAL EDUCATION

STATE INSTRUCTIONAL MATERIALS

for...

DISTRIBUTIVE EDUCATION

Revised 1974

AVAILABLE FROM STATE EDUCATION AGENCIES

Developed and disseminated pursuant to
Grant No. OEG-0-72-4682 with the U. S. Office of Education
Under Part I - Curriculum Development in Vocational and Technical Education,
Vocational Education Amendments of 1968, Public Law 90-576
by the
Curriculum and Instructional Materials Center
Oklahoma State Department of Vocational and Technical Education
1974-Revision

NOTE:

REQUEST FOR SPECIFIC MATERIAL CONTAINED IN THIS ANNOTATED LISTING SHOULD BE SENT TO THE APPROPRIATE STATE SOURCE.

SOURCE FOR EACH ITEM LISTED IS INDICATED AT THE END OF EACH ENTRY--SEE INSTRUCTIONS FOR ORDERING AT BACK OF PUBLICATION.

Revised publications (annotated listings) are available in the following vocational areas:

State Instructional Materials for Agriculture
State Instructional Materials for Distributive Education
State Instructional Materials for Health Occupational Education
State Instructional Materials for Home Economics
State Instructional Materials for Office Occupations
State Instructional Materials for Technical Education
State Instructional Materials for Trade and Industrial Occupations

The above items are available for purchase from: Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402

For sale by the Superintendent of Documents, #887,
U. S. Government Printing Office, Washington, D. C.
20402. Stock #1780-01342. Price $1.00.

INTRODUCTION AND EXPLANATION OF CODING SYSTEM

In recent years it has become apparent that a strong relationship exists between the world of education and the world of work. Emphasis is on the concept that the development of our human resources is vital to the well-being and growth of our society. In order to implement this belief, leaders in all fields have focused their attention on education and especially on vocational education.

This annotated listing of curriculum materials is provided in order to apprise planners, administrators, vocational educators, and others interested in offering or involved in vocational education programs of the available curriculum materials developed by the various states.

The curriculum materials are offset unless specified as mimeo. They have been identified with the instructional titles and codes from the classification system of the Office of Education. These titles and codes link vocational education programs to occupations. Utilizing the codes in this listing relates the curriculum materials to the instructional program. Seven major vocational education areas are identified in separate listings and coded as follows:

01	Agriculture	09	Home Economics
04	Distributive Education	14	Office Occupations
07	Health Occupations Education	16	Technical Education
	17 Trade and Industrial Occupations		

The items are refined to include one or more related subitems as indicated in the following example:

First 2-digit position: subject matter area
Example: 14 OFFICE OCCUPATIONS

Second 2-digit position: principal segment of subject matter
Example: 14.02 BUSINESS DATA PROCESSING SYSTEMS OCCUPATIONS

Third 2-digit position: division of principal segment
Example: 14.0202 PERIPHERAL EQUIPMENT OPERATORS

Fourth 2-digit position: first level detail of division of principal segment
Example: 14.020201 KEY PUNCH AND CODING EQUIPMENT OPERATORS

The coding system is contained in:
U.S. Department of Health, Education, and Welfare, Office of Education. Vocational Education and Occupations (OE 80061). Washington, D.C.: U.S. Government Printing Office, July 1969.

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04. DISTRIBUTIVE EDUCATION

Publications marked (Cooperative Training) in the title or supportive statement are designed for use in cooperative education programs.

ADVERTISING SERVICES: 04.01

NEW YORK

VISUAL MERCHANDISING THROUGH DISPLAY. Instructor's Guide. 1972, 88 pages, $.50, 12th grade or adult.

This instructor's guide is devoted to the marketing message which is communicated to a potential customer through displays in the windows, along the aisles, and on the walls and counters of a store. Many principles of display are outlined in this publication. It will take about 10-20 weeks to cover this area.

OHIO

DISPLAY MADE EASIER. Teacher's Resource. 1971, 115 pages, $3.00.

This manual contains many suggestions helpful in teaching display as part of a course in the distributive education field. Sheets are spiral bound for easy removal and use as transparency originals, opaque projections, handout sheets, bulletin board items, and similar activities. The material is programmed to lead the independent student through the basic concepts and elements of display.

INTRODUCTION TO ADVERTISING. Teacher's Resource. 1966, 58 pages, $2.00.

This manual provides practical student assignment material to assist the teacher in preparing a unit on advertising. The manual is prepared in narrative style rather than as a teaching outline. Eleven topics are presented which include such items as the psychology of advertising, printed advertising media, broadcast media, layout and copywriting, creativity in advertising, and related information.

INTRODUCTION TO PROMOTION. 1973, 18 35mm slides with script, $5.00.

An explanation of the function of promotion as part of the distribution process is cleverly done with the aid of a cartoon figure. A script is provided which supplements this excellent series.

MAGAZINE ADS. 1972, 25 35mm slides with script, $6.00.

Brilliant colored magazine advertisements have been photographed (close-up copy) to show students a wide variety of national ads. Each ad is critically appraised, and the ads were carefully selected so that the integral parts are easily distinguishable.

PUTTING IT TOGETHER. 1972, 30 pages, $3.00.

This is an excellent instructional package to aid the coordinator in teaching basic procedures and techniques of newspaper advertising layout and design. The entire 109-page unit includes an instructional outline, references for further investigation, student handouts, and transparency masters. In addition, 80 35mm slides which illustrate each of the ads and concepts covered may be purchased separately. Although not essential to the unit, the slides add greatly to the acceptance and

retention of the material. An earlier manual, Advertising Layout & Copy, has been replaced by this manual.

PUTTING IT TOGETHER. 1972, 80 slides, $15.00.

These 80 slides tie in directly with the manual Putting It Together, which should be ordered separately for $3.00. The slides are not essential to teaching the advertising unit, but add greatly to the understanding and retention of each of the advertising principles covered.

THE STORY OF THE YELLOW PAGES. 1972, 80 35mm color slides with script, $15.00.

An unusual but much used aspect of advertising is the telephone directory yellow pages. This is the subject of this intriguing presentation which features 80 35mm color slides and a taped narrative available in reel-to-reel or cassette. An accompanying booklet gives the script for the taped presentation so that the instructor can easily insert his own ideas. This presentation was developed through the courtesy of Ohio Bell with the idea that more DE students will someday be involved in writing ads for the yellow pages than national TV or magazines.

UNIPAC: ADVERTISING MATH. 1971, 30 pages, $1.50.

This is an individual student package containing six lessons designed to give a basic understanding of the mathematical concepts most often used in advertising. This 30-page booklet includes a pretest, post test, and practice exercises or projects for each section.

WINDOW DISPLAY. 1972, 40 35mm slides with script, $10.00.

This is a brief series of slides depicting the creation of a display window in a large department store. This introduction is followed by a number of retail window displays with a critical analysis of each one, finishing with a few brief shots of in-school DE displays. The series deals entirely with window display and does not present interior or point of purchase displays.

YOU BE THE JUDGE: ADVERTISING. 1973, 40 pages, $3.00.

This 40-page booklet includes ten 35mm slides of newspaper ads and the materials necessary to help a student judge the ad in the same terms used in the National DECA advertising competition. This would be used to round out a unit in advertising and comes complete with ten transparencies of the expert judges' rating of each of ten ads.

YOU BE THE JUDGE: DISPLAY. 1973, 22 pages, $2.00.

Designed as a project for students of display, this packet includes a 22-page teaching outline on principles of display, student handout rating sheets (based on the National DECA competitive event), five 35mm slides of display windows rated by professions, and five overhead transparencies of the composite scores. The complete package would eliminate the need for a field trip in learning to judge displays for national DECA competition. The 35 extra slides are keyed into the teaching outline and must be ordered separately.

YOU BE THE JUDGE: DISPLAY. 1973, 35 slides, $8.00.

These 35 additional slides feature all types of display - both exterior and interior. These slides were developed specially to accompany the booklet You Be The Judge: Display. The booklet itself includes five slides which have been judged by experts using the National DECA display rating form.

TEXAS (UT)

ADVERTISING. (Cooperative Training). 1972, 113 pages, $4.00.

The fundamental principles and practices of advertising that should be understood by DE trainees are presented in this manual. Major areas covered include such items as reasons to advertise, the newspaper as a medium, layout and copywriting, and other advertising media. Twenty-nine units of instruction are included in the manual.

ADVERTISING ANSWER BOOK. Teacher's Manual. 1972, 30 pages, $2.00.

This manual contains answers to questions and projects given in the 29 assignment units in the student's manual.

MERCHANDISE DISPLAY. 1972, 221 pages, $6.00.

This manual is written for the beginner in the field of display. There are seven main sections containing well-illustrated information on such topics as elements of effective display, principles of balance and proportion, construction of window background and fixtures, and department and drug store displays.

MERCHANDISE DISPLAY ANSWER BOOK. 1972, $2.00.

The contents of this booklet include answers to questions, but solutions to projects assigned students are not included.

VIRGINIA

VISUAL MERCHANDISING. 1972, 288 pages, $2.00.

This guide has been prepared for the beginning cooperative plan course in Virginia's distributive education high school programs. Each topic has objectives stated in behavioral terms. The guide is illustrated and is in loose leaf form. The sections include the why and how of visual merchandising and special techniques of visual merchandising.

APPAREL AND ACCESSORIES: 04.02

MISSOURI

SHOE RETAILING. Individual Instruction. 1970, 73 pages, $2.50.

This study guide was prepared to aid students in cooperative education classes in learning technical and related information necessary for success in shoe retailing. There are 19 assignment sheets included. This material is referenced to the Shoe Kit available from the University of Texas.

SOUTH CAROLINA

FASHION MERCHANDISING CURRICULUM GUIDE. Teacher's Guide. 1973, 100 pages, $3.25, 12th grade.

This curriculum guide is designed to supplement teaching materials and techniques in the teaching of a one year distributive education speciality program in fashion merchandising to twelfth grade students. It covers the broad areas of the nature of fashion, the producers of fashion apparel, retail distributors of fashion, buying and selling fashion merchandise, and promotion of fashion.

TEXAS (UT)

BASIC FASHION TRAINING. Teacher's Manual. 1969 (Reprint), 82 pages, mimeo, $3.50.

Each teaching unit contains a bibliography of references to be read by the teacher to prepare for teaching the material. Current fashion ideas should be utilized using the manual as a guide to approaches to the subject matter. Topics covered include fashions, fabrics, color, basic figure types, and design.

FASHION JEWELRY. Student's Manual. 1967, 140 pages, priced in the kit.

This manual is for those persons who have an interest in what is called fashion jewelry--a complex business that is conceived with design, production, and distribution of the jewelry of today and tomorrow. There are 23 assignments with illustrations, information, questions, and projects.

FIBERS AND FABRICS. Student's Workbook. (Cooperative Training.) 1967, 288 pages, $5.50.

This instructional manual and workbook uses the generic names of fibers to provide instruction for high school and junior college distributive education students. In addition to an introduction covering five assignments, the manual contains sections entitled: From Fiber to Finished Product, Natural Fibers, and Man-made Fibers. The section containing a glossary of fabric names will be helpful to the student.

FIBERS AND FABRICS ANSWER BOOK. Teacher's Guide. 1967, 100 pages, $3.00.

The answer book provides the needed information to assess student performance in the 51 assignments contained in the student workbook.

JEWELRY. Student's and Teacher's Manuals. (Cooperative Training.) 1967, $30.00 for the kit.

This kit contains six assignment books and a set of references to be used as resource material by the student. There is an answer book for use by the teacher that parallels each student's assignment book.

THE JEWELRY STORE OF TODAY. Student's Manual. 1967, 127 pages, priced in kit.

This manual contains 16 assignments with illustrations and information beginning with the history of jewelry as an ancient art and moving through career opportunities in the store of tomorrow.

MEN'S FURNISHINGS. Student's Resource. (Cooperative Training.) 1969, 179 pages, $5.00.

The manual is written for the student-trainee and is a companion to Men's Wear. Men's Furnishings contains 24 assignments covering the selling of the various furnishings men wear. A helpful bibliography is included. An answer book is available for use by the teacher in assessing trainee comprehension.

MEN'S FURNISHINGS ANSWER BOOK. Teacher's Guide. 1969, 49 pages, $2.50.

The answer book provides the information needed by the teacher in evaluating student understanding of the course content.

MEN'S WEAR. Student's Manual. (Cooperative Training.) 1970, 95 pages, $3.00.

The manual is geared to selling the newer type men's wear. There are 18 assignments that range from such topics as personal characteristics and grooming to tips for successful selling. An answer book is available to aid teachers in evaluating student learning.

MEN'S WEAR ANSWER BOOK. Teacher's Guide. 1970, 28 pages, $2.50.

This answer book parallels the student manual and provides answers to questions in the assignments as well as clues to suitable completion of the assigned projects.

PRECIOUS GEMS AND METALS. Student's Manual. 1967, 188 pages, priced in the kit.

The study of previous jewelry is interwoven with other subjects such as history, mythology, archaeology, chemistry, physics, and metallurgy as well as art, design, and sculpture. The 22 assignments cover these as well as the selling techniques used in this occupational area.

WOMEN'S ACCESSORIES. Student's Manual. (Cooperative Training.) 1969, 128 pages, $12.50 for the kit.

This manual was developed to provide individual instruction for high school and junior college students who plan a career in selling women's accessories. Daily on-the-job experiences of the student are to be correlated with the assignments by the teacher-coordinator. There are 35 assignments with questions and projects available to provide evidences of student comprehension of the content presented in the course. A student's manual, a teacher's answer book, and several available informational pamphlets dealing with gloves, hosiery, scarfs, and handbags comprise the kit.

WOMEN'S ACCESSORIES ANSWER BOOK. Teacher's Guide. 1969, 53 pages, priced with the kit.

WOMEN'S READY-TO-WEAR. Student's Manual. (Cooperative Training.) 1970, 167 pages, $6.50.

The manual is made up of four parts including merchandise information, stockkeeping, selling ready-to-wear, and fibers and fabrics. It contains 24 assignments which contain information and questions to be completed.

WOMEN'S READY-TO-WEAR ANSWER BOOK. Teacher's Manual. 1970, 53 pages, $2.50.

This manual contains material to be used in evaluating learning and development as evidenced through completion of certain projects and answering prescribed questions in the student's manual.

AUTOMOTIVE: 04.03

NEW YORK

SERVICE STATION MERCHANDISING AND MANAGEMENT - AN EXPERIMENTAL COURSE OF STUDY. Instructor's Guide. 1967, 87 pages, $1.50.

The guide is for a course covering the sales and management ability as prime requisites for success in the service station business. It is designed to be a one-half or full-time high school course in the distributive education program. The guide contains a 21-chapter outline together with a bibliography and visual aid source.

TEXAS (UT)

AUTO PARTS COUNTERMAN. Student's Manual. (Cooperative Training.) 1965, 156 pages, $15.00.

The kit includes all reference materials, assignments, and an answer book. The assignments are considered a tool to be used to ease the student's entry into this vital phase of the American distribution system. The manual contains 36 assignments with many helpful illustrations. Each assignment contains a set of questions and projects to be completed. In addition to the teacher's answer book, there are three reference manuals containing information needed by those working in this occupation.

AUTO PARTS COUNTERMAN ANSWER BOOK. Teacher's Guide. 1965, 93 pages, priced with the kit.

The answer book is an indispensable part of this kit. The technical nature of the content requires excellent resources for the teacher to adequately help the trainee and fairly evaluate student learning.

SERVICE STATION TRAINING KIT. (Cooperative Training.) 1971, $19.95.

The kit consists of a series of manuals for student's use and several pieces of reference material.

AN INTRODUCTION TO THE SERVICE STATION. Student's Manual. 1971, 89 pages, priced with the kit.

The content deals with the service station business and the future of the service station.

OPERATION AND MAINTENANCE OF THE SERVICE STATION. Student's Manual. 1971, 94 pages, priced with the kit.

The manual deals with the appearance, housekeeping operating procedures, and safety. The manual is well illustrated and contains questions and projects for the student.

PRINCIPAL PRODUCTS SOLD IN THE SERVICE STATION. Student's Manual. 1971, 60 pages, priced in the kit.

This manual begins with a discussion of gasoline and carries the student through batteries, tires, spark plugs, and sundry service station items available for sale.

SELLING IN THE SERVICE STATION. Student's Manual. 1971, 98 pages, priced in the kit.

The manual contains 19 assignments covering such areas as selling opportunities in service stations, underhood inspection and sales, tire sales and service, and many more related aspects.

SERVICES RENDERED IN A SERVICE STATION. Student's Manual. 1971, priced with the kit.

This manual contains a series of assignments covering the various services typically rendered in a service station.

FINANCE AND CREDIT: 04.04

MISSISSIPPI

CREDIT COLLECTIONS. Teacher's Guide. 1968, 51 pages, $1.25.

This is an adult refresher course covering ten topics. An introduction to credit, types of consumer credit, determining credit risks, retail credit bureaus, collection problems, and several additional topics are included. An excellent bibliography and set of transparency masters completes the publication.

OHIO

CREDIT COLLECTION TECHNIQUES & TERMS. 1972, 61 pages, $2.00.

This course outline was designed to improve adult business management of credit but is equally good for introducing students to collection problems and techniques. It includes 29 pages of handouts and transparency masters, including credit forms.

THE LAW OF CONTRACTS. 1972, 97 pages, $3.00.

An unusual approach to a unit on the legal problems of contracts, this packet contains 97 pages of material produced with illustrations and large type. It can thus be reproduced on overhead transparencies, shown on an opaque projector, or used as an individualized packet. It comes plastic wrapped for insertion in a file folder.

SOUTH CAROLINA

RETAIL CREDIT. Teacher Guide. 1971, 51 pages, $3.00; also available 18 transparencies, 1971, $4.75, 11th grade.

This is a guide for teaching retail credit in distributive education. There are four units, each of which contains teaching objectives, tips to the teachers, an outline, and resources. There are suggested test questions at the end of each unit. A set of transparencies accompanies this manual.

FLORISTRY: 04.05

ILLINOIS

EXPLORING OCCUPATIONAL OPPORTUNITIES IN THE RETAIL FLOWER SHOP BUSINESS. 1973, 12 pages, $.18, 11th and 12th grade.

This pamphlet describes the jobs in the retail flower shop business, which include professional careers, growers, wholesalers, and retailers. Duties performed and job descriptions are given for each occupation in the student-oriented material.

OPERATING A RETAIL FLOWER SHOP. 1973, 16 pages, $.24, 11th and 12th grade.

This student pamphlet gives information on operating a retail flower shop, including factors to consider in starting a shop, buying a going business or starting a new one, and having or not having a greenhouse.

TEXAS (UT)

FLORISTRY. Student's Manual. (Cooperative Training.) 1969 (Reprint), 139 pages, $3.50.

The content is divided into two sections including a set of 43 lesson assignments and an information section that deals with merchandising and flower shop facts.

FLORISTRY ANSWER BOOK. Teacher's Manual. 1969, 71 pages, $2.50.

This is a presentation of the answers taken from the trainee's manual and an indication of those answers which the students are to obtain from their training station. The teacher-coordinator will find the format helpful in quickly assessing student comprehension and training.

FOOD DISTRIBUTION: 04.06

MISSOURI

MEAT CUTTING. Individual Study Guide. 1973, 100 pages, $3.00.

This manual consists of an analysis of meat cutting together with assignment sheets covering the related information. There are 20 assignment sheets and 4 information sheets. The material is prepared for teaching on an individual basis.

TEXAS (UT)

MODERN SUPERMARKET OPERATION. Student's Manual. (Cooperative Training.) 1969 (Reprint), 76 pages, $12.50.

Knowledge and ability in applying the principles in this manual will help the food store trainee become successful. There are 30 assignments in the manual. Each assignment follows a format that provides the aim of the presentation, readings in the text Modern Supermarket Operations, a series of questions to be answered, and at least one project to be carried to completion. The kit includes all reference materials, assignments, and an answer book. This kit is one of three in a set on food store training that sells for $30.00.

PRODUCE: CARE, PREPARATION, AND MERCHANDISING FOR FOOD STORES. Student's Manual. (Cooperative Training.) 1968, 147 pages, $12.50.

The manual was developed for the cooperative part-time student employed in food stores. It is divided into five units covering the handling and preparation of all

vegetables, the handling and preparation of all fruits, the handling and care of nuts, and produce marketing. There are 41 assignments available. The kit includes all reference materials, assignments, and an answer book. Three kits on foods comprise a set that sells for $30.00.

PRODUCE: CARE, PREPARATION, AND MERCHANDISING FOR FOOD STORES ANSWER BOOK. Teacher's Guide. 1968, 97 pages, priced with the kit.

This guide provides helpful answers for the teacher-coordinator in dealing with rather technical information about which he may have limited knowledge. The content is needed to assess student learning.

STOCKING, MARKING, AND DISPLAYING FOR FOOD STORES. Student's Manual. (Cooperative Training.) 1970 (Reprint), 66 pages, $12.50.

The manual helps DE students prepare for a career in a food store. Displaying merchandise is a kind of game between the store and the customer. It is felt the customer must be helped by placing the merchandise in his path in a pleasing manner. This manual helps to prove that the techniques of effectual display can be learned. There are 26 assignments filled with ideas for productive displays to increase sales. Included in the kit is the textbook, Display Ideas for Supermarkets, published by Progressive Grocer Magazine. The kit includes all reference materials, assignments, and an answer book. Three kits comprise a set selling for $30.00. Other titles in the set are: Modern Supermarket Operation and Produce: Care, Preparation, and Merchandising for Food Stores.

STOCKING, MARKING, AND DISPLAYING FOR FOOD STORES ANSWER BOOK. Teacher's Guide. 1970 (Reprint), 67 pages, priced with the kit.

The answer book provides the teacher with information to ascertain if students comprehend the content presented with each of the 26 assignments. The book is a great time saver thus freeing the teacher for other creative activities.

WASHINGTON

ACURA-TOUCH - INSTRUCTOR'S GUIDE FOR PROFESSIONAL SUPERMARKET CHECKING. 1972 (Revised), 150 pages, $9.50.

This is an instructor's guide to be used in connection with A Study Guide to Efficient Market Checking, Your Attitude is Showing, and 13 programmed instructional units of the Quaker Oats Supermarket Kit. There are handout materials with this guide. Tests are included to determine level of competency.

FOOD SERVICES: 04.07

OHIO

SERVING WINE. 1973, 40 pages, $2.00.

This is an outline designed to build knowledge and skill in restaurant selling of wine to customers. This manual includes a definition of terms, resources for additional information, a quiz, and handouts for seminar participants.

WAITER AND WAITRESS TRAINING. 1973, 130 pages, $3.00.

A valuable training outline for a restaurant training seminar, this manual covers the attitudes and skills necessary for efficient restaurant service in four sections of materials. It includes many student handouts and transparency masters.

TEXAS (UT)

FOOD SERVICE. Student's Manual. (Cooperative Training.) 1970, 141 pages, $5.00.

This manual represents the first attempt to combine the selling and service aspects of DE with the trade and technical aspects of industrial education. It consists of four parts dealing with such topics as the importance of food service, duties and responsibilities in food service, selling food service, and the basics of food preparation.

FOOD SERVICE ANSWER BOOK. 1970, 43 pages, $1.50.

This manual contains answers to assignment questions and suggests approaches and solutions to the projects for the application of principles.

GENERAL MERCHANDISE: 04.08

OHIO

HOW MUCH DO YOU WANT SUCCESS? 1973, 5 pages.

This is the first in a series of pamphlets by Richard Everhardt of Delphos High School to provoke discussion for students. This is a student manual which gives suggestions for students who want to be successful in DE.

HUMAN RELATIONS GAMES. 1973, 58 pages.

This group of four games teaches the principles of cooperation, goal setting, group consensus, and communication in a way that students will understand and enjoy. Ohio teachers tried them at a workshop at O.S.U. the summer of 1973 and recommend them.

HUMAN RELATIONS REVISED. 1973, 150 pages, $3.00.

This is a completely revised edition of the adult training program in human relations which has been available from the Ohio lab for several years. Although devised for training and upgrading adults in supervisory positions, it has much that is usable for teaching students the principles of management as well as some points one might pick up for managing others. Student handout sheets are included.

MODERN SALES TECHNIQUES. Teacher's Guide. 1969, 23 pages plus 7 insert sheets, mimeo, $2.00.

The content is keyed to ten hours of instruction that provides five two-hour sessions. New merchandising trends and more pleasant customer contacts are covered. The outline takes the instructor and students through the five selling steps in a well-organized approach to retailing.

THE RETAIL BUYER. 1972, 51 pages, $3.00.

This 51-page teaching outline will provide a teacher with the necessary materials for a short course in retail buying. In addition to the teaching outline, this manual features 14 actual printed transparencies ready to use and a study of the special terminology related to buying.

SOUTH CAROLINA

A GUIDE TO THE PREPARATION OF A CREATIVE MARKETING PROJECT. Teacher's and Student's Manual. 1972, 53 pages, $4.50, 10th, 11th, and 12th grade.

This guide is for students to use in preparing a manual for a creative market project.

A GUIDE TO THE PREPARATION OF A MERCHANDISE INFORMATION MANUAL. Teacher's and Student's Manual. 1972, 52 pages, $4.00, 11th and 12th grade.

The manual is to serve as a guide for students to follow in compiling product information and presenting it in written form. A sample of a merchandising information manual is included.

MERCHANDISING FOR PROFIT. Teacher's Curriculum Guide. 1972, 69 pages, $3.75, 10th, 11th, and 12th grade.

This guide for teaching the subject of retail merchandising has been developed as a base for a complete year of teaching in the area. Emphasis has been placed on information to aid the instructor in understanding and teaching the subject. Student projects are inserted at key points as suggested activities. Areas included are operation of the retail system; the merchandising program; handling, controlling, and selling; and the buyer and sales promotion.

RELATIONS BETWEEN PERSONS IN SALES AND SERVICE. Teacher's Resource. 1969, 26 transparencies, $2.75.

This resource consists of a set of 26 transparencies dealing with relations between persons in sales and service. Basic human needs, ways to find a career and to acquire a position in that career, and notable concepts in human relations are shown.

SALESMANSHIP. Teacher's Resource. 1969, 22 transparencies, $2.75.

This resource consists of a set of 22 transparencies presenting the salesman, proper attitudes of the salesman, proper approach to the customer, and steps in selling. It also includes overcoming the customer's resistance to purchasing and possible reasons for failure to close a sale.

TEXAS (UT)

BASIC SALES TECHNIQUES. Student's Manual. (Cooperative Training.) 1970, 90 pages, $3.50.

The manual has been prepared for use by cooperative education trainees. It utilizes the currently popular behavioral objective approach in outlining what the student is to gain from working the assignment. There are 22 assignments included in the publication with a set of questions on merchandising and some project material in each assignment.

BASIC SALES TECHNIQUES ANSWER BOOK. 1970, 34 pages, $2.00.

This book contains the needed information for the teacher-coordinator to accurately evaluate the extent of learning and comprehension.

BASIC SELLING. Teacher's Guide. 1968, 194 pages, $4.00.

The content is designed to assist the teacher in transmitting to students information to modify attitudes and develop needed skills. They are six units entitled: Selling--What's In It for Me; Prepare Yourself to Sell; Study the Merchandise; Consider Selling from Both Sides of the Counter; and Sell. The level of content is first year basic instruction.

CRYSTAL, CHINA, AND GLASSWARE. Student's Manual. 1967, 216 pages, priced in the kit.

The student or trainee using the manual will find that answering the questions and completing the projects help him gather the important information useful in making a convincing sales presentation. The manual has three main parts that include glassware, dinnerware, and giftware. There are 29 assignments, a bibliography, and a glossary of terminology.

FLATWARE AND HOLLOWARE. Student's Manual. 1967, 144 pages, priced in the kit.

The 19 assignments contained in this student's manual start with the historical development of silver and take the trainee through a well-illustrated series of instructional developments to stainless steel, pewter, antique flatware, and holloware.

LET'S ANALYZE AND SELL. Instructor's Manual. 1968 (Reprint), 57 pages, $2.75.

The manual presents material for five training sessions. The material centers around the salesperson--as an analyst of himself, an analyst of job information, an analyst of customers, an analyst of a sale, and an analyst of sales.

RECEIVING, CHECKING, AND MARKING. Student's Manual. (Cooperative Training.) 1969, 82 pages, $3.00.

The manual contains the most advantageous techniques available in the area of receiving, checking, and marking. There are 22 assignments dealing with such topics as receiving, safeguards, marking, distribution, corrections, and the employment outlook in this area of distribution. An answer book is available for sale to teacher-coordinators.

RECEIVING, CHECKING, AND MARKING ANSWER BOOK. Teacher's Guide. 1969, 36 pages, $1.50.

The content provides the teacher with the needed resource to assess student performance, including projects and responses to questions in the 22 assignments.

SELLING PEOPLE. Teacher's Guide. 1969, 76 pages, $3.50.

This manual was developed to supply depth to the study of selling. Emphasis is placed on human behavior. The content covers six sessions entitled: Selling--What

It Is, Does, and Offers; Demonstration of Feature-Benefit Analysis; Understand Yourself and Other People, Too; Psychology of Selling, Parts I and II; and Consumer Motivation.

HARDWARE, BUILDING MATERIALS, FARM AND GARDEN SUPPLIES AND EQUIPMENT: 04.09

MISSOURI

HARDWARE RETAILING. Individual Study Guide. 1971, 204 pages, $2.50.

The manual consists of an analysis of hardware retailing together with 23 assignment sheets covering the related information for teaching on an individual basis in a cooperative part-time program. This manual has been referenced to an advanced course in hardware retailing available from the National Retail Hardware Association.

LUMBER AND BUILDING INDUSTRY. Individual Instruction. 1972, 65 pages, $2.50.

This manual contains 19 assignment sheets for individual study in the sale of lumber and building materials. It is designed for reference material available from the University of Texas.

TEXAS (UT)

BUILDING MATERIALS TECHNOLOGY AND SELLING. 1972, 500 pages, $21.95.

The kit consists of three manuals: Parts I and II containing information about lumber and building materials and an assignment book. There is available an answer book paralleling the assignments priced as a separate item.

BUILDING MATERIALS TECHNOLOGY AND SELLING ANSWER BOOK. 1972, $3.50.

This manual contains answers to the 71 student's assignments and aids the teacher-coordinator in evaluating accurately the work of the trainee.

FARM, HOME, AND GARDEN SUPPLIES. Student's Manual. (Cooperative Training.) 1969, 210 pages, $7.50.

This manual contains 44 assignments which cover such broad areas as animal feeds, fertilizers and soil amendments, chemicals, and seed and vegetative propagation. It is prepared for use at the junior college level and contains a wealth of information about modern day feed and farm supply stores that provide services to farmers, ranchers, and home gardeners.

FARM, HOME, AND GARDEN SUPPLIES ANSWER BOOK. Teacher's Manual. 1969, 85 pages, $2.00.

This manual contains the questions and the answers to the 44 assignments in the student's manual. Suggestions are also included concerning accurate working out of the projects included in the assignments.

HARDWARE KIT. (Cooperative Training.) 1966, $25.00.

The kit consists of 4 assignment books and 16 advanced selling booklets from the National Retail Hardware Association. There is a teacher's answer book that accompanies the kit. Individual assignment books shown below are not priced separately and are only available as part of the packaged kit.

ASSIGNMENT MANUAL I. Student's Manual. 129 pages, priced with the kit.

This manual contains 50 assignments covering such broad areas as builders' hardware, hand tools, power tools, electrical supplies, plumbing supplies, and paints and wallpaper.

ASSIGNMENT MANUAL II. Student's Manual. 84 pages, priced with the kit.

This manual contains 37 assignments covering topics such as housewares, electrical housewares and gifts, cleaning and laundry supplies, lawn, farm, and garden.

ASSIGNMENT MANUAL III. Student's Manual. 33 pages, priced with the kit.

This manual provides 15 assignments divided between sporting goods and athletic equipment and toys.

ASSIGNMENT MANUAL IV. Student's Manual. 74 pages, priced with the kit.

This manual makes available 33 assignments dealing with selling, merchandising, promotion, and advertising.

HARDWARE KIT ANSWER BOOK. Teacher's Manual. 336 pages, priced with the kit.

This manual contains the answers and suggested solutions to the projects covered in the assignments. It is helpful to the teacher-coordinator in evaluating responses to many technical questions.

HOME IMPROVEMENT SELLING. 1972, 279 pages, $11.50.

This manual contains information on the techniques and knowledge required for selling home improvement. It is designed for high school and community college DE students training in home improvement departments, building materials dealerships, subcontractors and contractors who need sales training, and salesmen who need additional help in perfecting their techniques. This manual contains 24 assignments.

HOME IMPROVEMENT SELLING ANSWER BOOK. 1972, 52 pages, $2.00.

PAINT AND WALLPAPER. Student's Manual. (Cooperative Training.) 1970 (Reprint), 134 pages, $4.00.

The manual was developed to provide specific information and selling know-how for trainees in the paint and wallpaper business. It is divided into an assignment section and an information section. There are 34 assignments covering a broad range of topics in the paint and wallpaper areas. The information section is well illustrated.

PAINT AND WALLPAPER ANSWER BOOK. Teacher's Manual. 1968 (Reprint), 57 pages, $1.50.

The purposes of this book are to present answers to questions based on the information presented and to indicate those answers that should be obtained by the student from the training station.

HOME FURNISHINGS: 04.10
TEXAS (UT)

APPLIANCE SALES TRAINING ANSWER BOOK. Teacher's Manual. (Cooperative Training.) 1970, 276 pages, $7.00.

This manual contains the answers to questions and problems which follow the information presented in each assignment. There is also helpful information in this manual for assessing the student's understanding of the assigned projects. This publication presents answers to the appliance sales training assignments in the eight volumes entitled: Cooling and Heating Equipment, Dishwashers and Disposers, Home Entertainment Equipment, Home Laundry Equipment, Ranges and Cooking Units, Refrigerators and Freezers, Small Electrical Appliances, and Selling and Management in Appliance Retailing.

COOLING AND HEATING EQUIPMENT. Student's Manual. (Cooperative Training.) 1970, 90 pages, $5.00.

The manual is designed to develop well-informed appliance salesmen. They must learn about such things as equipment, models, capacities, requirements, and expected performance ratings. The publication is made up of 17 assignments covering cooling equipment, air conditioners, heat pumps, humidifiers, and gas and electric heating equipment.

DISHWASHERS AND DISPOSERS. Student's Manual. (Cooperative Training.) 1970, 92 pages, $5.00.

The content is designed to develop an effective salesman who knows his products--not only what they can do, but what they should not be expected to do and why. There are eight assignments dealing with dishwashers and four that cover disposers. A bibliography provides supplemental information sources such as books, reports, magazine articles, and trade materials.

HOME ENTERTAINMENT EQUIPMENT. Student's Manual. (Cooperative Training.) 1970, 96 pages, $7.00.

The content consists of 11 assignments reinforced by related information about sound and television equipment. Much of the material is highly technical, but it is very important to the salesperson and of greater than average interest to high school youth. Some young people could bring to this field considerable first-hand information through their ownership of tape recorder systems, color televisions, and stereo and high-fidelity sound equipment.

HOME LAUNDRY EQUIPMENT. Student's Manual. (Cooperative Training.) 1970, 132 pages, $7.00.

The use of detergents, bleaches, softeners, and finishes has made home laundry a science. A knowledge of scientific home laundry procedures is vital and

advantageous to the laundry equipment salesperson. The manual consists of 16 assignments with ample scientific information to challenge the student of this important household equipment area.

RANGES AND COOKING UNITS. Student's Manual. (Cooperative Training.) 1970, 107 pages, $6.00.

This manual basically contains valuable merchandise information. It also presents a method of selling ranges by first learning what the range will do, how it will perform, and ways it can save time and labor. There are 11 assignments in this publication varying from features that sell ranges to the qualities of good cooking utensils. The manual is one in a series of eight, together with a teacher's answer book, that make up a kit of appliance sales training materials available at $45.00.

REFRIGERATORS AND FREEZERS. Student's Manual. (Cooperative Training.) 1970, 87 pages, $5.00.

This manual is written for the trainee. It is presented from the standpoint of product information which, when wisely injected into the sales presentation, provides the salesman and the customer alike with mutual satisfaction. In addition to cabinet design and construction, the 13 assignments present helpful technical knowledge about electro-mechanical refrigeration systems and the gas-absorption refrigeration system. The closing assignment entitled "Dramatize to Sell" stresses a number of features that the salesperson should thoroughly understand to convincingly dramatize his sales presentation.

SELLING AND MANAGEMENT IN APPLIANCE RETAILING. Student's Manual. (Cooperative Training.) 1970, 122 pages, $6.00.

This manual, Selling and Management, recognizes the decision-making role of the appliance store manager. It contains 18 assignments; 11 of these deal with selling and 7 cover the management function in retailing. The manual is one of a group marketed as an Appliance Sales Training Kit. The eight-item kit and answer book sells for $45.00; however, each manual is individually priced.

SMALL ELECTRIC APPLIANCES. Student's Manual. (Cooperative Training.) 1970, 97 pages, $6.00.

Pertinent product information given to the customer by the informed salesperson is one answer to the question of price. This manual provides information on the use, care, and features of small appliances which should be emphasized when selling. There are 18 assignments with information covering such appliances as food mixers and blenders, toasters, roasters, broilers, coffee makers, and irons.

INSURANCE: 04.13

NEW YORK

LIFE INSURANCE. Instructor's Guide. 1971, 37 pages, $.50, adult.

The material covered by this guide is intended to help an adult decide on the life insurance coverage he should have and arrangements for getting it. The guide explores the definition of life insurance and explains the protection provided. The natures of term, whole life, and endowment insurances are covered.

PETROLEUM: 04.16

MISSOURI

SERVICE STATION OPERATION. Individual Instruction. 1972, 96 pages, $2.50.

This course of study covers related information to be taught to trainees employed in the automotive service station operation. It is designed for individual study based on reference material available from the University of Texas. The manual contains 25 assignment sheets.

SERVICE STATION OPERATION. Instructor's Guide. 1972, 20 pages, $1.00.

This manual is a series of answer sheets for the assignment sheets included in the automotive service station operation manual.

RECREATION AND TOURISM: 04.18

TEXAS (UT)

SPORTING GOODS. Student's Manual. 1970, $12.95.

Part I: Hunting and Fishing Equipment. 179 pages.
Part II: Athletic, Marine, and Camping Equipment. 165 pages.

The content is divided into a series of 35 assignments including questions, projects, and information sheets dealing with such areas as fishing, golf, baseball, archery, and guns and ammunition.

SPORTING GOODS ANSWER BOOK. 1970, $3.50.

TRANSPORTATION: 04.19

OHIO

TRANSPORTATION: A VITAL LINK IN DISTRIBUTION. 1972, 34 pages, $2.00.

This is a brief study in narrative form to introduce DE students to the varieties of carriers of raw materials and finished goods. In 34 pages it covers water, rail, truck, and air carriers with some of the advantages and disadvantages of each. Included also are 9 transparency masters and a list of additional references.

RETAIL TRADE, OTHER: 04.20

NEW YORK

A COLLECTION OF OVERHEAD TRANSPARENCY ORIGINALS FOR DE II. Teacher's Resource. 1968, 47 pages, $1.50.

This set of original drawings from which transparencies can be made covers such topics as business organization and business location. In addition, there is a section dealing with personal budgeting and the fundamentals of buying. The publication contains no presentation other than the messages contained on the various masters or originals from which visual materials may be developed.

COURSE OUTLINE FOR RETAIL INDUCTION INTO SELF-SERVICE STORES. 1970, 95 pages, $2.00.

A thorough manual developed by a distributive education workshop group of coordinators, this manual orients the student and the coordinator interested in

concepts relating to the self-service operation. Very detailed, it also has an abundance of transparency originals to supplement the teaching outline.

SMALL BUSINESS MANAGEMENT - PART I. Curriculum Handbook, 1968, 69 pages, $.50.

This manual contains six lessons designed for a two-hour class session with each to be taught by an expert on the subject under discussion. The sessions cover such topics as reasons for success, sources of money, record keeping, marketing and selling, advertising, and credit and collections.

OHIO

COURSE OUTLINE FOR SEARS RETAIL INDUCTION. 1969, 103 pages, $3.00.

This is a special manual developed by a technical workshop committee of distributive education coordinators. It is designed for the student who is entering employment with the Sears & Roebuck Company. The 103-page teaching outline is very detailed and specific. A second manual with 51 pages of overhead transparencies to supplement the unit is included.

FRANCHISING. 1972, 30 pages, $2.00.

This study of one of the fastest growing types of marketing provides excellent background information for the coordinator to develop a unit or for the individual instruction of a student. The 30-page manual includes a detailed outline for a student project on franchising and a multitude of references.

MANAGING THE RETAILING EMPLOYEE. 1972, 53 pages, $2.00.

The objectives of this training outline are to assist in solving current and future employee problems and to encourage employee productivity. It includes role playing situations and explains ways employees should be interviewed, trained, and counseled.

THE MONTGOMERY WARD PRE-CHRISTMAS TRAINING MANUAL. 1969, 90 pages, $3.00.

This is another manual directed specifically to those who are preparing for employment with Montgomery Ward. This manual deals only with procedures and techniques of the specific company. A large audiovisual supplement is included in the manual.

THE PRICING UMBRELLA. 1972, 25 pages, $2.00.

This is a mini-course designed to assist the coordinator in teaching the philosophy and skills of retail pricing including markups, markdowns, and cost analysis. This includes handouts and transparency masters.

SOUTH CAROLINA

THE DOWNTOWN TEACHER. Teacher's Manual. (Cooperative Training.) 1970, 12 pages, $.50.

This handbook has been prepared for the use of the teacher-coordinator in contacting and orienting the sponsor of distributive cooperative education trainees.

The program is explained in detail, yet the concise style makes for quick reading. It is intended that the booklet be left with the employer or potential sponsor for reference purposes.

TEXAS (UT)

DRUGSTORE SELLING AND MERCHANDISING. 1972, 143 pages, $7.00.

This manual contains product and selling information for the retail drugstore trainee. Information covers most merchandise lines and includes men's toiletries, cosmetics, perfumes, photographic equipment, and tobaccos. There are 18 assignments.

DRUGSTORE SELLING AND MERCHANDISING ANSWER BOOK. 1972, $2.00.

This manual contains the answers to Drugstore Selling and Merchandising.

NEWSPAPER CIRCULATION. Student's Resource. (Cooperative Training.) 1966, 219 pages, $4.00.

One use of this resource is as a reference in distributive education classrooms where instruction is given those persons training for a career in newspaper circulation management. The combination of on-the-job training coupled with valid classroom instruction tends to assure a better newspaper employee. Topics covered in the five-part publication are entitled: Introduction to Newspaper Circulation Work; Circulation Operation Procedure; The Newspaper Carrier - His Responsibilities and Training; Duties and Training of Supervisory Personnel; and Country Circulation.

NEWSPAPER CIRCULATION ANSWER BOOK. Teacher's Guide. 1966, 58 pages, $2.00.

The guide contains both questions and answers suitable for use in making assignments. Projects are described and answers are given to help the teachers to assess student comprehension.

STOCKKEEPING. Student's Workbook. (Cooperative Training.) 1969, 145 pages, $5.00.

The workbook has been prepared for high school and junior college students who will have stockkeeping as one of their major duties assigned by an employer. There are 22 assignments that start with the organization of distribution and cover such other items as control, stockroom arrangement, and close with stockkeeping duties. There is an answer book available for sale to the teacher.

STOCKKEEPING ANSWER BOOK. Teacher's Guide. (Cooperative Training.) 1969, 145 pages, $5.00.

The guide provides the teacher with the needed information to quickly evaluate student performance in the 22 assignments in the student's workbook.

WHOLESALE TRADE, OTHER: 04.31

OHIO

UNDERSTANDING WHOLESALING. 30 35mm slides with script, $8.00.

This film presents a tour through a large hardware wholesaler's warehouse and office facilities. The series shows the merchandise arriving from the manufacturer

and finally follows it out the door as it is delivered to the retailer. It features the order-picking procedure, data processing equipment for billing, and various other wholesale functions.

TEXAS (UT)

WHOLESALE MANAGEMENT. 1971, 125 pages, $6.00.

This is information for the advanced student who is ready to take a look at the broad scope of wholesale management. It does not cover how to manage, but rather what management does and is responsible for in sales, marketing, stock control, finances, credit, personnel, and warehousing. The book contains a total of 15 assignments.

WHOLESALE MANAGEMENT ANSWER BOOK. 1971, 28 pages, $2.00.

WHOLESALE SELLING. 1972, 143 pages, $6.00, advanced level.

All aspects of selling in the wholesale organization are presented in this book based on the behavioral science approach. It contains 16 assignments.

WHOLESALE SELLING ANSWER BOOK. 1972, 23 pages, $2.00.

WHOLESALING IN DISTRIBUTION. 1971, 112 pages, $6.00.

This manual is a part of a series of four in the field of wholesaling for high school and junior college programs. There are 19 assignments in the manual, and each assignment contains a behavioral objective for the student.

DISTRIBUTIVE EDUCATION, OTHER: 04.99

ALABAMA

DISTRIBUTION FOR YOUNG WORKERS. Teacher's Guide. 1969, 247 pages, $8.00.

The declared purpose of this guide is to give the teacher-coordinator a design for implementation in the first year of the cooperative program. Five major categories of instruction are included: marketing, product and/or service technology, social skills, basic skills, and distribution in the economy. The course is based upon 180 hours of teaching. There is a bibliography at the end of each unit.

STEPPING UP WITH DISTRIBUTIVE EDUCATION. Teacher's Manual. 1970, 181 pages, $5.00.

This manual shows ways the project method may be used in the training of youth for employment in the field of distribution. Topics are confined to an investigation into self-appraisal as a step to the world of work and developing essential characteristics for success in a distribution job. The sections of the guide are color coded so that the teacher may easily identify lesson plans, suggested projects, information sheets, audiovisual materials, and other sections.

ARKANSAS

DISTRIBUTIVE EDUCATION OFFICIAL HANDBOOK. Teacher's Guide. (Cooperative Training.) 1970, 149 pages, free.

The handbook describes the functions, duties, and responsibilities of the teacher-coordinator of distributive education. Treated in the publication are such topics as program policies, advisory committees, suggested course outlines, training for the handicapped and disadvantaged, student placement and supervision, evaluation, and many more subjects.

COLORADO

A COMPREHENSIVE PROCESS FOR DEVELOPING TRAINING PLANS IN DISTRIBUTIVE EDUCATION. 1971, 82 pages, $3.00.

The purpose of this publication is to provide distributive education teacher-coordinators with a comprehensive process for developing training plans. The areas included are basic principles underlying distributive education, a student analysis process, marketing opportunities, and development of a training plan utilizing the distributive education student. Sample forms are included.

MARYLAND

DISTRIBUTIVE EDUCATION. Tentative Course for a Two-Year Program. 1974, 74 pages, 11th and 12th grade.

This is a two-year course outline for distributive education which lists both visuals and techniques. The outline contains unit outlines and teaching suggestions for the entire two-year program. The outline is intended to cover all areas of distributive education.

MISSISSIPPI

A GUIDE FOR WRITING RESEARCH MANUALS IN DISTRIBUTIVE EDUCATION. 1972, 50 pages, $1.00.

This publication is a detailed guide for use by teacher-coordinators in directing students in writing research manuals. This manual expands upon the information provided in the DECA National Handbook by giving more specific details of ways to develop the written project.

NEW JERSEY

ASSISTING BUSINESS IN DISADVANTAGED AREAS. Coordinator's Manual. (Cooperative Training.) 1970, 28 pages, $.50.

Various ways are presented in which the DE coordinator with the help of students and DECA can aid small businesses in ghetto areas. The manual also shows ways in which ghetto areas can become learning laboratories for DE students.

DISTRIBUTIVE EDUCATION FOR THE DISADVANTAGED. Teacher's Manual. 1970, 35 pages, $.50.

This manual contains ten projects to be undertaken by the disadvantaged DE student. The psychological objectives as well as the DE objectives are covered in the text. A more positive self-image and other similar outcomes should result from instituting the course. A supplemental project that involved making a community survey to determine the need for adult DE training is also included.

GUIDELINES FOR POST SECONDARY DISTRIBUTIVE EDUCATION. Guidelines. 1969, 19 pages, $.50, post secondary.

This brief guide suggests guidelines for mid-management career programs. In addition it suggests guidelines for programs for college students who have not had secondary distributive education. It further suggests guidelines that would permit holders of an associate degree in applied science in distribution to qualify for transfer to a school granting a baccalaureate degree in marketing or distribution.

Guidelines for a parallel program for students who wish to prepare for careers in distributive education are also suggested.

INTRODUCTION TO VOCATIONS - DISTRIBUTIVE EDUCATION UNIT. Teacher's Manual. 1970, 30 pages, $.50.

This manual contains a course outline covering a three-week course to introduce students to various career possibilities in distribution. Fifteen lesson plans are included which contain lists of films, demonstrations, field trips, guest lecturers, and other class activities.

AN ORIENTATION COURSE OF STUDY IN DATA PROCESSING FOR DE STUDENTS. Student's Manual. 1970, 60 pages, $.50.

This manual introduces the DE student to the basic concepts of electronic data processing and to the value of electronic data processing to distribution.

SUGGESTED DECA PROJECTS FOR INNER CITY SCHOOLS OF NEW JERSEY. Teacher's Manual. 1970, 18 pages, $.50.

Five types of projects that disadvantaged inner city DECA members can undertake are outlined in the manual. Projects include an in-school service project, assistance to local businessmen to improve their relationships, encouraging inner city residents to operate their own businesses, and some other activities.

A TENTH GRADE CURRICULUM FOR DISTRIBUTIVE EDUCATION. Curriculum Guide. 1970, 41 pages, $.50.

This outline covers such areas as orientation, DECA, communication, personality, good grooming, distributive occupation, job application, and interviews. Sample personality tests are included, and a self-inventory on grooming along with a sample job application form complete the booklet.

OHIO

ABCDE. . . DISTRIBUTIVE EDUCATION. 1971, 1 page, $1.25 for a set of 20 pamphlets.

This is an attractive color brochure designed and printed by the American Vocational Association. An excellent promotional piece that is professionally done, it is offered as a customer convenience.

ADULT PROGRAM NAME CARDS. 1973, 1 card 8 1/2 X 11 and foldable, $.04.

These are blank name cards imprinted with the adult DE insignia for use as table cards for each person in a training seminar.

ADULT PUBLIC RELATIONS. 1973, 20 pages, $2.00.

This booklet outlines the necessary steps in effectively promoting the adult training potential in one's area including specific public relations ideas for the DE coordinator.

ADULT TRAINING TRANSPARENCY MASTERS. 1972, 14 pages, $.50.

These overhead transparency masters are part of the adult operations manual published in the fall of 1973 and may be ordered separately. It contains good backup material for promoting an adult class with business management.

BASIC AMERICAN GOVERNMENT FOR DISTRIBUTIVE EDUCATION. 1971, 97 pages, $2.00.

This teaching outline was designed to pinpoint specific areas of knowledge which a DE student should cover in order to understand the problems of the business community, specifically in the area of marketing. It covers the American government areas necessary for a high school government requirement, but the material may be used in part as it relates to other DE class curriculum.

A BIBLIOGRAPHY OF PERIODICALS. 1973, 11 pages, $1.00.

A valuable asset to any DE coordinator's files is this listing of 156 magazines which relate to all aspects of the field of marketing. The booklet lists the name of the periodical, its price, publisher, address, and frequency of publication.

BIG BOARD. 1973, 16 pages, $1.00.

The first actual game produced by the DE Lab, this introduction to the ideas of the stock market gives students an opportunity to decide how to spend $100,000 when given periods with specific economic character. The booklet includes the instructions for the game and six overhead transparencies showing ways in which prices fluctuate.

BULLETIN BOARD QUICKIES. 1973, 25 pages.

This is a packet of materials on selling and other bulletin board ideas.

BULLETIN BOARDS FOR DISTRIBUTIVE EDUCATION, Teacher's Resource. 1970, 49 pages, $3.00.

This manual contains bulletin board layouts for distributive education. A helpful introduction explains reasons bulletin boards are needed, successful design requirements, and plans. Bulletin boards and display boards are explained and samples are shown throughout the publication.

BULLETIN BOARDS: MEET OUR DECA WINNERS. 1973, $1.00.

This is a collection of illustrations and signs which could be used on a bulletin board or display window to announce either entries or winners in DECA competition. It includes materials for all competitive events and comes packed in a file folder for handy storage.

BULLETIN BOARDS: SALESMAN'S APPEARANCE. 1973, $1.00.

Using cartoon animals to illustrate appearance problems, this is a set of bulletin board illustrations and headlines which could be used individually, on a bulletin

board, or in a display window. There are 11 animals with subheads and a major headline which reads, "Do Good Looks Count in Selling? Most of What the Customer Sees is You."

CAREER INFORMATION UNIT FOR DISTRIBUTIVE EDUCATION. Student's Handbook. 1973, 200 pages, $2.50.

This manual is designed for students exploring the DE area. It has behavioral objectives for the year, cluster descriptions, suggested activities, and resources. Most areas and jobs in distribution are included.

CAREER INFORMATION UNIT FOR DISTRIBUTIVE EDUCATION. Teacher's Manual. 1973, 60 pages, $4.00.

This manual was developed by DE teachers using the cluster approach. It is designed for career exploring for DE students. Test samples are included in the appendix.

CASE STUDIES - Set I. 1973, $4.00.

This unique approach to analyzing marketing problems in this collection of cases includes an instructional summary booklet. The plastic-wrapped set of five file folders contains information on retail buying, employee relations, business letter writing, management decision making, and credit and collections.

CASE STUDIES - Set II. 1973, $4.00.

This set of case studies includes five packets of materials covering areas such as sales promotion, advertising, retail math, personal selling, and miscellaneous case studies. Each title comes in a separate file folder. Each case is on a separate sheet for ease in duplicating and for student answers. Following each case is a list of notes to the coordinator on that case. At the end of each file is a list of references for the cases.

CHANNELS OF DISTRIBUTION. Teacher's Guide. 1968, 26 pages plus 14 masters for transparencies, $2.00.

The unit provides basic material for students to gain a knowledge of distribution and its significance in providing consumers with goods and services. Wholesaling, retailing, and service type operations are covered. The transparency originals are keyed to the concise content.

CHECK CASHING PROCEDURES & CASH HANDLING CONTROL. Store Security Series. 1972, 64 pages, $3.00.

This is an excellent training program to train employees about the problems with handling checks in a retail store, including a section on shortchange artists. This teaching outline also features 30 handouts to be used with the training session.

THE COMMON MARKET AND INTERNATIONAL TRADE. 1971, 37 pages, $1.50.

This narrative manual explains the characteristics of the countries comprising the common market. Their importance to world trade and their relationships with the

United States are detailed for the teacher and students. The unit lends itself well to reproduction for the whole class. Student assignments are given at the end of each section.

COMMUNICATIONS IN DISTRIBUTION. 1970, 110 pages, $3.00.

This is a two-part manual featuring written and oral communications. Examples and handouts apply to distributive occupations. Transparency originals are included.

CURRICULUM GUIDELINES FOR DISTRIBUTIVE EDUCATION. 1970, 97 pages, $2.00.

This curriculum outline places major emphasis on fundamental application of marketing principles. It includes curriculum for the senior distributive education program and the junior-senior program.

A DIRECTORY OF MARKETING AND TRADE ASSOCIATIONS. Teacher's-Student's Resource. 1969, 51 pages, mimeo, $2.00.

This manual contains a listing of marketing and trade associations related to distributive education. The list compiles many sources, thereby facilitating communication and study in any desired area by the student-learner. Areas covered include manufacturing, transportation, communication, wholesale and retail trade, finance, insurance, real estate, and services.

DISTRIBUTIVE EDUCATION RESOURCE SUPPLEMENT TO CONSUMER EDUCATION CURRICULUM GUIDE FOR OHIO. 1971, 60 pages, $2.40 each plus $.40 shipping, secondary.

The manual's objectives are to provide information that will better enable the students to identify and establish their values and goals as they relate to economic competence. Other objectives are to supplement the distributive education curriculum with information that will prepare the student to become a more informed consumer and to help the marketing career student better visualize his customer's buying problems. The manual lists learning concepts, suggested learning experiences, and resources.

THE DE STORY. 40 35mm slides with reel-to-reel or cassette tape, $10.00.

The film explains the concept of DE and shows students on the job, explains job duties, and attempts to answer all questions concerning the classroom-job training concept.

ECONOMICS FOR DISTRIBUTIVE EDUCATION. Student's Resource. 1969, 37 pages plus originals for making 17 transparencies, $2.00.

This manual contains an introduction to the study of economics with emphasis on the economic functions as they affect marketing and distribution. Basic concepts explored include supply and demand, production, and prices. Through this introductory course students gain a deeper insight into the workings of the Nation's economic system.

INTRODUCTION CARD. Teacher's Resource. (Cooperative Training.) 1965, 1 page.

This is a printed 3" x 5" card used by a coordinator when a cooperative education student reports to a prospective employer. The reverse side of the card may be used by the employer to indicate his decision relative to hiring the student.

INTERNAL SHRINKAGE CONTROL. Store Security Series. 1973, 100 pages, $3.00.

This is a 10-session training plan to alert managers to the problems of losses from within the retail store. A wealth of materials comes with the manual, including 24 transparency masters, 6 handouts, film resources, and 5 sets of student activities.

JINGLE BELL PRE-CHRISTMAS TRAINING. 1971, 62 pages, $2.00.

The manual contains a complete outline of the necessary elements in establishing and teaching a pre-Christmas sales training program. This includes the author's promotional efforts, his teaching outline, many handouts, and suggestions for success.

LEADERSHIP TRAINING. 1972, 81 pages, $2.00.

Supervisory skills are stressed in a functional outline discussing qualities of a leader, working with people, and efficiency as it applies to leadership.

A LIBRARY FOR DISTRIBUTIVE EDUCATION. Teacher's Resource. (Cooperative Training.) 1970, 34 pages, $2.00.

The listing contains books on marketing and distribution, including some paperback selections. The alphabetical arrangement covers a spectrum from "Accounting" through "Vending Machines." This is a helpful source book for the teacher, coordinator, and librarian.

MANAGEMENT TRAINING. 1970, 61 pages, $2.00.

Techniques of efficient management including concepts, communication skills, performance goals, and supervision are covered in a practical case study format.

MARKETING RESEARCH. 1972, 71 pages, $3.00.

This manual presents a step-by-step analysis of the methods used in market research to produce a marketing study for entry in National DECA competition. It includes a teaching outline and 31 transparency masters of pages from an award-winning manual.

MR. EMPLOYER. (Cooperative Training.) 1970, 4 pages, $.04 each.

This is a handout for businessmen, parents, and students which explains briefly the distributive education program and the responsibilities of all parties involved.

OHIO DECA'S NUMBER ONE. 1973, 70 slides with choice of reel-to-reel or cassette, $15.00.

The 70 slides and accompanying tape of one's choice explain in detail the events at Ohio's Fall Delegates Conference. It introduces one to the excitement of state

officer elections and the judging of Miss Ohio DECA, providing an excellent beginning of the year DECA motivator.

OHIO DECA'S TOPS IN MARKETING. 1973, 80 slides with choice of reel-to-reel or cassette, $15.00.

The 80 slides and accompanying tape of one's choice explain the state competitive events with close-up shots of students in competition as well as some of the thrilled winners. This slide presentation was designed to update older versions which are no longer factual and to give the coordinator material to motivate a group of students as they begin to think about state competition. It would also provide good public relations material for showing to parents, business people, or for recruiting.

PROJECTS FOR JUNIOR STUDENTS. 1971, 39 pages, $2.00.

Ten group projects are outlined for junior distributive education students. Student work forms are included along with explanations for the teacher which will carry the group through each step of the project.

RECEIVING CONTROLS. 1971, 53 pages, $2.00.

This much needed manual covers store control procedures and methods very specifically. The outline reinforces control concepts and indicates clearly the relationship of controls to the retail flow of merchandise. It covers the mechanics involved and discusses prevention of common control problems.

REDUCING SHOPLIFTING. Store Security Series. 1973, 58 pages, $3.00.

This is a much used manual designed to pinpoint the methods used by shoplifters, their motives, ways to deal with them, and methods to protect one's business against them. The manual contains handouts, case studies, tests, and a complete teaching outline.

SELECTION, PLACEMENT, AND EVALUATION. 1971, 41 pages, $2.00.

This 41-page booklet suggests all the forms a coordinator would need for a cooperative distributive education program. It includes formats for interviewing students, progress reports, agreements, and follow-ups which would also be adaptable to other vocational programs besides DE.

SIMULATIONS AND GAMES. 1972, 77 pages, $2.00.

This is a basic guide to marketing and business-oriented games which can be purchased by the coordinator for classroom use. As a new media field for teaching, these simulations and games should be investigated and adapted for specialized educational purposes. This 77-page manual explains the game and lists the name and address of the source and price.

TELE-TECHNIQUES MEAN BUSINESS. 1971, 72 pages, $3.00.

This manual is directed to adult students who wish to learn the businesslike manner of handling different types of phone calls. Telephone personality improvement and selling skills are covered in depth.

TEN STEPS OF A PLANNED SALES PRESENTATION. 1972, $2.95.

This 12-inch 33 RPM record and script booklet is a sales training item that could be used by a large group or individual student. Narrated by Cloyd Steinmetz, a top salesman and sales trainee, it is an enthusiastic presentation of 10 selling tips to motivate sales trainees.

TOLEDO TITLE SLIDES. 1972, 20 35mm slides, $5.00.

Toledo Public Schools developed a fine DE promotional slide presentation including very professionally-done lettered slides which served to introduce each area covered. These slides (title slides) were duplicated with Toledo's permission. By purchasing these slides, a fine presentation for a local program can be developed. Simply use these twenty slides as a skeleton and complete with pictures of individual students.

UNIPAC: BUSINESS ORGANIZATION. 1971, 51 pages, $1.50.

This individual student package of nine lessons is designed to give a basic understanding of the three main types of business organization. This 51-page booklet has a pretest, post test, and practice exercises or a project for each section.

UNIPAC: DISTRIBUTIVE EDUCATION. 1971, 29 pages, $1.50.

This individual student package of four lessons is designed to give a basic understanding of distributive education before a high school student decides to enroll in the program. This 26-page booklet consists of a pretest, post test, and practice exercises for each section.

YOUR FUTURE IN RETAILING. 1972, 54 35mm slides with reel-to-reel or cassette tape, $15.00.

This presentation was funded by the Sears Roebuck Foundation. It is professionally done and features outstanding photography and a sound studio tape with the narrative by a radio announcer. The series pictures a trip through a large modern department store showing the different jobs available for vocational students. It is excellent for recruiting vocational students or for introducing DE students to the many operations involved in large store retailing.

OKLAHOMA

DISTRIBUTIVE EDUCATION I - A COURSE OF STUDY. 1973, 524 pages, $12.00, 10th grade.

This color-coded publication written for grade 10 includes the following areas: orientation, importance of distribution, careers, personal development, human relations, job skills, employment, financial management, business math, and audiovisual supplement. The self-contained units of instruction include performance objectives, suggested activities for teacher and students, information sheets, assignment sheets, transparency masters, tests, and answers to tests.

DISTRIBUTIVE EDUCATION II - A COURSE OF STUDY. 1971, 987 pages, $15.00.

This color-coded publication for distributive education covers ten topics: orientation, human relations, basic selling, knowing merchandise, sales promotion,

visual merchandising, readying merchandise, location and layout, store organization, and American market. Each self-contained instructional unit includes performance objectives, suggested activities for student and teacher, information sheets, assignment sheets, transparency masters, tests, and answers to the test.

DISTRIBUTIVE EDUCATION III - A COURSE OF STUDY. 1972, 784 pages, $12.00.

This color-coded publication designed to follow the DE II course of study includes the following areas: introduction to business management, marketing research, problems of selecting site location and layout, financial requirements of a business, purchasing and merchandising management, internal business organization, problems in sales promotion, and sales management. The self-contained units include performance objectives, suggested activities for teacher and students, information sheets, transparency masters, assignment sheets, tests, and answers to tests.

OREGON

COOPERATIVE WORK EXPERIENCE. Coordinator's Manual. 1970, 29 pages, $.85.

This manual outlines factors which need to be considered before implementing a cooperative program, steps to be taken in planning stages, responsibilities of various participants, and minimum criteria requests to qualify for state reimbursement.

MARKETING. Curriculum Guide. 1970, 109 pages, $2.50.

This guide outlines the basic skills and knowledge necessary for entry-level competencies in the broad field of marketing or for entrance into apprenticeship, post high school, or university programs. A large number of occupations were reduced to six key occupations which are considered to be representative of marketing occupations. The key occupations analyzed include: salesman - driver, real estate salesman, insurance salesman, food products salesman, building and construction equipment and supplies salesman, and general salesman.

PENNSYLVANIA

DISTRIBUTIVE EDUCATION CURRICULUM. 1973, 353 pages, $.54, 10th, 11th, and 12th grade.

This guide gives the teacher an opportunity to do some broad planning within the distributive education programs, to include DECA activities, and school and community resources. Suggestions for course content for 10th, 11th, and 12th grades are recommended.

DISTRIBUTIVE EDUCATION TRAINING PLANS FOR HIGH SCHOOL COOPERATIVE DISTRIBUTIVE EDUCATION PROGRAMS. 1973, 85 pages, free.

This manual is designed to provide model training plans for a variety of occupations assigned to distributive education. Eighteen areas are included such as advertising services, apparel and accessories, automotive, finance and credit, floristry, and food distribution.

HANDBOOK: CONDUCTING DISTRICT STATE CAREER DEVELOPMENT CONFERENCES. 1973, 34 pages, free.

This publication is intended to give guidance to all distributive education personnel that have responsibilities in conducting distributive education career development conferences. The manual lists specific activities to be accomplished by those given responsibilities in conducting a leadership conference with a time schedule for completion of activities.

HANDBOOK FOR DISTRIBUTIVE EDUCATION TEACHER COORDINATORS. 1970, 99 pages, $.53.

The purpose of this handbook for distributive education is to define the responsibilities of school administrators and DE teacher-coordinators pertaining to the developing and maintaining of a quality distributive education program. The declared intent of the handbook is to serve as a tool for practical and philosophical educational development of a sound program. Included are suggested forms for use in coordination of the program and a suggested self-evaluation.

SOUTH CAROLINA

ACTIVITY PROGRAM--DE CLUBS OF AMERICA. Teacher's Resource. 1971, 23 transparencies, $3.25.

These 23 transparencies give a view of the international, national, state, and local organizations of distributive education clubs. They present the awards, activities, and purposes of the organization.

BASIC INSTRUCTIONAL SERIES FOR DISTRIBUTIVE EDUCATION. Teacher's Manual. 1971. 23 pages, $1.25, 9th, 10th, and 11th grade.

This booklet presents a topical outline of the basic curriculum material keyed to manuals of instruction provided for each teacher-coordinator of distributive education in South Carolina.

DE BULLETIN BOARD IDEAS. Teacher's Manual. 1973, 17 pages, $4.85.

This second publication on bulletin board ideas presents 17 examples of bulletin boards which could be used for DE recognition, identification, and student recruitment of prospective DE students. The needed materials and supplies, cost, and time for each bulletin board theme are given. This publication does not duplicate other publications of bulletin board ideas.

DISTRIBUTIVE EDUCATION STUDENT HANDBOOK. Student's Handbook. 1969, 13 pages, $.75.

This handbook is addressed directly to the student and includes such things as duties and responsibilities of a DE student, a code of ethics, the distributive education club, one's future in DE, and a place to record dates to remember. The use of color and the inclusion of illustrations make it an attractive student publication.

EMPLOYEE'S ROLE IN THEFT REDUCTION. Teacher's Guide. 1971, 47 slides with script, $13.00, 11th or 12th grade.

This script and set of 47 slides emphasize the need for the employee to use effective security practices. The external phase of theft reduction should be shown during the junior or senior year.

FILING - THE KEY TO BETTER ORGANIZATION FOR TEACHING MARKETING AND DISTRIBUTION. Teacher's Guide. 1971, 22 pages, $5.25, secondary.

The distributive education file index is presented in 16 major sections. Three and one-half of these sections are devoted to noncurricular program areas designed as supporting information, while the remaining twelve and one-half sections have direct curriculum relationship. Also included are file folder tabs as well as systems to organize files.

A GUIDE TO THE PREPARATION OF STUDIES IN MARKETING. Teacher's and Student's Manual. 1972, 60 pages, $3.00, 10th, 11th, and 12th grade.

This manual was developed to help teachers and students better understand the purposes of the studies in marketing and to give them practical information in the actual preparation of the study. The DECA Handbook is the guide for the brochure.

A GUIDE TO THE PREPARATION OF AN AREA OF DISTRIBUTIVE MANUAL WITH SLIDES. Teacher's and Student's Manual. 1972, 73 pages, 22 slides, $12.00, 10th, 11th, and 12th grade.

The purposes of this manual are to give the students experience in research, selection, and organization of information for practical use in one area of marketing and distribution; to provide learning experiences which contribute to occupational competence for careers in marketing and distribution; and to provide cocurricular activities relating directly to classroom instruction. Accompanying the book is a set of 22 slides designed to be used by the teacher in introducing students to the area of distribution manual as a research project. The script for the slides is included in the book.

RECRUITMENT IN DE. Teacher's Guide. 1971, 20 pages, $1.25; also available 31 transparencies, 1971, $2.75, 9th and 10th grade.

This manual provides information concerning the recruiting of DE students. A set of transparencies accompanies the manual. It includes samples of forms to use in recruiting students, a sample letter to students and parents for DE, and student agreement forms.

TEACHER-COORDINATOR HANDBOOK WITH SLIDES AND SCRIPT. Teacher's Handbook. 1973, 80 slides, 58 pages, $19.00.

This handbook is designed to present information and suggestions for developing a more effective and productive distributive education program. It can be used as a guideline to aid new and experienced teachers, school administrators, guidance personnel, the public, and students. Accompanying the book is a set of 80 slides

with script designed to be used by teacher-coordinators in introducing students to distributive education.

TEXAS (UT)

APPLIED ARITHMETIC FOR DISTRIBUTION. Student's Manual. 1970 (Reprint), 95 pages, $3.00.

The information and the problems in the assignments are designed to equip the trainee with the skills of arithmetic suitable for application to merchandising problems. The 18 assignments are categorized under 5 main sections. Involved are computations in earnings, payroll and productivity; discounts and interest; margins, markdowns, and expenses; and turnover and profit. The closing section deals with interpreting business records.

APPLIED ARITHMETIC FOR DISTRIBUTION ANSWER BOOK. Teacher's Manual. 1970 (Reprint), 42 pages, $1.25.

The answer book provides solutions to problems and information about projects and speeds the teacher-coordinator's evaluation of student progress. There is also a helpful bibliography provided which contains many helpful texts and references.

ARITHMETIC FOR DISTRIBUTION DRILLS. Student's Manual. 1968 (Reprint), 97 pages, $3.00.

The content has been prepared for individual student instruction. It is intended to supplement class discussion and drill in arithmetic. Material in the manual is to be covered by first-year students. In the four sections are covered such items as arithmetic fundamentals, mathematics for distribution, one and one's federal income tax, and administrative mathematics. Twenty-five units of instruction are included in the publication.

ARITHMETIC FOR DISTRIBUTION DRILLS ANSWER BOOK. Teacher's Manual. 1969 (Reprint), 28 pages, $1.50.

This manual contains the answers to the problems and assignments contained in the student's manual.

BASIC MATH OF DISTRIBUTION. Teacher's Guide. 1969, 176 pages, $6.00.

The publication is written from the point of view that in distributive education it has long been recognized that the teaching of math has needed a fresh approach or direction. The approach used in the guide is from the concept of profit in distribution. There are three parts that make up the content: Part I - The Principles of Profit; Part II - The Improvement and Development of Math Skills; and Part III - The Application of Math to Distributive Functions.

COLOR DYNAMICS. Student's Manual. 1968, 173 pages, $8.95 for the kit.

A basic knowledge of color is vital to merchandising and product information. The references used in the assignments are the best and simplest that could be found for high school level understanding. There are 21 assignments in the manual. Each assignment contains information about a specific topic, a series of questions to be answered, and several projects challenging to the trainee. The kit includes a student's assignment manual, an answer book for the teacher, and three reference booklets.

COLOR DYNAMICS ANSWER BOOK. Teacher's Guide. 1968, 77 pages, priced with the kit.

The answer book aids the teacher in assessing the degree of learning and understanding achieved by the trainee. The kit includes a student's assignment manual, an answer book for the teacher, and three reference booklets.

COMMUNICATION IN DISTRIBUTION. Teacher's Guide. (Cooperative Training.) 1968, 175 pages, $7.00.

The guide is prepared to help distributive education teacher-coordinators convince students that their communication can be effective and vital in their lives. Content is set up in a two-column format with suggestions to the teacher given on one side and the teaching outline on the other. Five units are included: communication defined and explained, listening and observing, reading, oral communication, and written communication. The level of content is first year basic instruction.

COMMUNICATIONS (ORAL AND WRITTEN). Teacher's Guide. 1964, 173 pages, $3.75.

The primary focus of this guide is to help each trainee understand and master the techniques of oral communication in order to use these skills in influencing others positively. Part one contains seven units dealing with oral communications. Part two, dealing with written communications, has ten units. Written assignments are incorporated into the guide to assist the teacher in developing student comprehension.

DATA PROCESSING AS IT APPLIES TO DISTRIBUTION. Teacher's Manual. 1970, 113 pages, $5.00.

This teacher's manual provides a simple and direct approach to data processing and the use of computers. Subjects include: what is data processing?, factors of improved data processing methods, electronic data process, and the application of EDP to distributive business operations.

DISTRIBUTION IN OUR ECONOMY. Teacher's Guide. 1970 (Reprint), 80 pages, $2.50.

This guide is intended to expose the displaced worker to a description and an analysis of the economic system as related to distribution. Major divisions within the manual include such topics as economics defined and explained, scope of the economy, economic concepts as they relate to distributive education, and career opportunities in distribution.

THE HOW IN PARLIAMENTARY PROCEDURES. Student's Workbook. 1969, 23 pages, $1.00.

The workbook contains 12 assignments that include problems and projects. Students are urged to role-play situations to develop skill in handling meetings with members of a peer group. A section of the booklet is set aside for a definition of terms based upon Robert's Rules of Order.

THE HOW IN PARLIAMENTARY PROCEDURES. Teacher's Answer Book. 1969, 44 pages, $1.50.

This answer book, in addition to providing the teacher with the needed information for evaluating student performance, contains answers to the test on the first six assignments, a suggested test on the last six assignments with answers, and a definition of terms used in parliamentary procedures.

HOW TO SUPERVISE EMPLOYEES. Instructor's Manual. 1969 (Reprint), 71 pages, $5.00.

The manual contains the basic steps in training and covers techniques for clarifying skill development, factual information, and attitude development. Several helpful passout sheets are available in the manual as well. This package includes How to Train An Employee.

HOW TO TRAIN AN EMPLOYEE. Instructor's Manual. 1969 (Reprint), 54 pages, priced with above manual (HOW TO SUPERVISE EMPLOYEES).

This manual contains the familiar two-column approach of teaching tips and content. There is included as well a set of 18 passout sheets which the instructor can reproduce and use in teaching the course. Topics covered include such items as ways to induct an employee, to follow up, and to handle grievances, and a check-up on supervision.

PERSONAL QUALITIES FOR SUCCESS IN DISTRIBUTION. Teacher's Guide. 1969 (Reprint), 50 pages, $1.50.

The guide was developed to meet the needs of individuals preparing for entry jobs in distribution. It consists of five units and a bibliography. Topics covered include the able man and his health, attitudes, and ethics. Ways to apply for a job are also included in the content of this booklet which is one of a series consisting of four manuals entitled the Preparatory Series. All four manuals purchased as a set sell for $9.95.

PROJECTS. Teacher's Manual. 1969, 180 pages, $6.00.

This manual makes available to the teacher a wide range of projects for use in teaching situations. It provides sufficient resources to free the instructor to better organize and teach content and to spend more time with individual students. The five units included in the publication are personal qualities for success, arithmetic, communications, distribution in our economy, and basic selling.

SCHOOL AND BUSINESS RELATIONSHIPS. Teacher's Guide. (Cooperative Training.) 1969, 150 pages, $5.00.

This manual contains basic information needed by the teacher-coordinator in working with cooperative education students. A preview outline helps the instructor organize and plan the areas of major importance for the learners. The guide covers four units: an introduction to distributive education, orientation, personal development and preparation for work, and one's career in distribution. The level of content is first year basic instruction.

TECHNIQUES OF JOB ANALYSIS. Instructor's Manual. 1969 (Reprint), 89 pages, mimeo, $4.50.

The course provides for practical working knowledge of the job analysis techniques. It is set up on the basis of ten hours of instruction. Topics covered in the two-hour sessions include an introduction to job analysis, preparation of forms, techniques of collecting information, processing, and putting the job analysis to work.

THE USE OF BEHAVIORAL OBJECTIVES IN THE PREEMPLOYMENT LABORATORY CURRICULUM OF DISTRIBUTIVE EDUCATION. Teacher's Handbook. 1970, 43 pages, $3.00.

It contains six sections dealing with behavioral objectives and their use and application in distributive education. There are available in the handbook definitions, examples of behavioral objectives, and applications of the use of objectives in the preemployment laboratory.

VIRGINIA

HUMAN RELATIONS IN MARKETING. 1971, 136 pages, $1.25, 11th grade.

The content of this manual focuses on self-improvement in human relations and preventing and solving problems involving associations with coworkers, supervisors, and customers. Case problems and role playing are the primary instructional methods employed. A variety of vocational learning experiences in the form of projects is provided.

WASHINGTON

DISTRIBUTIVE EDUCATION COURSE OUTLINE. 1972 (Revised), 250 pages, $9.50.

This course of study was developed by ten DE coordinators. The old 1964 units were updated using performance objectives and then each unit was tested. Each unit contains objectives, sources, outline, and activities. The material is in loose-leaf form. Areas of instruction include the following: orientation, job placement, personality improvement, human relations, salesmanship, product knowledge, communications, math, store policy, security, cash register, sales promotion, careers, and other subject matter.

WEST VIRGINIA

CURRICULUM GUIDE AND HANDBOOK. (Cooperative Training.) 1969, 88 pages, mimeo, $1.50.

The guide has been developed for use by teacher-coordinators. The content is divided into ten sections including: preparatory curriculums, organization and administration of adult programs, the DE coordinator, organization and operation of cooperative education, the project method in high school programs, and DE Club activity. The handbook contains sections on evaluation and resources.

OCCUPATIONAL RESOURCE MATERIAL

Materials that follow are general in nature, apply to all vocational areas, and are listed under the headings of Administrator's Resource, Career Education, Student's Resource, or Teacher's Resource. The Teacher's Resource material may prove helpful to supervisors and administrators as well.

ADMINISTRATOR'S RESOURCE: All Vocational Areas

OHIO

ORGANIZATION AND OPERATION OF A LOCAL PROGRAM OF VOCATIONAL EDUCATION: 1968, 86 pages, $1.00 plus $.40 shipping.

This publication deals with establishing, maintaining, and improving comprehensive programs of vocational and technical education. The publication should prove to be a valuable guide for administrators of vocational and technical education programs: superintendents of schools, directors, coordinators, or deans. The references at the end of each chapter provide added resource material helpful to those who desire to pursue information in depth.

SUGGESTED SPACE AND EQUIPMENT COSTS FOR JOB TRAINING PROGRAMS. Planning Guide. 1967, 53 pages, $1.50.

This illustrated guide was prepared to assist school administrators, architects, home economics teachers, and others to plan and develop programs in high schools and joint vocational schools. Details for space and equipment have been developed at an optimum level. The facilities suggested would provide for self-contained work experience opportunities within the school. A bibliography is included.

PENNSYLVANIA

COOPERATIVE VOCATIONAL EDUCATION EVALUATION CRITERIA. 1972, 8 pages, free.

This manual is designed to be used in evaluating cooperative vocational education programs.

VERMONT

GUIDELINES COOPERATIVE VOCATIONAL EDUCATION IN VERMONT. 1972, 96 pages.

This manual provides guidelines for developing a cooperative vocational education program in Vermont. Part I includes cooperative vocational education programs in area vocational centers and Part II covers cooperative vocational education in other high schools.

CAREER EDUCATION: All Vocational Areas

ALABAMA

CAREER GUIDANCE HANDBOOK. 1973, 23 pages.

This handbook briefly explains a career guidance program, what it is, and ways to do it. It lists components of a career guidance program and responsibilities of the following persons for career guidance: guidance specialists, teachers, vocational educators, administrators, parents, and other community members.

ARIZONA

CAREER EDUCATION CLEARINGHOUSE BIBLIOGRAPHY AND INDEX. 1972, 350 pages.

This guide contains three major sections: an annotated bibliography of all materials, indexes to Arizona career education materials by career education element and grade levels, and indexes to other project and non-project produced materials by subject-matter area and grade levels.

COLORADO

COMMUNICATIONS AND MEDIA. 1972, 137 pages, $5.00, junior high and high school level.

This guide provides units of instruction in the following areas of the communications and media cluster: reading skill development, meeting the public, listening and following directions, parliamentary procedure, group discussion, public speaking, conversational skill, use of references, and mass media. It is suggested for use as a separate "mini" course or as part of an English class at the junior high or high school level.

DELAWARE

INTRODUCTION TO THE WORLD OF BUSINESS. Curriculum Guide. 1973, 90 pages, $1.25, 9th grade.

This curriculum guide provides instruction for a ninth grade course concerning career opportunities within the world of business. It is a three-column guide giving goals and objectives, procedures and activities, and resources and references. The units are designed to provide information as well as "hands on" experiences necessary to aid in career selection.

IOWA

AN INDIVIDUALIZED PROGRAM FOR COLLEGE AND CAREER. 1973, 100 pages, $20.00, high school and junior college level.

This is an individualized program designed to be used in a resource center or other independent study area under the direction of a student advisor. After a period of evaluation to determine the student's strengths and needs, the student selects the options on which he wishes to concentrate his efforts. The material does not include instructions for use. Anyone planning to use the system would need to obtain more information about it. Material is written with objectives and does include multi-media resources and books.

MAINE

CAREER EDUCATION IN MAINE BROCHURE. 1973, 23 pages.

This is a short brochure explaining general concepts of career education. Included is a short description of career education programs in Maine. It is designed to make teachers in Maine aware of career education and to provide insights, perspectives, and knowledge of ways career education can be planned and implemented in Maine schools.

CAREER EDUCATION IN MAINE CURRICULUM GUIDE. 1973, 268 pages.

This curriculum guide is designed to provide Maine educators with a model for developing concepts, activities, and resource materials that will introduce career education into the schools. It contains a short chapter on concepts and a chapter delineating the role of the teacher, the counselor, the administrator, the school board; the State Department of Education, the career education coordinator, and the guidance aide. The next four chapters provide examples of activities developed and tested in Maine schools for integration of career education into the classroom at elementary and junior and senior high school levels. This is a helpful publication for schools developing a career education program.

CAREER EDUCATION K-12 - SAD #9. 1973, 95 pages.

This is a final report of a research and development project in career education conducted under Part C of Public Law 90-576. The project was conducted for one year in School District Number 9, Farmington, Maine. The communities served by this district are mostly small and rural. A comprehensive report includes goals and objectives, procedures followed, results and accomplishments, conclusions, implications, and recommendations for the future.

MARYLAND

CALLING CAREERS. Television Series. 1973, 15 lessons.

Lesson #4 Medical Services I and Lesson #5 Medical Services II are segments of a career awareness series suitable for the intermediate grades. A teacher's manual and supplement are included. Produced by Division of Instructional Television, in collaboration with the Division of Vocational-Technical Education, Maryland State Department of Education, it is available for out-of-state telecast through the Eastern Educational Network. Direct inquiries to: Eastern Educational Network, Howard Spergel, 381 Elliot Street, Boston, Massachusetts 02164.

MISSISSIPPI

TEACHER'S GUIDE FOR OCCUPATIONAL ORIENTATION: AN INTRODUCTION TO THE WORLD OF WORK. 1972, 452 pages, $7.50.

This guide is designed to help the teacher plan a course of study for a class in occupational orientation/career education. Ideas could be adopted by teachers in other classes who wish to integrate some career orientation. Topics covered include: the importance of work; understanding the world of work; what is success?; preparing for a career; and exploring service occupations, business contact occupations, organization occupations, technology occupations, outdoor occupations, general cultural occupations, and arts and entertainment occupations. Student materials are also available.

MISSOURI

JOB APPLICATION AND INTERVIEW. Instructor's Guide. 1973, 354 pages, $15.00 plus postage and handling, high school and adult basic education.

The instructor's guide is divided into nine instructional units: why work; career opportunities; occupational information; self-evaluation; letter of application and application blank; job interview, tests, and forms; money management; job success factors; and job promotion and advancement. Each instructional unit includes behavioral objectives, suggested activities for teacher and students, information sheets, visual aids, tests, and answers to the tests. Units are planned for more than one lesson or class period of instruction.

NEW JERSEY

AN AGE-GRADED MODEL FOR CAREER DEVELOPMENT EDUCATION. 1969, 41 pages, $2.50.

This is an invaluable aid in developing and implementing career education. It discusses the theoretical underpinnings of child development and constructs a model for career development on a K-12 continuum. It examines the practical applications of the theories of self-awareness, career awareness, and career decision making.

CAREER DEVELOPMENT - INCREASING THE VOCATIONAL AWARENESS OF ELEMENTARY SCHOOL CHILDREN. Guidebook for Teachers. 1969, 31 pages, $1.50.

This is a six-part volume. The first two parts introduce the problems associated with the development of vocational awareness and introduce a concept model for the systematic introduction of the concept. The third part provides material which may be used in classroom assessment of vocational awareness. Section four provides sample instructional units for increasing vocational awareness. Section five describes some commonly used social studies activities which enhance vocational awareness. Section six introduces several job families or clusters of occupations.

CAREER DEVELOPMENT - JOB PLACEMENT. 1969, 63 pages, $1.50.

The first thirty-four pages develop the concept of job placement. This development starts with a detailed identification of the nature of the problem and a rationale for handling the problem. Sections three and four provide specific, concrete suggestions for the initiation and operation of a job placement program. The last twenty-nine pages report some of the information gained in the operation of five experimental job placement programs.

INTRODUCTION TO VOCATIONS. Teacher's Guide. 1973, 450 pages, $7.50.

This manual contains material which may be used as a text by the teacher for student instruction. It is also intended to be used as a guide to assist the teacher and coordinator of the program. It contains the following cycles: know yourself, environment, health and environmental careers, mechanical contracting, science-engineering-technology, small business, textile, transportation, and the following mini-cycles: bookkeeping, beauty culture, business education, careers in advertising, florist-horticulture, graphic arts, measurement, police careers, and United States Coast Guard.

INTRODUCTION TO VOCATIONS FOR EDUCABLE MENTALLY RETARDED. 1972, 55 pages, $1.00.

This is a part of career development for a special group. It is designed to aid the teacher and covers the following: general plans, the student as a member of society, economic aspects of living, exploratory units on occupation employment information, bibliography, information form, occupational interest form, and jobs for the retarded.

PHYSICS AND CHEMISTRY FOR AUTOMOTIVE TRADES. 1972, 243 pages, $2.50, 11th and 12th grade.

This manual contains units on introduction to physical science, matter and its properties, mechanics, heat, electricity, sound, and light. Each unit consists of related information, illustrations, and experiments.

NEW YORK

IDENTIFYING OPPORTUNITIES FOR EMPLOYMENT. Instructor's Guide. 1973, 84 pages, $.50.

This publication is intended to expose the students in adult basic education programs to some possibilities for marketing their newly acquired skills. The curriculum is sequenced as one unit in five phases, but any one of the sections could be used for individual guidance, for small group instruction, or for mini-seminars. Sections covered are: evaluating interest and abilities, preparing for employment, exploring the world of occupations, planning and preparing for interviews, and getting the job.

OHIO

OCCUPATIONAL WORK EXPERIENCE STUDENT HANDBOOKS. 1973, $8.00 plus $.40 shipping, available only as complete set, one set per student.

This is a set of 32 individual student handbooks designed for students enrolled in the Occupational Work Experience program in the Ohio Public Schools. This program is to provide an opportunity for students who are not intending to go to college or to a technical school to learn a trade so they can be employed immediately after high school. It consists of a half-day school program and a half-day training on the job. The handbooks can be used for individual instruction on a variety of topics such as reasons to stay in school, safety, conducting a meeting, decision making, ways to apply for and get a job, personal budgeting, and personality.

OKLAHOMA

CAREER EXPLORATION - A GUIDE FOR TEACHERS. 1970, 101 pages, $1.75, 8th, 9th, and 10th grade.

This guide is designed for use by teachers to plan and implement a course in exploration of careers for grades 8, 9, or 10. Units included are: know yourself, world of work, use of occupational information, and career education planning. This guide is written in a four-column format with objectives, activities, evaluation, and resources. The objectives are not behavioral.

A GUIDE FOR DEVELOPMENTAL VOCATIONAL GUIDANCE. 1973, 173 pages, $2.00.

This resource guide is divided into four sections: grades K-3, grades 4-6, grades 7-9, and grades 10-12. Each section contains general goals of vocational guidance for that grade level, specific things which the student needs to know, suggested activities, instructional materials, and resources.

OREGON

CAREER EDUCATION IN OREGON. 1970, 8 pages, $.25.

This is a position paper developed by the Director of Career Education in Oregon to present recommendations for career education in Oregon. It could be interpreted as a statement of broad objectives to implement career education in Oregon.

ELECTRICITY-ELECTRONICS. Curriculum Guide. 1969, 88 pages, $2.50, 7th-12th grade.

This manual was developed for the Oregon Board of Education to be used as a guide to establish a career cluster program in the area of electricity-electronics. The suggested curriculum plan is for grade levels 7 through 12.

GUIDE FOR PLANNING CAREER EDUCATION IN OREGON'S SECONDARY SCHOOLS. 1970, 22 pages, free.

This guide is intended for use by administrators in developing long-range plans for career education in individual schools. It is divided into five major parts: community data, school data, master career education plan, factors of implementation, and long-range planning sheets.

TEACHER'S GUIDE TO SUTOE (SELF UNDERSTANDING THROUGH OCCUPATIONAL EXPLORATION). 1971, 183 pages, $3.00, junior high.

This is a teacher's guide for a year-long course combining occupational exploration and self-understanding. It contains objectives for each unit followed by suggestions for implementation. The units are entitled: Pupil Involvement in SUTOE, Self-Appraisal and Self-Understanding, Relating School to Occupational Planning, The Individual's Role in the Economic System, Preparing Students for In-Depth Career Study, Exploring Jobs, Evaluating Experiences, and Planning Ahead.

WORLD OF WORK. 1971, 68 pages, $1.00, K-12.

This is a curriculum guide which is not self-contained. It uses behavioral objectives and is designed to relate the social studies curriculum to the world of work. For each grade level there are suggested activities, resources, and evaluation suggestions for reaching the objectives. It also includes a bibliography of occupationally oriented books and some worksheets for teacher use in planning the units.

SOUTH CAROLINA

THE WORLD OF WORK - A UNIT IN PRE-VOCATIONAL INSTRUCTION. Teacher's Guide. 1971, 216 pages and 31 game cards, $5.00, 9th and 10th grade.

This guide is designed for a course of instruction for 9th and 10th grade students. The guide contains 20 major activities or units each with objectives, student worksheets, and transparency masters.

TENNESSEE

CHARLES LIVES AND WORKS. 1970, 32 pages, $1.00, high school.

This is a short individualized instructional unit in job hunting, banking, and budgeting for use in vocational improvement programs. It could be used in math, English, or social studies classes at the high school level.

VIRGINIA

INDUSTRIAL ARTS CURRICULUM GUIDE. 1972, 109 pages, $2.50, secondary.

This guide has been designed as a professional resource for the secondary industrial arts teacher. The guide gives specific direction to the broad content courses in industrial arts and provides supplementary direction to the general unit-type courses. It includes a series of approaches to teaching industrial arts curriculum, ways to use educational television, a resource index, and transparency masters.

WASHINGTON

GUIDELINES FOR CAREER AWARENESS PROGRAMS FOR THE ELEMENTARY SCHOOL - PART 3: WHAT ABOUT VOCATIONAL EDUCATION? 1974 (Revised), 62 pages, free.

This is a resource guide to provide suggestions to elementary teachers in developing career awareness programs. For each grade level it includes goals, concepts and objectives, suggested activities, and learner's expectations. An appendix with resources for career awareness programs is also included.

SUGGESTED GUIDELINES FOR CAREER EDUCATION WORKSHOPS. 1973, 29 pages, free.

To develop continuity in the career education effort, this guide is designed to propose suggested content, methods, and techniques for in-service workshops that will assist teachers in integrating career education into their classrooms.

STUDENT'S RESOURCE: All Vocational Areas

ILLINOIS

APPLYING FOR A JOB. Student's Guide. 1969, 12 pages, $.18.

Many questions confronting students are answered in this leaflet. It deals with such items as taking personal inventory, getting additional training, discovering what jobs are available, writing a letter of application, and being interviewed by a prospective employer.

MISSOURI

BASIC MATHEMATICS. Instructor's Guide. 1971, 88 pages, $1.50.

This guide is designed for vocational students. The concepts of number theory, whole number operations, fractions, decimal fractions, and applied geometry are all included. There are five topic units with eleven developed lessons.

NEW JERSEY

DICTIONARY. 1973, 21 pages, $.50.

This manual can be used by students and is designed to give information on ways to use a dictionary. There are sample problems to provide the learner with learning experience needed to use a dictionary.

ENGLISH AT WORK - VOLUME I. 1970, 248 pages, $2.50.

This is written for the high school student who plans to go to work upon graduation. The format and examples are designed to motivate the vocational student. The table of contents lists ten unit titles: The Role of Language, The Dictionary, The Sentence, Written Expressions, Common Mistakes, Reading, The Newspaper, The Library, Expressing Yourself, and Spelling.

ENGLISH AT WORK - VOLUME II. 1970, 472 pages, $2.50.

This volume, as an extension of Volume I, continues in the same vein with no change in philosophy. The general areas covered are listed as units XI through XVI. These units are entitled: Written Correspondence, Vocabulary Building, Punctuation, Straight Thinking, Industrial and Business Forms, and Job Planning.

FINDING A JOB. 1973, 56 pages, $.50.

The publication includes information needed for finding a job. Areas included are: where to look for a job, the interview, things to learn about the job, the application form, and the resume.

THE NEWSPAPER. 1970, 28 pages, $.50.

This publication was developed to help the student learn to read and use newspapers. Problems and quizzes are included.

OHIO

JOB METHODS FOR SUPERVISORY PERSONNEL. Handout Sheets. Leader's Resource Material. 1966, 15 pages, $1.00 plus $.40 postage and handling.

This portfolio of handout sheets is essential for students to illustrate important points. Each of the 15 sheets is keyed for use in the instructor's manual and should be given to learners and participants at the appropriate time.

SOUTH CAROLINA

LOCATING AND SECURING A JOB; Student's Manual. 1970, 29 pages, $.75.

The manual was prepared for high school students enrolled in vocational education courses. Addressed to the student, the manual takes him through a series of seven steps in securing a job. There are assignments and helpful illustrations which provide opportunity for the application of the ideas set forth in the text material.

TENNESSEE

VOCATIONAL RELATED MATH--BLAST OFF! 1971, 169 pages, $4.75.

This manual was designed for student use. At the beginning of each unit is a skill test. As long as the student successfully completes all the problems on these tests, he gets to disregard all of the assignments in that unit. The content includes the number system, addition, subtraction, multiplication, and division of whole numbers.

VOCATIONAL RELATED MATH--TOUCHDOWN! 1971, 125 pages, $4.25.

This publication is designed to help a student improve math skills. Related information sheets, skill practice sheets, assignment sheets, and evaluation (test) sheets are included. Vocationally related problems are used for skill practice and assignments.

TEXAS

YOUR ATTITUDE IS SHOWING. 1972, $3.90.

This reference manual has been prepared by Elwood H. Chapman and published by Science Research Associates, Chicago, Illinois. It is a part of a set of three manuals dealing with attitudes.

YOUR ATTITUDE IS SHOWING ANSWER BOOK. 1972, $1.25.

This manual contains suggested acceptable answers to the assignment questions. The material is helpful in assessing student understanding and comprehension.

YOUR ATTITUDE IS SHOWING ASSIGNMENT MANUAL. 1972, $1.00.

This publication contains 20 assignments based upon the reference manual described above. Assignments cover such items as fundamentals of good human relations, ways to compensate for youth and inexperience, and ways to make good first impressions.

TEACHER'S RESOURCE: All Vocational Areas

INDIANA

ADVISORY COMMITTEES FOR HOME ECONOMICS. 1969, 17 pages, $.20.

This bulletin was written to help teachers with the organization and implementation of an advisory committee. The contents of this publication are: a description guideline for establishing a committee, steps in organizing and implementing the advisory committee, the meeting, purposes of the committee, a sample letter to members, constitution or guidelines, and a bibliography.

MAINE

IDEAS FOR TEACHERS. 1973, 77 pages.

This booklet was developed to help teachers motivate the disadvantaged, but could be valuable in working with all students. It is a teacher's guide giving suggested teaching activities for such areas as entering the world of work, occupations, living with your job, managing more, mathematics, and other areas.

MARYLAND

A TENTATIVE COURSE OUTLINE FOR USE IN COOPERATIVE VOCATIONAL EDUCATION PROGRAMS THREE YEAR SEQUENCE. 1972, 69 pages.

This is a three-year course outline for cooperative vocational education. The outline includes lessons, suggested activities, and references.

MISSOURI

ORIENTATION TO EMPLOYMENT. 1973, 124 pages, $3.00.

This is designed to aid the teacher coordinators of cooperative education in teaching general employment information needed by young beginning employees. The instruction should be valuable to any young worker regardless of the occupation of the student. The study guide and instructor's manual are each attractively bound in a three-ring plastic binder.

TECHNIQUES OF THE COOP METHOD. Instructor's Guide. 1973, 118 pages, $4.00 plus postage and handling.

The job of the coordinator in cooperative education requires the mastery of many specific skills which are identified and explained in this publication. The performance of the coordinator's role calls for knowledge of concepts and principles which are also described. However, the difference between an outstanding coordinator and one who is only average is usually the application of tricks of the trade that normally are gained only by experience. In this handbook, the author relates the many little tricks that he has found to work from his years of rich experience as a coordinator, supervisor, administrator, and teacher-educator.

NEW JERSEY

STUDENT'S MANUAL FOR SUPERVISED TEACHING OF VOCATIONAL SUBJECTS. Student's Manual. 1970, 63 pages, $2.00.

This manual is prepared specifically for trainees enrolled in the course entitled "Supervised Teaching of Vocational Subjects." Responsibilities and requirements of teaching vocational subjects are stressed in the publication.

TIME. 1970, 65 pages, $.50.

This manual is about time, its importance, its use, zones, and other information. This manual also includes problems and tests.

THE WORKER IN MODERN SOCIETY. 1970, 287 pages, $5.00.

The units presented are: problems of labor and management, capitalism of its rivals, history of the labor movement, structure and function of trade unions, personnel responsibilities in modern industry, problem-solving techniques of labor and management, intra-labor problems, corrective legislation, the worker's responsibility, and forthcoming problems. Each unit is presented as a series of lessons, and each lesson provides various outlooks on the topic presented. Thirty-nine pages of unit tests are included.

WORLD PROBLEMS FOR AMERICANS. 1969, 106 pages, $2.00.

The author intended this book as a guide to be used in exploring contemporary problems. There is no attempt to give final answers. The major areas explored are nationalism, war, rule by force, population, and religions.

NEW MEXICO

PERSONAL GROWTH CURRICULUM FOR ADULT BASIC EDUCATION. Curriculum Guide. 1970, 157 pages, free.

The content is designed not only to provide skill development in mathematics, reading, and writing, but also to develop a new life perspective and an awareness of family and social responsibilities. It is intended to lift attitudes from defeatism and rejection to those of confidence and leadership. The guide contains six major divisions including an introduction, family life, health education, world of work, money management, and citizen government.

NEW YORK

EVERYMAN'S ESTATE PLANNING. Curriculum Guide. 1971, 56 pages, $.50.

This is an instructor's guide for teaching an adult course in estate planning. There are six lessons and a case-problem analysis for planning an estate.

OHIO

A BRIEF GUIDE TO ELECTRONIC ALARM SYSTEMS. 1972, 25 pages, $1.50.

This 25-page summary of various types of alarm systems for retail security was prepared by Mosler Safe Company without bias for their own products. It details the advantages and disadvantages of various alarm systems to aid in the improvement of security.

CREATIVE THINKING. Teacher's Guide. 1969, 100 pages, $3.00.

This guide defines creativeness and presents ways to contribute creatively through an interplan of attitudes, aptitudes, resources, and planning. The unit can be used with high school students, post high school students, and adults. It is intended to provide an introductory study of the principles of creative thinking and to suggest ways and means by which individual and group creativity may be increased.

D.C.T. REFERENCE MATERIALS. 1970, 71 pages, $.50 plus $.40 shipping.

This is a listing of instructional materials for the teaching of prominent vocational subjects. These materials have been chosen by committee for their general excellence and are comprised of publications from most states active in vocational education. Also listed with the title of each publication are the reference materials with the address from which they may be obtained.

GETTING THE RIGHT JOB. Teacher's Guide. (Cooperative Training.) 1970, 54 pages, $1.50.

The content is organized into five units ranging from planning your career objective to the interview. The material is designed to aid the student in locating job sources, applying for employment, and successfully completing the interview. Teaching suggestions helpful in handling the content are included along with some instructional aids for teacher use.

INDUSTRIAL ARTS RESOURCE SUPPLEMENT TO CONSUMER EDUCATION CURRICULUM GUIDE FOR OHIO. 1971, 116 pages, $2.40 each plus $.40 shipping, 9th-12th grade.

This guide has been developed for the purpose of assisting industrial arts instructors in teaching consumer education as an integral part of their program.

MANPOWER TRAINING RESOURCE SUPPLEMENT TO CONSUMER EDUCATION CURRICULUM GUIDE FOR OHIO. 1971, 80 pages, $2.40 each plus $.40 shipping.

This is a teacher's guide for presenting consumer "know how" to the MDTA trainees. It contains concepts, suggested learning and evaluation experiences, and suggested resources.

OCCUPATIONAL WORK ADJUSTMENT RESOURCE SUPPLEMENT TO CONSUMER EDUCATION CURRICULUM GUIDE FOR OHIO. 1971, 63 pages, $2.40 each plus $.40 shipping K-12.

This guide was developed for occupational work adjustment programs in Ohio. It is a teacher's guide including objectives, concepts, and suggested learning and evaluation experiences. Some areas included are the economic system, the job, ways to apply for a job, the paycheck, budgeting, money, banking, and credit.

OCCUPATIONAL WORK EXPERIENCE INSTRUCTOR'S MANUAL. 1973, 121 pages, $4.00 plus $.40 shipping.

This instructor's manual was developed for occupational work experience program use. It covers such areas as safety education in driving, using the telephone, decision making, ways to apply for and get a job, what the employee wants, and other work experience information.

PATHWAYS TO SELF-IMPROVEMENT. 1972, 83 pages, $2.50.

This is a course outline for developing attitudes about a student's personality, personal appearance, and ability to communicate. It includes measurable objectives, teaching content, and projects which will help the student learn to be more successful. Each project has objectives, step-by-step directions, and evaluation rating factors for the coordinator.

THINKING ABOUT YOUR FUTURE. 1971, 2 pages, $.04.

This is a handout used by most coordinators to gauge initial reaction in mass recruiting assemblies. It has a fill-in blank on the back cover for indication of interest in the program.

TRAINING PLANS FOR COOPERATIVE OFFICE EDUCATION. Teacher's Manual. (Cooperative Training.) 1970, 47 pages, $1.00.

This manual contains training plans for a variety of office occupations suitable for a high school cooperative education program.

AN UNDERSTANDING OF ECOLOGY FOR TOMORROW'S BUSINESS LEADER. 1972, 31 pages, $2.00.

A subject of national concern is presented in this teaching outline with the objective of incorporating outside projects to acquaint students with ecological problems in their own community. Several related films are listed as well as many printed references.

OKLAHOMA

COOPERATIVE VOCATIONAL EDUCATION - A BASIC COURSE OF STUDY. 1972, 553 pages, $10.00

This color-coded publication is a basic course of study for cooperative vocational education. Topics covered are: orientation, employment, personal development, employee relations, communications, financial management, and insurance. The self-contained units include performance objectives, suggested activities for teacher and students, information sheets, transparency masters, assignment sheets, tests, and answers to tests.

HANDBOOK FOR COOPERATIVE PROGRAMS. 1972, 51 pages, $1.25.

This publication is to serve as a handbook for teachers of cooperative programs in vocational education. Topics included are: purposes of vocational education, types of programs, responsibilities of the teacher-coordinator and the advisory committee, legal regulations, selection of students and training stations, evaluation, and sample forms to be used in the program.

VOCATIONAL RELATED ENGLISH. Curriculum Guide. 1972, 778 pages, $12.00, 8th, 9th, and/or 10th grade.

This color-coded publication developed for the disadvantaged includes six areas which relate English to the occupational clusters of construction, general mechanical trades, and home and community services. Each self-contained instructional unit includes performance objectives, suggested activities for teacher and students, information sheets, assignment sheets, transparency masters, tests, and answers to the tests. Areas cover general vocational, capitalization, punctuation, parts of speech, the sentence, and usage.

VOCATIONAL RELATED MATH. Curriculum Guide. 1972, 908 pages, $12.00.

This curriculum guide includes seven areas, each consisting of one or more units of instruction. Each instructional unit includes behavioral objectives, suggested activities for teacher and students, information sheets, assignment sheets, visual aids, tests, and answers to the test. Units are planned for more than one lesson or class period of instruction. There are a total of 39 units of instruction covering the following areas: measurement, whole numbers, fractions, decimals, percent, consumer education, and geometry.

VOCATIONAL RELATED SOCIAL STUDIES. Curriculum Guide. 1972, 546 pages, $10.00, 8th, 9th, and/or 10th grade.

This color-coded publication developed for the disadvantaged relates social studies to the vocational clusters of construction, general mechanical trades, and home

and community services. The four areas included are general vocational, government, social studies, and industry in Oklahoma. Each self-contained unit includes performance objectives, suggested activities for teacher and students, information sheets, assignment sheets, transparency masters, tests, and answers to the test.

PENNSYLVANIA

COOPERATIVE VOCATIONAL EDUCATION GENERAL RELATED THEORY CLASS OUTLINE. 1972, 45 pages, free.

This is a teacher's guide for use in cooperative vocational education general related theory class. There are eight units and included in each unit are objectives, class activities, suggested references, and films. Some of the units are: employer and employee relationship, human relationship, consumer education, and career and job exploration. This guide is appropriate for any cooperative class.

A GUIDE FOR TEACHING BASIC READING SKILLS TO ADULTS (A RIGHT TO READ PROGRAM). 1973, 100 pages, free.

This is a teacher's guide for teaching basic reading skills to adults. Worksheets are included in the manual for student use.

RESOURCE MATERIALS FOR HOME ECONOMICS EDUCATION IN PENNSYLVANIA SCHOOLS. 1970, 32 pages, free, secondary.

This bulletin is the introduction to the series of bulletins which constitute the resource materials for home economics education in Pennsylvania. It explains the terminology and curriculum structure which were used as the basis for developing the resource materials in each curriculum area.

SOUTH CAROLINA

FOOD DISTRIBUTION, THE SUPERMARKET ENTRY OCCUPATIONS. Teacher's Guide. 1971, 49 pages, $1.25, secondary; also available 19 transparencies, 1971, $2.75.

This publication was developed to assist coordinators of distribution and marketing to improve and expand instruction activities in preparing high school students to enter and progress in the area of food distribution. The manual contains activities and tests and includes areas such as history of the supermarket, store organization, major departments, channels of distribution, and other related information.

LOW-COST TEACHER-MADE OVERHEAD TRANSPARENCIES. Teacher's Manual. 1969, 63 pages, $1.00.

This printed, well-illustrated booklet contains a thorough discussion of the merit and potential of one material that can be used in the production of overhead transparencies. The material, known as three Mil Trycite, has been selected because it is economical, versatile, very transparent, and can be obtained in a pre-cut size useful in teaching. It can be utilized without expensive equipment or processing materials. The publication provides the "how to do it" of transparency production in excellent detail.

TENNESSEE

BASIC REMEDIAL EDUCATION. 1968, 289 pages, $5.25.

This handbook offers a suggested course outline, sample lesson plans, lists of instructional materials, and aids for basic-remedial education. It was designed to be used by MDT teachers.

BUILDING ENGLISH SKILLS - COMMUNICATIONS - LEVELS II and III. 1971, 335 pages, $4.25, secondary.

The material was prepared for use by instructors and students in vocational advancement programs in secondary schools. A student may begin at his own achievement level and progress at his individual rate under the instructor's guidance. Level II materials are written for students whose reading level ranges from grades 2-5; Level III materials are for grades 4-8. The English skill areas are divided into units which are made up of several lessons. The units cover the parts of speech and the sentence.

TEACHER'S GUIDE - VOCATIONAL RELATED TRAINING FOR SPECIAL STUDENTS. 1972, 225 pages, $4.25.

This teacher's guide was designed for use with the secondary disadvantaged, handicapped, or regular vocational student. There are four major sections covering equipment and materials, suggested instructional units, suggested grading standards, and references. Most of the guide deals with suggested instructional units such as personality, human relations, consumer education, and health.

TENNESSEE COOPERATIVE COORDINATOR'S HANDBOOK. 1972, 144 pages, $3.00.

The handbook provides suggestions for organizing and operating a cooperative vocational program. The manual includes most aspects of all cooperative programs. Some of the areas that are included are advantages of cooperative vocational education, school administrators' responsibility, establishing a program, and duties of coordinators.

WASHINGTON

DIVERSIFIED OCCUPATIONS UNITS OF INSTRUCTION. 1973, 150 pages, $7.50.

This publication was developed for diversified occupations coordinators but could be used by other cooperative education teachers. Some of the units of instruction are business math, human relations, job orientation, and career exploration.

WYOMING

WYOMING MATHEMATICS CURRICULUM GUIDE. Teacher's Manual. 1970, 34 pages, free, 7th-12th grade.

Through the program of mathematics the student should become aware of the influences a command of figures can make in his continuing occupational and personal development. The content can be summarized as an attempt to: emphasize the "why" just as much as the "how," teach mathematics as a structure, allow students to discover relationships for themselves whenever possible, and teach the social utility or practical applications of mathematics and of arithmetic computation.

INSTRUCTIONS FOR ORDERING CURRICULUM MATERIALS

Orders for materials should be sent to the address of the appropriate State source. Specific ordering information is indicated where applicable. Prices are subject to change without notice. (An asterisk indicates that whether or not items are listed in this publication, a list of instructional materials from that source is available upon request.)

ALABAMA

For agriculture publications:

Mr. A. H. Halcomb, Subject Matter Specialist, Agribusiness Education, 101 Petrie Hall, Auburn, Alabama 36830.

For career education and home economics publications:

Division of Vocational Education, State Department of Education, State Office Building, Montgomery, Alabama 36104.

A catalog with instructions on how to obtain technical education and trade and industrial publications is available upon request from: Instructional Materials, Trade and Industrial Education, P.O. Box 2847, University, Alabama 35486.

ALASKA

Division of Vocational Education, Pouch F, Alaska Office Building, Juneau, Alaska 99801.

ARIZONA

Division of Career and Vocational Education, Arizona Department of Education, 1535 West Jefferson, Phoenix, Arizona 85007.

ARKANSAS

Division of Vocational, Technical, and Adult Education; State Department of Education; State Education Building; Little Rock, Arkansas 72201.

CALIFORNIA*

For vocational agriculture films, filmstrips, manuals, and other materials:

A catalog with instructions on how to obtain materials is available upon request from: Vocational Education Productions (VEP), California Polytechnic State College, San Luis Obispo, California 93401.

For health publications:

University of California, Division of Vocational Education, Allied Health Professions Projects, 12016 Wilshire Boulevard, Los Angeles, California 90025.

For home economics publications:

Film Fair Communications, 10900 Ventura Boulevard, Studio City, California 91604.

For fire service training manuals:

California State Department of Education, Business Services Section, Textbook and Publication Sales, 721 Capitol Mall, Sacramento, California 95814.

For apprentice and peace officer training materials:

California State Department of Education, Fiscal Office--Order Section, 721 Capitol Mall, Sacramento, California 95814. A separate price list is available upon request for police officer reference material and training films from: Officer of Procurement-Stores, Department of General Services, P.O. Box 20191, Sacramento, California 95820.

For peace officer training materials:

When ordering this material, officers should state their rank and the department with which they are connected. The order should be addressed to Documents and Publications, Office of Procurement-Stores, Department of General Services, P.O. Box 20191, Sacramento, California 95820. Sales tax of 5% must be added to all orders originating in California. Over-the-counter sales are made at the Publications Center, State Office Building No. 9, 744 P Street, Sacramento, at the public counter in the lobby.

Check or money order must be made payable to the state of California. NO ORDERS CAN BE FILLED C.O.D.

COLORADO

Center for Career Development, Dissemination Division, Room 318, Department of Vocational Education, University of Northern Colorado, Greeley, Colorado 80639.

CONNECTICUT

Angelo J. Tedesco, Consultant; Bureau of Vo-Tech Schools; Curriculum Center; Division of Vocational Education; State Office Building, Room 336; Hartford, Connecticut 06115. Publications are free and are sent postpaid. Requests must be made on official school system stationery.

DELAWARE

Dr. Burton Braverman, Supervisor; Curriculum and Research; Department of Public Instruction; John G. Townsend Building; Dover, Delaware 19901. Checks should be made payable to the State Board of Education.

GEORGIA

State Department of Education, Office of Instructional Services, State Office Building, Atlanta, Georgia 30334.

IDAHO

Idaho State Board for Vocational Education, 506 North 5th, Boise, Idaho 83720.

ILLINOIS*

Vocational Agriculture Services, University of Illinois, 434 Mumford Hall, Urbana, Illinois 61801. Terms of sale for ordering purposes are:

If orders are billed for payment, postage is added to the prices listed.

If payment is sent with the order, the following amounts should be added for postage and handling:

Orders up to $10 - add $.50
Orders $10 to $20 - add $.75
Orders over $20 - add $1.00

INDIANA

Instructional Materials Laboratory, T.A.W. Building, Indiana State University, Terre Haute, Indiana 47809.

IOWA

For agriculture publications:

Information and Publication Services Section, Department of Public Instruction, Grimes State Office Building, Des Moines, Iowa 50319.

For home economics publications:

University Book Store, Ames, Iowa 50010.

For occupational resource publications:

North Iowa Area Community College, Attention: Mariestelle Brown, 500 College Drive, Mason City, Iowa 50401.

MAINE

Department of Educational and Cultural Services, Augusta, Maine 04330

MARYLAND

For health publications:

Publication Sales; American Association for Health, Physical Education, and Recreation; 1201 16th Street N.W.; Washington, D.C. 20036. Stock #244-2570.

For all other vocational publications:

P.O. Box 8717, Friendship International Airport, Baltimore, Maryland 21240.

MASSACHUSETTS

For career education publications:

Available for out-of-state telecast through the Eastern Educational Network. Direct inquiries to: Eastern Educational Network, Howard Spergel, 381 Elliot Street, Boston, Massachusetts 02164.

MISSISSIPPI

Curriculum Coordinating Unit, Mississippi State University, P.O. Drawer DX, Mississippi State, Mississippi 39762. Orders accompanied by payment will be sent postpaid. Billing for all other orders will have postage added.

MISSOURI*

Send requests for 1973-74 price list and order form to: Amon Herd, Director; Instructional Materials Laboratory; 8 Industrial Education Building; University of Missouri-Columbia; Columbia, Missouri 65201. A specific form provided from the above address must be used when ordering all materials. A check or money order for the total amount must accompany orders unless an official purchase order is furnished. Schools MUST attach official purchase order. Descriptions of the listed materials may be found in the 1973-74 Instructional Materials Laboratory Catalog.

NEVADA

State Supervisor, Home Economics Education, Department of Education, Carson City, Nevada 89701.

NEW HAMPSHIRE

Department of Education, Vocational-Technical Division, 105 Loudon Road, Concord, New Hampshire 03301.

NEW JERSEY*

New Jersey Vocational-Technical Curriculum Laboratory, Rutgers University, 103 Kilmer Campus, New Brunswick, New Jersey 08903. All school orders should be made on official school purchase order form and sent to the above address. In addition to the price of the materials, you will be billed for postage or shipping charges. Individuals may order materials by including a check or postal money order for the amount of the materials plus $.30 per book postage. Please make all checks payable to: Vocational Curriculum Laboratory-Rutgers.

NEW MEXICO

Department of Education, Education Building, Santa Fe, New Mexico 87501.

NEW YORK

The State Education Department, Bureau of Finance, Publications Distribution Unit, Albany, New York 12224. Single copies only sold to education institutions outside the state. No "on approval" copies will be sent. Prices given are net and include book rate postage.

Orders, with remittance, should be sent to: The Publication Distribution Unit, State Education Department, Albany, New York 12224.

State education departments, colleges, or curriculum laboratories having similar materials to exchange should make arrangements with the Bureau of Secondary Curriculum Development, Albany, New York 12224. Copies of New York State curriculum materials are available through the microfiche services of The ERIC System.

OHIO

For agriculture publications:

Ohio Agricultural Education, Curriculum Materials Service, The Ohio State University, Room 254, 2120 Fyffe Road, Columbus, Ohio 43210.

For all other vocational publications:

Instructional Materials Laboratory, The Ohio State University, 1885 Neil Avenue, Columbus, Ohio 43210. Ohio schools or other Ohio public agencies should deduct 20 percent from price quoted. On out-of-state quantity orders of 26 to 100 copies of the same manual, a 10 percent discount is granted; on 101 or more copies, a 20 percent discount applies.

Statements will be rendered on receipt of official purchase orders; otherwise, remittance must accompany orders. All checks and money orders must be made payable to the Ohio State University. Postage must be included at the following rates: single copy--$.40; 2 to 12 copies--$.35 each; 13 or more copies--$.25 each. A catalog with order forms is available on request.

OKLAHOMA

The Curriculum and Instructional Materials Center, State Department of Vocational and Technical Education, 1515 West Sixth Avenue, Stillwater, Oklahoma 74074. Checks in the amount of order made payable to the Curriculum and Instructional Materials Center must accompany the order. Publications are postpaid.

OREGON

For health publications:

Documents Clerk, Oregon Board of Education, 942 Lancaster Drive NE, Salem, Oregon 97310.

For all other vocational publications:

Division of Community Colleges and Vocational Education, Oregon Board of Education, Public Services Building, Salem, Oregon 97310.

PENNSYLVANIA

Pennsylvania Department of Education, Office of Information and Publications, P.O. Box 911, Harrisburg, Pennsylvania 17126. Check or money order in the proper amount, made payable to the Commonwealth of Pennsylvania, must accompany each order.

SOUTH CAROLINA

Vocational Education Media Center, 109 Freeman Hall, Clemson University, Clemson, South Carolina 29631.

TENNESSEE

Vocational Curriculum Laboratory, Box 1114, Murfreesboro, Tennessee 37130. All orders must be:

1. On official purchase order properly signed by an official of the organization. Invoices will be rendered at list price plus postage.

2. Accompanied with check for full amount of materials plus postage and handling based on the following scale:

   single copy - $.50
   2 to 10 copies - $.35 each
   11 or more copies - $.25 each

   Make checks payable to State of Tennessee. Because a limited number of each item was printed, examination copies cannot be furnished. All sales are final--materials cannot be returned.

TEXAS

(A&M) Vocational Instructional Services Center, F.E. Box 182, Texas A&M University, College Station, Texas 77843. A school purchase order and check or money order must accompany each order and be made payable to Texas A&M University. A catalog is available upon request.

For home economics publications:

(TTU) Texas Tech University, Home Economics Instructional Materials Center, P.O. Box 4067, Lubbock, Texas 79409. Total payment or official purchase order must accompany order. Official purchase order terms are net 30 days. Make checks payable to Home Economics Instructional Materials Center. Prices include postage. Mailing will be insured only if insurance is requested when order is placed.

(UT) Industrial Materials Development (Industrial Education), Division of Extension, The University of Texas, Austin, Texas 78712. A school purchase order and check or money order must accompany each order and must be made payable to the University of Texas. Catalogs are available. A 2 percent state sales tax or tax exemption certificate is required in addition to prices listed.

VERMONT

State of Vermont, Department of Education, Montpelier, Vermont 05602.

VIRGINIA

Mr. Harry Smith, Director of Public Information and Publications, State Department of Education, P.O. Box 6-Q, Richmond, Virginia 23216.

WASHINGTON

For career education publications:

Richard R. Lutz, Supervisor; Career Education; Old Capitol Building; Olympia, Washington 98504.

For teacher's resource publications:

LeRoy McCartney, Director; Distributive and Office Education; 216 Old Capitol Building; Olympia, Washington 98504.

WEST VIRGINIA

Coordinator of Curriculum Development; Bureau of Vocational, Technical and Adult Education; Room B-243, Building 6, Capitol Complex; Charleston, West Virginia 25305. Make checks payable to Vocational Curricula Material Funds for the amount of the order.

WISCONSIN

Mr. Clifford Zenor, Vocational Education Consultant--Instructional Services; Wisconsin Board of Vocational, Technical, and Adult Education; 4802 Sheboygan Avenue; Madison, Wisconsin 53702.

WYOMING

State Department of Education, Division of Public Information, Capitol Building, Cheyenne, Wyoming 82001.

NOTE: Request for specific material contained in this annotated listing should be sent to the appropriate State source.

ACCESSION NUMBER: VT101451

PUBLICATION DATE: 74

TITLE: VOCATIONAL EDUCATION STATE INSTRUCTIONAL MATERIALS FOR HEALTH OCCUPATIONS EDUCATION. REVISED 1974.

DESCRIPTOR: *ANNOTATED BIBLIOGRAPHIES; *ABSTRACTS; *VOCATIONAL EDUCATION; *INSTRUCTIONAL MATERIALS; *HEALTH OCCUPATIONS EDUCATION

EDRS PRICE: MF AVAILABLE IN VT-ERIC SET.

DESCRIPTIVE NOTE: 48P.

ABSTRACT: THIS ANNOTATED LISTING OF CURRICULUM MATERIALS FOR HEALTH OCCUPATIONS EDUCATION IS PROVIDED IN ORDER TO APPRISE PLANNERS, ADMINISTRATORS, VOCATIONAL EDUCATORS AND OTHERS INTERESTED IN OFFERING OR INVOLVED IN VOCATIONAL PROGRAM OF THE AVAILABLE CURRICULUM MATERIALS DEVELOPED BY VARIOUS STATES. THE CURRICULUM MATERIALS HAVE BEEN IDENTIFIED WITH THE INSTRUCTIONAL TITLES AND CODES FROM THE CLASSIFICATION SYSTEM OF THE OFFICE OF EDUCATION. THE TITLE OF THE DOCUMENT, PUBLICATION DATE, THE NUMBER OF PAGES, PRICE, AND A SUMMARY OF THE CONTENT IS PROVIDED FOR EACH ANNOTATION. (KB)

CONTRACT NUMBER: OEC-0-72-4682

INSTITUTION NAME: OKLAHOMA STATE DEPT. OF VOCATIONAL AND TECHNICAL EDUCATION, STILLWATER. CURRICULUM AND INSTRUCTIONAL MATERIALS CENTER.

SPONSORING AGENCY NAME: OFFICE OF EDUCATION (DHEW), WASHINGTON, D.C.

VT 101 451

ACCESSION NUMBER: AVIC1421

PUBLICATION DATE: 74

TITLE: VOCATIONAL EDUCATION STATE INSTRUCTIONAL MATERIALS FOR HEALTH OCCUPATIONS EDUCATION. REVISED 1974.

DESCRIPTOR: *ANNOTATED BIBLIOGRAPHIES; *ABSTRACTS; *VOCATIONAL EDUCATION; *INSTRUCTIONAL MATERIALS; *HEALTH OCCUPATIONS EDUCATION

EDRS PRICE: MF AVAILABLE IN VT-ERIC/CRD.

DESCRIPTIVE NOTES: 58P.

ABSTRACT: THIS ANNOTATED LISTING OF CURRICULUM MATERIALS FOR HEALTH OCCUPATIONS EDUCATION IS PROVIDED IN ORDER TO APPRISE PLANNERS, ADMINISTRATORS, VOCATIONAL EDUCATORS AND OTHERS INTERESTED IN OFFERING OR INVOLVED IN VOCATIONAL PROGRAMS OF THE AVAILABLE CURRICULUM MATERIALS DEVELOPED BY VARIOUS STATES. THE CURRICULUM MATERIALS HAVE BEEN IDENTIFIED WITH THE INSTRUCTIONAL TITLES AND CODES FROM THE CLASSIFICATION SYSTEM OF THE OFFICE OF EDUCATION. THE TITLE OF THE DOCUMENT, PUBLICATION DATE, THE NUMBER OF PAGES, PRICE, AND A SUMMARY OF THE CONTENT IS PROVIDED FOR EACH ANNOTATION. (KB)

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INSTITUTION NAME: OKLAHOMA STATE DEPT. OF VOCATIONAL AND TECHNICAL EDUCATION, STILLWATER. CURRICULUM AND INSTRUCTIONAL MATERIALS CENTER.

SPONSORING AGENCY NAME: OFFICE OF EDUCATION (DHEW), WASHINGTON, D.C.

VT 101 451

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Discrimination Prohibited - Title VI of the Civil Rights Act of 1964 states: "No person in the United States, shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance." Therefore, the Vocational Education program, like all other programs or activities receiving financial assistance from the Department of Health, Education, and Welfare, must be operated in compliance with this law.

The project presented or reported herein was performed pursuant to a contract from the U.S. Office of Education, Department of Health, Education, and Welfare. However, the opinions expressed herein do not necessarily reflect the position or policy of the U.S. Office of Education, and no official endorsement by the U.S. Office of Education should be inferred.

VOCATIONAL EDUCATION

STATE INSTRUCTIONAL MATERIALS

for...

HEALTH OCCUPATIONS EDUCATION

Revised 1974

AVAILABLE FROM STATE EDUCATION AGENCIES

ERIC Full Text Provided by ERIC

Developed and disseminated pursuant to
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by the
Curriculum and Instructional Materials Center
Oklahoma State Department of Vocational and Technical Education
1974-Revision

NOTE:

REQUEST FOR SPECIFIC MATERIAL CONTAINED IN THIS ANNOTATED LISTING SHOULD BE SENT TO THE APPROPRIATE STATE SOURCE.

SOURCE FOR EACH ITEM LISTED IS INDICATED AT THE END OF EACH ENTRY-SEE INSTRUCTIONS FOR ORDERING AT BACK OF PUBLICATION.

Revised publications (annotated listings) are available in the following vocational areas.

State Instructional Materials for Agriculture
State Instructional Materials for Distributive Education
State Instructional Materials for Health Occupational Education
State Instructional Materials for Home Economics
State Instructional Materials for Office Occupations
State Instructional Materials for Technical Education
State Instructional Materials for Trade and Industrial Occupations

The above items are available for purchase from: Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402

For sale by the Superintendent of Documents, #888,
U. S. Government Printing Office, Washington, D. C.
20402. Stock #1780-01343. Price $.80.

INTRODUCTION AND EXPLANATION OF CODING SYSTEM

In recent years it has become apparent that a strong relationship exists between the world of education and the world of work. Emphasis is on the concept that the development of our human resources is vital to the well-being and growth of our society. In order to implement this belief, leaders in all fields have focused their attention on education and especially on vocational education.

This annotated listing of curriculum materials is provided in order to apprise planners, administrators, vocational educators, and others interested in offering or involved in vocational education programs of the available curriculum materials developed by the various states.

The curriculum materials are offset unless specified as mimeo. They have been identified with the instructional titles and codes from the classification system of the Office of Education. These titles and codes link vocational education programs to occupations. Utilizing the codes in this listing relates the curriculum materials to the instructional program. Seven major vocational education areas are identified in separate listings and coded as follows:

01 Agriculture	09 Home Economics
04 Distributive Education	14 Office Occupations
07 Health Occupations Education	16 Technical Education
17 Trade and Industrial Occupations	

The items are refined to include one or more related subitems as indicated in the following example:

First 2-digit position: subject matter area
Example: 14 OFFICE OCCUPATIONS

Second 2-digit position: principal segment of subject matter
Example: 14.02 BUSINESS DATA PROCESSING SYSTEMS OCCUPATIONS

Third 2-digit position: division of principal segment
Example: 14.0202 PERIPHERAL EQUIPMENT OPERATORS

Fourth 2-digit position: first level detail of division of principal segment
Example: 14.020201 KEY PUNCH AND CODING EQUIPMENT OPERATORS

The coding system is contained in:
U.S. Department of Health, Education, and Welfare, Office of Education. Vocational Education and Occupations (OE-80061). Washington, D.C.: U.S. Government Printing Office, July 1969.

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07. HEALTH OCCUPATIONS EDUCATION

Publications marked (Cooperative Training) in the title or supportive statement are designed for use in cooperative education programs.

DENTAL: 07.01

DENTAL ASSISTING: 07.0101

NEW JERSEY

WORKBOOK FOR DENTAL RECORDS. 1970, 279 pages, $4.00.

This book explains the value of the various types of records that a dental assistant must keep. It includes illustrations and instructions for completing forms and provides blank forms for the student to fill out herself. In addition to clinical record-keeping methods according to various systems now in use, instruction is given in keeping appointment records, recall records, office-supply and other office needs, preparation of daily record sheet and monthly summary, statements and collections, various bookkeeping records, checks and banking forms, preparation of necessary tax forms, and many other activities. Almost any form that a dental assistant might encounter is included.

PENNSYLVANIA

AN INSTRUCTION GUIDE FOR TEACHERS OF DENTAL ASSISTANTS. 1973, 28 pages, free, secondary.

This handbook is designed to serve as a guide for administrators and teachers in planning and teaching a dental assistant program. Included is background information, course content, a sample lesson plan, supplies and equipment, and a bibliography which includes most of the pertinent texts and reference materials currently available.

TEXAS (UT)

DENTAL ASSISTANT. Study Guide. 1970, $5.00.

This guide contains a series of 65 assignments for use as related information to supplement on-the-job training. Specific reading assignments and questions, in addition to unit tests, are included.

DENTAL ASSISTANT ANSWER BOOK. 1965, $3.15.

DENTAL HYGIENE (ASSOCIATE DEGREE): 07.0102

CALIFORNIA

DENTAL HYGIENE: DETECTION AND REMOVAL OF CALCULUS. 1973, 252 pages, $9.95.

Containing five modules selected by the National Technical Advisory Committee for the Dental Auxiliary Occupations and the American Dental Hygienist Association Committee on Dental Hygiene Education as the most urgently needed, this manual covers:

Module I. Fundamental Skills for Instrumentation
Module II. The Detection of Calculus and Periodontal Pockets
Module III. The Removal of Light to Moderate Calculus
Module IV. The Removal of Heavy Calculus
Module V. Root Planing Procedures

Dental Hygiene provides such minute detail combined with photographic illustrations that it is practically self-instructional. Each module provides general and specific performance objectives, directions to the student for use of the module, and performance checklists. A teacher's guide is supplied free of charge.

DENTAL LABORATORY TECHNOLOGY: 07.0103

CALIFORNIA

FUNDAMENTAL DENTAL LABORATORY PROCEDURES. 1972, 88 pages, $4.50.

Intended as the basic manual for beginning dental technicians, this instructional unit covers pouring impressions and trimming dental casts, fabricating custom impression trays for complete dentures, and fabricating custom impression trays for partial denture and quadrant impressions. Illustrated step-by-step instructions make the procedures very easy to follow, helping the beginning student to build up his confidence. It is not designed for advanced students.

TEXAS (UT)

DENTAL LABORATORY TECHNICIAN. Study Guide. 1967, $6.25.

This guide contains a series of 68 assignments to supplement on-the-job training in six general areas of the dental laboratory. Specific reading assignments and questions, in addition to 12 unit tests and a bibliography, are included.

DENTAL LABORATORY TECHNICIAN ANSWER BOOK. 1967, $2.40.

DENTAL, OTHER: 07.0199

CALIFORNIA

DENTAL AUXILIARY OCCUPATIONS OCCUPATIONAL ANALYSIS. 1971, 97 pages, $4.00.

This analysis successfully identified the tasks performed by the dental auxiliary occupations: dental hygienist, dental assistant, and dental technician. In addition, cross-checking computer runs revealed the tasks all performed and those tasks shared by pairs. This provides the basis for a core curriculum.

Task inventories were developed by the staff, then reviewed and revised by the National Technical Advisory Committee. They were then compiled to make a survey questionnaire that would be applicable to the three auxiliary occupations. Each task was rated by the respondents with respect to frequency of performance, knowledge level required (called criticality in some of the other questionnaires), and manual skill requirements. There was a total of 158 tasks in the questionnaire.

The names and addresses of dental assistants, dental hygienists, and dental technicians to form the survey sample were obtained by a random mailing of 1,000 letters of inquiry to names appearing in the American Dental Association Directory. By this and similar means, a nationwide sample of 300 dental assistants, 307 dental hygienists, and 302 laboratory technicians was developed.

The analysis reports the data on each of the three occupational groups separately, makes curriculum recommendations for each group based on the data, and offers core curricula consisting of commonalities among all three groups and between the dental assistants and hygienists. Other than the two mentioned, there were no core units apparent among the assistants, hygienists, and technicians. Curriculum is recommended for each group based on data provided by the survey, and suggested core courses are offered based on the commonalities among the three occupations.

MEDICAL LABORATORY TECHNOLOGY: 07.02

MEDICAL LABORATORY ASSISTING: 07.0203

TENNESSEE

GUIDELINES AND COURSE OUTLINE FOR MEDICAL LABORATORY TECHNICIANS. 1971, 39 pages, $1.00, post secondary.

The guideline and course outline have been prepared for high school graduates with an interest in science and medicine and is helpful to health and educational agencies in organizing new programs for medical laboratory technicians. Instructional units, contents to be taught, resource materials, and management procedures are included.

MEDICAL LABORATORY TECHNOLOGY, OTHER: 07.0299

CALIFORNIA

CLINICAL LABORATORY OCCUPATIONAL ANALYSIS. 1971, 129 pages, $3.50.

The task inventory developed for the clinical laboratory consisted of a total of 530 tasks and provided the basis for the survey questionnaire which required responses on three dimensions of performance for each task: if done, frequency, and difficulty. Responses to the questionnaires were obtained from 224 individuals at 29 institutions. These institutions include a number of independent laboratories as well as hospitals.

Computer analysis of the data revealed that 52 (10% of the 530 tasks) were performed by 50% or more of the 224 respondents. These tasks were found to be in the following categories: processing specimens, maintaining materials and equipment, and using standard laboratory equipment. Thirty-seven tables, analyzing all relationships between specialties and specialists, are provided as part of the analysis. The analysis indicated an immediate need for self-instructional, illustrated, task-oriented manuals covering the basic laboratory skills mentioned above; work on the manuals was started immediately.

This analysis was a difficult one to complete, not only because of the complexities of dealing with more than one professional organization, but also the lack of uniformity in certification, educational, and licensing requirements in the various states. It succeeded in defining what tasks are actually done and by whom and pointed the way to a rational curriculum which has great potential for career ladder and core curriculum concepts.

NURSING: 07.03

CALIFORNIA

CAREER MODEL FOR NURSE PRACTITIONERS. 1972, 94 pages, $3.00.

Based on the findings of A Study of Nursing Occupations, this nursing curriculum proposes five stages from entry level to graduate research work. The occupational

analysis revealed that 60% of all the nursing tasks were performed by the three categories of nursing personnel studied: aides, LVN/LPNs, and RNs. Of the remaining 40%, 28% were done by both the LVN/LPNs and RNs; the remaining 12% were done only by RNs. Stage 1 of the curriculum covers the 60% of the tasks common to all; Stage II covers the other 40%. The student who has completed Stages I and II is a Basic Nurse Practitioner. Stages III through V prepare teachers, administrators, and researchers. The model offers ideas for core curriculum materials, suggested instructional units, and an approach to student performance evaluation.

NURSING SKILLS FOR ALLIED HEALTH SERVICES. Volumes 1 and 2. 1972, 768 pages, $10.00 per set of 2 volumes.

These two volumes provide the student nurse with detailed, illustrated, step-by-step instructions for doing 60% of the tasks performed by all types of nursing personnel in the occupational analysis and curriculum. Using the self-instructional modular format, the texts provide student performance goals, performance tests, and other evaluation instruments. A separate teacher's guide for each volume is supplied free of charge.

A STUDY OF NURSING OCCUPATIONS (OCCUPATIONAL ANALYSIS). 1972, 121 pages, $4.45.

The nursing occupational analysis was one of the first undertaken by the Allied Health Professions Projects. Because of its success in yielding valuable information that led to the development of a new and innovative curriculum and instructional materials, the research design used in the nursing study became the model for subsequent studies of clinical occupations. The task inventory, consisting of a total of 317 tasks, was developed by the staff and the National Technical Advisory Committee for Nursing and covered the three major categories of nurses: aides, LVN/LPNs, and RNs. The tasks were incorporated into a questionnaire, 450 of which were distributed to the survey hospitals and extended care facilities in Boston (59), Birmingham (72), Chicago (80), Denver (80), Los Angeles (71), and Seattle (88). Of these questionnaires, 88% were returned completed, a total of 398. The data was coded, punched into IBM cards and analyzed by computer. The occupational analysis report is the interpretation of the computer output. This information was used for the development of a new curriculum based on task-oriented performance objectives. Substantial demographic information as well as data on task performance provides a comprehensive review of the nursing occupations today.

NURSING (ASSOCIATE DEGREE): 07.0301

MARYLAND

INTRODUCTION TO SCHOOL NURSING CURRICULUM. $2.75.

This was one of the first published documents in school nursing education designed to provide beginning knowledge and skills for professional nurses with no previous preparation and/or experience in school nursing. It was developed through the School Nursing Manpower Project, AAHPER, in cooperation with the Manpower Development Training Act, Division of Vocational-Technical Education, Maryland State Department of Education.

NEW MEXICO

NURSING ASSISTANT - HEALTH OCCUPATIONS. Curriculum Guide. 1968, 38 pages, free.

The curriculum guide was developed to assist local schools in planning, organizing, and providing facilities for the nursing assistant program. It contains helpful information about the role of the nursing assistant, an outline of course content, and program organization. Procedures for patient care and laboratory skill development are outlined in the booklet as well. The appendix contains lists of student textbooks, films, filmstrips, student record forms, equipment lists, and other materials.

TENNESSEE

LESSON PLANS - MEDICAL AND SURGICAL NURSING. 1967, 201 pages, $3.25, post secondary.

This manual is designed as a guide to the instructor for development of daily lesson plans for surgical and medical nursing. The 28 medical and 21 surgical lesson plans each contain an introduction, presentation of the lesson, application, and test questions.

PRACTICAL (VOCATIONAL) NURSING: 07.0302

NEW JERSEY

A TEACHING PLAN FOR THE PRACTICAL NURSE CURRICULUM. 1973, 279 pages, $5.00.

This is a detailed outline of a full course for practical nurses including 765 class hours and 961 clinical hours. The 12 areas covered meet the curriculum requirements for approved schools of practical nursing in New Jersey. For each subject area the guide includes content to be covered, number of hours suggested, instructor's activities, student activities and assignments, and reading references. Each section includes a bibliography and lists of suggested audiovisual aids. Many sections have handout sheets which can be reproduced.

OHIO

NURSING PROCEDURES FOR THE PRACTICAL NURSE. Learner's Manual. 1970, 497 pages, $4.00 plus $.40 shipping.

This manual contains procedures and/or assignments for a wide range of activities and tasks performed by the practical nurse. The manual should prove to be helpful in teaching step-by-step procedures which often require repetition and constant checking until skill has been developed.

PENNSYLVANIA

HANDBOOK FOR PRACTICAL NURSING TEACHERS. 1967, 16 pages, free, post secondary.

This handbook has been prepared to assist the prospective or new teacher of practical nursing. It is not a complete guide for the teacher but is a supplement to other nursing education references.

TENNESSEE

HANDBOOK FOR INSTRUCTORS OF PRACTICAL NURSING EDUCATION. 1967, 137 pages, $2.00, post secondary.

This handbook has been prepared to help introduce the registered nurse, as a prospective teacher, to vocational education and to the vocational practical nursing programs.

LESSON PLANS - ANATOMY AND PHYSIOLOGY. 1970, 54 pages, $1.25, post secondary.

These 13 lesson plans are developed to serve as an instructional aid to the teacher when teaching anatomy and physiology. The lessons include objectives, references, materials, instructional aids, outline of pertinent material to be presented, application, test, and summary.

LESSON PLANS - BEHAVIOR AND WORKING RELATIONS. 1967, 69 pages, $1.00, post secondary.

This publication consists of prepared lesson plans which should serve as a guide to the instructor as she is making her daily plans. Each of the 17 lessons includes the aim of the lesson, the materials and instructional aids needed, an introduction, presentation of the lesson, application, and the check-up or test. A reference list is also provided.

LESSON PLANS - GERIATRIC NURSING. 1972, 33 pages, $1.00, post secondary.

These ten lesson plans should serve as an instructional aid for the teacher as she prepares daily lesson plans. The lesson plans include objectives, references, materials, instructional aids, outline of pertinent material to be presented in class, application, test, and summary.

LESSON PLANS - MENTAL NURSING. 1966, 35 pages, $2.00, post secondary.

These prepared lesson plans will serve as an instructional aid for the practical nursing teacher. The 11 lessons include overall objectives, references, materials, instructional aids, outline of pertinent material to be presented, application, test, and summary.

LESSON PLANS - NURSING OF CHILDREN. 1967, 116 pages, $3.00, post secondary.

These prepared lesson plans will serve as an instructional aid for the practical nursing teacher. The lessons include objectives, references, materials, instructional aids, outline of pertinent material to be presented, application, test, and summary.

LESSON PLANS - NURSING PRINCIPLES AND SKILLS. 1972, 156 pages, $2.75, post secondary.

Thirty-five brief lesson plans compiled for the practical nursing instructor are developed in three units including introduction, activities of daily living, and basic nursing skills. Each lesson plan contains an introduction, presentation of lesson, application, test, and summary. A bibliography is also provided.

LESSON PLANS - NUTRITION AND DIET THERAPY. 1967, 145 pages, $2.00, post secondary.

These lesson plans on nutrition and diet therapy are provided as a guide for practical nursing instructors and should be helpful to the instructors in the preparation of their own plans. Forty-one plans are included; each contains the aim of the lesson, the materials and instructional aids needed, the introduction, presentation, and application of the lesson, and a check-up or test.

LESSON PLANS - PHARMACOLOGY. 1970, 124 pages, $2.50, post secondary.

These lesson plans are designed for the instructor to use as a guide in the overall planning of practical nursing classes. Contents include 28 lessons in basic pharmacology and administration of medications.

PSYCHIATRIC NURSING AND MENTAL HEALTH CONCEPTS. 1968, 58 pages, $2.00, post secondary.

These instructional materials are intended to be utilized by practical nursing instructors as reference materials. Developed during a clinical workshop, this booklet includes plans for psychiatric instruction, a mental nursing course outline, a daily nursing care plan, plan for a one-day field trip, and 14 lesson plans.

RECORD OF CLINICAL EXPERIENCE. 1971, 56 pages, $.50, post secondary.

This student record booklet is divided into two parts: Record of Practical Experiences and Record of Patient Conditions. Written for use in practical nurse education programs, this booklet is for recording the practical experiences in the cooperating hospital during the clinical phase of the PN program.

UNIT TESTS, PRACTICAL NURSE EDUCATION. 1966, 168 pages, $4.00, post secondary.

These tests are provided as an aid to the practical nursing instructor and will be helpful in planning tests and examinations of the units of practical nursing.

ANSWER BOOK FOR UNIT TESTS. 1966, 22 pages, $.25, post secondary.

This booklet supplies answers to Unit Tests, Practical Nurse Education.

NURSING ASSISTANCE (AIDE): 07.0303

NEW JERSEY

THE NURSE ASSISTANT IN PSYCHIATRIC AND GENERAL HOSPITALS - A TEACHER'S GUIDE. Teacher's Manual. 1970, 148 pages, $2.00.

The manual consists of such units as introduction to nursing, introduction to hospitals, morning care, treatment time, patients with special needs, and caring for infants, mothers, and the mentally ill.

OKLAHOMA

ADVANCED NURSE ASSISTANT - A COURSE OF STUDY. 1971, 304 pages, $10.00, secondary and post secondary.

This course of instruction follows the nurse assistant course and is designed to cover 30 hours. Areas included are orientation, medical asepsis, maternity and infant care, and emergency care. Each instructional unit consists of behavioral objectives, suggested activities, information sheets, job sheets, visual aids, additional references, tests, and answers.

NURSE ASSISTANT - A COURSE OF STUDY. 1971, 343 pages, $10.00, secondary and post secondary.

This curriculum guide consists of units of instruction developed for 60 hours of instruction. The areas included in this publication for training nurse assistants are orientation, meeting patient's basic needs, meeting patient's particular needs, and meeting patient's special needs. Each instructional unit consists of behavioral objectives, suggested activities, information sheets, job sheets, visual aids, additional references, tests, and answers to the tests. This manual is a prerequisite to the advanced course of study.

PENNSYLVANIA

AN INSTRUCTION GUIDE FOR TEACHERS OF NURSING ASSISTANTS. 1972, 17 pages, free, secondary or post secondary.

This curriculum guide has been prepared for vocational education administrators and teachers of nursing assistant programs. The content of this guide includes background information, course outline, procedures, equipment and supplies, a list of references, and instructional aids.

TENNESSEE

GUIDELINES AND COURSE OUTLINE FOR GERIATRIC NURSING ASSISTANT. 1967, 15 pages, $.50, post secondary.

This guide and course outline was prepared to help the health and educational agencies in organizing classes for geriatric nursing assistants. A course outline is provided which contains the situation, suggested hours, technical information that must be taught, and teaching aids needed.

GUIDELINES AND COURSE OUTLINE FOR NURSING ASSISTANT. 1967, 31 pages, $.75, post secondary.

This guide and course outline was prepared to help the health and educational agencies in organizing classes for nursing assistants. The four units include behavior and working relations, daily activities of the patient, assisting with nursing skills, and assisting with advanced nursing skills. Each unit contains situations, technical information that must be taught, related activities, and the hours.

TEXAS (UT)

NURSE AIDE. Study Guide. 1970, $5.00.

A series of 49 assignments to supplement on-the-job training in eight general areas of nurse aide activity. Specific reading assignments and questions, in addition to unit tests and a bibliography, are included.

NURSE AIDE ANSWER BOOK. 1970, $4.00.

SURGICAL TECHNICIAN (OPERATING ROOM TECHNICIAN): 07.0305

TENNESSEE

COURSE OUTLINE - OPERATING ROOM TECHNICIAN. 1967, 57 pages, $2.00, post secondary.

This outline is to serve as a guide for coordinators and instructors in planning the course of study of the operating room technician. The units contain overall objectives, information to be taught, assignments, references, and teaching aids.

NURSING, OTHER: 07.0399

OHIO

NURSING ARTS PRACTICE, Teacher's Manual. 1970 (Reprint), 183 pages, $2.50 plus $.40 shipping.

This manual contains procedure sheets that include important points to remember along with the procedural steps. The equipment needed and the purpose of each procedure is also given.

OREGON

COMMUNITY NURSE REFRESHER CURRICULUM GUIDE. 1972, 63 pages, $2.20, post secondary.

This curriculum guide for community-based nurse refresher programs has been developed in the belief that community colleges can meet the educational needs of nurses who require retraining to qualify for employment as nurses in their communities. Units include return to nursing, nursing care principles and practices, and the professional nurse. A large appendix is also provided.

REHABILITATION: 07.04

OCCUPATIONAL THERAPIST: 07.0401

TENNESSEE

HANDBOOK FOR INSTRUCTORS AND COURSE OUTLINE FOR OCCUPATIONAL THERAPY ASSISTANTS. 1970, 76 pages, $2.00, post secondary.

This handbook and course outline was prepared according to the standards of the American Occupational Therapy Association. Units in the publication are entitled: Vocational Orientation, Body Structure and Function, Normal Growth and Development, Introduction to Disease Conditions, Fundamental Skills in Occupational Therapy, Group Dynamics, Emergency Care and Accident Prevention, Organization and Administrative Skills, Problem Solving and Evaluation, and Preclinical Teaching. Each unit contains instructional units, content to be taught, resource materials, and management procedures.

PHYSICAL THERAPY: 07.0402

CALIFORNIA

SUGGESTED PHYSICAL AGILITY PROGRAM. Student Manual. 1966, 16 pages, $.50.

The program includes sample letter to candidate, proctor's information, physical agility showing procedure and scoring table, waiver of liability to be signed by applicant, applicant's individual rating card, a suggested back testing program, and the physical agility test.

ORTHOTICS: 07.0404

CALIFORNIA

A MANUAL OF LOWER EXTREMITIES ORTHOTICS. 1972, 536 pages, $19.50.

Developed by four expert orthotists, this manual covers the fabrication and fitting of various orthopedic shoe modifications and a number of different types of below-knee and above-knee orthoses (braces). The illustrated step-by-step directions make the manual practically self-instructional; thus, it is readily adaptable to individual instruction.

A MANUAL OF UPPER EXTREMITIES ORTHOTICS. 1970, 460 pages, $15.50.

A companion to the Manual of Lower Extremities Orthotics, this book explains the fabrication and fitting of a large variety of hand splints and arm braces. A self-instructional modular format is used.

RADIOLOGIC: 07.05

CALIFORNIA

HOSPITAL RADIOLOGIC TECHNOLOGIST OCCUPATIONAL ANALYSIS. 1972, 87 pages, $3.00.

A National Technical Advisory Committee made up of nine experts in radiology from various sections of the country worked with the AHPP staff to develop a task inventory of 195 tasks. There were five categories of tasks: radiology (94), clerical (18), administrative (55), research (10), and miscellaneous (18). Questionnaires were prepared based on the task inventory. For each task, respondents were asked if they performed it, if they supervised it, how often they did it, and how difficult it was. The 48 hospitals and extended care facilities in Boston, Birmingham, Chicago, Denver, Los Angeles, and Seattle were used as a survey sample. Of the 169 questionnaires distributed 117 were completed and returned, a response rate of 69%.

The questionnaire data was processed by computer and the output analyzed and interpreted. The result was the completed occupational analysis. To make the work of curriculum preparation easier, the tasks were rated on a set of criteria that yielded one of the following recommendations for each task: R (required), S (suggested), LP (low priority), and Q (questionable). Lack of resources made it impossible to progress into the development of instructional materials, but this occupational analysis is a good guide for the instructor who wants to work on materials for his own use.

RADIOLOGIC TECHNOLOGY (X-RAY): 07.0501

TEXAS (UT)

X-RAY TECHNICIAN. Study Guide. 1966, $5.35.

A series of assignments to supplement on-the-job training for use as related information containing specific reading assignments and questions to be answered. Unit tests and a bibliography are included.

X-RAY TECHNICIAN ANSWER BOOK. 1966, $1.95.

MISCELLANEOUS HEALTH OCCUPATIONS EDUCATION: 07.09

ELECTROENCEPHALOGRAPH TECHNICIAN: 07.0901

CALIFORNIA

ELECTROENCEPHALOGRAPHIC TECHNICIAN OCCUPATIONAL ANALYSIS. 1972, 59 pages, $2.25.

In making this study, a task inventory consisting of 102 tasks was developed in cooperation with a National Technical Advisory Committee. The inventory was used as the basis for a survey questionnaire of which 199 were distributed to members of the NTAC, subscribers to the American Journal of EEG Technology, members of the American Electroencephalographic Society (AES), and a national sample of technicians working in selected health care facilities. Of the questionnaires distributed, 118 (59.3%) were completed and returned. Computer analysis of the questionnaire data indicated that the task inventory was highly representative and that a majority of the tasks were validated by consensus methods. The suggested curriculum comprises 84% of all the tasks reported as performed more than once a month.

INHALATION THERAPY: 07.0903

CALIFORNIA

RESPIRATORY CARE/INHALATION THERAPY OCCUPATIONAL ANALYSIS. 1971, 96 pages, $3.00.

Respiratory Care/Inhalation Therapy is a comparatively new allied health profession, but it has progressed rapidly in the past ten years. In making the occupational analysis study, a comprehensive task inventory was developed by the staff, then revised and refined by the National Technical Advisory Committee during a two-day meeting. The inventory was used to make the survey questionnaire, asking for each task "Do you do this task?," "Do you supervise this task?," "How often do you do this task?," and "How difficult is this task to perform?" A series of questions relating to cleaning, sterilization, maintenance, and repair of equipment was included for appropriate task items. The questionnaires were distributed to the 48 facility AHPP sample locations in six areas which had proved satisfactory in other studies but in this case yielded only 67 responses (49% of the questionnaires sent out). With the help of the NTAC, a supplementary list of hospitals, all with 200 or more beds and broadly representative of the seven Federal Census Regions, was selected and yielded an additional 109 completed questionnaires.

After processing by computer, the data provided frequency distributions for frequency of task performance, difficulty of task performance, and supervisory requirements. The mean and mode were calculated for each of these factors for each occupational sub-group. From this data it was possible to determine the tasks that were performed by aides and orderlies, technicians, therapists, and

administrators/supervisors. It was found that formal departments of respiratory care/inhalation therapy apparently were not feasible in hospitals smaller than 200 beds, raising the interesting question of ways this useful service could be provided economically in the numerous smaller institutions (fewer than 200 beds).

MEDICAL ASSISTANT (ASSISTANT IN PHYSICIAN'S OFFICE): 07.0904

CALIFORNIA

MEDICAL OFFICE ASSISTANT OCCUPATIONAL ANALYSIS. 1972, 103 pages, $3.00.

This is the report of a national survey on the types of tasks performed by various categories of workers who assist physicians in numerous settings. These workers perform in two areas--business functions and clinical functions. The survey questionnaire was composed of 122 tasks related to business functions and 108 tasks related to clinical functions. Questionnaires were completed and returned by 292 respondents who had been selected through contacts with physicians requesting the names of their assistants and through the American Association of Medical Assistants.

Analysis of the data by the computer indicated a multitude of combinations of tasks performed by the various levels of personnel working in physicians' offices who responded to the questionnaire. Five curricula emerged which could easily be combined or offered separately depending on the specific needs of the community.

A REPORT ON AN EMERGING OCCUPATION: THE PHYSICIAN'S ASSISTANT. Survey Report. 1971, 35 pages, $1.00.

A discussion of the health care problems that led to a proposal for development of the physician's assistant is followed by an analysis of a questionnaire survey of 26 physicians. The questionnaire listed a number of tasks and asked the respondents to indicate which of these they would be willing to delegate to a trained assistant. The results were tallied and conclusions drawn concerning the curriculum for training physician's assistants based on the tasks the respondents were willing to relinquish to them.

PENNSYLVANIA

AN INSTRUCTION GUIDE FOR TEACHERS OF MEDICAL ASSISTANTS. 1972, 29 pages, free, secondary.

This handbook is designed to serve as a guide for administrators and teachers in planning and teaching in a medical assistant program. Provided is background information, course content, a sample lesson plan, equipment and supplies needed, and references.

MEDICAL EMERGENCY TECHNICIAN: 07.0907

CALIFORNIA

EMERGENCY CARE OF THE SICK AND INJURED. Student Manual. (Apprenticeship.) 1969, 146 pages, $1.50.

This manual is designed for use with an 18-hour emergency care of the sick and injured course given to firemen in the state of California.

OHIO

EMERGENCY VICTIM CARE AND RESCUE TRAINING. Instructor's Manual. 1971, $4.50 plus $.40 postage and handling.

The manual consists of a series of teaching guides prepared as a plan of instruction using the textbook, Emergency Victim Care and Rescue Training.

EMERGENCY VICTIM CARE AND RESCUE TRAINING. Textbook. 1971, 372 pages, $4.25 plus $.40 postage and handling.

For use in adult and extension classes, this text reflects recent medical findings about closed heart compression, artificial respiration, maneuvering auto accident victims onto backboards, and other new materials. Medical aspects were reviewed by physicians who are experts in various specialties. The text is well illustrated. Chapter titles are: Emergency and Rescue Vehicles, Equipment, Personnel, Operations, Safe Driving Practices, Controlling the Situation, Childbirth, Common Squad Emergencies, the Mentally Disturbed Patient, Resuscitation, Oxygen Therapy, Closed Chest Heart Compression, Use of Backboards, Rescue Carrier and Drags, Aerial Ladder, Rescue Procedures, Forcible Entry, Gas Masks, Electrical Emergencies, Cutting Torches, Rope and Rigging, Shoring and Tunneling, Waterfront Operations, Unusual Situations, Records and Reports, Postmortem Conferences, and Legal Aspects.

FOOD SERVICE SUPERVISOR: 07.0908

CALIFORNIA

HOSPITAL FOOD SERVICE OCCUPATIONAL ANALYSIS. 1972, 85 pages, $3.00.

Based on responses from 220 food service workers in 48 health care facilities in Boston, Birmingham, Chicago, Denver, Seattle, and Los Angeles, this analysis was difficult to interpret because of the large number of individual job categories (15) among the respondents. This problem was solved by clustering them into six major categories. The questionnaire was made up of 248 tasks grouped into ten categories under Departmental Operations, and ten categories under Administrative Functions. The questions asked were: "Do you perform the task?," "Do you supervise the performance of the task?," "What is the frequency with which the task is performed?," and "What is the level of difficulty of the task?" Other data gathered was the importance of each task, the technical knowledge related to it, and the occupational level appropriate to the task. Based on computer analysis of the data supplied by the respondents, suggested curricula and course instructional units were developed which could be readily adopted, with slight modification to conform to local needs and requirements.

HEALTH OCCUPATIONS EDUCATION, OTHER: 07.99

CALIFORNIA

THE CLINICAL INSTRUCTOR TRAINING PROGRAM: DEVELOPMENT, OPERATION, EVALUATION. Final Report. 1971, 88 pages, $2.00, secondary.

The Clinical Instructor Training Program was a research and demonstration project supported over a three-year period (1968-1971) by the Department of Health, Education, and Welfare's Social and Rehabilitation Service. During that time some 1,500 allied health personnel were given the course in ways to teach effectively

on the job. The data in this report resulted from a survey of the participants who were asked to evaluate the program.

"How-to-Instruct Cards" used in the Clinical Instructor Training Program. Each $.05.

"Job Breakdown Sheets" used in the Clinical Instructor Training Program. Ten for $.25.

CLINICAL INSTRUCTOR TRAINING PROGRAM TRAINER'S MANUAL. 1970, 93 pages, $3.00, secondary.

Japanese Translation. 1969, 50 pages.
Spanish Translation. 1971, 98 pages.

The Clinical Instructor Training Program is a short, intensive training course for allied health personnel in ways to teach on the job or in the clinical setting. The manual gives the trainer complete instructions for conducting the program.

CONTENTS, ASSEMBLING, AND ANALYZING DEFICIENCIES OF MEDICAL RECORDS. 1972, 141 pages, $6.00.

A pocket in the back cover contains two practice file folders and 68 completed medical record forms. The forms were taken from actual medical records with only the identifying names and numbers changed. The instructions in this manual accompany the patient from his first contact with the hospital until he is discharged, adding new medical records at each step. The reasons for each record, its importance, and ways to handle it are explained as the student follows the patient's progress. After all the medical records have been accumulated, the student learns to assemble them in correct sequence. Finally, he learns to analyze a completed file for deficiencies and ways to handle them. This module is almost entirely self-instructional, although teacher assistance has been necessary chiefly where the local hospital system differs in some respects from the typical system followed in the module.

GASTROENTEROLOGY ASSISTANT: A LABORATORY MANUAL. 1972, 96 pages, $6.75.

This manual presents in step-by-step detail the basic diagnostic procedures used in the gastroenterology laboratory. As a reference in this setting, it will help to establish standard procedures and serve as an instructional handbook for in-service training of assistants in the clinical setting. It can also be used for formal instruction in medical schools and for refresher training in continuing education programs.

GASTROENTEROLOGY ASSISTANT OCCUPATIONAL ANALYSIS. 1972, 40 pages, $1.35.

The study was an experiment to test the effectiveness of the analysis procedures developed by the AHPP in working with a new and possibly emerging allied health profession, the gastroenterology assistant. Some gastroenterologists indicated that a few of their number had hired individuals who seemed to be suited to the work by interest and temperament and trained them on the job, with satisfactory results.

The work of the assistant was largely confined to performance of time-consuming tests, such as gastric, biliary, and pancreatic function tests. These tests must be performed accurately but can be done by a well-trained assistant, thus saving the gastroenterologist's time for more difficult responsibilities. Working with a representative group of 25 gastroenterologists, a graded list of tasks suitable for training assistants was developed. This list was obtained by using a questionnaire that had been completed by 27 physicians interested in gastrointestinal diseases.

The need for training gastroenterology assistants was established, and it was recommended that the analysis be used as a basis for development of an instructional manual which could be used for on-the-job training by individual physicians or in formal training programs in hospitals and clinics.

HOSPITAL ENGINEERING MAINTENANCE OCCUPATIONAL ANALYSIS. 1972, 105 pages, $3.50.

The analysis was based on a survey questionnaire consisting of 386 tasks covering 15 different clusters ranging from power plant operations (26 tasks) to painting and plastering (29 tasks). Respondents answered four questions about each task: "Do you perform the task?," "Do you supervise performance of the task by others?," "How often do you perform the task?," and "How difficult is the task?" Four categories of workers were queried (superintendents, general maintenance workers, mechanical maintenance workers, and building maintenance workers) in 48 health care facilities in Boston, Birmingham, Chicago, Denver, Seattle, and Los Angeles. Sixty-five percent of the questionnaires were completed and returned.

HOSPITAL PHARMACY OCCUPATIONAL ANALYSIS. 1972, 93 pages, $3.00.

An analysis of the tasks performed by the hospital pharmacist was undertaken for the purpose of identifying tasks the graduate licensed pharmacist performs, then checking off those he could delegate to an aide or assistant. A pharmacy serving a medium-to-large hospital does enough volume of business to make the employment of a well-trained assistant an economy move. It is not efficient for a registered graduate pharmacist to spend his time counting capsules, typing labels, and similar tasks that can be done well by an assistant.

The task inventory identified 107 tasks which were then used to develop a survey questionnaire that was sent to the 48 hospitals in the survey sample located in Boston, Birmingham, Chicago, Denver, Seattle, and Los Angeles. One questionnaire was sent to the head of the pharmacy department at each hospital and 31 of the 48 were completed and returned.

Reduction of the data by the computer and analysis of the results yielded some valuable data with implications for selection of tasks for the assistant program. It was clear that priority items in a pharmacy technician program should be dispensing and purchasing. Bulk compounding, prepackaging, and sterile solution manufacturing follow closely. This analysis contains a wealth of information on hospital pharmacy practices as they vary from one hospital and region to another.

HOSPITAL PURCHASING OCCUPATIONAL ANALYSIS. 1972, 159 pages, $4.10.

Purchasing in any business or institution is a critical function; poor purchasing practices can bankrupt a business or cause a hospital to incur a serious financial

deficit. This study was undertaken to learn which purchasing practices were most commonly used in hospitals with the goal of developing a curriculum for training purchasing personnel. It was found that there are 208 tasks performed in hospital purchasing. These tasks were developed into a survey questionnaire which was directed to the 48 hospitals in the survey group located in Boston, Birmingham, Chicago, Denver, Seattle and Los Angeles. The results of the survey indicated that lack of clear assignment of responsibility for purchasing was widespread; in some cases, each department operated on its own, with the incredible waste and duplication such an arrangement encourages. From the analysis of the computer data, a suggested curriculum was developed for training hospital purchasing personnel. Like others in the series, this analysis should prove valuable to hospital administrative personnel in comparing their own practices with the national average.

HOSPITAL WARD ADMINISTRATION OCCUPATIONAL ANALYSIS. 1972, 79 pages, $2.40.

A growing trend in recent years for health care facilities has been to reduce the load of administrative and clerical work done by the nursing staff by delegating such work to ward clerks or equivalent personnel. These workers are trained to handle the paper work in the nursing unit or ward, leaving the nursing staff more freedom to concentrate on patient care.

After considerable study and investigation of existing programs, a task inventory was developed on the basis of two major areas of activity--clerical functions and administrative and management functions. A total of 169 tasks in the list was used as the foundation for a survey questionnaire that was sent to 243 ward administration personnel, of which 78% or 189 were completed and returned. Health care facilities in Boston, Birmingham, Chicago, Denver, Los Angeles, and Seattle were used for obtaining the survey sample. The respondents rated each task in terms of performance, frequency, difficulty, and importance.

Computer analysis of the questionnaire data indicated that the total group was divided into two occupational groups regardless of title--clerical and managerial. No tasks were done exclusively by the clerical group, but both groups were performing 98 tasks overlapping all functions. The managerial group performed an additional 47 tasks exclusively. A career ladder curriculum was designed starting with a block of tasks done by both clerical and managerial personnel followed by a second block of tasks performed by managers only.

INTRODUCTION TO ALLIED HEALTH CAREERS, FIRST YEAR CURRICULUM. Student Manual. 1971, 269 pages, $5.00.

This manual provides guidance for the student in the first year curriculum. Worksheets, report forms, tests, and detailed instructions and information are furnished in the book.

INTRODUCTION TO ALLIED HEALTH CAREERS, FIRST YEAR CURRICULUM. Teacher's Manual. 1971, 564 pages, $15.00.

This is a comprehensive guide for the teacher who may not be familiar with the health occupations or the health care delivery system. It provides detailed instructions for handling each of the student projects that compose the first year curriculum.

MEDICAL RECORD DEPARTMENT OCCUPATIONAL ANALYSIS. 1972, 80 pages, $2.15.

The job of analyzing the work performed in a medical records department proved to be complicated by the wide variety of tasks performed, from transcribing medical reports to analyzing and correcting medical record deficiencies. The task inventory identified 264 discrete tasks; the survey questionnaire was developed from the inventory. The questionnaire was completed by 132 medical records department workers in 48 hospitals located in Boston, Birmingham, Chicago, Denver, Seattle, and Los Angeles. The data was processed by the computer and the results were analyzed. Seven distinct job titles emerged with some overlap: Registered Record Librarian (now Registered Record Administrator), Accredited Record Technician, Medical Record Technician, Medical Secretary, Transcriber, Medical Record Clerk, and Clerk Typist. Using the data as a base, curriculum was developed for each stage or level to facilitate upward and lateral mobility. This prevents jobs with no future and furthers the career education concept. The analysis is a good source of material for upgrading courses to assist aspiring workers in career advancement.

MEDICAL RECORD FILING (TERMINAL DIGIT AND ALPHABETICAL). 1971, 24 pages, $3.50.

The manual includes 100 4 x 6 inch practice file cards. This self-instructional module has been tested extensively. Students using it can master the task of medical record filing rapidly with little or no help from the teacher. The student uses the 100 practice file cards to learn by experience, following the programmed step-by-step procedure in the manual.

MEDICAL RECORDS TERMINOLOGY. Text. 1971, $3.00; tape cassette $4.00.

This series of medical terminology self-instructional modules has proven to be an efficient means for helping the student to quickly learn ways to recognize both the written word and the spoken word, to pronounce the word, and to understand the meaning and significance of the word. This is accomplished by combining an illustrated manual that explains the meaning and function of each term with a tape cassette that pronounces each word correctly, concluding with a number of actual medical record dictations for practice. The module has proven to be highly effective in training medical record transcriptionists quickly and thoroughly. It does not depend on the old-fashioned rote memorization of roots, prefixes, and suffixes which students find boring; instead, each word is related to its function in the body and its relation to other words that identify other parts of the body. While learning the nomenclature, the student automatically learns about anatomy, pathology, and other science areas. For this reason, the series has become popular with other allied health occupations students and might almost be said to constitute a basic course in medical terminology from which they can all benefit. The tape cassettes were intended primarily for the typist to use in practicing transcription on the typewriter; however, other students have found them valuable in learning correct pronunciation and in recognizing the words upon hearing them.

The complete series will consist of nine manuals and tape cassettes each covering a different body system. Those now available are:

(7) Circulatory System Text. 85 pages.
(8) Circulatory System Tape Cassette.

(9) Digestive System Text. 73 pages.
(10) Digestive System Tape Cassette.
(11) Respiratory System Text. 88 pages.
(12) Respiratory System Tape Cassette.
(13) Musculoskeletal System Text. 111 pages.
(14) Musculoskeletal System Tape Cassette.
(15) Genitourinary System Text. 93 pages.
(16) Genitourinary System Tape Cassette.
(17) Nervous System Text. 102 pages.
(18) Nervous System Tape Cassette.

The status of the three modules that complete the series:

Organs of Sight and Sound. 1973, 152 pages.

Endocrine System. Being written; available approximately February 1974.

Integumentary System. Not started; available approximately April 1974.

A MODEL OF INDIVIDUALIZED INSTRUCTION FOR THE CLINICAL LABORATORY OCCUPATIONS. 1972, 66 pages, $2.00.

Using the information in the occupational analysis, "A Study of the Clinical Laboratory Occupations," this study develops a five-stage curriculum starting with training for entry-level jobs and progressing to the research or Ph.D. level. The elements of each stage are explained in detail with emphasis on the first three stages. The standard instructional package consists of a teacher's guide, evaluation guide, and student's manual. The hematocrit is used as an example to illustrate each of the five parts of the package.

OCCUPATIONAL ANALYSIS OF SOCIAL SERVICES IN MEDICAL CARE FACILITIES. 1971, 78 pages, $2.75.

This occupational analysis was developed by means of a questionnaire consisting of 192 tasks submitted to a representative sample of hospitals in six geographical areas. Respondents to the questionnaire were categorized into four levels of employees and were compared and examined on two variables--percentage of task performance and frequency of task performance. The analysis is both numerical and descriptive and deals with six major social service functions: intake services, information and referral services, treatment services, supportive services, community services, and administrative services.

More similarities than differences were found among the various levels of employees in both task performance and frequency of performance. There were no definite role differentiations among the aides, assistants, and M.S.Ws. If the findings of this study are accepted as being reasonably accurate, the implications for education and curriculum design in this occupation are extensive.

PROGRAM GUIDE: A GUIDE FOR DEVELOPMENT AND OPERATION OF A SECONDARY SCHOOL ALLIED HEALTH CAREER PROGRAM. 1972, 143 pages, $5.00.

The Secondary School Allied Health Career Program is simple enough to administer once it is established, but to many educators who are not familiar with hospitals and health care occupations, establishing the program is a difficult problem. The Program Guide is very helpful to the teacher and coordinator because it gives explicit, detailed instructions for every step in establishing and continuing a new program.

STUDENT TRAINING RECORD BOOKLETS. $.35.

These small booklets list the tasks that the students should learn in the hospital. When a task is mastered, the on-the-job instructor signs and dates it. This provides the student with a record of his accomplishments which becomes valuable when applying for a job or admission to a higher level school for additional training.

There are booklets available for 46-a, nurse aide; 46-b, central service; 46-c, hospital business office; 46-d, inhalation therapy aide; 46-e, personnel training; 46-f, hospital refrigeration and air conditioning; 46-g, pharmacy aide; 46-h, occupational therapy aide; 46-i, social worker aide; 46-j, physical therapy aide; 46-k, radiology aide; and 46-l, clinical laboratory assistant.

TASK INVENTORIES. 1972, 248 pages, $8.65.

This book contains classified lists of all tasks performed in each of 25 allied health occupations prepared by experts drawn from each occupation. It is used in developing questionnaires for surveys in preparing occupational analyses and is also very useful in preparing special instructional units for on-the-job and institutional upgrading. Occupations for which task inventories are included in this volume:

Biomedical Photography
Central Service
Clinical Laboratory
Community Health Nurse
Dental Auxiliaries:
- Dental Hygienist
- Dental Assistant
- Dental Technician

Electroencephalography
Engineering Maintenance
Food Service
Hospital Admitting Office
Hospital Business Office
Housekeeping
Laundry & Linen Service
Medical Office Assistant
Medical Records
Nursing
Pharmacy Technician
Purchasing
Radiology
Respiratory Care/Inhalation Therapy
Sanitation (Public Health)
Social Service
Ward Management

THE UCLA SECONDARY SCHOOLS PILOT AND DEMONSTRATION PROJECT FOR AN INTRODUCTION TO ALLIED HEALTH CAREERS: A SUMMARY EVALUATION REPORT. 1973, 128 pages, $3.00.

This report includes the history of the program, evaluation of each of the three phases, and the total program over a four-year period. It also includes a summary, conclusions, and recommendations.

OREGON

HEALTH OCCUPATIONS - AN EXPLORATORY COURSE. 1971, 25 pages, $.25, junior and senior high school.

This exploratory course module attempts to assist students in developing a broad understanding of career opportunities in the health service industry. This module contains three parts: an overview of health occupations, health occupations opportunities, and requirements for health occupations. Also included are lists of instructional materials, education and employment opportunities in health occupations, and sample job titles in health occupations.

HEALTH OCCUPATIONS. Curriculum Guide. 1969, 125 pages, $2.50, secondary.

This curriculum guide outlines the basic skills and knowledge necessary for entry-level competencies in the broad field of health or for entrance into a post-high school or university program. Occupational specialty courses included are human body structure and function, microbes and disease, health team relations, patient relations, and health care skills one and two. Each of these courses consists of objectives, content, suggested activities, and evaluation. The large appendix contains evaluation, equipment and supplies, instructional materials, instructor qualifications, and opportunities in health occupations.

PENNSYLVANIA

AN INSTRUCTION GUIDE FOR TEACHERS OF HEALTH ASSISTANTS. 1973, 30 pages, free, secondary.

This handbook is designed to serve as a guide for administrators and teachers in planning and teaching health assistant programs. Included is background information, course content, sample lesson plans, an extensive list of equipment and supplies, and a bibliography.

OCCUPATIONAL RESOURCE MATERIAL

Materials that follow are general in nature, apply to all vocational areas, and are listed under the headings of Administrator's Resource, Career Education. Student's Resource, or Teacher's Resource. The Teacher's Resource material may prove helpful to supervisors and administrators as well.

ADMINISTRATOR'S RESOURCE: All Vocational Areas

OHIO

ORGANIZATION AND OPERATION OF A LOCAL PROGRAM OF VOCATIONAL EDUCATION. 1968, 86 pages, $1.00 plus $.40 shipping.

This publication deals with establishing, maintaining, and improving comprehensive programs of vocational and technical education. The publication should prove to be a valuable guide for administrators of vocational and technical education programs: superintendents of schools, directors, coordinators, or deans. The references at the end of each chapter provide added resource material helpful to those who desire to pursue information in depth.

SUGGESTED SPACE AND EQUIPMENT COSTS FOR JOB TRAINING PROGRAMS. Planning Guide. 1967, 53 pages, $1.50.

This illustrated guide was prepared to assist school administrators, architects, home economics teachers, and others to plan and develop programs in high schools and joint joint vocational schools. Details for space and equipment have been developed at an optimum level. The facilities suggested would provide for self-contained work experience opportunities within the school. A bibliography is included.

PENNSYLVANIA

COOPERATIVE VOCATIONAL EDUCATION EVALUATION CRITERIA. 1972, 8 pages, free.

This manual is designed to be used in evaluating cooperative vocational education programs.

VERMONT

GUIDELINES COOPERATIVE VOCATIONAL EDUCATION IN VERMONT. 1972, 96 pages.

This manual provides guidelines for developing a cooperative vocational education program in Vermont. Part I includes cooperative vocational education programs in area vocational centers and, Part II covers cooperative vocational education in other high schools.

CAREER EDUCATION: All Vocational Areas

ALABAMA

CAREER GUIDANCE HANDBOOK. 1973, 23 pages.

This handbook briefly explains a career guidance program, what it is, and ways to do it. It lists components of a career guidance program and responsibilities of the following persons for career guidance: guidance specialists, teachers, vocational educators, administrators, parents, and other community members.

ARIZONA

CAREER EDUCATION CLEARINGHOUSE BIBLIOGRAPHY AND INDEX. 1972, 350 pages.

This guide contains three major sections: an annotated bibliography of all materials, indexes to Arizona career education materials by career education element and grade levels, and indexes to other project and non-project produced materials by subject-matter area and grade levels.

COLORADO

COMMUNICATIONS AND MEDIA. 1972, 137 pages, $5.00, junior high and high school level.

This guide provides units of instruction in the following areas of the communications and media cluster: reading skill development, meeting the public, listening and following directions, parliamentary procedure, group discussion, public speaking, conversational skill, use of references, and mass media. It is suggested for use as a separate "mini" course or as part of an English class at the junior high or high school level.

DELAWARE

INTRODUCTION TO THE WORLD OF BUSINESS. Curriculum Guide. 1973, 90 pages, $1.25, 9th grade.

This curriculum guide provides instruction for a ninth grade course concerning career opportunities within the world of business. It is a three-column guide giving goals and objectives, procedures and activities, and resources and references. The units are designed to provide information as well as "hands on" experiences necessary to aid in career selection.

IOWA

AN INDIVIDUALIZED PROGRAM FOR COLLEGE AND CAREER. 1973, 100 pages, $20.00, high school and junior college level.

This is an individualized program designed to be used in a resource center or other independent study area under the direction of a student advisor. After a period of evaluation to determine the student's strengths and needs, the student selects the options on which he wishes to concentrate his efforts. The material does not include instructions for use. Anyone planning to use the system would need to obtain more information about it. Material is written with objectives and does include multi-media resources and books.

MAINE

CAREER EDUCATION IN MAINE BROCHURE. 1973, 23 pages.

This is a short brochure explaining general concepts of career education. Included is a short description of career education programs in Maine. It is designed to make teachers in Maine aware of career education and to provide insights, perspectives, and knowledge of ways career education can be planned and implemented in Maine schools.

CAREER EDUCATION IN MAINE CURRICULUM GUIDE. 1973, 268 pages.

This curriculum guide is designed to provide Maine educators with a model for developing concepts, activities, and resource materials that will introduce career education into the schools. It contains a short chapter on concepts and a chapter delineating the role of the teacher, the counselor, the administrator, the school board, the State Department of Education, the career education coordinator, and the guidance aide. The next four chapters provide examples of activities developed and tested in Maine schools for integration of career education into the classroom at elementary and junior and senior high school levels. This is a helpful publication for schools developing a career education program.

CAREER EDUCATION K-12 - SAD #9. 1973, 95 pages.

This is a final report of a research and development project in career education conducted under Part C of Public Law 90-576. The project was conducted for one year in School District Number 9, Farmington, Maine. The communities served by this district are mostly small and rural. A comprehensive report includes goals and objectives, procedures followed, results and accomplishments, conclusions, implications, and recommendations for the future.

MARYLAND

CALLING CAREERS. Television Series. 1973, 15 lessons.

Lesson #4 Medical Services I and Lesson #5 Medical Services II are segments of a career awareness series suitable for the intermediate grades. A teacher's manual and supplement are included. Produced by Division of Instructional Television, in collaboration with the Division of Vocational-Technical Education, Maryland State Department of Education, it is available for out-of-state telecast through the Eastern Educational Network. Direct inquiries to: Eastern Educational Network, Howard Spergel, 381 Elliot Street, Boston, Massachusetts 02164.

MISSISSIPPI

TEACHER'S GUIDE FOR OCCUPATIONAL ORIENTATION: AN INTRODUCTION TO THE WORLD OF WORK. 1972, 452 pages, $7.50.

This guide is designed to help the teacher plan a course of study for a class in occupational orientation/career education. Ideas could be adopted by teachers in other classes who wish to integrate some career orientation. Topics covered include: the importance of work; understanding the world of work; what is success?; preparing for a career; and exploring service occupations, business contact occupations, organization occupations, technology occupations, outdoor occupations, general cultural occupations, and arts and entertainment occupations. Student materials are also available.

MISSOURI

JOB APPLICATION AND INTERVIEW. Instructor's Guide. 1973, 354 pages, $15.00 plus postage and handling, high school and adult basic education.

The instructor's guide is divided into nine instructional units: why work; career opportunities; occupational information; self-evaluation; letter of application and application blank; job interview, tests, and forms; money management; job success factors; and job promotion and advancement. Each instructional unit includes behavioral objectives, suggested activities for teacher and students, information sheets, visual aids, tests, and answers to the tests. Units are planned for more than one lesson or class period of instruction.

NEW JERSEY

AN AGE-GRADED MODEL FOR CAREER DEVELOPMENT EDUCATION. 1969, 41 pages, $2.50.

This is an invaluable aid in developing and implementing career education. It discusses the theoretical underpinnings of child development and constructs a model for career development on a K-12 continuum. It examines the practical applications of the theories of self-awareness, career awareness, and career decision making.

CAREER DEVELOPMENT - INCREASING THE VOCATIONAL AWARENESS OF ELEMENTARY SCHOOL CHILDREN. Guidebook for Teachers. 1969, 31 pages, $1.50.

This is a six-part volume. The first two parts introduce the problems associated with the development of vocational awareness and introduce a concept model for the systematic introduction of the concept. The third part provides material which may be used in classroom assessment of vocational awareness. Section four provides sample instructional units for increasing vocational awareness. Section five describes some commonly used social studies activities which enhance vocational awareness. Section six introduces several job families or clusters of occupations.

CAREER DEVELOPMENT - JOB PLACEMENT. 1969, 63 pages, $1.50.

The first thirty-four pages develop the concept of job placement. This development starts with a detailed identification of the nature of the problem and a rationale for handling the problem. Sections three and four provide specific, concrete suggestions for the initiation and operation of a job placement program. The last twenty-nine pages report some of the information gained in the operation of five experimental job placement programs.

INTRODUCTION TO VOCATIONS. Teacher's Guide. 1973, 450 pages, $7.50.

This manual contains material which may be used as a text by the teacher for student instruction. It is also intended to be used as a guide to assist the teacher and coordinator of the program. It contains the following cycles: know yourself, environment, health and environmental careers, mechanical contracting, science-engineering-technology, small business, textile, transportation, and the following mini-cycles: bookkeeping, beauty culture, business education, careers in advertising, florist-horticulture, graphic arts, measurement, police careers, and United States Coast Guard.

INTRODUCTION TO VOCATIONS FOR EDUCABLE MENTALLY RETARDED. 1972, 55 pages, $1.00.

This is a part of career development for a special group. It is designed to aid the teacher and covers the following: general plans, the student as a member of society, economic aspects of living, exploratory units on occupation employment information, bibliography, information form, occupational interest form, and jobs for the retarded.

PHYSICS AND CHEMISTRY FOR AUTOMOTIVE TRADES. 1972, 243 pages, $2.50, 11th and 12th grade.

This manual contains units on introduction to physical science, matter and its properties, mechanics, heat, electricity, sound, and light. Each unit consists of related information, illustrations, and experiments.

NEW YORK

IDENTIFYING OPPORTUNITIES FOR EMPLOYMENT. Instructor's Guide. 1973, 84 pages, $.50.

This publication is intended to expose the students in adult basic education programs to some possibilities for marketing their newly acquired skills. The curriculum is sequenced as one unit in five phases, but any one of the sections could be used for individual guidance, for small group instruction, or for mini-seminars. Sections covered are: evaluating interest and abilities, preparing for employment, exploring the world of occupations, planning and preparing for interviews, and getting the job.

OHIO

OCCUPATIONAL WORK EXPERIENCE STUDENT HANDBOOKS. 1973, $8.00 plus $.40 shipping, available only as complete set; one set per student.

This is a set of 32 individual student handbooks designed for students enrolled in the Occupational Work Experience program in the Ohio Public Schools. This program is to provide an opportunity for students who are not intending to go to college or to a technical school to learn a trade so they can be employed immediately after high school. It consists of a half-day school program and a half-day training on the job. The handbooks can be used for individual instruction on a variety of topics such as reasons to stay in school, safety, conducting a meeting, decision making, ways to apply for and get a job, personal budgeting, and personality.

OKLAHOMA

CAREER EXPLORATION - A GUIDE FOR TEACHERS. 1970, 101 pages, $1.75, 8th, 9th, and 10th grade.

This guide is designed for use by teachers to plan and implement a course in exploration of careers for grades 8, 9, or 10. Units included are: know yourself, world of work, use of occupational information, and career education planning. This guide is written in a four-column format with objectives, activities, evaluation, and resources. The objectives are not behavioral.

A GUIDE FOR DEVELOPMENTAL VOCATIONAL GUIDANCE. 1973, 173 pages, $2.00.

This resource guide is divided into four sections: grades K-3, grades 4-6, grades 7-9, and grades 10-12. Each section contains general goals of vocational guidance for that grade level, specific things which the student needs to know, suggested activities, instructional materials, and resources.

OREGON

CAREER EDUCATION IN OREGON. 1970, 8 pages, $.25.

This is a position paper developed by the Director of Career Education in Oregon to present recommendations for career education in Oregon. It could be interpreted as a statement of broad objectives to implement career education in Oregon.

ELECTRICITY-ELECTRONICS. Curriculum Guide. 1969, 88 pages, $2.50, 7th-12th grade.

This manual was developed for the Oregon Board of Education to be used as a guide to establish a career cluster program in the area of electricity-electronics. The suggested curriculum plan is for grade levels 7 through 12.

GUIDE FOR PLANNING CAREER EDUCATION IN OREGON'S SECONDARY SCHOOLS. 1970, 22 pages, free.

This guide is intended for use by administrators in developing long-range plans for career education in individual schools. It is divided into five major parts: community data, school data, master career education plan, factors of implementation, and long-range planning sheets.

TEACHER'S GUIDE TO SUTOE (SELF UNDERSTANDING THROUGH OCCUPATIONAL EXPLORATION). 1971, 183 pages, $3.00, junior high.

This is a teacher's guide for a year-long course combining occupational exploration and self-understanding. It contains objectives for each unit followed by suggestions for implementation. The units are entitled: Pupil Involvement in SUTOE, Self-Appraisal and Self-Understanding, Relating School to Occupational Planning, The Individual's Role in the Economic System, Preparing Students for In-Depth Career Study, Exploring Jobs, Evaluating Experiences, and Planning Ahead.

WORLD OF WORK. 1971, 68 pages, $1.00, K-12.

This is a curriculum guide which is not self-contained. It uses behavioral objectives and is designed to relate the social studies curriculum to the world of work. For each grade level there are suggested activities, resources, and evaluation suggestions for reaching the objectives. It also includes a bibliography of occupationally oriented books and some worksheets for teacher use in planning the units.

SOUTH CAROLINA

THE WORLD OF WORK - A UNIT IN PRE-VOCATIONAL INSTRUCTION. Teacher's Guide. 1971, 216 pages and 31 game cards, $5.00, 9th and 10th grade.

This guide is designed for a course of instruction for 9th and 10th grade students. The guide contains 20 major activities or units each with objectives, student worksheets, and transparency masters.

TENNESSEE

CHARLES LIVES AND WORKS. 1970, 32 pages, $1.00, high school.

This is a short individualized instructional unit in job hunting, banking, and budgeting for use in vocational improvement programs. It could be used in math, English, or social studies classes at the high school level.

VIRGINIA

INDUSTRIAL ARTS CURRICULUM GUIDE. 1972, 109 pages, $2.50, secondary.

This guide has been designed as a professional resource for the secondary industrial arts teacher. The guide gives specific direction to the broad content courses in industrial arts and provides supplementary direction to the general unit-type courses. It includes a series of approaches to teaching industrial arts curriculum, ways to use educational television, a resource index, and transparency masters.

WASHINGTON

GUIDELINES FOR CAREER AWARENESS PROGRAMS FOR THE ELEMENTARY SCHOOL - PART 3: WHAT ABOUT VOCATIONAL EDUCATION? 1974 (Revised), 62 pages, free.

This is a resource guide to provide suggestions to elementary teachers in developing career awareness programs. For each grade level it includes goals, concepts and objectives, suggested activities, and learner's expectations. An appendix with resources for career awareness programs is also included.

SUGGESTED GUIDELINES FOR CAREER EDUCATION WORKSHOPS. 1973, 29 pages, free.

To develop continuity in the career education effort, this guide is designed to propose suggested content, methods, and techniques for in-service workshops that will assist teachers in integrating career education into their classrooms.

STUDENT'S RESOURCE: All Vocational Areas

ILLINOIS

APPLYING FOR A JOB. Student's Guide. 1969, 12 pages, $.18.

Many questions confronting students are answered in this leaflet. It deals with such items as taking personal inventory, getting additional training, discovering what jobs are available, writing a letter of application, and being interviewed by a prospective employer.

MISSOURI

BASIC MATHEMATICS. Instructor's Guide. 1971, 88 pages, $1.50.

This guide is designed for vocational students. The concepts of number theory, whole number operations, fractions, decimal fractions, and applied geometry are all included. There are five topic units with eleven developed lessons.

NEW JERSEY

DICTIONARY. 1973, 21 pages, $.50.

This manual can be used by students and is designed to give information on ways to use a dictionary. There are sample problems to provide the learner with learning experience needed to use a dictionary.

ENGLISH AT WORK - VOLUME I. 1970, 248 pages, $2.50.

This is written for the high school student who plans to go to work upon graduation. The format and examples are designed to motivate the vocational student. The table of contents lists ten unit titles: The Role of Language, The Dictionary, The Sentence, Written Expressions, Common Mistakes, Reading, The Newspaper, The Library, Expressing Yourself, and Spelling.

ENGLISH AT WORK - VOLUME II. 1970, 472 pages, $2.50.

This volume, as an extension of Volume I, continues in the same vein with no change in philosophy. The general areas covered are listed as units XI through XVI. These units are entitled: Written Correspondence, Vocabulary Building, Punctuation, Straight Thinking, Industrial and Business Forms, and Job Planning.

FINDING A JOB. 1973, 56 pages, $.50.

The publication includes information needed for finding a job. Areas included are: where to look for a job, the interview, things to learn about the job, the application form, and the resume.

THE NEWSPAPER. 1970, 28 pages, $.50.

This publication was developed to help the student learn to read and use newspapers. Problems and quizzes are included.

OHIO

JOB METHODS FOR SUPERVISORY PERSONNEL. Handout Sheets. Leader's Resource Material. 1966, 15 pages, $1.00 plus $.40 postage and handling.

This portfolio of handout sheets is essential for students to illustrate important points. Each of the 15 sheets is keyed for use in the instructor's manual and should be given to learners and participants at the appropriate time.

SOUTH CAROLINA

LOCATING AND SECURING A JOB. Student's Manual. 1970, 29 pages, $.75.

The manual was prepared for high school students enrolled in vocational education courses. Addressed to the student, the manual takes him through a series of seven steps in securing a job. There are assignments and helpful illustrations which provide opportunity for the application of the ideas set forth in the text material.

TENNESSEE

VOCATIONAL RELATED MATH--BLAST OFF! 1971, 169 pages, $4.75.

This manual was designed for student use. At the beginning of each unit is a skill test. As long as the student successfully completes all the problems on these tests, he gets to disregard all of the assignments in that unit. The content includes the number system, addition, subtraction, multiplication, and division of whole numbers.

VOCATIONAL RELATED MATH--TOUCHDOWN! 1971, 125 pages, $4.25.

This publication is designed to help a student improve math skills. Related information sheets, skill practice sheets, assignment sheets, and evaluation (test) sheets are included. Vocationally related problems are used for skill practice and assignments.

TEXAS

YOUR ATTITUDE IS SHOWING. 1972, $3.90.

This reference manual has been prepared by Elwood H. Chapman and published by Science Research Associates, Chicago, Illinois. It is a part of a set of three manuals dealing with attitudes.

YOUR ATTITUDE IS SHOWING ANSWER BOOK. 1972, $1.25.

This manual contains suggested acceptable answers to the assignment questions. The materiai is helpful in assessing student understanding and comprehension.

YOUR ATTITUDE IS SHOWING ASSIGNMENT MANUAL. 1972, $1.00.

This publication contains 20 assignments based upon the reference manual described above. Assignments cover such items as fundamentals of good human relations, ways to compensate for youth and inexperience, and ways to make good first-impressions.

TEACHER'S RESOURCE: All Vocational Areas

INDIANA

ADVISORY COMMITTEES FOR HOME ECONOMICS. 1969, 17 pages, $.20.

This bulletin was written to help teachers with the organization and implementation of an advisory committee. The contents of this publication are: a description guideline for establishing a committee, steps in organizing and implementing the advisory committee, the meeting, purposes of the committee, a sample letter to members, constitution or guidelines, and a bibliography.

MAINE

IDEAS FOR TEACHERS. 1973, 77 pages.

This booklet was developed to help teachers motivate the disadvantaged, but could be valuable in working with all students. It is a teacher's guide giving suggested teaching activities for such areas as entering the world of work, occupations, living with your job, managing more, mathematics, and other areas.

MARYLAND

A TENTATIVE COURSE OUTLINE FOR USE IN COOPERATIVE VOCATIONAL EDUCATION PROGRAMS THREE YEAR SEQUENCE. 1972, 69 pages.

This is a three-year course outline for cooperative vocational education. The outline includes lessons, suggested activities, and references.

MISSOURI

ORIENTATION TO EMPLOYMENT. 1973, 124 pages, $3.00.

This is designed to aid the teacher coordinators of cooperative education in teaching general employment information needed by young beginning employees. The instruction should be valuable to any young worker regardless of the occupation of the student. The study guide and instructor's manual are each attractively bound in a three-ring plastic binder.

TECHNIQUES OF THE COOP METHOD. Instructor's Guide. 1973, 118 pages, $4.00 plus postage and handling.

The job of the coordinator in cooperative education requires the mastery of many specific skills which are identified and explained in this publication. The performance of the coordinator's role calls for knowledge of concepts and principles which are also described. However, the difference between an outstanding coordinator and one who is only average is usually the application of tricks of the trade that normally are gained only by experience. In this handbook, the author relates the many little tricks that he has found to work from his years of rich experience as a coordinator, supervisor, administrator, and teacher-educator.

NEW JERSEY

STUDENT'S MANUAL FOR SUPERVISED TEACHING OF VOCATIONAL SUBJECTS. Student's Manual. 1970, 63 pages, $2.00.

This manual is prepared specifically for trainees enrolled in the course entitled "Supervised Teaching of Vocational Subjects." Responsibilities and requirements of teaching vocational subjects are stressed in the publication.

TIME. 1970, 65 pages, $.50.

This manual is about time, its importance, its use, zones, and other information. This manual also includes problems and tests.

THE WORKER IN MODERN SOCIETY. 1970, 287 pages, $5.00.

The units presented are: problems of labor and management, capitalism of its rivals, history of the labor movement, structure and function of trade unions, personnel responsibilities in modern industry, problem-solving techniques of labor and management, intra-labor problems, corrective legislation, the worker's responsibility, and forthcoming problems. Each unit is presented as a series of lessons, and each lesson provides various outlooks on the topic presented. Thirty-nine pages of unit tests are included.

WORLD PROBLEMS FOR AMERICANS. 1969, 106 pages, $2.00.

The author intended this book as a guide to be used in exploring contemporary problems. There is no attempt to give final answers. The major areas explored are nationalism, war, rule by force, population, and religions.

NEW MEXICO

PERSONAL GROWTH CURRICULUM FOR ADULT BASIC EDUCATION. Curriculum Guide. 1970, 157 pages, free.

The content is designed not only to provide skill development in mathematics, reading, and writing, but also to develop a new life perspective and an awareness of family and social responsibilities. It is intended to lift attitudes from defeatism and rejection to those of confidence and leadership. The guide contains six major divisions including an introduction, family life, health education, world of work, money management, and citizen government.

NEW YORK

EVERYMAN'S ESTATE PLANNING. Curriculum Guide. 1971, 56 pages, $.50.

This is an instructor's guide for teaching an adult course in estate planning. There are six lessons and a case-problem analysis for planning an estate.

OHIO

A BRIEF GUIDE TO ELECTRONIC ALARM SYSTEMS. 1972, 25 pages, $1.50.

This 25-page summary of various types of alarm systems for retail security was prepared by Mosler Safe Company without bias for their own products. It details the advantages and disadvantages of various alarm systems to aid in the improvement of security.

CREATIVE THINKING. Teacher's Guide. 1969, 100 pages, $3.00.

This guide defines creativeness and presents ways to contribute creatively through an interplan of attitudes, aptitudes, resources, and planning. The unit can be used with high school students, post high school students, and adults. It is intended to provide an introductory study of the principles of creative thinking and to suggest ways and means by which individual and group creativity may be increased.

D.C.T. REFERENCE MATERIALS. 1970, 71 pages, $.50 plus $.40 shipping.

This is a listing of instructional materials for the teaching of prominent vocational subjects. These materials have been chosen by committee for their general excellence and are comprised of publications from most states active in vocational education. Also listed with the title of each publication are the reference materials with the address from which they may be obtained.

GETTING THE RIGHT JOB. Teacher's Guide. (Cooperative Training.) 1970, 54 pages,, $1.50.

The content is organized into five units ranging from planning your career objective to the interview. The material is designed to aid the student in locating job sources, applying for employment, and successfully completing the interview. Teaching suggestions helpful in handling the content are included along with some instructional aids for teacher use.

INDUSTRIAL ARTS RESOURCE SUPPLEMENT TO CONSUMER EDUCATION CURRICULUM GUIDE FOR OHIO. 1971, 116 pages, $2.40 each plus $.40 shipping, 9th-12th grade.

This guide has been developed for the purpose of assisting industrial arts instructors in teaching consumer education as an integral part of their program.

MANPOWER TRAINING RESOURCE SUPPLEMENT TO CONSUMER EDUCATION CURRICULUM GUIDE FOR OHIO. 1971, 80 pages, $2.40 each plus $.40 shipping.

This is a teacher's guide for presenting consumer "know how" to the MDTA trainees. It contains concepts, suggested learning and evaluation experiences, and suggested resources.

OCCUPATIONAL WORK ADJUSTMENT RESOURCE SUPPLEMENT TO CONSUMER EDUCATION CURRICULUM GUIDE FOR OHIO. 1971, 63 pages, $2.40 each plus $.40 shipping, K-12.

This guide was developed for occupational work adjustment programs in Ohio. It is a teacher's guide including objectives, concepts, and suggested learning and evaluation experiences. Some areas included are the economic system, the job, ways to apply for a job, the paycheck, budgeting, money, banking, and credit.

OCCUPATIONAL WORK EXPERIENCE INSTRUCTOR'S MANUAL. 1973, 121 pages, $4.00 plus $.40 shipping.

This instructor's manual was developed for occupational work experience program use. It covers such areas as safety education in driving, using the telephone, decision making, ways to apply for and get a job, what the employee wants, and other work experience information.

PATHWAYS TO SELF-IMPROVEMENT. 1972, 83 pages, $2.50.

This is a course outline for developing attitudes about a student's personality, personal appearance, and ability to communicate. It includes measurable objectives, teaching content, and projects which will help the student learn to be more successful. Each project has objectives, step-by-step directions, and evaluation rating factors for the coordinator.

THINKING ABOUT YOUR FUTURE. 1971, 2 pages, $.04.

This is a handout used by most coordinators to gauge initial reaction in mass recruiting assemblies. It has a fill-in blank on the back cover for indication of interest in the program.

TRAINING PLANS FOR COOPERATIVE OFFICE EDUCATION. Teacher's Manual. (Cooperative Training.) 1970, 47 pages, $1.00.

This manual contains training plans for a variety of office occupations suitable for a high school cooperative education program.

AN UNDERSTANDING OF ECOLOGY FOR TOMORROW'S BUSINESS LEADER. 1972, 31 pages, $2.00.

A subject of national concern is presented in this teaching outline with the objective of incorporating outside projects to acquaint students with ecological problems in their own community. Several related films are listed as well as many printed references.

OKLAHOMA

COOPERATIVE VOCATIONAL EDUCATION - A BASIC COURSE OF STUDY. 1972, 553 pages, $10.00

This color-coded publication is a basic course of study for cooperative vocational education. Topics covered are: orientation, employment, personal development, employee relations, communications, financial management, and insurance. The self-contained units include performance objectives, suggested activities for teacher and students, information sheets, transparency masters, assignment sheets, tests, and answers to tests.

HANDBOOK FOR COOPERATIVE PROGRAMS. 1972, 51 pages, $1.25.

This publication is to serve as a handbook for teachers of cooperative programs in vocational education. Topics included are: purposes of vocational education, types of programs, responsibilities of the teacher-coordinator and the advisory committee, legal regulations, selection of students and training stations, evaluation, and sample forms to be used in the program.

VOCATIONAL RELATED ENGLISH. Curriculum Guide. 1972, 778 pages, $12.00, 8th, 9th, and/or 10th grade.

This color-coded publication developed for the disadvantaged includes six areas which relate English to the occupational clusters of construction, general mechanical trades, and home and community services. Each self-contained instructional unit includes performance objectives, suggested activities for teacher and students, information sheets, assignment sheets, transparency masters, tests, and answers to the tests. Areas cover general vocational, capitalization, punctuation, parts of speech, the sentence, and usage.

VOCATIONAL RELATED MATH. Curriculum Guide. 1972, 908 pages, $12.00.

This curriculum guide includes seven areas, each consisting of one or more units of instruction. Each instructional unit includes behavioral objectives, suggested activities for teacher and students, information sheets, assignment sheets, visual aids, tests, and answers to the test. Units are planned for more than one lesson or class period of instruction. There are a total of 39 units of instruction covering the following areas: measurement, whole numbers, fractions, decimals, percent, consumer education, and geometry.

VOCATIONAL RELATED SOCIAL STUDIES. Curriculum Guide. 1972, 546 pages, $10.00, 8th, 9th, and/or 10th grade.

This color-coded publication developed for the disadvantaged relates social studies to the vocational clusters of construction, general mechanical trades, and home

and community services. The four areas included are general vocational, government, social studies, and industry in Oklahoma. Each self-contained unit includes performance objectives, suggested activities for teacher and students, information sheets, assignment sheets, transparency masters, tests, and answers to the test.

PENNSYLVANIA

COOPERATIVE VOCATIONAL EDUCATION GENERAL RELATED THEORY CLASS OUTLINE. 1972, 45 pages, free.

This is a teacher's guide for use in cooperative vocational education general related theory class. There are eight units and included in each unit are objectives, class activities, suggested references, and films. Some of the units are: employer and employee relationship, human relationship, consumer education, and career and job exploration. This guide is appropriate for any cooperative class.

A GUIDE FOR TEACHING BASIC READING SKILLS TO ADULTS (A RIGHT TO READ PROGRAM). 1973, 100 pages, free.

This is a teacher's guide for teaching basic reading skills to adults. Worksheets are included in the manual for student use.

RESOURCE MATERIALS FOR HOME ECONOMICS EDUCATION IN PENNSYLVANIA SCHOOLS. 1970, 32 pages, free, secondary.

This bulletin is the introduction to the series of bulletins which constitute the resource materials for home economics education in Pennsylvania. It explains the terminology and curriculum structure which were used as the basis for developing the resouree materials in each curriculum area.

SOUTH CAROLINA

FOOD DISTRIBUTION, THE SUPERMARKET ENTRY OCCUPATIONS. Teacher's Guide. 1971, 49 pages, $1.25, secondary; also available 19 transparencies, 1971, $2.75.

This publication was developed to assist coordinators of distribution and marketing to improve and expand instruction activities in preparing high school students to enter and progress in the area of food distribution. The manual contains activities and tests and includes areas such as history of the supermarket, store organization, major departments, channels of distribution, and other related information.

LOW-COST TEACHER-MADE OVERHEAD TRANSPARENCIES. Teacher's Manual. 1969, 63 pages, $1.00.

This printed, well-illustrated booklet contains a thorough discussion of the merit and potential of one material that can be used in the production of overhead transparencies. The material, known as three Mil Trycite, has been selected because it is economical, versatile, very transparent, and can be obtained in a pre-cut size useful in teaching. It can be utilized without expensive equipment or processing materials. The publication provides the "how to do it" of transparency production in excellent detail.

TENNESSEE

BASIC REMEDIAL EDUCATION. 1968, 289 pages, $5.25.

This handbook offers a suggested course outline, sample lesson plans, lists of instructional materials, and aids for basic-remedial education. It was designed to be used by MDT teachers.

BUILDING ENGLISH SKILLS - COMMUNICATIONS - LEVELS II and III. 1971, 335 pages, $4.25, secondary.

The material was prepared for use by instructors and students in vocational advancement programs in secondary schools. A student may begin at his own achievement level and progress at his individual rate under the instructor's guidance. Level II materials are written for students whose reading level ranges from grades 2-5; Level III materials are for grades 4-8. The English skill areas are divided into units which are made up of several lessons. The units cover the parts of speech and the sentence.

TEACHER'S GUIDE - VOCATIONAL RELATED TRAINING FOR SPECIAL STUDENTS. 1972, 225 pages, $4.25.

This teacher's guide was designed for use with the secondary disadvantaged, handicapped, or regular vocational student. There are four major sections covering equipment and materials, suggested instructional units, suggested grading standards, and references. Most of the guide deals with suggested instructional units such as personality, human relations, consumer education, and health.

TENNESSEE COOPERATIVE COORDINATOR'S HANDBOOK. 1972, 144 pages, $3.00.

The handbook provides suggestions for organizing and operating a cooperative vocational program. The manual includes most aspects of all cooperative programs. Some of the areas that are included are advantages of cooperative vocational education, school administrators' responsibility, establishing a program, and duties of coordinators.

WASHINGTON

DIVERSIFIED OCCUPATIONS UNITS OF INSTRUCTION. 1973, 150 pages, $7.50.

This publication was developed for diversified occupations coordinators but could be used by other cooperative education teachers. Some of the units of instruction are business math, human relations, job orientation, and career exploration.

WYOMING

WYOMING MATHEMATICS CURRICULUM GUIDE. Teacher's Manual. 1970, 34 pages, free, 7th-12th grade.

Through the program of mathematics the student should become aware of the influences a command of figures can make in his continuing occupational and personal development. The content can be summarized as an attempt to: emphasize the "why" just as much as the "how," teach mathematics as a structure, allow students to discover relationships for themselves whenever possible, and teach the social utility or practical applications of mathematics and of arithmetic computation.

INSTRUCTIONS FOR ORDERING CURRICULUM MATERIALS

Orders for materials should be sent to the address of the appropriate State source. Specific ordering information is indicated where applicable. Prices are subject to change without notice. (An asterisk indicates that whether or not items are listed in this publication, a list of instructional materials from that source is available upon request.)

ALABAMA

For agriculture publications:

Mr. A. H. Halcomb, Subject Matter Specialist, Agribusiness Education, 101 Petrie Hall, Auburn, Alabama 36830.

For career education and home economics publications:

Division of Vocational Education, State Department of Education, State Office Building, Montgomery, Alabama 36104.

A catalog with instructions on how to obtain technical education and trade and industrial publications is available upon request from: Instructional Materials, Trade and Industrial Education, P.O. Box 2847, University, Alabama 35486.

ALASKA

Division of Vocational Education, Pouch F, Alaska Office Building, Juneau, Alaska 99801.

ARIZONA

Division of Career and Vocational Education, Arizona Department of Education, 1535 West Jefferson, Phoenix, Arizona 85007.

ARKANSAS

Division of Vocational, Technical, and Adult Education; State Department of Education; State Education Building; Little Rock, Arkansas 72201.

CALIFORNIA*

For vocational agriculture films, filmstrips, manuals, and other materials:

A catalog with instructions on how to obtain materials is available upon request from: Vocational Education Productions (VEP), California Polytechnic State College, San Luis Obispo, California 93401.

For health publications:

University of California, Division of Vocational Education, Allied Health Professions Projects, 12016 Wilshire Boulevard, Los Angeles, California 90025.

For home economics publications:

Film Fair Communications, 10900 Ventura Boulevard, Studio City, California 91604.

For fire service training manuals:

California State Department of Education, Business Services Section, Textbook and Publication Sales, 721 Capitol Mall, Sacramento, California 95814.

For apprentice and peace officer training materials:

California State Department of Education, Fiscal Office--Order Section, 721 Capitol Mall, Sacramento, California 95814. A separate price list is available upon request for police officer reference material and training films from: Officer of Procurement-Stores, Department of General Services, P.O. Box 20191, Sacramento, California 95820.

For peace officer training materials:

When ordering this material, officers should state their rank and the department with which they are connected. The order should be addressed to Documents and Publications, Office of Procurement-Stores, Department of General Services, P.O. Box 20191, Sacramento, California 95820. Sales tax of 5% must be added to all orders originating in California. Over-the-counter sales are made at the Publications Center, State Office Building No. 9, 744 P Street, Sacramento, at the public counter in the lobby.

Check or money order must be made payable to the state of California. NO ORDERS CAN BE FILLED C.O.D.

COLORADO

Center for Career Development, Dissemination Division, Room 318, Department of Vocational Education, University of Northern Colorado, Greeley, Colorado 80639.

CONNECTICUT

Angelo J. Tedesco, Consultant; Bureau of Vo-Tech Schools; Curriculum Center; Division of Vocational Education; State Office Building, Room 336; Hartford, Connecticut 06115. Publications are free and are sent postpaid. Requests must be made on official school system stationery.

DELAWARE

Dr. Burton Braverman, Supervisor; Curriculum and Research; Department of Public Instruction; John G. Townsend Building; Dover, Delaware 19901. Checks should be made payable to the State Board of Education.

GEORGIA

State Department of Education, Office of Instructional Services, State Office Building, Atlanta, Georgia 30334.

IDAHO*

Idaho State Board for Vocational Education, 506 North 5th, Boise, Idaho 83720.

ILLINOIS*

Vocational Agriculture Services, University of Illinois, 434 Mumford Hall, Urbana, Illinois 61801. Terms of sale for ordering purposes are:

If orders are billed for payment, postage is added to the prices listed.

If payment is sent with the order, the following amounts should be added for postage and handling:

Orders up to $10 - add $.50
Orders $10 to $20 - add $.75
Orders over $20 - add $1.00

INDIANA

Instructional Materials Laboratory, T.A.W. Building, Indiana State University, Terre Haute, Indiana 47809.

IOWA

For agriculture publications:

Information and Publication Services Section, Department of Public Instruction, Grimes State Office Building, Des Moines, Iowa 50319.

For home economics publications:

University Book Store, Ames, Iowa 50010.

For occupational resource publications:

North Iowa Area Community College, Attention: Mariestelle Brown, 500 College Drive, Mason City, Iowa 50401.

MAINE

Department of Educational and Cultural Services, Augusta, Maine 04330

MARYLAND

For health publications:

Publication Sales; American Association for Health, Physical Education, and Recreation; 1201 16th Street N.W.; Washington, D.C. 20036. Stock #244-2570.

For all other vocational publications:

P.O. Box 8717, Friendship International Airport, Baltimore, Maryland 21240.

MASSACHUSETTS

For career education publications:

Available for out-of-state telecast through the Eastern Educational Network. Direct inquiries to: Eastern Educational Network, Howard Spergel, 381 Elliot Street, Boston, Massachusetts 02164.

MISSISSIPPI

Curriculum Coordinating Unit, Mississippi State University, P.O. Drawer DX, Mississippi State, Mississippi 39762. Orders accompanied by payment will be sent postpaid. Billing for all other orders will have postage added.

MISSOURI*

Send requests for 1973-74 price list and order form to: Amon Herd, Director; Instructional Materials Laboratory; 8 Industrial Education Building; University of Missouri-Columbia; Columbia, Missouri 65201. A specific form provided from the above address must be used when ordering all materials. A check or money order for the total amount must accompany orders unless an official purchase order is furnished. Schools MUST attach official purchase order. Descriptions of the listed materials may be found in the 1973-74 Instructional Materials Laboratory Catalog.

NEVADA

State Supervisor, Home Economics Education, Department of Education, Carson City, Nevada 89701.

NEW HAMPSHIRE

Department of Education, Vocational-Technical Division, 105 Loudon Road, Concord, New Hampshire 03301.

NEW JERSEY*

New Jersey Vocational-Technical Curriculum Laboratory, Rutgers University, 4103 Kilmer Campus, New Brunswick, New Jersey 08903. All school orders should be made on official school purchase order form and sent to the above address. In addition to the price of the materials, you will be billed for postage or shipping charges. Individuals may order materials by including a check or postal money order for the amount of the materials plus $.30 per book postage. Please make all checks payable to: Vocational Curriculum Laboratory-Rutgers.

NEW MEXICO

Department of Education, Education Building, Santa Fe, New Mexico 87501.

NEW YORK

The State Education Department, Bureau of Finance, Publications Distribution Unit, Albany, New York 12224. Single copies only sold to education institutions outside the state. No "on approval" copies will be sent. Prices given are net and include book rate postage.

Orders, with remittance, should be sent to: The Publication Distribution Unit, State Education Department, Albany, New York 12224.

State education departments, colleges, or curriculum laboratories having similar materials to exchange should make arrangements with the Bureau of Secondary Curriculum Development, Albany, New York 12224. Copies of New York State curriculum materials are available through the microfiche services of The ERIC System.

OHIO

For agriculture publications:

Ohio Agricultural Education, Curriculum Materials Service, The Ohio State University, Room 254, 2120 Fyffe Road, Columbus, Ohio 43210.

For all other vocational publications:

Instructional Materials Laboratory, The Ohio State University, 1885 Neil Avenue, Columbus, Ohio 43210. Ohio schools or other Ohio public agencies should deduct 20 percent from price quoted. On out-of-state quantity orders of 26 to 100 copies of the same manual, a 10 percent discount is granted; on 101 or more copies, a 20 percent discount applies.

Statements will be rendered on receipt of official purchase orders; otherwise, remittance must accompany orders. All checks and money orders must be made payable to the Ohio State University. Postage must be included at the following rates: single copy--$.40; 2 to 12 copies--$.35 each; 13 or more copies--$.25 each. A catalog with order forms is available on request.

OKLAHOMA

The Curriculum and Instructional Materials Center, State Department of Vocational and Technical Education, 1515 West Sixth Avenue, Stillwater, Oklahoma 74074. Checks in the amount of order made payable to the Curriculum and Instructional Materials Center must accompany the order. Publications are postpaid.

OREGON

For health publications:

Documents Clerk, Oregon Board of Education, 942 Lancaster Drive NE, Salem, Oregon 97310.

For all other vocational publications:

Division of Community Colleges and Vocational Education, Oregon Board of Education, Public Services Building, Salem, Oregon 97310.

PENNSYLVANIA

Pennsylvania Department of Education, Office of Information and Publications, P.O. Box 911, Harrisburg, Pennsylvania 17126. Check or money order in the proper amount, made payable to the Commonwealth of Pennsylvania, must accompany each order.

SOUTH CAROLINA

Vocational Education Media Center, 109 Freeman Hall, Clemson University, Clemson, South Carolina 29631.

TENNESSEE

Vocational Curriculum Laboratory, Box 1114, Murfreesboro, Tennessee 37130. All orders must be:

1. On official purchase order properly signed by an official of the organization. Invoices will be rendered at list price plus postage.

2. Accompanied with check for full amount of materials plus postage and handling based on the following scale:

   single copy - $.50
   2 to 10 copies - $.35 each
   11 or more copies - $.25 each

   Make checks payable to State of Tennessee. Because a limited number of each item was printed, examination copies cannot be furnished. All sales are final--materials cannot be returned.

TEXAS

(A&M) Vocational Instructional Services Center, F.E. Box 182, Texas A&M University, College Station, Texas 77843. A school purchase order and check or money order must accompany each order and be made payable to Texas A&M University. A catalog is available upon request.

For home economics publications:

(TTU) Texas Tech University, Home Economics Instructional Materials Center, P.O. Box 4067, Lubbock, Texas 79409. Total payment or official purchase order must accompany order. Official purchase order terms are net 30 days. Make checks payable to Home Economics Instructional Materials Center. Prices include postage. Mailing will be insured only if insurance is requested when order is placed.

(UT) Industrial Materials Development (Industrial Education), Division of Extension, The University of Texas, Austin, Texas 78712. A school purchase order and check or money order must accompany each order and must be made payable to the University of Texas. Catalogs are available. A 2 percent state sales tax or tax exemption certificate is required in addition to prices listed.

VERMONT

State of Vermont, Department of Education, Montpelier, Vermont 05602.

VIRGINIA*

Mr. Harry Smith, Director of Public Information and Publications; State Department of Education; P.O. Box 6-Q; Richmond, Virginia 23216.

WASHINGTON

For career education publications:

Richard R. Lutz, Supervisor; Career Education; Old Capitol Building; Olympia, Washington 98504.

For teacher's resource publications:

LeRoy McCartney, Director; Distributive and Office Education; 216 Old Capitol Building; Olympia, Washington 98504.

WEST VIRGINIA

Coordinator of Curriculum Development; Bureau of Vocational, Technical and Adult Education; Room B-243, Building 6, Capitol Complex; Charleston, West Virginia 25305. Make checks payable to Vocational Curricula Material Funds for the amount of the order.

WISCONSIN

Mr. Clifford Zenor, Vocational Education Consultant--Instructional Services; Wisconsin Board of Vocational, Technical, and Adult Education; 4802 Sheboygan Avenue; Madison, Wisconsin 53702.

WYOMING

State Department of Education, Division of Public Information, Capitol Building, Cheyenne, Wyoming 82001.

NOTE: Request for specific material contained in this annotated listing should be sent to the appropriate State source.

ACCESSION NUMBER: VT101452

PUBLICATION DATE: 74

TITLE: VOCATIONAL EDUCATION STATE INSTRUCTIONAL MATERIALS FOR TECHNICAL EDUCATION. REVISED 1974.

DESCRIPTOR: *ANNOTATED BIBLIOGRAPHIES; *ABSTRACTS; *VOCATIONAL EDUCATION; *INSTRUCTIONAL MATERIALS; *TECHNICAL EDUCATION

EDRS PRICE: MF AVAILABLE IN VT-ERIC SET.

DESCRIPTIVE NOTE: 36P.

ABSTRACT: THIS ANNOTATED LISTING OF CURRICULUM MATERIALS FOR TECHNICAL EDUCATION IS PROVIDED IN ORDER TO APPRISE PLANNERS, ADMINISTRATORS, VOCATIONAL EDUCATORS AND OTHERS INTERESTED IN OFFERING OR INVOLVED IN VOCATIONAL PROGRAMS OF THE AVAILABLE CURRICULUM MATERIALS DEVELOPED BY VARIOUS STATES. THE CURRICULUM MATERIALS HAVE BEEN IDENTIFIED WITH THE INSTRUCTIONAL TITLES AND CODES FROM THE CLASSIFICATION SYSTEM OF THE OFFICE OF EDUCATION. THE TITLE OF THE DOCUMENT, PUBLICATION DATE, THE NUMBER OF PAGES, PRICE, AND A SUMMARY OF THE CONTENT IS PROVIDED FOR EACH ANNOTATION. (KB)

CONTRACT NUMBER: OEG-0-72-4682

INSTITUTION NAME: OKLAHOMA STATE DEPT. OF VOCATIONAL AND TECHNICAL EDUCATION, STILLWATER. CURRICULUM AND INSTRUCTIONAL MATERIALS CENTER.

SPONSORING AGENCY NAME: OFFICE OF EDUCATION (DHEW), WASHINGTON, D.C.

VT 101 452

VT 101 452

BEST COPY AVAILABLE

Discrimination Prohibited - Title VI of the Civil Rights Act of 1964 states. "No person in the United States. shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance." Therefore, the Vocational Education program, like all other programs or activities receiving financial assistance from the Department of Health, Education, and Welfare, must be operated in compliance with this law.

The project presented or reported herein was performed pursuant to a contract from the U.S. Office of Education, Department of Health, Education, and Welfare. However, the opinions expressed herein do not necessarily reflect the position or policy of the U.S. Office of Education, and no official endorsement by the U.S. Office of Education should be inferred.

VOCATIONAL EDUCATION

STATE INSTRUCTIONAL MATERIALS

for...

TECHNICAL EDUCATION

Revised 1974

AVAILABLE FROM STATE EDUCATION AGENCIES

ERIC

Developed and disseminated pursuant to
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by the
Curriculum and Instructional Materials Center
Oklahoma State Department of Vocational and Technical Education
1974-Revision

NOTE:

REQUEST FOR SPECIFIC MATERIAL CONTAINED IN THIS ANNOTATED LISTING SHOULD BE SENT TO THE APPROPRIATE STATE SOURCE.

SOURCE FOR EACH ITEM LISTED IS INDICATED AT THE END OF EACH ENTRY-SEE INSTRUCTIONS FOR ORDERING AT BACK OF PUBLICATION.

Revised publications (annotated listings) are available in the following vocational areas:

State Instructional Materials for Agriculture
State Instructional Materials for Distributive Education
State Instructional Materials for Health Occupational Education
State Instructional Materials for Home Economics
State Instructional Materials for Office Occupations
State Instructional Materials for Technical Education
State Instructional Materials for Trade and Industrial Occupations

The above items are available for purchase from: Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402

For sale by the Superintendent of Documents, #891,
U. S. Government Printing Office, Washington, D. C.
20402. Stock #1780-01345. Price $.70.

INTRODUCTION AND EXPLANATION OF CODING SYSTEM

In recent years it has become apparent that a strong relationship exists between the world of education and the world of work. Emphasis is on the concept that the development of our human resources is vital to the well-being and growth of our society. In order to implement this belief, leaders in all fields have focused their attention on education and especially on vocational education.

This annotated listing of curriculum materials is provided in order to apprise planners, administrators, vocational educators, and others interested in offering or involved in vocational education programs of the available curriculum materials developed by the various states.

The curriculum materials are offset unless specified as mimeo. They have been identified with the instructional titles and codes from the classification system of the Office of Education. These titles and codes link vocational education programs to occupations. Utilizing the codes in this listing relates the curriculum materials to the instructional program. Seven major vocational education areas are identified in separate listings and coded as follows:

01	Agriculture	09	Home Economics
04	Distributive Education	14	Office Occupations
07	Health Occupations Education	16	Technical Education
17	Trade and Industrial Occupations		

The items are refined to include one or more related subitems as indicated in the following example:

First 2-digit position: subject matter area
Example: 14 OFFICE OCCUPATIONS

Second 2-digit position: principal segment of subject matter
Example: 14.02 BUSINESS DATA PROCESSING SYSTEMS OCCUPATIONS

Third 2-digit position: division of principal segment
Example: 14.0202 PERIPHERAL EQUIPMENT OPERATORS

Fourth 2-digit position: first level detail of division of principal segment
Example: 14.020201 KEY PUNCH AND CODING EQUIPMENT OPERATORS

The coding system is contained in:
U.S. Department of Health, Education, and Welfare, Office of Education. Vocational Education and Occupations (OE-80061). Washington, D.C.: U.S. Government Printing Office, July 1969.

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16. TECHNICAL EDUCATION

Publications marked (Cooperative Training) in the title or supportive statement are designed for use in cooperative education programs.

ENGINEERING RELATED TECHNOLOGY: 16.01

AUTOMOTIVE TECHNOLOGY: 16.0104

MISSISSIPPI

POST-SECONDARY AUTOMOTIVE MECHANICS SUPPLEMENT: ASSIGNMENT AND JOB SHEETS. 1971, 204 pages, $2.00.

This publication contains a series of assignment sheets and job sheets such as replacing the flywheel, replacing brake shoes, and adjusting the toe-in.

ROADWAY TECHNOLOGY: 16.010601

NEW YORK

ELEMENTS OF HIGHWAY PLANNING - Unit IV. Teacher's Guide. 1969, 109 pages, .$1.25.

This guide, prepared at the request of highway developers, contains 15 lessons, each about 2 1/2 hours of classroom instruction. Some topical areas covered include mapping as a planning tool, traffic analysis and forecasting, route location, highway safety, highway law, and introduction to urban transportation planning.

HIGHWAY DESIGN AND ESTIMATING - Unit VI. Teacher's Guide. 1968, 219 pages, $2.00.

The content of this guide fits into a series of nine dealing with highway technology. Courses in the series are designed to be taught sequentially. There are 14 lessons in this guide, each about 2 1/2 hours in length. Content areas include, among other things, features of design, horizontal alignment, vertical alignment, geometric auxiliaries, and the engineer's estimate and report on design and estimate.

HIGHWAY DRAWING - Unit II. Teacher's Guide. 1968 (Revised), 133 pages, $1.25.

This is one in a series of nine guides in a highway technician program for New York state. It contains 14 lessons, each about 2 1/2 hours duration. Some topics covered are topographic maps and symbols, map projections, plotting field notes, the highway plan, and use of drawing equipment.

HIGHWAY TECHNICIANS PROGRAM - HIGHWAY STRUCTURES - Unit VIII. Instructor's Guide. 1972, 168 pages, $1.00, post secondary.

This is one in a series of nine guides in a highway technician program for New York state. It contains 24 lessons. Some of the topics that are covered include movements and reactions, shear and movement diagrams, flexure formula, beam design, column design, trusses, and bridge design.

HIGHWAY TECHNICIANS PROGRAM - HIGHWAY SURVEYING - Unit III. Instructor's Guide. 1971, 171 pages, $1.75, post secondary.

This is one in a series of nine guides in a highway technician program for New York state. It contains 14 lessons, each about 2 1/2 hours in duration. Some of

the topics covered are measuring distances, leveling, measuring angles and directions, use of transits, and principles of field astronomy.

ELECTRONIC TECHNOLOGY: 16.0108

INDIANA

FABRICATION PROCESSES AND TECHNOLOGY FOR ELECTRONICS. 1973, 54 pages, S.75, 11th and 12th grade.

This one semester course outline is designed to acquaint the electronic technician with machine tool practices and is correlated to a set of assignment sheets.

INDUSTRIAL TECHNOLOGY: 16.0111

MISSISSIPPI

POST SECONDARY VOCATIONAL INDUSTRIAL DRAFTING. 1971, 101 pages, $2.50, post secondary.

This two-year post secondary teacher's outline contains sections in fundamentals of drafting, machine drafting, advanced machine drafting, architectural drafting, topographical drafting, and structural drafting. The appendix contains suggested jobs, progress charts, operation analysis, legend, layout, supplies, and examples of instructional sheets, lesson plans, job sheets, operation sheets, information sheets, and assignment sheets.

PRODUCTION: 16.011303

NEW JERSEY

PACKAGE LINE MECHANICS. Course Outline. 1968, 133 pages, $2.50.

This is an outline for a complete program to train package line mechanics. The outline was developed with the cooperation of the Packaging Machinery Manufacturers Institute. There are outlines for both day and evening students.

HEALTH RELATED TECHNOLOGY: 16.03

OHIO

EMERGENCY VICTIM CARE AND RESCUE TRAINING. Instructor's Manual. 1971, $4.50 plus $.40 postage and handling.

The manual consists of a series of teaching guides prepared as a plan of instruction using the textbook, Emergency Victim Care and Rescue Training.

EMERGENCY VICTIM CARE AND RESCUE TRAINING. Textbook. 1971, 372 pages, $4.25 plus $.40 postage and handling.

For use in adult and extension classes, this text reflects recent medical findings about closed heart compression, artificial respiration, maneuvering auto accident victims onto backboards, and other new materials. Medical aspects were reviewed by physicians who are experts in various specialties. The text is well illustrated. Chapter titles are: Emergency and Rescue Vehicles; Equipment; Personnel; Operations; Safe Driving Practices; Controlling the Situation, Childbirth, Common Squad Emergencies; the Mentally Disturbed Patient, Resuscitation; Oxygen Therapy, Closed Chest Heart Compression; Use of Backboards; Rescue Carrier and Drags, Aerial Ladder; Rescue Procedures; Forcible Entry; Gas Masks; Electrical Emergencies; Cutting Torches; Rope and Rigging; Shoring and Tunneling; Waterfront Operations; Unusual Situations; Records and Reports; Postmortem Conferences; and Legal Aspects.

MISCELLANEOUS TECHNICAL EDUCATION: 16.06
FIRE AND FIRE SAFETY TECHNOLOGY: 16.0602
CALIFORNIA

CALIFORNIA FIRE SERVICE OCCUPATION ANALYSIS. Apprenticeship Material. Student Manual. 1971, 28 pages, S.50.

This is part of a master plan for fire service training and education and is prepared to assist in the development of school curriculums, in-service training programs, courses of instruction, and instructional materials. It contains 391 tasks ranging from relatively simple operations to complex management responsibilities. The tasks are grouped into 19 blocks and into a variable number of units within each block. The block and unit system is designed to facilitate utilization of the analysis.

DRIVER TRAINING. Apprenticeship Material. Student Manual. 1970, 75 pages, S1.50.

This manual outlines practice demonstrations for fire drills. It also contains related information regarding safe driving practices. Topics include the following main areas: driver responsibility and qualifications, vehicle operational practices, standard driving practices and tillerman, collision and accident prevention, field training, and inspection and maintenance schedule.

EXPRESSWAY AND FREEWAY EMERGENCIES. Apprenticeship Material. Student Manual. 1970, 48 pages, S1.00.

Through the information presented in this manual, an attempt has been made to analyze expressway and freeway emergencies that are likely to fall within the jurisdiction of the fire services. Although general in nature and therefore limited in depth of detail, this manual can at the least serve as a framework for preparing for such emergencies. Topics include: expressway and freeway incidents and operations, special expressway and freeway problems, sizing up expressway and freeway incidents, use of standard fire apparatus and equipment, special equipment available from other agencies, emergency response considerations, personnel safety, liaison with law enforcement agencies, handling and disposition of hazardous materials and hazardous materials placarding, and special materials for controlling spills and fires.

FIRE GROUND HYDRAULICS. Apprenticeship Material. Student Manual. 1970, 56 pages, S1.00 each.

This is designed for use as a fire department training manual, a reference for students enrolled in fire service training and fire science courses, and a source of information for individual study toward career advancement in the fire service. Included are such topics as: a simplified fire ground hydraulics system, calculating engine pressures for standard handlines and master streams; overcoming the effects of head pressure, calculating engine pressure for layouts using various size hoses, utilizing pump capacity, pumping in relay, supplying pressures other than standard nozzle pressures, estimating available flow from hydrants, supplying automatic sprinkler systems; and making other calculations.

PUMP OPERATION AND MAINTENANCE. Apprenticeship Material. Student Manual. 1971, 110 pages, $1.50.

This is prepared for use as a fire department training manual, as a reference for students enrolled in fire service training courses, and as a document upon which to base fire department entrance and promotional examinations. Some of the topics included in this manual are pumping apparatus, pumping apparatus maintenance, pumping apparatus tests, and pumping apparatus operation.

SALVAGE OPERATIONS. Apprenticeship Material. Student Manual. 1969, 100 pages, $1.50.

This guide teaches methods of salvage used during and after a fire. It describes equipment and procedures used to protect furniture, equipment, counters in stores, etc., from water and other damage. It also shows methods of cleaning up water after a fire.

SPRINKLER SYSTEMS. Apprenticeship Material. Student Manual. 1971 (Reprint), 28 pages, $1.00.

This guide includes such topics as the history and development of sprinkler systems, design and installation of sprinkler systems, water supplies for sprinkler systems, sprinkler heads, sprinkler alarms, types of sprinkler systems, economics of sprinkler protection, inspection and testing of sprinkler systems, use of sprinkler systems during a fire, and operating procedure following a fire.

MAINE

FIRE TRAINING SERVICE PROGRAM. 1972, 8 pages, adult.

This is a brief outline of areas covered in a 12 to 27 hour training program for firefighters. Major areas of instruction are extinguishers, hose, protective breathing equipment, resuscitator, basic ladders, pumps, aerial platforms, ladders, officers course, and tactics.

OHIO

EMERGENCY VICTIM CARE AND RESCUE TRAINING. Instructor's Manual. 1971, $4.50 plus $.40 postage and handling.

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Emergencies; Cutting Torches; Rope and Rigging; Shoring and Tunneling; Waterfront Operations; Unusual Situations; Records and Reports; Postmortem Conferences; and Legal Aspects.

FIRE SERVICE TRAINING. Instructor's Manual. 1973, 327 pages, $10.00 plus S.40 postage and handling.

This manual contains 26 detailed teaching guides for the basic course and is keyed to the Fire Service Training textbook. These guides will serve as a plan for the instructor when utilizing the group instruction method.

FIRE SERVICE TRAINING. Learner's Workbook. 1973, 141 pages, $1.25 plus S.40 postage and handling.

This workbook consists of 26 assignments which break the Fire Service Training textbook down into easily understandable lessons. Excellent for department and brigade basic training, class study, and self-study and improvement when used with the textbook.

FIRE SERVICE TRAINING. Textbook. 1972, 612 pages, $6.00 plus S.40 postage and handling.

This well-illustrated revised text is designed for use in basic and advanced fire service training courses and other specialized courses in fire fighting. It provides information for training volunteer and paid fire fighters. Chapter titles are: Community Fire Defense, Chemistry of Fire, Classification and Use of Fire Extinguishers, Water as Used in Fire Fighting, Fire Hydrants, Standpipe and Hose Systems, Sprinkler Equipment and Automatic Alarms, Fire Pumps, Fire Hose, Tools and Equipment, Rope in the Fire Service, Ladders, Gas Masks, Advance Information--The Alarm, Size Up, Forcible Entry, Rescue, Exposures and Confinements, Fire Extinguishment, Ventilation, Salvage, Overhaul and Pick-Up, Care of Apparatus, Driving Suggestions, The Run, Postmortem Conference, Fire Detection and Arson Investigation, Inspections, and Radiation Hazards.

OREGON

FIRE SCIENCE CURRICULUM GUIDE, 1971, 39 pages, $1.30, post secondary.

This manual summarizes the need for a formal training program in fire protection and offers guidelines for their establishment. Topics contained in this manual are establishing advisory committees, steps in planning the program, staffing, curriculum, content objectives, training facility, student selection, evaluation, course descriptions, and fire films.

FORESTRY TECHNOLOGY: 16.0603

SOUTH CAROLINA

OPERATING THE KNUCKLE BOOM LOADER. Teacher Guide and Student Manual. 1972, 29 pages, $2.25, adult special school training programs.

This is an instructional manual on operating the Knuckle Boom Loader. The manual covers controls, nomenclature of the machine, control exercises, training loader specifications, and maintenance.

POLICE (LAW ENFORCEMENT AND CORRECTIONS) SCIENCE TECHNOLOGY: 16.0605

CALIFORNIA

CALIFORNIA AND FEDERAL AGENCIES ALLIED AND RELATED TO LAW ENFORCEMENT - TRAINING SERIES 66. Resource Manual. 1969, 267 pages, $2.25.

This guide presents those agencies in California and in the federal government that are related in law enforcement activities.

THE CALIFORNIA COURT SYSTEM - CALIFORNIA STATE PEACE OFFICER'S TRAINING SERIES 77. Resource Manual. 1967, 71 pages, $1.60.

This guide was written to explain to peace officers the structure and functions of the California courts. It contains ten chapters giving a brief history of California's Constitution, the judicial council, the State Supreme Court, District Court of Appeals, Superior Court, and other information. It also contains a glossary of legal terms and selected reference material.

CALIFORNIA CRIMINAL LAW OUTLINE AND PENAL CODE SECTIONS - TRAINING SERIES 13. Resource Manual. 1969 (Revision), 210 pages, $1.05.

This is a practical peace officer's manual emphasizing the elements of major crime. Copies of the most frequently used sections of the Penal Code are included.

INTRODUCTION TO INVESTIGATION AND POLICE PROCEDURES - CALIFORNIA STATE PEACE OFFICER'S TRAINING SERIES 75. Resource Manual. 1966, 175 pages, $1.25.

This guide describes the many techniques which may be utilized by law enforcement personnel to inquire into the truth of a particular occurrence, problem, or situation. It consists of two parts; the first part deals with the tools or techniques available to the investigator. The second part sets forth specific types of investigation and relates the techniques to the situation. The first part consists of the first eight chapters, and the second consists of chapters 9 through 23. It also contains a bibliography.

MECHANICS OF ARREST - CALIFORNIA STATE PEACE OFFICER'S TRAINING SERIES 2. Instructor's Guide. 1967, 9 pages, $.50.

This guide is designed to provide the officer with a clear understanding of the procedure he should follow in making arrests under varying circumstances. The content is outlined under seven major headings.

POLICE ORGANIZATION AND ADMINISTRATION - TRAINING SERIES 59. Resource Manual. 1969, 217 pages, $1.00.

This manual contains helpful organizational patterns, suggestions, and techniques used by administrators in building strong departments.

POLICE SUPERVISORY CONTROL - TRAINING SERIES 71. Resource Manual. 1969, 267 pages, $2.25.

This manual calls police administrators' attention to the fact that their management is certain to be weak unless the department under their control is supervised adequately.

PUBLIC RELATIONS FOR THE LAW ENFORCEMENT OFFICER - TRAINING SERIES 41. Resource Manual. 1969, 90 pages, $1.00.

The content is helpful to department personnel interested in modifying their public relations image.

STUDY MANUAL AND BIBLIOGRAPHY FOR PEACE OFFICERS - TRAINING SERIES 52. Resource Manual. 1969, 93 pages, $1.25.

The manual includes classroom note taking, use of books by peace officers, use of the library, and a bibliography.

VISUAL SCIENCE AS APPLIED TO LAW ENFORCEMENT - CALIFORNIA STATE PEACE OFFICER'S TRAINING SERIES 78. Instructor's Guide. 1968, 168 pages, $1.60.

This manual describes techniques used by law enforcement personnel to improve their investigative procedures. It contains 15 sessions and outlines, with each session broken down into four parts. A glossary and a reading list are included.

OHIO

LAW ENFORCEMENT OFFICER TRAINING. Learner's Manual. 1971, 587 pages, $4.00 plus $.40 postage and handling.

This manual is designed for use in training programs to provide the law enforcement officer with the skills and technical knowledge essential in performing his duties. It covers the practices and techniques of the following procedures: acquiring and maintaining uniform; patrolling on foot, daytime and night-time; patrolling in an automobile, daytime and night-time; handling misdemeanors witnessed by officers; handling misdemeanors not witnessed by officers; handling felonies; handling traffic violations; handling traffic accidents; arresting; and testifying in court.

LAW ENFORCEMENT OFFICER TRAINING. Instructor's Manual. 1971, 800 pages, $8.25 plus $.40 postage and handling.

This manual contains teaching guides for each of the training procedures included in the learner's manual.

OCCUPATIONAL RESOURCE MATERIAL

Materials that follow are general in nature, apply to all vocational areas, and are listed under the headings of Administrator's Resource, Career Education, Student's Resource, or Teacher's Resource. The Teacher's Resource material may prove helpful to supervisors and administrators as well.

ADMINISTRATOR'S RESOURCE: All Vocational Areas

OHIO

ORGANIZATION AND OPERATION OF A LOCAL PROGRAM OF VOCATIONAL EDUCATION. 1968, 86 pages, $1.00 plus $.40 shipping.

This publication deals with establishing, maintaining, and improving comprehensive programs of vocational and technical education. The publication should prove to be a valuable guide for administrators of vocational and technical education programs: superintendents of schools, directors, coordinators, or deans. The references at the end of each chapter provide added resource material helpful to those who desire to pursue information in depth.

SUGGESTED SPACE AND EQUIPMENT COSTS FOR JOB TRAINING PROGRAMS. Planning Guide. 1967, 53 pages, $1.50.

This illustrated guide was prepared to assist school administrators, architects, home economics teachers, and others to plan and develop programs in high schools and joint vocational schools. Details for space and equipment have been developed at an optimum level. The facilities suggested would provide for self-contained work experience opportunities within the school. A bibliography is included.

PENNSYLVANIA

COOPERATIVE VOCATIONAL EDUCATION EVALUATION CRITERIA. 1972, 8 pages, free.

This manual is designed to be used in evaluating cooperative vocational education programs.

VERMONT

GUIDELINES COOPERATIVE VOCATIONAL EDUCATION IN VERMONT. 1972, 96 pages.

This manual provides guidelines for developing a cooperative vocational education program in Vermont. Part I includes cooperative vocational education programs in area vocational centers and Part II covers cooperative vocational education in other high schools.

CAREER EDUCATION: All Vocational Areas

ALABAMA

CAREER GUIDANCE HANDBOOK. 1973, 23 pages.

This handbook briefly explains a career guidance program, what it is, and ways to do it. It lists components of a career guidance program and responsibilities of the following persons for career guidance: guidance specialists, teachers, vocational educators, administrators, parents, and other community members.

ARIZONA

CAREER EDUCATION CLEARINGHOUSE BIBLIOGRAPHY AND INDEX. 1972, 350 pages.

This guide contains three major sections: an annotated bibliography of all materials, indexes to Arizona career education materials by career education element and grade levels, and indexes to other project and non-project produced materials by subject matter area and grade levels.

COLORADO

COMMUNICATIONS AND MEDIA. 1972, 137 pages, $5.00, junior high and high school level.

This guide provides units of instruction in the following areas of the communications and media cluster: reading skill development, meeting the public, listening and following directions, parliamentary procedure, group discussion, public speaking, conversational skill, use of references, and mass media. It is suggested for use as a separate "mini" course or as part of an English class at the junior high or high school level.

DELAWARE

INTRODUCTION TO THE WORLD OF BUSINESS. Curriculum Guide. 1973, 90 pages, $1.25, 9th grade.

This curriculum guide provides instruction for a ninth grade course concerning career opportunities within the world of business. It is a three-column guide giving goals and objectives, procedures and activities, and resources and references. The units are designed to provide information as well as "hands on" experiences necessary to aid in career selection.

IOWA

AN INDIVIDUALIZED PROGRAM FOR COLLEGE AND CAREER. 1973, 100 pages, $20.00, high school and junior college level.

This is an individualized program designed to be used in a resource center or other independent study area under the direction of a student advisor. After a period of evaluation to determine the student's strengths and needs, the student selects the options on which he wishes to concentrate his efforts. The material does not include instructions for use. Anyone planning to use the system would need to obtain more information about it. Material is written with objectives and does include multi-media resources and books.

MAINE

CAREER EDUCATION IN MAINE BROCHURE. 1973, 23 pages.

This is a short brochure explaining general concepts of career education. Included is a short description of career education programs in Maine. It is designed to make teachers in Maine aware of career education and to provide insights, perspectives, and knowledge of ways career education can be planned and implemented in Maine schools.

CAREER EDUCATION IN MAINE CURRICULUM GUIDE. 1973, 268 pages.

This curriculum guide is designed to provide Maine educators with a model for developing concepts, activities, and resource materials that will introduce career education into the schools. It contains a short chapter on concepts and a chapter delineating the role of the teacher, the counselor, the administrator, the school board, the State Department of Education, the career education coordinator, and the guidance aide. The next four chapters provide examples of activities developed and tested in Maine schools for integration of career education into the classroom at elementary and junior and senior high school levels. This is a helpful publication for schools developing a career education program.

CAREER EDUCATION K-12 - SAD #9. 1973, 95 pages.

This is a final report of a research and development project in career education conducted under Part C of Public Law 90-576. The project was conducted for one year in School District Number 9, Farmington, Maine. The communities served by this district are mostly small and rural. A comprehensive report includes goals and objectives, procedures followed, results and accomplishments, conclusions, implications, and recommendations for the future.

MARYLAND

CALLING CAREERS. Television Series. 1973, 15 lessons.

Lesson #4 Medical Services I and Lesson #5 Medical Services II are segments of a career awareness series suitable for the intermediate grades. A teacher's manual and supplement are included. Produced by Division of Instructional Television, in collaboration with the Division of Vocational-Technical Education, Maryland State Department of Education, it is available for out-of-state telecast through the Eastern Educational Network. Direct inquiries to: Eastern Educational Network, Howard Spergel, 381 Elliot Street, Boston, Massachusetts 02164.

MISSISSIPPI

TEACHER'S GUIDE FOR OCCUPATIONAL ORIENTATION: AN INTRODUCTION TO THE WORLD OF WORK. 1972, 452 pages, $7.50.

This guide is designed to help the teacher plan a course of study for a class in occupational orientation/career education. Ideas could be adopted by teachers in other classes who wish to integrate some career orientation. Topics covered include: the importance of work; understanding the world of work; what is success?; preparing for a career; and exploring service occupations, business contact occupations, organization occupations, technology occupations, outdoor occupations, general cultural occupations, and arts and entertainment occupations. Student materials are also available.

MISSOURI

JOB APPLICATION AND INTERVIEW. Instructor's Guide. 1973, 354 pages, $15.00 plus postage and handling, high school and adult basic education.

The instructor's guide is divided into nine instructional units: why work; career opportunities; occupational information; self-evaluation; letter of application and application blank; job interview, tests, and forms; money management; job success factors; and job promotion and advancement. Each instructional unit includes behavioral objectives, suggested activities for teacher and students, information sheets, visual aids, tests, and answers to the tests. Units are planned for more than one lesson or class period of instruction.

NEW JERSEY

AN AGE-GRADED MODEL FOR CAREER DEVELOPMENT EDUCATION. 1969, 41 pages, $2.50.

This is an invaluable aid in developing and implementing career education. It discusses the theoretical underpinnings of child development and constructs a model for career development on a K-12 continuum. It examines the practical applications of the theories of self-awareness, career awareness, and career decision making.

CAREER DEVELOPMENT - INCREASING THE VOCATIONAL AWARENESS OF ELEMENTARY SCHOOL CHILDREN. Guidebook for Teachers. 1969, 31 pages, $1.50.

This is a six-part volume. The first two parts introduce the problems associated with the development of vocational awareness and introduce a concept model for the systematic introduction of the concept. The third part provides material which may be used in classroom assessment of vocational awareness. Section four provides sample instructional units for increasing vocational awareness. Section five describes some commonly used social studies activities which enhance vocational awareness. Section six introduces several job families or clusters of occupations.

CAREER DEVELOPMENT - JOB PLACEMENT. 1969, 63 pages, $1.50.

The first thirty-four pages develop the concept of job placement. This development starts with a detailed identification of the nature of the problem and a rationale for handling the problem. Sections three and four provide specific, concrete suggestions for the initiation and operation of a job placement program. The last twenty-nine pages report some of the information gained in the operation of five experimental job placement programs.

INTRODUCTION TO VOCATIONS. Teacher's Guide. 1973, 450 pages, $7.50.

This manual contains material which may be used as a text by the teacher for student instruction. It is also intended to be used as a guide to assist the teacher and coordinator of the program. It contains the following cycles: know yourself, environment, health and environmental careers, mechanical contracting, science-engineering-technology, small business, textile, transportation, and the following mini-cycles: bookkeeping, beauty culture, business education, careers in advertising, florist-horticulture, graphic arts, measurement, police careers, and United States Coast Guard.

INTRODUCTION TO VOCATIONS FOR EDUCABLE MENTALLY RETARDED. 1972, 55 pages, $1.00.

This is a part of career development for a special group. It is designed to aid the teacher and covers the following: general plans, the student as a member of society, economic aspects of living, exploratory units on occupation employment information, bibliography, information form, occupational interest form, and jobs for the retarded.

PHYSICS AND CHEMISTRY FOR AUTOMOTIVE TRADES. 1972, 243 pages, $2.50, 11th and 12th grade.

This manual contains units on introduction to physical science, matter and its properties, mechanics, heat, electricity, sound, and light. Each unit consists of related information, illustrations, and experiments.

NEW YORK

IDENTIFYING OPPORTUNITIES FOR EMPLOYMENT. Instructor's Guide. 1973, 84 pages, $.50.

This publication is intended to expose the students in adult basic education programs to some possibilities for marketing their newly acquired skills. The curriculum is sequenced as one unit in five phases, but any one of the sections could be used for individual guidance, for small group instruction, or for mini-seminars. Sections covered are: evaluating interest and abilities, preparing for employment, exploring the world of occupations, planning and preparing for interviews, and getting the job.

OHIO

OCCUPATIONAL WORK EXPERIENCE STUDENT HANDBOOKS. 1973, $8.00 plus $.40 shipping, available only as complete set, one set per student.

This is a set of 32 individual student handbooks designed for students enrolled in the Occupational Work Experience program in the Ohio Public Schools. This program is to provide an opportunity for students who are not intending to go to college or to a technical school to learn a trade so they can be employed immediately after high school. It consists of a half-day school program and a half-day training on the job. The handbooks can be used for individual instruction on a variety of topics such as reasons to stay in school, safety, conducting a meeting, decision making, ways to apply for and get a job, personal budgeting, and personality.

OKLAHOMA

CAREER EXPLORATION - A GUIDE FOR TEACHERS. 1970, 101 pages, $1.75, 8th, 9th, and 10th grade,

This guide is designed for use by teachers to plan and implement a course in exploration of careers for grades 8, 9, or 10. Units included are: know yourself, world of work, use of occupational information, and career education planning. This guide is written in a four-column format with objectives, activities, evaluation, and resources. The objectives are not behavioral.

A GUIDE FOR DEVELOPMENTAL VOCATIONAL GUIDANCE. 1973, 173 pages, $2.00.

This resource guide is divided into four sections: grades K-3, grades 4-6, grades 7-9, and grades 10-12. Each section contains general goals of vocational guidance for that grade level, specific things which the student needs to know, suggested activities, instructional materials, and resources.

OREGON

CAREER EDUCATION IN OREGON. 1970, 8 pages, $.25.

This is a position paper developed by the Director of Career Education in Oregon to present recommendations for career education in Oregon. It could be interpreted as a statement of broad objectives to implement career education in Oregon.

ELECTRICITY-ELECTRONICS. Curriculum Guide. 1969, 88 pages, $2.50, 7th-12th grade.

This manual was developed for the Oregon Board of Education to be used as a guide to establish a career cluster program in the area of electricity-electronics. The suggested curriculum plan is for grade levels 7 through 12.

GUIDE FOR PLANNING CAREER EDUCATION IN OREGON'S SECONDARY SCHOOLS. 1970, 22 pages, free.

This guide is intended for use by administrators in developing long-range plans for career education in individual schools. It is divided into five major parts: community data, school data, master career education plan, factors of implementation, and long-range planning sheets.

TEACHER'S GUIDE TO SUTOE (SELF UNDERSTANDING THROUGH OCCUPATIONAL EXPLORATION). 1971, 183 pages, $3.00, junior high.

This is a teacher's guide for a year-long course combining occupational exploration and self-understanding. It contains objectives for each unit followed by suggestions for implementation. The units are entitled: Pupil Involvement in SUTOE, Self-Appraisal and Self-Understanding, Relating School to Occupational Planning, The Individual's Role in the Economic System, Preparing Students for In-Depth Career Study, Exploring Jobs, Evaluating Experiences, and Planning Ahead.

WORLD OF WORK. 1971, 68 pages, $1.00, K-12.

This is a curriculum guide which is not self-contained. It uses behavioral objectives and is designed to relate the social studies curriculum to the world of work. For each grade level there are suggested activities, resources, and evaluation suggestions for reaching the objectives. It also includes a bibliography of occupationally oriented books and some worksheets for teacher use in planning the units.

SOUTH CAROLINA

THE WORLD OF WORK - A UNIT IN PRE-VOCATIONAL INSTRUCTION. Teacher's Guide, 1971, 216 pages and 31 game cards, $5.00, 9th and 10th grade.

This guide is designed for a course of instruction for 9th and 10th grade students. The guide contains 20 major activities or units each with objectives, student worksheets, and transparency masters.

TENNESSEE

CHARLES LIVES AND WORKS. 1970, 32 pages, $1.00, high school.

This is a short individualized instructional unit in job hunting, banking, and budgeting for use in vocational improvement programs. It could be used in math, English, or social studies classes at the high school level.

VIRGINIA

INDUSTRIAL ARTS CURRICULUM GUIDE. 1972, 109 pages, $2.50, secondary.

This guide has been designed as a professional resource for the secondary industrial arts teacher. The guide gives specific direction to the broad content courses in industrial arts and provides supplementary direction to the general unit-type courses. It includes a series of approaches to teaching industrial arts curriculum, ways to use educational television, a resource index, and transparency masters.

WASHINGTON

GUIDELINES FOR CAREER AWARENESS PROGRAMS FOR THE ELEMENTARY SCHOOL - PART 3: WHAT ABOUT VOCATIONAL EDUCATION? 1974 (Revised), 62 pages, free.

This is a resource guide to provide suggestions to elementary teachers in developing career awareness programs. For each grade level it includes goals, concepts and objectives, suggested activities, and learner's expectations. An appendix with resources for career awareness programs is also included.

SUGGESTED GUIDELINES FOR CAREER EDUCATION WORKSHOPS. 1973, 29 pages; free.

To develop continuity in the career education effort, this guide is designed to propose suggested content, methods, and techniques for in-service workshops that will assist teachers in integrating career education into their classrooms.

STUDENT'S RESOURCE: All Vocational Areas

ILLINOIS

APPLYING FOR A JOB. Student's Guide. 1969, 12 pages, $.18.

Many questions confronting students are answered in this leaflet. It deals with such items as taking personal inventory, getting additional training, discovering what jobs are available, writing a letter of application, and being interviewed by a prospective employer.

MISSOURI

BASIC MATHEMATICS. Instructor's Guide. 1971, 88 pages, $1.50.

This guide is designed for vocational students. The concepts of number theory, whole number operations, fractions, decimal fractions, and applied geometry are all included. There are five topic units with eleven developed lessons.

NEW JERSEY

DICTIONARY. 1973, 21 pages, $.50.

This manual can be used by students and is designed to give information on ways to use a dictionary. There are sample problems to provide the learner with learning experience needed to use a dictionary.

ENGLISH AT WORK - VOLUME I. 1970, 248 pages, $2.50.

This is written for the high school student who plans to go to work upon graduation. The format and examples are designed to motivate the vocational student. The table of contents lists ten unit titles: The Role of Language, The Dictionary, The Sentence, Written Expressions, Common Mistakes, Reading, The Newspaper, The Library, Expressing Yourself, and Spelling.

ENGLISH AT WORK - VOLUME II. 1970, 472 pages, $2.50.

This volume, as an extension of Volume I, continues in the same vein with no change in philosophy. The general areas covered are listed as units XI through XVI. These units are entitled: Written Correspondence, Vocabulary Building, Punctuation, Straight Thinking, Industrial and Business Forms, and Job Planning.

FINDING A JOB. 1973, 56 pages, $.50.

The publication includes information needed for finding a job. Areas included are: where to look for a job, the interview, things to learn about the job, the application form, and the resume.

THE NEWSPAPER. 1970, 28 pages, $.50.

This publication was developed to help the student learn to read and use newspapers. Problems and quizzes are included.

OHIO

JOB METHODS FOR SUPERVISORY PERSONNEL. Handout Sheets. Leader's Resource Material. 1966, 15 pages, $1.00 plus $.40 postage and handling.

This portfolio of handout sheets is essential for students to illustrate important points. Each of the 15 sheets is keyed for use in the instructor's manual and should be given to learners and participants at the appropriate time.

SOUTH CAROLINA

LOCATING AND SECURING A JOB. Student's Manual. 1970, 29 pages, $.75.

The manual was prepared for high school students enrolled in vocational education courses. Addressed to the student, the manual takes him through a series of seven steps in securing a job. There are assignments and helpful illustrations which provide opportunity for the application of the ideas set forth in the text material.

TENNESSEE

VOCATIONAL RELATED MATH--BLAST OFF! 1971, 169 pages, $4.75.

This manual was designed for student use. At the beginning of each unit is a skill test. As long as the student successfully completes all the problems on these tests, he gets to disregard all of the assignments in that unit. The content includes the number system, addition, subtraction, multiplication, and division of whole numbers.

VOCATIONAL RELATED MATH--TOUCHDOWN! 1971, 125 pages, $4.25.

This publication is designed to help a student improve math skills. Related information sheets, skill practice sheets, assignment sheets, and evaluation (test) sheets are included. Vocationally related problems are used for skill practice and assignments.

TEXAS

YOUR ATTITUDE IS SHOWING. 1972, $3.90.

This reference manual has been prepared by Elwood H. Chapman and published by Science Research Associates, Chicago, Illinois. It is a part of a set of three manuals dealing with attitudes.

YOUR ATTITUDE IS SHOWING ANSWER BOOK. 1972, $1.25.

This manual contains suggested acceptable answers to the assignment questions. The material is helpful in assessing student understanding and comprehension.

YOUR ATTITUDE IS SHOWING ASSIGNMENT MANUAL. 1972, $1.00.

This publication contains 20 assignments based upon the reference manual described above. Assignments cover such items as fundamentals of good human relations, ways to compensate for youth and inexperience, and ways to make good first impressions.

TEACHER'S RESOURCE: All Vocational Areas

INDIANA

ADVISORY COMMITTEES FOR HOME ECONOMICS. 1969, 17 pages, $.20.

This bulletin was written to help teachers with the organization and implementation of an advisory committee. The contents of this publication are: a description guideline for establishing a committee, steps in organizing and implementing the advisory committee, the meeting, purposes of the committee, a sample letter to members, constitution or guidelines, and a bibliography.

MAINE

IDEAS FOR TEACHERS. 1973, 77 pages.

This booklet was developed to help teachers motivate the disadvantaged, but could be valuable in working with all students. It is a teacher's guide giving suggested teaching activities for such areas as entering the world of work, occupations, living with your job, managing more, mathematics, and other areas.

MARYLAND

A TENTATIVE COURSE OUTLINE FOR USE IN COOPERATIVE VOCATIONAL EDUCATION PROGRAMS THREE YEAR SEQUENCE. 1972, 69 pages.

This is a three-year course outline for cooperative vocational education. The outline includes lessons, suggested activities, and references.

MISSOURI

ORIENTATION TO EMPLOYMENT. 1973, 124 pages, $3.00.

This is designed to aid the teacher coordinators of cooperative education in teaching general employment information needed by young beginning employees. The instruction should be valuable to any young worker regardless of the occupation of the student. The study guide and instructor's manual are each attractively bound in a three-ring plastic binder.

TECHNIQUES OF THE COOP METHOD. Instructor's Guide. 1973, 118 pages, $4.00 plus postage and handling.

The job of the coordinator in cooperative education requires the mastery of many specific skills which are identified and explained in this publication. The performance of the coordinator's role calls for knowledge of concepts and principles which are also described. However, the difference between an outstanding coordinator and one who is only average is usually the application of tricks of the trade that normally are gained only by experience. In this handbook, the author relates the many little tricks that he has found to work from his years of rich experience as a coordinator, supervisor, administrator, and teacher-educator.

NEW JERSEY

STUDENT'S MANUAL FOR SUPERVISED TEACHING OF VOCATIONAL SUBJECTS. Student's Manual. 1970, 63 pages, $2.00.

This manual is prepared specifically for trainees enrolled in the course entitled "Supervised Teaching of Vocational Subjects." Responsibilities and requirements of teaching vocational subjects are stressed in the publication.

TIME. 1970, 65 pages, $.50.

This manual is about time, its importance, its use, zones, and other information. This manual also includes problems and tests.

THE WORKER IN MODERN SOCIETY. 1970, 287 pages, $5.00.

The units presented are: problems of labor and management, capitalism of its rivals, history of the labor movement, structure and function of trade unions, personnel responsibilities in modern industry, problem-solving techniques of labor and management, intra-labor problems, corrective legislation, the worker's responsibility, and forthcoming problems. Each unit is presented as a series of lessons, and each lesson provides various outlooks on the topic presented. Thirty-nine pages of unit tests are included.

WORLD PROBLEMS FOR AMERICANS. 1969, 106 pages, $2.00.

The author intended this book as a guide to be used in exploring contemporary problems. There is no attempt to give final answers. The major areas explored are nationalism, war, rule by force, population, and religions.

NEW MEXICO

PERSONAL GROWTH CURRICULUM FOR ADULT BASIC EDUCATION. Curriculum Guide. 1970, 157 pages, free.

The content is designed not only to provide skill development in mathematics, reading, and writing, but also to develop a new life perspective and an awareness of family and social responsibilities. It is intended to lift attitudes from defeatism and rejection to those of confidence and leadership. The guide contains six major divisions including an introduction, family life, health education, world of work, money management, and citizen government.

NEW YORK

EVERYMAN'S ESTATE PLANNING. Curriculum Guide. 1971, 56 pages, $.50.

This is an instructor's guide for teaching an adult course in estate planning. There are six lessons and a case-problem analysis for planning an estate.

OHIO

A BRIEF GUIDE TO ELECTRONIC ALARM SYSTEMS. 1972, 25 pages, $1.50.

This 25-page summary of various types of alarm systems for retail security was prepared by Mosler Safe Company without bias for their own products. It details the advantages and disadvantages of various alarm systems to aid in the improvement of security.

CREATIVE THINKING. Teacher's Guide. 1969, 100 pages, $3.00.

This guide defines creativeness and presents ways to contribute creatively through an interplan of attitudes, aptitudes, resources, and planning. The unit can be used with high school students, post high school students, and adults. It is intended to provide an introductory study of the principles of creative thinking and to suggest ways and means by which individual and group creativity may be increased.

D.C.T. REFERENCE MATERIALS. 1970, 71 pages, $.50 plus $.40 shipping.

This is a listing of instructional materials for the teaching of prominent vocational subjects. These materials have been chosen by committee for their general excellence and are comprised of publications from most states active in vocational education. Also listed with the title of each publication are the reference materials with the address from which they may be obtained.

GETTING THE RIGHT JOB. Teacher's Guide. (Cooperative Training.) 1970, 54 pages, $1.50.

The content is organized into five units ranging from planning your career objective to the interview. The material is designed to aid the student in locating job sources, applying for employment, and successfully completing the interview. Teaching suggestions helpful in handling the content are included along with some instructional aids for teacher use.

INDUSTRIAL ARTS RESOURCE SUPPLEMENT TO CONSUMER EDUCATION CURRICULUM GUIDE FOR OHIO. 1971, 116 pages, $2.40 each plus $.40 shipping, 9th-12th grade.

This guide has been developed for the purpose of assisting industrial arts instructors in teaching consumer education as an integral part of their program.

MANPOWER TRAINING RESOURCE SUPPLEMENT TO CONSUMER EDUCATION CURRICULUM GUIDE FOR OHIO. 1971, 80 pages, $2.40 each plus $.40 shipping.

This is a teacher's guide for presenting consumer "know how" to the MDTA trainees. It contains concepts, suggested learning and evaluation experiences, and suggested resources.

OCCUPATIONAL WORK ADJUSTMENT RESOURCE SUPPLEMENT TO CONSUMER EDUCATION CURRICULUM GUIDE FOR OHIO. 1971, 63 pages, $2.40 each plus $.40 shipping, K-12.

This guide was developed for occupational work adjustment programs in Ohio. It is a teacher's guide including objectives, concepts, and suggested learning and evaluation experiences. Some areas included are the economic system, the job, ways to apply for a job, the paycheck, budgeting, money, banking, and credit.

OCCUPATIONAL WORK EXPERIENCE INSTRUCTOR'S MANUAL. 1973, 121 pages, $4.00 plus $.40 shipping.

This instructor's manual was developed for occupational work experience program use. It covers such areas as safety education in driving, using the telephone, decision making, ways to apply for and get a job, what the employee wants, and other work experience information.

PATHWAYS TO SELF-IMPROVEMENT. 1972, 83 pages, $2.50.

This is a course outline for developing attitudes about a student's personality, personal appearance, and ability to communicate. It includes measurable objectives, teaching content, and projects which will help the student learn to be more successful. Each project has objectives, step-by-step directions, and evaluation rating factors for the coordinator.

THINKING ABOUT YOUR FUTURE. 1971, 2 pages, $.04.

This is a handout used by most coordinators to gauge initial reaction in mass recruiting assemblies. It has a fill-in blank on the back cover for indication of interest in the program.

TRAINING PLANS FOR COOPERATIVE OFFICE EDUCATION. Teacher's Manual. (Cooperative Training.) 1970, 47 pages, $1.00.

This manual contains training plans for a variety of office occupations suitable for a high school cooperative education program.

AN UNDERSTANDING OF ECOLOGY FOR TOMORROW'S BUSINESS LEADER. 1972, 31 pages, $2.00.

A subject of national concern is presented in this teaching outline with the objective of incorporating outside projects to acquaint students with ecological problems in their own community. Several related films are listed as well as many printed references.

OKLAHOMA

COOPERATIVE VOCATIONAL EDUCATION - A BASIC COURSE OF STUDY. 1972, 553 pages, $10.00

This color-coded publication is a basic course of study for cooperative vocational education. Topics covered are: orientation, employment, personal development, employee relations, communications, financial management, and insurance. The self-contained units include performance objectives, suggested activities for teacher and students, information sheets, transparency masters, assignment sheets, tests, and answers to tests.

HANDBOOK FOR COOPERATIVE PROGRAMS. 1972, 51 pages, $1.25.

This publication is to serve as a handbook for teachers of cooperative programs in vocational education. Topics included are: purposes of vocational education, types of programs, responsibilities of the teacher-coordinator and the advisory committee, legal regulations, selection of students and training stations, evaluation, and sample forms to be used in the program.

VOCATIONAL RELATED ENGLISH. Curriculum Guide. 1972, 778 pages, $12.00. 8th, 9th, and/or 10th grade.

This color-coded publication developed for the disadvantaged includes six areas which relate English to the occupational clusters of construction, general mechanical trades, and home and community services. Each self-contained instructional unit includes performance objectives, suggested activities for teacher and students, information sheets, assignment sheets, transparency masters, tests, and answers to the tests. Areas cover general vocational, capitalization, punctuation, parts of speech, the sentence, and usage.

VOCATIONAL RELATED MATH. Curriculum Guide. 1972, 908 pages, $12.00.

This curriculum guide includes seven areas, each consisting of one or more units of instruction. Each instructional unit includes behavioral objectives, suggested activities for teacher and students, information sheets, assignment sheets, visual aids, tests, and answers to the test. Units are planned for more than one lesson or class period of instruction. There are a total of 39 units of instruction covering the following areas: measurement, whole numbers, fractions, decimals, percent, consumer education, and geometry.

VOCATIONAL RELATED SOCIAL STUDIES. Curriculum Guide. 1972, 546 pages, $10.00. 8th, 9th, and/or 10th grade.

This color-coded publication developed for the disadvantaged relates social studies to the vocational clusters of construction, general mechanical trades, and home

and community services. The four areas included are general vocational, government, social studies, and industry in Oklahoma. Each self-contained unit includes performance objectives, suggested activities for teacher and students, information sheets, assignment sheets, transparency masters, tests, and answers to the test.

PENNSYLVANIA

COOPERATIVE VOCATIONAL EDUCATION GENERAL RELATED THEORY CLASS OUTLINE. 1972, 45 pages, free.

This is a teacher's guide for use in cooperative vocational education general related theory class. There are eight units and included in each unit are objectives, class activities, suggested references, and films. Some of the units are: employer and employee relationship, human relationship, consumer education, and career and job exploration. This guide is appropriate for any cooperative class.

A GUIDE FOR TEACHING BASIC READING SKILLS TO ADULTS (A RIGHT TO READ PROGRAM). 1973, 100 pages, free.

This is a teacher's guide for teaching basic reading skills to adults. Worksheets are included in the manual for student use.

RESOURCE MATERIALS FOR HOME ECONOMICS EDUCATION IN PENNSYLVANIA SCHOOLS. 1970, 32 pages, free, secondary.

This bulletin is the introduction to the series of bulletins which constitute the resource materials for home economics education in Pennsylvania. It explains the terminology and curriculum structure which were used as the basis for developing the resource materials in each curriculum area.

SOUTH CAROLINA

FOOD DISTRIBUTION, THE SUPERMARKET ENTRY OCCUPATIONS. Teacher's Guide. 1971, 49 pages, $1.25, secondary; also available 19 transparencies, 1971, $2.75.

This publication was developed to assist coordinators of distribution and marketing to improve and expand instruction activities in preparing high school students to enter and progress in the area of food distribution. The manual contains activities and tests and includes areas such as history of the supermarket, store organization, major departments, channels of distribution, and other related information.

LOW-COST TEACHER-MADE OVERHEAD TRANSPARENCIES. Teacher's Manual. 1969, 63 pages, $1.00.

This printed, well-illustrated booklet contains a thorough discussion of the merit and potential of one material that can be used in the production of overhead transparencies. The material, known as three Mil Trycite, has been selected because it is economical, versatile, very transparent, and can be obtained in a pre-cut size useful in teaching. It can be utilized without expensive equipment or processing materials. The publication provides the "how to do it" of transparency production in excellent detail.

TENNESSEE

BASIC REMEDIAL EDUCATION. 1968, 289 pages, $5.25.

This handbook offers a suggested course outline, sample lesson plans, lists of instructional materials, and aids for basic-remedial education. It was designed to be used by MDT teachers.

BUILDING ENGLISH SKILLS - COMMUNICATIONS - LEVELS II and III. 1971, 335 pages, $4.25, secondary.

The material was prepared for use by instructors and students in vocational advancement programs in secondary schools. A student may begin at his own achievement level and progress at his individual rate under the instructor's guidance. Level II materials are written for students whose reading level ranges from grades 2-5; Level III materials are for grades 4-8. The English skill areas are divided into units which are made up of several lessons. The units cover the parts of speech and the sentence.

TEACHER'S GUIDE - VOCATIONAL RELATED TRAINING FOR SPECIAL STUDENTS. 1972, 225 pages, $4.25.

This teacher's guide was designed for use with the secondary disadvantaged, handicapped, or regular vocational student. There are four major sections covering equipment and materials, suggested instructional units, suggested grading standards, and references. Most of the guide deals with suggested instructional units such as personality, human relations, consumer education, and health.

TENNESSEE COOPERATIVE COORDINATOR'S HANDBOOK. 1972, 144 pages, $3.00.

The handbook provides suggestions for organizing and operating a cooperative vocational program. The manual includes most aspects of all cooperative programs. Some of the areas that are included are advantages of cooperative vocational education, school administrators' responsibility, establishing a program, and duties of coordinators.

WASHINGTON

DIVERSIFIED OCCUPATIONS UNITS OF INSTRUCTION. 1973, 150 pages, $7.50.

This publication was developed for diversified occupations coordinators but could be used by other cooperative education teachers. Some of the units of instruction are business math, human relations, job orientation, and career exploration.

WYOMING

WYOMING MATHEMATICS CURRICULUM GUIDE. Teacher's Manual. 1970, 34 pages, free, 7th-12th grade.

Through the program of mathematics the student should become aware of the influences a command of figures can make in his continuing occupational and personal development. The content can be summarized as an attempt to: emphasize the "why" just as much as the "how," teach mathematics as a structure, allow students to discover relationships for themselves whenever possible, and teach the social utility or practical applications of mathematics and of arithmetic computation.

INSTRUCTIONS FOR ORDERING CURRICULUM MATERIALS

Orders for materials should be sent to the address of the appropriate State source. Specific ordering information is indicated where applicable. Prices are subject to change without notice. (An asterisk indicates that whether or not items are listed in this publication, a list of instructional materials from that source is available upon request.)

ALABAMA

For agriculture publications:

Mr. A. H. Halcomb, Subject Matter Specialist, Agribusiness Education, 101 Petrie Hall, Auburn, Alabama 36830.

For career education and home economics publications:

Division of Vocational Education, State Department of Education, State Office Building, Montgomery, Alabama 36104.

A catalog with instructions on how to obtain technical education and trade and industrial publications is available upon request from: Instructional Materials, Trade and Industrial Education, P.O. Box 2847, University, Alabama 35486.

ALASKA

Division of Vocational Education, Pouch F, Alaska Office Building, Juneau, Alaska 99801.

ARIZONA

Division of Career and Vocational Education, Arizona Department of Education, 1535 West Jefferson, Phoenix, Arizona 85007.

ARKANSAS

Division of Vocational, Technical, and Adult Education; State Department of Education; State Education Building; Little Rock, Arkansas 72201.

CALIFORNIA*

For vocational agricultu[redacted] films, filmstrips, manuals, and other materials:

A catalog with instructi[redacted] on how to obtain materials is available upon request from: Vocational Education Productions (VEP), California Polytechnic State College, San Luis Obispo, California 93401.

For health publications:

University of California, Division of Vocational Education, Allied Health Professions Projects, 12016 Wilshire Boulevard, Los Angeles, California 90025.

For home economics publications:

Film Fair Communications, 10900 Ventura Boulevard, Studio City, California 91604.

For fire service training manuals:

California State Department of Education, Business Services Section, Textbook and Publication Sales, 721 Capitol Mall, Sacramento, California 95814.

For apprentice and peace officer training materials:

California State Department of Education, Fiscal Office--Order Section, 721 Capitol Mall, Sacramento, California 95814. A separate price list is available upon request for police officer reference material and training films from: Officer of Procurement-Stores, Department of General Services, P.O. Box 20191, Sacramento, California 95820.

For peace officer training materials:

When ordering this material, officers should state their rank and the department with which they are connected. The order should be addressed to Documents and Publications, Office of Procurement-Stores, Department of General Services, P.O. Box 20191, Sacramento, California 95820. Sales tax of 5% must be added to all orders originating in California. Over-the-counter sales are made at the Publications Center, State Office Building No. 9, 744 P Street, Sacramento, at the public counter in the lobby.

Check or money order must be made payable to the state of California. NO ORDERS CAN BE FILLED C.O.D.

COLORADO

Center for Career Development, Dissemination Division, Room 318, Department of Vocational Education, University of Northern Colorado, Greeley, Colorado 80639.

CONNECTICUT

Angelo J. Tedesco, Consultant; Bureau of Vo-Tech Schools; Curriculum Center; Division of Vocational Education; State Office Building, Room 336; Hartford, Connecticut 06115. Publications are free and are sent postpaid. Requests must be made on official school system stationery.

DELAWARE

Dr. Burton Braverman, Supervisor; Curriculum and Research; Department of Public Instruction; John G. Townsend Building; Dover, Delaware 19901. Checks should be made payable to the State Board of Education.

GEORGIA

State Department of Education, Office of Instructional Services, State Office Building, Atlanta, Georgia 30334.

IDAHO

Idaho State Board for Vocational Education, 506 North 5th, Boise, Idaho 83720.

ILLINOIS*

Vocational Agriculture Services, University of Illinois, 434 Mumford Hall, Urbana, Illinois 61801. Terms of sale for ordering purposes are:

If orders are billed for payment, postage is added to the prices listed.

If payment is sent with the order, the following amounts should be added for postage and handling:

Orders up to $10 - add $.50
Orders $10 to $20 - add $.75
Orders over $20 - add $1.00

INDIANA

Instructional Materials Laboratory, T.A.W. Building, Indiana State University, Terre Haute, Indiana 47809.

IOWA

For agriculture publications:

Information and Publication Services Section, Department of Public Instruction, Grimes State Office Building, Des Moines, Iowa 50319.

For home economics publications:

University Book Store, Ames, Iowa 50010.

For occupational resource publications:

North Iowa Area Community College, Attention: Mariestelle Brown, 500 College Drive, Mason City, Iowa 50401.

MAINE

Department of Educational and Cultural Services, Augusta, Maine 04330

MARYLAND

For health publications:

Publication Sales; American Association for Health, Physical Education, and Recreation; 1201 16th Street N.W.; Washington, D.C. 20036. Stock #244-2570.

For all other vocational publications:

P.O. Box 8717, Friendship International Airport, Baltimore, Maryland 21240.

MASSACHUSETTS

For career education publications:

Available for out-of-state telecast through the Eastern Educational Network. Direct inquiries to: Eastern Educational Network, Howard Spergel, 381 Elliot Street, Boston, Massachusetts 02164.

MISSISSIPPI

Curriculum Coordinating Unit, Mississippi State University, P.O. Drawer DX, Mississippi State, Mississippi 39762. Orders accompanied by payment will be sent postpaid. Billing for all other orders will have postage added.

MISSOURI*

Send requests for 1973-74 price list and order form to: Amon Herd, Director; Instructional Materials Laboratory; 8 Industrial Education Building; University of Missouri-Columbia; Columbia, Missouri 65201. A specific form provided from the above address must be used when ordering all materials. A check or money order for the total amount must accompany orders unless an official purchase order is furnished. Schools MUST attach official purchase order. Descriptions of the listed materials may be found in the 1973-74 Instructional Materials Laboratory Catalog.

NEVADA

State Supervisor, Home Economics Education, Department of Education, Carson City, Nevada 89701.

NEW HAMPSHIRE

Department of Education, Vocational-Technical Division, 105 Loudon Road, Concord, New Hampshire 03301.

NEW JERSEY*

New Jersey Vocational-Technical Curriculum Laboratory, Rutgers University, 4103 Kilmer Campus, New Brunswick, New Jersey 08903. All school orders should be made on official school purchase order form and sent to the above address. In addition to the price of the materials, you will be billed for postage or shipping charges. Individuals may order materials by including a check or postal money order for the amount of the materials plus $.30 per book postage. Please make all checks payable to: Vocational Curriculum Laboratory-Rutgers.

NEW MEXICO

Department of Education, Education Building, Santa Fe, New Mexico 87501.

NEW YORK

The State Education Department, Bureau of Finance, Publications Distribution Unit, Albany, New York 12224. Single copies only sold to education institutions outside the state. No "on approval" copies will be sent. Prices given are net and include book rate postage.

Orders, with remittance, should be sent to: The Publication Distribution Unit, State Education Department, Albany, New York 12224.

State education departments, colleges, or curriculum laboratories having similar materials to exchange should make arrangements with the Bureau of Secondary Curriculum Development, Albany, New York 12224. Copies of New York State curriculum materials are available through the microfiche services of The ERIC System.

OHIO

For agriculture publications:

Ohio Agricultural Education, Curriculum Materials Service, The Ohio State University, Room 254, 2120 Fyffe Road, Columbus, Ohio 43210.

For all other vocational publications:

Instructional Materials Laboratory, The Ohio State University, 1885 Neil Avenue, Columbus, Ohio 43210. Ohio schools or other Ohio public agencies should deduct 20 percent from price quoted. On out-of-state quantity orders of 26 to 100 copies of the same manual, a 10 percent discount is granted; on 101 or more copies, a 20 percent discount applies.

Statements will be rendered on receipt of official purchase orders; otherwise, remittance must accompany orders. All checks and money orders must be made payable to the Ohio State University. Postage must be included at the following rates: single copy--$.40; 2 to 12 copies--$.35 each; 13 or more copies--$.25 each. A catalog with order forms is available on request.

OKLAHOMA

The Curriculum and Instructional Materials Center, State Department of Vocational and Technical Education, 1515 West Sixth Avenue, Stillwater, Oklahoma 74074. Checks in the amount of order made payable to the Curriculum and Instructional Materials Center must accompany the order. Publications are postpaid.

OREGON

For health publications:

Documents Clerk, Oregon Board of Education, 942 Lancaster Drive NE, Salem, Oregon 97310.

For all other vocational publications:

Division of Community Colleges and Vocational Education, Oregon Board of Education, Public Services Building, Salem, Oregon 97310.

PENNSYLVANIA

Pennsylvania Department of Education, Office of Information and Publications, P.O. Box 911, Harrisburg, Pennsylvania 17126. Check or money order in the proper amount, made payable to the Commonwealth of Pennsylvania, must accompany each order.

SOUTH CAROLINA

Vocational Education Media Center, 109 Freeman Hall, Clemson University, Clemson, South Carolina 29631.

TENNESSEE

Vocational Curriculum Laboratory, Box 1114, Murfreesboro, Tennessee 37130. All orders must be:

1. On official purchase order properly signed by an official of the organization. Invoices will be rendered at list price plus postage.

2. Accompanied with check for full amount of materials plus postage and handling based on the following scale:

   single copy - $.50
   2 to 10 copies - $.35 each
   11 or more copies - $.25 each

   Make checks payable to State of Tennessee. Because a limited number of each item was printed, examination copies cannot be furnished. All sales are final--materials cannot be returned.

TEXAS

(A&M) Vocational Instructional Services Center, F.E. Box 182, Texas A&M University, College Station, Texas 77843. A school purchase order and check or money order must accompany each order and be made payable to Texas A&M University. A catalog is available upon request.

For home economics publications:

(TTU) Texas Tech University, Home Economics Instructional Materials Center, P.O. Box 4067, Lubbock, Texas 79409. Total payment or official purchase order must accompany order. Official purchase order terms are net 30 days. Make checks payable to Home Economics Instructional Materials Center. Prices include postage. Mailing will be insured only if insurance is requested when order is placed.

(UT) Industrial Materials Development (Industrial Education), Division of Extension, The University of Texas, Austin, Texas 78712. A school purchase order and check or money order must accompany each order and must be made payable to the University of Texas. Catalogs are available. A 2 percent state sales tax or tax exemption certificate is required in addition to prices listed.

VERMONT

State of Vermont, Department of Education, Montpelier, Vermont 05602.

VIRGINIA*

Mr. Harry Smith, Director of Public Information and Publications, State Department of Education, P.O. Box 6-Q, Richmond, Virginia 23216.

WASHINGTON

For career education publications:

Richard R. Lutz, Supervisor; Career Education; Old Capitol Building; Olympia, Washington 98504.

For teacher's resource publications:

LeRoy McCartney, Director; Distributive and Office Education; 216 Old Capitol Building; Olympia, Washington 98504.

WEST VIRGINIA

Coordinator of Curriculum Development; Bureau of Vocational, Technical and Adult Education; Room B-243, Building 6, Capitol Complex; Charleston, West Virginia 25305. Make checks payable to Vocational Curricula Material Funds for the amount of the order.

WISCONSIN

Mr. Clifford Zenor, Vocational Education Consultant--Instructional Services; Wisconsin Board of Vocational, Technical, and Adult Education; 4802 Sheboygan Avenue; Madison, Wisconsin 53702.

WYOMING

State Department of Education, Division of Public Information, Capitol Building, Cheyenne, Wyoming 82001.

NOTE: Request for specific material contained in this annotated listing should be sent to the appropriate State source.

ACCESSION NUMBER: VT101453

PUBLICATION DATE: 74

TITLE: VOCATIONAL EDUCATION STATE INSTRUCTIONAL MATERIALS FOR OFFICE OCCUPATIONS. REVISED 1974.

DESCRIPTOR: *ANNOTATED BIBLIOGRAPHIES; *ABSTRACTS; *VOCATIONAL EDUCATION; *INSTRUCTIONAL MATERIALS; *OFFICE OCCUPATIONS

EDRS PRICE: MF AVAILABLE IN VT-ERIC SET.

DESCRIPTIVE NOTE: 44P.

ABSTRACT: THIS ANNOTATED LISTING OF CURRICULUM MATERIALS FOR OFFICE OCCUPATIONS IS PROVIDED IN ORDER TO APPRISE PLANNERS, ADMINISTRATORS, VOCATIONAL EDUCATORS AND OTHERS INTERESTED IN OFFERING OR INVOLVED IN VOCATIONAL PROGRAMS OF THE AVAILABLE CURRICULUM MATERIALS DEVELOPED BY VARIOUS STATES. THE CURRICULUM MATERIALS HAVE BEEN IDENTIFIED WITH THE INSTRUCTIONAL TITLES AND CODES FROM THE CLASSIFICATION SYSTEM OF THE OFFICE OF EDUCATION. THE TITLE OF THE DOCUMENT, PUBLICATION DATE, THE NUMBER OF PAGES, PRICE, AND A SUMMARY OF THE CONTENT IS PROVIDED FOR EACH ANNOTATION. (KB)

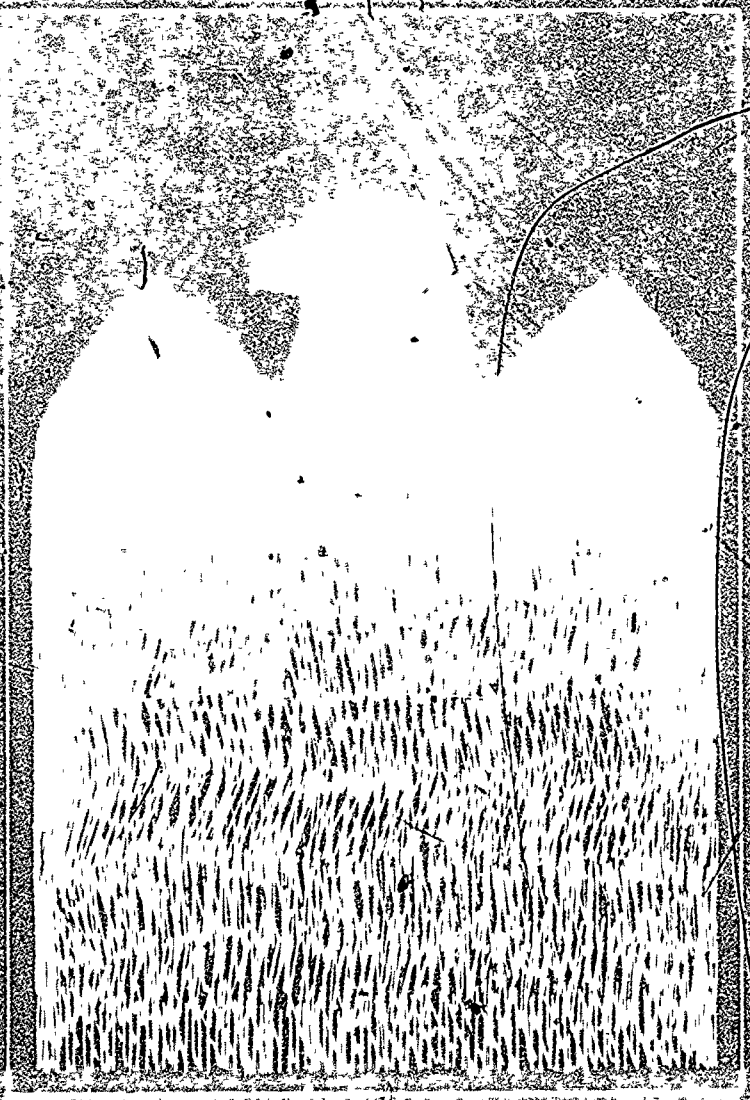
CONTRACT NUMBER: OEG-0-72-4682

INSTITUTION NAME: OKLAHOMA STATE DEPT. OF VOCATIONAL AND TECHNICAL EDUCATION, STILLWATER. CURRICULUM AND INSTRUCTIONAL MATERIALS CENTER.

SPONSORING AGENCY NAME: OFFICE OF EDUCATION (DHEW), WASHINGTON, D.C.

VT 101 453

STATE INSTRUCTIONAL



VT. 101453

AVAILABLE FROM STATE EDUCATION AGENCIES

Discrimination Prohibited - Title VI of the Civil Rights Act of 1964 states. "No person in the United States, shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance." Therefore, the Vocational Education program, like all other programs or activities receiving financial assistance from the Department of Health, Education, and Welfare, must be operated in compliance with this law.

The project presented or reported herein was performed pursuant to a contract from the U.S. Office of Education, Department of Health, Education, and Welfare. However, the opinions expressed herein do not necessarily reflect the position or policy of the U.S. Office of Education, and no official endorsement by the U.S. Office of Education should be inferred.

VOCATIONAL EDUCATION

STATE INSTRUCTIONAL MATERIALS

for...

OFFICE OCCUPATIONS

Revised 1974

AVAILABLE FROM STATE EDUCATION AGENCIES

ERIC

Developed and disseminated pursuant to
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by the
Curriculum and Instructional Materials Center
Oklahoma State Department of Vocational and Technical Education
1974-Revision

NOTE:

REQUEST FOR SPECIFIC MATERIAL CONTAINED IN THIS ANNOTATED LISTING SHOULD BE SENT TO THE APPROPRIATE STATE SOURCE.

SOURCE FOR EACH ITEM LISTED IS INDICATED AT THE END OF EACH ENTRY--SEE INSTRUCTIONS FOR ORDERING AT BACK OF PUBLICATION.

Revised publications (annotated listings) are available in the following vocational areas:

State Instructional Materials for Agriculture
State Instructional Materials for Distributive Education
State Instructional Materials for Health Occupational Education
State Instructional Materials for Home Economics
State Instructional Materials for Office Occupations
State Instructional Materials for Technical Education
State Instructional Materials for Trade and Industrial Occupations

The above items are available for purchase from: Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402

For sale by the Superintendent of Documents, #890,
U. S. Government Printing Office, Washington, D. C.
20402. Stock #1780-01347. Price $.75.

INTRODUCTION AND EXPLANATION OF CODING SYSTEM

In recent years it has become apparent that a strong relationship exists between the world of education and the world of work. Emphasis is on the concept that the development of our human resources is vital to the well-being and growth of our society. In order to implement this belief, leaders in all fields have focused their attention on education and especially on vocational education.

This annotated listing of curriculum materials is provided in order to apprise planners, administrators, vocational educators, and others interested in offering or involved in vocational education programs of the available curriculum materials developed by the various states.

The curriculum materials are offset unless specified as mimeo. They have been identified with the instructional titles and codes from the classification system of the Office of Education. These titles and codes link vocational education programs to occupations. Utilizing the codes in this listing relates the curriculum materials to the instructional program. Seven major vocational education areas are identified in separate listings and coded as follows:

01	Agriculture	09	Home Economics
04	Distributive Education	14	Office Occupations
07	Health Occupations Education	16	Technical Education
	17 Trade and Industrial Occupations		

The items are refined to include one or more related subitems as indicated in the following example:

First 2-digit position: subject matter area
Example: 14 OFFICE OCCUPATIONS

Second 2-digit position: principal segment of subject matter
Example: 14.02 BUSINESS DATA PROCESSING SYSTEMS OCCUPATIONS

Third 2-digit position: division of principal segment
Example: 14.0202 PERIPHERAL EQUIPMENT OPERATORS

Fourth 2-digit position: first level detail of division of principal segment
Example: 14.020201 KEY PUNCH AND CODING EQUIPMENT OPERATORS

The coding system is contained in:
U.S. Department of Health, Education, and Welfare, Office of Education. Vocational Education and Occupations (OE-80061). Washington, D.C.: U.S. Government Printing Office, July 1969.

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14.8 OFFICE OCCUPATIONS

Publications marked (Cooperative Training) in the title or supportive statement are designed for use in cooperative education programs.

ACCOUNTING AND COMPUTING OCCUPATIONS: 14.01

BOOKKEEPERS: 14.0102

NEW YORK

BOOKKEEPING AND ACCOUNTING I AND II SYLLABUS. Teacher's Resource. 1970, 65 pages, $.50.

This syllabus is divided into Part I and Part II. Part I consists of curriculum concepts and general teaching suggestions. Part II consists of objectives, administrative requirements, content outline, and specific teaching suggestions for Bookkeeping and Accounting I and content outline and specific teaching suggestions for Bookkeeping and Accounting II. The appendices consist of flowcharts for Bookkeeping I and II.

This syllabus reflects not only new content in data processing, but a change in philosophy in content approach. It is believed that emphasis upon records analysis and interpretation, as well as upon various bookkeeping systems, will best prepare students for the bookkeeping and accounting job of the future.

SMALL BUSINESS BOOKKEEPING, PART I. Instructor's Guide. 1973, 107 pages, $.75.

This guide covers a complete course in keeping a set of records for a small business. The course consists of ten lessons and five problems: introduction; sources of data and journalizing; ledger accounts and posting; journalizing; posting T-accounts ledger; trial balance; standard 2-column ledger; reconciling a bank statement and making a payroll; reporting and remitting taxes; journalizing for problem 5; ledger entries for April in problem 5; and trial balance, balance sheet, and income statement for problem 5. The guide also includes illustrations, terms, and solutions to the five problems.

PENNSYLVANIA

BUSINESS MATHEMATICS FOR BUSINESS EDUCATION DEPARTMENTS IN PENNSYLVANIA'S PUBLIC SCHOOLS. 1973, 92 pages, $.58.

This guide is designed to assist school administrators and to improve curriculum for business mathematics in Pennsylvania public schools. Topics included are teaching business mathematics; mastering the fundamental processes; fractions, decimals and percents; developing problem solving techniques; and evaluations. It also contains appendices.

SOUTH CAROLINA

CASH PAYMENTS JOURNAL. Teacher's Resource. 1972, 14 transparencies, $2.00.

CASH RECEIPTS JOURNAL. Teacher's Resource. 1972, 19 transparencies, $2.00.

INTRODUCTION TO BOOKKEEPING. Teacher's Resource. 1972, 7 transparencies, $1.50.

This resource is designed to be used as a set, but each packet can be used separately to aid in teaching a particular phase of the bookkeeping procedure. Books are kept for a business for one month, and the complete cycle of recording and posting transactions is given in a step-by-step procedure.

NEGOTIABLE INSTRUMENTS. Teacher's Resource. 1971, 27 transparencies, $2.75.

This set of 27 transparencies and overlays includes the negotiable instruments used in accounting. The use of the check, draft, and promissory note is explained. It is designed for use with the bookkeeping transparencies.

RECORDING GOODS BOUGHT ON ACCOUNT - PURCHASE JOURNAL. Teacher's Resource. 1972, 36 transparencies, $4.00.

RECORDING GOODS SOLD ON ACCOUNT - SALES JOURNAL. Teacher's Resource. 1972, 32 transparencies, $3.75.

MACHINE OPERATORS: BILLING, BOOKKEEPING, AND COMPUTING: SOUTH CAROLINA 14.0104

THE FULL-KEYBOARD ADDING MACHINE. Student's Manual. 1972, 3 pages, $.75.

This manual is used as a supplement to the ten-key adding machine manual to provide more learning activities which aid students in fingering techniques to master the full-keyboard adding machine. A transparency of the full-keyboard machine is also included. A student's manual that contains fingering techniques is available and should be used with the teacher's full-keyboard adding machine manual.

THE FULL-KEYBOARD ADDING MACHINE. Teacher's Manual. 1972, 2 pages and 1 transparency, $.80.

This is a teacher's manual used to accompany the student manual, The Full-Keyboard Adding Machine.

THE TEN-KEY ADDING MACHINE. Student's Manual. 1972, 28 pages, $1.50.

This student's manual contains 13 lessons used by the student to master the ten-key adding machine. The teacher's and student's manual should be used simultaneously.

THE TEN-KEY ADDING MACHINE. Teacher's Manual. 1972, 12 pages and 1 transparency, $1.25.

This manual is designed to simplify the process of giving students instruction in using the ten-keyboard adding machine. It contains unit objectives; suggested activities for teacher's use to effectuate successful learning of the ten-keyboard adding machine; a list of supplies, materials, and equipment needed; a transparency of the ten-keyboard adding machine; and other illustrations to be used in learning activities. The teacher's and student's manual should be used simultaneously.

TENNESSEE

PROGRAMMED INSTRUCTION FOR THE VICTOR TEN-KEY ADDING MACHINE. 1969, 27 pages, $1.00.

This is a guide to teach the operation of the Victor ten-key adding machine. The guide includes instructions, review exercises, and tests.

PROJECT FOR FRIDEN ROTARY CALCULATOR. 1969, 45 pages, $1.25.

This guide contains procedures for the general operation of the Friden Rotary Calculator. Specific procedures are given for addition, subtraction, multiplication, and division. The guide also contains an illustration of the calculator.

ACCOUNTING AND COMPUTING OCCUPATIONS, OTHER: 14.0199

NEW YORK

ADP SUPPLEMENT TO BOOKKEEPING AND ACCOUNTING I AND II. Teacher's Guide. 1971, 49 pages, $.50.

This guide contains a number of basic data processing concepts and automated bookkeeping applications which correlate with the data processing topics in the bookkeeping and Accounting I and II syllabus. It has flowcharts to present graphically the flow of information in a particular type of bookkeeping/accounting system and a list of references.

BUSINESS MATHEMATICS SYLLABUS. 1973 (Revision), 179 pages, $.75.

This syllabus contains several topics in business math. Each topic has a rationale, performance objectives, illustrative problem, and suggested time alloted for each topic. Appendices are also included.

BUSINESS DATA PROCESSING SYSTEMS OCCUPATIONS: 14.02

NEW YORK

AUTOMATIC BUSINESS DATA PROCESSING I AND II SYLLABUS. 1972, 136 pages, $.50.

This manual outlines a course of study for Automatic Business Data Processing I and II. Each unit in the course of study contains helpful teaching suggestions. The syllabus also has illustrations and appendices.

KEYPUNCH AND CODING EQUIPMENT OPERATORS: 14.020201

NEW YORK

KEYPUNCH OPERATION. Curriculum Guide. 1968, 21 pages, $.50.

The content will be of assistance to directors of adult education programs and teachers of data processing. It contains a course outline with the objectives clearly stated. There is a glossary of terms and a list of suggested references for use in the course.

BUSINESS DATA PROCESSING SYSTEMS OCCUPATIONS, OTHER: 14.0299

NEW YORK

INTRODUCTION TO AUTOMATIC DATA PROCESSING. Curriculum Guide. 1973, 71 pages, $.50.

The content covering 15 sessions has as one of its objectives the development of a basic understanding useful to people working in businesses which use automatic data processing. It is a general orientation to data processing and not a skill development course. The content is intended for adult education courses. There is an appended bibliography and a list of sources for audiovisual aids.

FILING, OFFICE MACHINES, AND GENERAL OFFICE CLERICAL OCCUPATIONS: 14.03

NEW YORK

OFFICE PRACTICE I AND II SYLLABUS. 1972 (Revision), 210 pages, $1.25.

This manual consists of eight major areas of content comprising a one or two year course in office practice in separate modules: advance typewriting, adding and calculating machines, machine transcription, duplicating machines, filing and record management, data processing, communication, and human relations. Each module has student behavioral objectives, content, and teaching suggestions.

OREGON

CLERICAL OCCUPATIONS. 1970, 134 pages, $2.50.

This guide outlines the basic skills and knowledge for entry-level competencies in clerical occupations or for entrance into a post high school or university program. The areas outlined are occupational and instructional data, clerical curriculum, and occupational specialty courses. The guide also includes appendices.

SOUTH CAROLINA

CURRICULUM GUIDE FOR OFFICE OCCUPATIONS. Teacher's Guide. 1972, 84 pages, $2.25.

This is a guideline for business teachers in office occupations. The subject areas covered are Bookkeeping I and II, business communications, business law, business math, data processing, introduction to business, keypunch training, office machines, office practice, record keeping, Shorthand I and II, and Typewriting I and II. Each area has student objectives, a course outline, student evaluation, and a list of references.

SUGGESTIONS FOR A PLAN OF ROTATION FOR OFFICE PRACTICE. Teacher's Manual. 1971, 41 pages, $1.50.

This manual is a plan of rotation for office practice using three twelve-day blocks. Materials included are introduction, general objectives for the rotation unit of work, supply list, equipment list, resource list, personnel, general preliminary duties of the instructor, suggestions for the preparation of the rotation chart, sample, preliminary teaching procedures before actual rotation, project instructions to be given to students, and optional exercises for follow-up.

DUPLICATING MACHINE OPERATORS: 14.0301

SOUTH CAROLINA

DUPLICATING EQUIPMENT. Student's Manual. 1971, 14 pages, $1.00.

The student's manual is a replica of the teacher's manual.

DUPLICATING EQUIPMENT. Teacher's Manual. 1972, 14 pages, $1.00.

The purpose of this guide is to familiarize students with the use of duplicating equipment, spirit duplicator, mimeograph, and offset duplicator. The manual contains instructional guides for each machine. Each unit has an introduction, materials to be used, objectives, learning experiences, and evaluations.

TENNESSEE

PROGRAMMED TEACHING PROJECT FOR THE SPIRIT DUPLICATING PROCESS. 1969, 26 pages, $1.00.

This booklet provides a set of materials for teaching students to use the spirit process of duplicating. Six worksheets and an answer sheet are included.

GENERAL OFFICE CLERKS: 14.0303

NEW YORK

IMPROVING CLERICAL OFFICE SKILLS. Instructor's Guide. 1971, 72 pages, $.75.

This manual is designed to provide employment skills for clerical office workers. The lessons covered are grammar and language usage, reading comprehension, office mathematics, filing skills, telephone techniques, business machines, techniques for finding employment, and how to take a civil service examination. Each lesson has student objectives, content details, and teaching tips.

OFFICE PRACTICE - SYLLABUS. Instructor's Guide. 1972 (Revised), 138 pages, $.25.

The guide is a syllabus for a one-unit course consisting principally of office machine training and clerical and filing practice designed for students to enter the nonstenographic and nonbookkeeping office occupations.

OFFICE PROCEDURES. Instructor's Guide. 1973, 35 pages, $.25.

This is a review course designed to aid students in improving and refining knowledge and skills in office procedures. The course consists of ten lessons in office procedures. Each lesson has student objectives, teaching suggestions, and references.

RECORD KEEPING SYLLABUS. Teacher's Resource. 1969, 51 pages, $.50.

This syllabus provides material with which local high schools may structure a suitable occupational curriculum for business education students of limited ability.

OHIO

GENERAL CLERICAL OCCUPATIONS. Bulletin No. 8. 1972, $3.75 plus $.40 shipping, junior and senior high level.

This bulletin contains a program designed to train students at the junior and senior high level in general clerical occupations. The junior level includes office training, banking, money management, insurance, introduction to bookkeeping, and job orientation. The senior level contains a teacher's manual, policies and procedures manual, departmental training, business machine and equipment price list, and illustrations of forms used in clerical occupations.

OKLAHOMA

COOPERATIVE OFFICE EDUCATION - A COURSE OF STUDY. 1972, 804 pages, $15.00.

This guide is designed to instruct the student in personal qualities and job competencies necessary for employment as an office worker. Topics include an awareness to the world of work, career decisions, personal development, business behavior, communications, money management, and leadership. Each unit in each topic contains a terminal objective, specific objectives, suggested activities for the instructor and students, instructional materials, and illustrations.

PENNSYLVANIA

BUSINESS ENGLISH FOR BUSINESS EDUCATION DEPARTMENTS IN PENNSYLVANIA'S PUBLIC SCHOOLS. 1970, 88 pages, $.80.

This guide is designed to help students develop excellent communicative skills in business. The handbook contains the following chapters: introduction to language study; vocabulary; grammar, usage, and mechanics; written business communications; oral business communications; observing, listening, and reading; and appendices.

TENNESSEE

INTEGRATED CLERICAL PROJECT - THE AMERICAN WHOLESALE GROCERY AND THE TENNESSEE SUPERMARKET. 1969, 73 pages, $2.00.

This manual is to familiarize students with the operation of a small business. Materials included are letters, invoices, purchase orders, general information, and instruction sheets.

WEST VIRGINIA

CLERICAL AND RELATED OCCUPATIONS. Curriculum Guide. 1970, 31 pages, $1.00.

This guide provides suggested course content helpful to administrators, supervisors, and teachers. The content includes patterns for developing curricula, suggested curricula, time designations, and topical outlines for specific units of instruction.

INFORMATION COMMUNICATION OCCUPATIONS: 14.04

CORRESPONDENCE CLERKS: 14.0402

WEST VIRGINIA

BASIC BUSINESS COMMUNICATIONS. Curriculum Guide. 1973, 90 pages, $1.25.

The guide is designed to help business students use English correctly. The course is divided into the following basic units: oral English; grammar, punctuation, and capitalization; spelling; vocabulary building; business letter writing and preparation of reports; and supplementary materials. It also contains a pretest, progress test, and illustrations.

STENOGRAPHIC, SECRETARIAL, AND RELATED OCCUPATIONS: 14.07

OREGON

STENO-SECRETARIAL. Curriculum Guide. 1970, 91 pages, $2.50.

This steno-secretarial occupational cluster guide is designed to familiarize teachers and students with hundreds of jobs having similar characteristics. The guide is divided into occupational and instructional data, cluster curriculum, occupational specialty courses, allied sporting courses, and appendices.

EXECUTIVE SECRETARY: 14.0701

NEW YORK

COMMUNICATIONS AND DECISION MAKING. (Part V of Certified Professional Secretary Series.) Instructor's Guide. 1972, 48 pages, $.50.

This is a course designed to equip students for the CPS examination by helping them improve and refine skills in shorthand, transcription, English usage, and written communication.

ENVIRONMENTAL RELATIONSHIPS IN BUSINESS. (Part I of Certified Professional Secretary Series.) Instructor's Guide. 1973, 31 pages, $.25.

This manual consists of ten lessons outlined to aid business employees in developing a better understanding of human behavior and developing skills in human relations. Each lesson has student objectives, teaching suggestions, and references.

SECRETARIES: 14.0702

COLORADO

SECRETARIAL SHORTHAND. 1971, 134 pages, $5.00.

This is a compilation of resource units prepared to assist instructors in business education to individualize programs of study for students. The units are: self-understanding, shorthand skill development, shorthand transcription, professional typing skills, techniques for taking dictation, interpersonal relations, work organization, meeting the public, use of reference, mail handling, financial responsibilities, business machines and equipment, automation and the secretary, and job application processes. Each unit has behavioral outcomes, supporting generalizations, contents, learning activities, evaluations, and resources.

TENNESSEE

GUIDELINES AND COURSE OUTLINE - MEDICAL SECRETARY. 1970, 56 pages, $1.50.

This is a course of study designed for the medical secretary. The guide contains the courses and hours needed for certification as a medical secretary, a teaching unit for each course, and materials needed in instructing the course.

STENOGRAPHERS: 14.0703

OHIO

PROGRAMMED SHORTHAND LABORATORY. Teacher's Manual. 1966, 130 pages, $1.40.

This manual contains helpful information for those interested in organizing a programmed shorthand laboratory for skill development. The plan removes much

of the drudgery from teaching shorthand and provides a self-pacing vehicle for the student differences that appear early in any shorthand class.

PENNSYLVANIA

SHORTHAND FOR BUSINESS EDUCATION DEPARTMENTS IN PENNSYLVANIA'S PUBLIC SCHOOLS. 1968, 100 pages, $.53.

This is an instructional guide to be used in teaching shorthand. This guide includes comparative shorthand systems and their applications, guidance, teaching shorthand, teaching transcription, evaluative techniques and grading, shorthand facilities, and appendices.

SOUTH CAROLINA

TRANSCRIBING TRAINING TECHNIQUES. Student's Manual. 1971, 14 pages, $1.00.

The student manual should be used with the teacher's manual.

TRANSCRIBING TRAINING TECHNIQUES. Teacher's Manual. 1971, 15 pages, 6 transparencies, $2.25.

This manual contains transparencies of several transcribing units and structured procedures for operating the units. The manual also includes a list of commonly misspelled words in transcription and suggestions for evaluating transcribed material. The student's manual should be used with the teacher's manual.

STENOGRAPHIC, SECRETARIAL, AND RELATED OCCUPATIONS, OTHER: 14.0799

OHIO

STENOGRAPHIC AND RELATED OCCUPATIONS. Bulletin No. 9. 1973, $.40 shipping, 11th and 12th grade.

This bulletin is designed to train students at the junior and senior high level in stenographic and other related occupations. The junior grade level is devoted to training students in necessary skills and knowledges so they may transfer effectively to office simulation in the senior year. The simulation plan at the senior level is a guide for teachers' use in training students for stenographic and other related occupations.

WEST VIRGINIA

STENOGRAPHIC, SECRETARIAL, AND RELATED OCCUPATIONS. Curriculum Guide. 1970, 42 pages, $1.25.

Job definitions and descriptions found in the dictionary of occupational titles is the basis upon which this guide was developed. It incorporates unitized subject areas and offers suggested patterns for education to meet the specific career objectives of the individual.

TYPING AND RELATED OCCUPATIONS: 14.09

TYPISTS: 14.0902

GEORGIA

A GUIDE FOR THE IMPROVEMENT OF TYPEWRITING INSTRUCTION. Teacher's Guide. 1968, 202 pages, $3.00.

The guide completely covers the area of typewriting instruction. It contains 25 chapters beginning with the importance of typewriting, ranging through layout and equipment, and closes with implications for research. A short treatise on typewriting for the handicapped is also included in the text.

NEW JERSEY

ABOUT TYPEWRITING. Student's Manual. 1968, 171 pages, $2.00.

This book has been designed to provide related material to beginning typing students. It can serve as a student reference manual. It provides many of the hints which a teacher may attempt to fit into class presentation.

TYPING AND RELATED OCCUPATIONS, OTHER: 14.0999

NEW YORK

MACHINE TRANSCRIPTION - A UNIFORM EDUCATIONAL PROGRAM. Instructor's Guide. 1973, 220 pages, $1.00.

This guide is designed for use in grades 11 and 12. It contains teaching suggestions, references, and a collection of 180 letters designed to introduce the basic knowledge of punctuation and English essential for occupational competency of machine transcribing.

OFFICE OCCUPATIONS, OTHER: 14.99

ARKANSAS

OFFICE SIMULATION - INTEGRATED PROJECTS FOR BLOCK TEACHING. Teacher's Guide. 1968, 107 pages, free.

The guide aids the teacher in preparing a series of business-like tasks to be completed, thereby enabling the learner to use the combined skills and abilities which were previously learned from other courses of study. The block-time approach used throughout the content presents an integrated learning experience based on a simulated office environmental situation.

COLORADO

FBLA ADVISOR'S IDEA BOOK. 1973, 40 pages, $3.00.

This is an idea book for successfully organizing and operating an FBLA chapter. The topics include organization, FBLA - an integral phase of instructions, roles and responsibilities of local FBLA advisors, and special projects and ideas that can be used to interest students in FBLA. It also contains appendices.

DELAWARE

HANDBOOK FOR BUSINESS AND OFFICE EDUCATION - DELAWARE. Policies and Guidelines. 1973, 59 pages, $2.25.

This is a handbook for business and office education for the state of Delaware public schools. The handbook includes curriculum clusters, vocational business and office education, goals and objectives, typing cluster and objectives, shorthand cluster and objectives, bookkeeping cluster and objectives, and office occupations and objectives. It also contains appendices.

GEORGIA

COORDINATOR'S MANUAL - VOCATIONAL OFFICE TRAINING. Coordinator's Manual. 1970 (Revision), 190 pages, $2.00.

This manual provides the basic information to aid the teacher-coordinator in preparing students for office competencies and in developing the understandings of the place of business activities in the total society. There is information for help in organizing and developing a new vocational office training program, operating an on-going program, and evaluating office training. Additional information provides criteria and procedures for establishing a vocational office education training program.

INDIANA

A GUIDE FOR BUSINESS AND/OR OFFICE EDUCATION. 1973, 338 pages, $2.50.

This guide is divided into 12 sections including the rationale for a business and office education program for the state of Indiana and a general overview of the program. It contains a program of study for each grade level, new policies, guidelines for business and office education, and a bibliography.

IOWA

IOWA BUSINESS EDUCATION HANDBOOK. 1972, 227 pages, $4.00, secondary and post secondary.

This handbook covers the administration and operation of secondary and post secondary business education programs, general as well as the areas of specialization, in the state of Iowa. The program includes the history of business education in Iowa, basic philosophy and objectives of business education, general responsibilities of business education, and suggested programs and courses for secondary and post secondary business education. The handbook also contains illustrations and a glossary of business education terms.

MARYLAND

GENERAL CURRICULUM GUIDE FOR BUSINESS AND OFFICE OCCUPATIONS. 1971, 194 pages, $1.80.

The aims and objectives of general business and office education are presented in this guide. Each subject area has the course description; grade placement and prerequisite; course objective; course procedure; application procedure; and facilities, equipment, and supplies needed. It also contains a list of resource materials in business education.

MISSISSIPPI

ALMOST THREE DOZEN BULLETIN BOARD IDEAS FOR BUSINESS EDUCATION. 1971, 35 pages, $1.50.

This manual is a compilation of bulletin board ideas for business education. Each bulletin board is designed for a specific subject area. The purpose of each bulletin board and materials needed are given.

CURRICULUM GUIDE FOR VOCATIONAL TEACHER-COORDINATORS OF INTENSIVE BUSINESS TRAINING. 1972, 155 pages, $2.00.

This manual is designed to teach a combination of subjects selected from typewriting, shorthand, dictation, transcription; business letter writing, spelling, business arithmetic, introduction to data processing and keypunch, office procedures, accounting, office machines, filing, payroll procedures, human relations, graphic arts, and consumer economics. Each unit contains general and specific objectives, course content, student activities, suggested material, evaluation, sample tests, and a bibliography.

HANDBOOK FOR VOCATIONAL TEACHER-COORDINATORS OF BUSINESS AND OFFICE EDUCATION. 1972, 133 pages, $2.00.

This handbook contains an overview of vocational office training programs, implementation procedures, and illustrations of forms used by teachers, employers, and students.

NEW JERSEY

BEHAVIORAL OBJECTIVES AND EVALUATION IN BUSINESS EDUCATION COURSES. 1973, 46 pages, $1.50.

For business education teachers, this manual lists numerous specific objectives to be attained by the students in the various courses and also summarizes the types of evaluations that can be used in each course. Courses covered are: Bookkeeping I and II, clerical bookkeeping, clerical practice, Clerical Typing I and II, introduction to business, Office practice I and II, personal typing, Stenography I and II, and Typewriting I and II.

COOPERATIVE OFFICE EDUCATION. (Cooperative Training.) 1969, 117 pages, $2.00.

This volume contains ideas and useful hints. The first portion of this book reviews the functions of the office occupations coop teacher. The review is quite specific and is not just a collection of generalizations. The latter half of the book consists of two large appendices. The first appendix consists of specimen forms, letters, and materials. The second appendix consists of pictures that may be used as a visual guide to job opportunities.

COOPERATIVE OFFICE EDUCATION-RELATED CLASS MANUAL. 1971, 95 pages, $2.50.

This is a manual to guide the teacher or coordinator through related classroom aspects of cooperative education. Each unit contains six sections: objectives, materials and supplies, content, teaching suggestions, evaluation, and reference materials. The table of contents includes: pre-employment, oral communications, meeting the public, personality development and human relations, business organization and management, filing and record control, adding-listing machines, calculators, machine transcription, duplicating, introduction to data processing, typing problems, written communication, mail, records, business math, and reference materials.

A GUIDE TO THE USE OF TRANSPARENCIES FOR THE BUSINESS EDUCATION TEACHER (CENTRAL OR NONSKILL AREAS). Teacher's Manual. 1970, 150 pages, $2.00.

This manual contains helpful information for the teacher in using transparencies in such areas as advertising, salesmanship, merchandising, business arithmetic, and other similar topics.

A GUIDE TO THE USE OF TRANSPARENCIES FOR THE BUSINESS EDUCATION TEACHER (SKILL AREAS). Teacher's Manual. 1970, 164 pages, $2.00.

The manual includes samples of projectuals together with lists of sources of ready-made originals and transparencies. It also includes instructions for making transparencies, sample lessons, the supplies needed, and the source of supplies. Courses covered include typing, stenography, bookkeeping, record keeping, data processing, and other topics.

NEW YORK

ADMINISTRATIVE HANDBOOK FOR BUSINESS AND OFFICE EDUCATION. Administrator's Guide. 1971, 37 pages, $.50.

This is an overview of the business education program in New York state. It includes a list of the approved business subjects, the various sequential business curricula, the approved major business sequences, suggested special business programs, and many other important types of information.

BUSINESS LAW SYLLABUS. Teacher's Resource. 1968, 78 pages, $.50.

The emphasis in the syllabus is upon the individual in his personal and family life as well as in his occupational life. Material covered includes courts and court procedures, contracts, buying and selling goods, renting real property, and more information. A large listing of suggested references is also included.

GENERAL BUSINESS SYLLABUS. Teacher's Resource. 1970, 94 pages, $.50.

The syllabus provides guidelines for a course which is an introduction to business. Major areas treated include administrative considerations, general teaching suggestions, content of the course, free classroom materials, and a selected bibliography. Course content covers such topics as the economy, socioeconomic environment, financial security, consumer protection, and other subjects.

OHIO

BUSINESS AND OFFICE EDUCATION RESOURCE SUPPLEMENT TO CONSUMER EDUCATION CURRICULUM GUIDE FOR OHIO. 1971, 67 pages, $2.40 each plus $.40 shipping.

This curriculum guide is designed to fuse the consumer economics application with preparation for the world of work. Areas included in the guide are the economic system; income procurement; consumer behavior determinants; consumer alternatives; roles, rights, and responsibilities; and community resources. Each area is outlined with objectives, concepts, subject areas, suggested learning activities, and resource materials.

OVERVIEW OF THE INTENSIVE PROGRAM. Teacher's Manual. 1969, 30 pages, $1.00.

This publication is a guideline for instituting an intensive program of vocational office education for adults and youth intent upon entering the employment market. Topics of interest covered include initiating the intensive program, qualifications of teachers, development of program content, equipment, and facilities.

A SELF-EVALUATION INSTRUMENT. Teacher's Manual. 1967, 49 pages, $1.00.

The instrument is designed for business and office education programs in the secondary schools. It contains a statement of philosophy of the evaluative procedure, a statement of objectives, and a set of evaluative criteria.

PENNSYLVANIA

ORGANIZATION AND ADMINISTRATION OF ADULT VOCATIONAL BUSINESS EDUCATION PROGRAMS. 1971, 18 pages, free.

This is a set of guidelines developed for the organization and administration of effective adult vocational business programs.

ORGANIZATION OF AN OPEN SPACE BUSINESS EDUCATION PROGRAM. 1973, 8 pages, free.

This is a set of guidelines designed to help administrators organize an open space business education program. Areas cover staff selection, methodology, equipment needed, and conclusion.

QUESTIONNAIRES FOR THE USE OF A SCHOOL DISTRICT IN MAKING A SURVEY OF BUSINESS OFFICES AND STORES AND A FOLLOW-UP STUDY OF GRADUATES OF THE BUSINESS COURSE. 1972, 6 pages, free.

This sample survey includes questionnaires for making a survey of office personnel and facilitates the follow-up study of graduates of the business program. These are suggested questionnaires which schools can revise to conform to local situations.

SOUTH CAROLINA

CAREERS IN OFFICE OCCUPATIONS WITH SCRIPT. Teacher Resource. 1972, 11 transparencies, $2.25.

This set of 11 transparencies with overlays and accompanying script takes the student on an imaginary trip to the "sea of office occupations" using five sailboats to identify five major careers in office occupations.

TENNESSEE

CLERICAL PROJECT. 1969, 73 pages, $1.50.

These projects are designed to give students realistic experiences in actual office-type situations. The setting presents the basic functions of a personnel department, purchasing department, and shipping and receiving department of a manufacturing company. The guide also includes illustrations and forms to be used in the setting.

CURRICULUM GUIDE - EDUCATION FOR OFFICE CAREERS. 1972, 446 pages, $5.50.

This guide contains education procedures for office careers. The careers are categorized under 5 titles: secretarial-stenographic, clerical-machine operator, bookkeeping-accounting, data processing, and supervisory management. The 5 title areas include 29 occupations. One section of the guide is devoted to a listing of all suggested units of instruction for all job titles and another to a listing of performance standards at all levels for all task categories.

DIAGNOSTIC TESTS - INVENTORY CHARTS - PROGRESS CHARTS FOR VOCATIONAL OFFICE EDUCATION. 1969, 80 pages, $2.50.

This guide contains diagnostic tests divided into two sections. Section one includes office related skills, typewriting tests and keys, calculating and transcribing machines, shorthand, and problem solving. Section two includes a student diagnostic inventory and progress charts.

VIRGINIA

SUGGESTED CURRICULUM PATTERNS FOR OFFICE OCCUPATIONS EDUCATION. 1973, 203 pages, $3.00.

The guide contains curriculum patterns for Virginia in six occupational clusters: stenographic and related occupations, typewriting and related occupations, clerical accounting and related occupations, filing and related occupations, data processing and related occupations, and office duplication occupations--reprographics. Each pattern is divided into teaching units and has the designated time to be taught, teaching suggestions, prerequisites, grade level, topic outline, and resource materials. The guide also has appendices.

TEACHING GUIDE FOR COOPERATIVE OFFICE EDUCATION. Teacher's Guide. (Cooperative Training.) 1970, 203 pages, $2.50.

The guide is designed to provide practical suggestions for initiating, developing, operating, improving, and evaluating cooperative office education programs. This well-developed publication should prove to be an invaluable handbook to the teacher-coordinator.

WASHINGTON

COOPERATIVE BUSINESS AND OFFICE EDUCATION. 1973, 101 pages, $2.00.

This is a "how-to" manual designed to provide an understanding of cooperative occupational education. Other parts include administrative considerations, related instruction, and relevant parts of the Washington state plan for vocational education. It also contains appendices, bibliography, and illustrations.

COOPERATIVE EDUCATION FOR COMMUNITY COLLEGES. 1972, 44 pages, $1.50.

This guide is designed to aid administrators and teacher-coordinators interested in implementing, evaluating, or developing cooperative programs in community colleges of the state. Topics included are: what is CVE?, implementing cooperative vocational education programs, steps in planning, responsibilities of the employer, legal responsibilities, initiation and maintenance of good public relations, and evaluation of a cooperative vocational education program. It also includes appendices.

DIVERSIFIED OCCUPATIONS - COORDINATOR'S GUIDE. 1973, 109 pages, $2.50.

This is an overview of implementing and evaluating a diversified education program. The guide contains illustrations and samples of forms to be used by students. Appendices are also included.

WEST VIRGINIA

SIMULATED OFFICE EDUCATION GUIDELINES. 1973, 107 pages, $2.50.

This guide contains a philosophy, curricular implications, teacher preparations and considerations, program preparations, evaluations, and illustrations of classroom designs and equipment. It also contains appendices.

OCCUPATIONAL RESOURCE MATERIAL

Materials that follow are general in nature, apply to all vocational areas, and are listed under the headings of Administrator's Resource, Career Education, Student's Resource, or Teacher's Resource. The Teacher's Resource material may prove helpful to supervisors and administrators as well.

ADMINISTRATOR'S RESOURCE: All Vocational Areas

OHIO

ORGANIZATION AND OPERATION OF A LOCAL PROGRAM OF VOCATIONAL EDUCATION. 1968, 86 pages, $1.00 plus $.40 shipping.

This publication deals with establishing, maintaining, and improving comprehensive programs of vocational and technical education. The publication should prove to be a valuable guide for administrators of vocational and technical education programs: superintendents of schools, directors, coordinators, or deans. The references at the end of each chapter provide added resource material helpful to those who desire to pursue information in depth.

SUGGESTED SPACE AND EQUIPMENT COSTS FOR JOB TRAINING PROGRAMS. Planning Guide. 1967, 53 pages, $1.50.

This illustrated guide was prepared to assist school administrators, architects, home economics teachers, and others to plan and develop programs in high schools and joint vocational schools. Details for space and equipment have been developed at an optimum level. The facilities suggested would provide for self-contained work experience opportunities within the school. A bibliography is included.

PENNSYLVANIA

COOPERATIVE VOCATIONAL EDUCATION EVALUATION CRITERIA. 1972, 8 pages, free.

This manual is designed to be used in evaluating cooperative vocational education programs.

VERMONT

GUIDELINES COOPERATIVE VOCATIONAL EDUCATION IN VERMONT. 1972, 96 pages.

This manual provides guidelines for developing a cooperative vocational education program in Vermont. Part I includes cooperative vocational education programs in area vocational centers and Part II covers cooperative vocational education in other high schools.

CAREER EDUCATION: All Vocational Areas

ALABAMA

CAREER GUIDANCE HANDBOOK. 1973, 23 pages.

This handbook briefly explains a career guidance program, what it is, and ways to do it. It lists components of a career guidance program and responsibilities of the following persons for career guidance: guidance specialists, teachers, vocational educators, administrators, parents, and other community members.

ARIZONA

CAREER EDUCATION CLEARINGHOUSE BIBLIOGRAPHY AND INDEX. 1972, 350 pages.

This guide contains three major sections: an annotated bibliography of all materials, indexes to Arizona career education materials by career education element and grade levels, and indexes to other project and non-project produced materials by subject-matter area and grade levels.

COLORADO

COMMUNICATIONS AND MEDIA. 1972, 137 pages, $5.00, junior high and high school level.

This guide provides units of instruction in the following areas of the communications and media cluster: reading skill development, meeting the public, listening and following directions, parliamentary procedure, group discussion, public speaking, conversational skill, use of references, and mass media. It is suggested for use as a separate "mini" course or as part of an English class at the junior high or high school level.

DELAWARE

INTRODUCTION TO THE WORLD OF BUSINESS. Curriculum Guide. 1973, 90 pages, $1.25, 9th grade.

This curriculum guide provides instruction for a ninth grade course concerning career opportunities within the world of business. It is a three-column guide giving goals and objectives, procedures and activities, and resources and references. The units are designed to provide information as well as "hands on" experiences necessary to aid in career selection.

IOWA

AN INDIVIDUALIZED PROGRAM FOR COLLEGE AND CAREER. 1973, 100 pages, $20.00, high school and junior college level.

This is an individualized program designed to be used in a resource center or other independent study area under the direction of a student advisor. After a period of evaluation to determine the student's strengths and needs, the student selects the options on which he wishes to concentrate his efforts. The material does not include instructions for use. Anyone planning to use the system would need to obtain more information about it. Material is written with objectives and does include multi-media resources and books.

MAINE

CAREER EDUCATION IN MAINE BROCHURE. 1973, 23 pages.

This is a short brochure explaining general concepts of career education. Included is a short description of career education programs in Maine. It is designed to make teachers in Maine aware of career education and to provide insights, perspectives, and knowledge of ways career education can be planned and implemented in Maine schools.

CAREER EDUCATION IN MAINE CURRICULUM GUIDE. 1973, 268 pages.

This curriculum guide is designed to provide Maine educators with a model for developing concepts, activities, and resource materials that will introduce career education into the schools. It contains a short chapter on concepts and a chapter delineating the role of the teacher, the counselor, the administrator, the school board, the State Department of Education, the career education coordinator, and the guidance aide. The next four chapters provide examples of activities developed and tested in Maine schools for integration of career education into the classroom at elementary and junior and senior high school levels. This is a helpful publication for schools developing a career education program.

CAREER EDUCATION K-12 - SAD #9. 1973, 95 pages.

This is a final report of a research and development project in career education conducted under Part C of Public Law 90-576. The project was conducted for one year in School District Number 9, Farmington, Maine. The communities served by this district are mostly small and rural. A comprehensive report includes goals and objectives, procedures followed, results and accomplishments, conclusions, implications, and recommendations for the future.

MARYLAND

CALLING CAREERS. Television Series. 1973, 15 lessons.

Lesson #4 Medical Services I and Lesson #5 Medical Services II are segments of a career awareness series suitable for the intermediate grades. A teacher's manual and supplement are included. Produced by Division of Instructional Television, in collaboration with the Division of Vocational-Technical Education, Maryland State Department of Education, it is available for out-of-state telecast through the Eastern Educational Network. Direct inquiries to: Eastern Educational Network, Howard Spergel, 381 Elliot Street, Boston, Massachusetts 02164.

MISSISSIPPI

TEACHER'S GUIDE FOR OCCUPATIONAL ORIENTATION: AN INTRODUCTION TO THE WORLD OF WORK. 1972, 452 pages, $7.50.

This guide is designed to help the teacher plan a course of study for a class in occupational orientation/career education. Ideas could be adopted by teachers in other classes who wish to integrate some career orientation. Topics covered include: the importance of work; understanding the world of work; what is success?; preparing for a career; and exploring service occupations, business contact occupations, organization occupations, technology occupations, outdoor occupations, general cultural occupations, and arts and entertainment occupations. Student materials are also available.

MISSOURI

JOB APPLICATION AND INTERVIEW. Instructor's Guide. 1973, 354 pages, $15.00 plus postage and handling. high school and adult basic education.

The instructor's guide is divided into nine instructional units: why work; career opportunities; occupational information; self-evaluation; letter of application and application blank; job interview, tests, and forms; money management; job success factors; and job promotion and advancement. Each instructional unit includes behavioral objectives, suggested activities for teacher and students, information sheets, visual aids, tests, and answers to the tests. Units are planned for more than one lesson or class period of instruction.

NEW JERSEY

AN AGE-GRADED MODEL FOR CAREER DEVELOPMENT EDUCATION. 1969, 41 pages, $2.50.

This is an invaluable aid in developing and implementing career education. It discusses the theoretical underpinnings of child development and constructs a model for career development on a K-12 continuum. It examines the practical applications of the theories of self-awareness, career awareness, and career decision making.

CAREER DEVELOPMENT - INCREASING THE VOCATIONAL AWARENESS OF ELEMENTARY SCHOOL CHILDREN. Guidebook for Teachers. 1969, 31 pages, $1.50.

This is a six-part volume. The first two parts introduce the problems associated with the development of vocational awareness and introduce a concept model for the systematic introduction of the concept. The third part provides material which may be used in classroom assessment of vocational awareness. Section four provides sample instructional units for increasing vocational awareness. Section five describes some commonly used social studies activities which enhance vocational awareness. Section six introduces several job families or clusters of occupations.

CAREER DEVELOPMENT - JOB PLACEMENT. 1969, 63 pages, $1.50.

The first thirty-four pages develop the concept of job placement. This development starts with a detailed identification of the nature of the problem and a rationale for handling the problem. Sections three and four provide specific, concrete suggestions for the initiation and operation of a job placement program. The last twenty-nine pages report some of the information gained in the operation of five experimental job placement programs.

INTRODUCTION TO VOCATIONS. Teacher's Guide. 1973, 450 pages, $7.50.

This manual contains material which may be used as a text by the teacher for student instruction. It is also intended to be used as a guide to assist the teacher and coordinator of the program. It contains the following cycles: know yourself, environment, health and environmental careers, mechanical contracting, science-engineering-technology, small business, textile, transportation, and the following mini-cycles: bookkeeping, beauty culture, business education, careers in advertising, florist-horticulture, graphic arts, measurement, police careers, and United States Coast Guard.

INTRODUCTION TO VOCATIONS FOR EDUCABLE MENTALLY RETARDED. 1972, 55 pages, $1.00.

This is a part of career development for a special group. It is designed to aid the teacher and covers the following: general plans, the student as a member of society, economic aspects of living, exploratory units on occupation employment information, bibliography, information form, occupational interest form, and jobs for the retarded.

PHYSICS AND CHEMISTRY FOR AUTOMOTIVE TRADES. 1972, 243 pages, $2.50, 11th and 12th grade.

This manual contains units on introduction to physical science, matter and its properties, mechanics, heat, electricity, sound, and light. Each unit consists of related information, illustrations, and experiments.

NEW YORK

IDENTIFYING OPPORTUNITIES FOR EMPLOYMENT. Instructor's Guide. 1973, 84 pages, $.50.

This publication is intended to expose the students in adult basic education programs to some possibilities for marketing their newly acquired skills. The curriculum is sequenced as one unit in five phases, but any one of the sections could be used for individual guidance, for small group instruction, or for mini-seminars. Sections covered are: evaluating interest and abilities, preparing for employment, exploring the world of occupations, planning and preparing for interviews, and getting the job.

OHIO

OCCUPATIONAL WORK EXPERIENCE STUDENT HANDBOOKS. 1973, $8.00 plus $.40 shipping, available only as complete set, one set per student.

This is a set of 32 individual student handbooks designed for students enrolled in the Occupational Work Experience program in the Ohio Public Schools. This program is to provide an opportunity for students who are not intending to go to college or to a technical school to learn a trade so they can be employed immediately after high school. It consists of a half-day school program and a half-day training on the job. The handbooks can be used for individual instruction on a variety of topics such as reasons to stay in school, safety, conducting a meeting, decision making, ways to apply for and get a job, personal budgeting, and personality.

OKLAHOMA

CAREER EXPLORATION - A GUIDE FOR TEACHERS. 1970, 101 pages, $1.75, 8th, 9th, and 10th grade.

This guide is designed for use by teachers to plan and implement a course in exploration of careers for grades 8, 9, or 10. Units included are: know yourself, world of work, use of occupational information, and career education planning. This guide is written in a four-column format with objectives, activities, evaluation, and resources. The objectives are not behavioral.

A GUIDE FOR DEVELOPMENTAL VOCATIONAL GUIDANCE. 1973, 173 pages, $2.00.

This resource guide is divided into four sections: grades K-3, grades 4-6, grades 7-9, and grades 10-12. Each section contains general goals of vocational guidance for that grade level, specific things which the student needs to know, suggested activities, instructional materials, and resources.

OREGON

CAREER EDUCATION IN OREGON. 1970, 8 pages, $.25.

This is a position paper developed by the Director of Career Education in Oregon to present recommendations for career education in Oregon. It could be interpreted as a statement of broad objectives to implement career education in Oregon.

ELECTRICITY-ELECTRONICS. Curriculum Guide. 1969, 88 pages, $2.50, 7th-12th grade.

This manual was developed for the Oregon Board of Education to be used as a guide to establish a career cluster program in the area of electricity-electronics. The suggested curriculum plan is for grade levels 7 through 12.

GUIDE FOR PLANNING CAREER EDUCATION IN OREGON'S SECONDARY SCHOOLS. 1970, 22 pages, free.

This guide is intended for use by administrators in developing long-range plans for career education in individual schools. It is divided into five major parts: community data, school data, master career education plan, factors of implementation, and long-range planning sheets.

TEACHER'S GUIDE TO SUTOE (SELF UNDERSTANDING THROUGH OCCUPATIONAL EXPLORATION). 1971, 183 pages, $3.00, junior high.

This is a teacher's guide for a year-long course combining occupational exploration and self-understanding. It contains objectives for each unit followed by suggestions for implementation. The units are entitled: Pupil Involvement in SUTOE, Self-Appraisal and Self-Understanding, Relating School to Occupational Planning, The Individual's Role in the Economic System, Preparing Students for In-Depth Career Study, Exploring Jobs, Evaluating Experiences, and Planning Ahead.

WORLD OF WORK. 1971, 68 pages, $1.00, K-12.

This is a curriculum guide which is not self-contained. It uses behavioral objectives and is designed to relate the social studies curriculum to the world of work. For each grade level there are suggested activities, resources, and evaluation suggestions for reaching the objectives. It also includes a bibliography of occupationally oriented books and some worksheets for teacher use in planning the units.

SOUTH CAROLINA

THE WORLD OF WORK - A UNIT IN PRE-VOCATIONAL INSTRUCTION. Teacher's Guide. 1971, 216 pages and 31 game cards, $5.00, 9th and 10th grade.

This guide is designed for a course of instruction for 9th and 10th grade students. The guide contains 20 major activities or units each with objectives, student worksheets, and transparency masters.

TENNESSEE

CHARLES LIVES AND WORKS. 1970, 32 pages, $1.00, high school.

This is a short individualized instructional unit in job hunting, banking, and budgeting for use in vocational improvement programs. It could be used in math, English, or social studies classes at the high school level.

VIRGINIA

INDUSTRIAL ARTS CURRICULUM GUIDE. 1972, 109 pages, $2.50, secondary.

This guide has been designed as a professional resource for the secondary industrial arts teacher. The guide gives specific direction to the broad content courses in industrial arts and provides supplementary direction to the general unit-type courses. It includes a series of approaches to teaching industrial arts curriculum, ways to use educational television, a resource index, and transparency masters.

WASHINGTON

GUIDELINES FOR CAREER AWARENESS PROGRAMS FOR THE ELEMENTARY SCHOOL - PART 3: WHAT ABOUT VOCATIONAL EDUCATION? 1974 (Revised), 62 pages, free.

This is a resource guide to provide suggestions to elementary teachers in developing career awareness programs. For each grade level it includes goals, concepts and objectives, suggested activities, and learner's expectations. An appendix with resources for career awareness programs is also included.

SUGGESTED GUIDELINES FOR CAREER EDUCATION WORKSHOPS. 1973, 29 pages, free.

To develop continuity in the career education effort, this guide is designed to propose suggested content, methods, and techniques for in-service workshops that will assist teachers in integrating career education into their classrooms.

STUDENT'S RESOURCE: All Vocational Areas

ILLINOIS

APPLYING FOR A JOB. Student's Guide. 1969, 12 pages, $.18.

Many questions confronting students are answered in this leaflet. It deals with such items as taking personal inventory, getting additional training, discovering what jobs are available, writing a letter of application, and being interviewed by a prospective employer.

MISSOURI

BASIC MATHEMATICS. Instructor's Guide. 1971, 88 pages, $1.50.

This guide is designed for vocational students. The concepts of number theory, whole number operations, fractions, decimal fractions, and applied geometry are all included. There are five topic units with eleven developed lessons.

NEW JERSEY

DICTIONARY. 1973, 21 pages, $.50.

This manual can be used by students and is designed to give information on ways to use a dictionary. There are sample problems to provide the learner with learning experience needed to use a dictionary.

ENGLISH AT WORK - VOLUME I. 1970, 248 pages, $2.50.

This is written for the high school student who plans to go to work upon graduation. The format and examples are designed to motivate the vocational student. The table of contents lists ten unit titles: The Role of Language, The Dictionary, The Sentence, Written Expressions, Common Mistakes, Reading, The Newspaper, The Library, Expressing Yourself, and Spelling.

ENGLISH AT WORK - VOLUME II. 1970, 472 pages, $2.50.

This volume, as an extension of Volume I, continues in the same vein with no change in philosophy. The general areas covered are listed as units XI through XVI. These units are entitled: Written Correspondence, Vocabulary Building, Punctuation, Straight Thinking, Industrial and Business Forms, and Job Planning.

FINDING A JOB. 1973, 56 pages, $.50.

The publication includes information needed for finding a job. Areas included are: where to look for a job, the interview, things to learn about the job, the application form, and the resume.

THE NEWSPAPER. 1970, 28 pages, $.50.

This publication was developed to help the student learn to read and use newspapers. Problems and quizzes are included.

OHIO

JOB METHODS FOR SUPERVISORY PERSONNEL. Handout Sheets. Leader's Resource Material. 1966, 15 pages, $1.00 plus $.40 postage and handling.

This portfolio of handout sheets is essential for students to illustrate important points. Each of the 15 sheets is keyed for use in the instructor's manual and should be given to learners and participants at the appropriate time.

SOUTH CAROLINA

LOCATING AND SECURING A JOB. Student's Manual. 1970, 29 pages, $.75.

The manual was prepared for high school students enrolled in vocational education courses. Addressed to the student, the manual takes him through a series of seven steps in securing a job. There are assignments and helpful illustrations which provide opportunity for the application of the ideas set forth in the text material.

TENNESSEE

VOCATIONAL RELATED MATH--BLAST OFF! 1971, 169 pages, $4.75.

This manual was designed for student use. At the beginning of each unit is a skill test. As long as the student successfully completes all the problems on these tests, he gets to disregard all of the assignments in that unit. The content includes the number system, addition, subtraction, multiplication, and division of whole numbers.

VOCATIONAL RELATED MATH--TOUCHDOWN! 1971, 125 pages, $4.25.

This publication is designed to help a student improve math skills. Related information sheets, skill practice sheets, assignment sheets, and evaluation (test) sheets are included. Vocationally related problems are used for skill practice and assignments.

TEXAS

YOUR ATTITUDE IS SHOWING. 1972, $3.90.

This reference manual has been prepared by Elwood H. Chapman and published by Science Research Associates, Chicago, Illinois. It is a part of a set of three manuals dealing with attitudes.

YOUR ATTITUDE IS SHOWING ANSWER BOOK. 1972, $1.25.

This manual contains suggested acceptable answers to the assignment questions. The material is helpful in assessing student understanding and comprehension.

YOUR ATTITUDE IS SHOWING ASSIGNMENT MANUAL. 1972, $1.00.

This publication contains 20 assignments based upon the reference manual described above. Assignments cover such items as fundamentals of good human relations, ways to compensate for youth and inexperience, and ways to make good first impressions.

TEACHER'S RESOURCE: All Vocational Areas

INDIANA

ADVISORY COMMITTEES FOR HOME ECONOMICS. 1969, 17 pages, $.20.

This bulletin was written to help teachers with the organization and implementation of an advisory committee. The contents of this publication are: a description guideline for establishing a committee, steps in organizing and implementing the advisory committee, the meeting, purposes of the committee, a sample letter to members, constitution or guidelines, and a bibliography.

MAINE

IDEAS FOR TEACHERS. 1973, 77 pages.

This booklet was developed to help teachers motivate the disadvantaged, but could be valuable in working with all students. It is a teacher's guide giving suggested teaching activities for such areas as entering the world of work, occupations, living with your job, managing more, mathematics, and other areas.

MARYLAND

A TENTATIVE COURSE OUTLINE FOR USE IN COOPERATIVE VOCATIONAL EDUCATION PROGRAMS THREE YEAR SEQUENCE. 1972, 69 pages.

This is a three-year course outline for cooperative vocational education. The outline includes lessons, suggested activities, and references.

MISSOURI

ORIENTATION TO EMPLOYMENT. 1973, 124 pages, $3.00.

This is designed to aid the teacher coordinators of cooperative education in teaching general employment information needed by young beginning employees The instruction should be valuable to any young worker regardless of the occupation of the student. The study guide and instructor's manual are each attractively bound in a three-ring plastic binder.

TECHNIQUES OF THE COOP METHOD. Instructor's Guide. 1973, 118 pages, $4.00 plus postage and handling.

The job of the coordinator in cooperative education requires the mastery of many specific skills which are identified and explained in this publication. The performance of the coordinator's role calls for knowledge of concepts and principles which are also described. However, the difference between an outstanding coordinator and one who is only average is usually the application of tricks of the trade that normally are gained only by experience. In this handbook, the author relates the many little tricks that he has found to work from his years of rich experience as a coordinator, supervisor, administrator, and teacher-educator.

NEW JERSEY

STUDENT'S MANUAL FOR SUPERVISED TEACHING OF VOCATIONAL SUBJECTS. Student's Manual. 1970, 63 pages, $2.00.

This manual is prepared specifically for trainees enrolled in the course entitled "Supervised Teaching of Vocational Subjects." Responsibilities and requirements of teaching vocational subjects are stressed in the publication.

TIME. 1970, 65 pages, $.50.

This manual is about time, its importance, its use, zones, and other information. This manual also includes problems and tests.

THE WORKER IN MODERN SOCIETY. 1970, 287 pages, $5.00.

The units presented are: problems of labor and management, capitalism of its rivals, history of the labor movement, structure and function of trade unions, personnel responsibilities in modern industry, problem-solving techniques of labor and management, intra-labor problems, corrective legislation, the worker's responsibility, and forthcoming problems. Each unit is presented as a series of lessons, and each lesson provides various outlooks on the topic presented. Thirty-nine pages of unit tests are included.

WORLD PROBLEMS FOR AMERICANS. 1969, 106 pages, $2.00.

The author intended this book as a guide to be used in exploring contemporary problems. There is no attempt to give final answers. The major areas explored are nationalism, war, rule by force, population, and religions.

NEW MEXICO

PERSONAL GROWTH CURRICULUM FOR ADULT BASIC EDUCATION. Curriculum Guide. 1970, 157 pages, free.

The content is designed not only to provide skill development in mathematics, reading, and writing, but also to develop a new life perspective and an awareness of family and social responsibilities. It is intended to lift attitudes from defeatism and rejection to those of confidence and leadership. The guide contains six major divisions including an introduction, family life, health education, world of work, money management, and citizen government.

NEW YORK

EVERYMAN'S ESTATE PLANNING. Curriculum Guide. 1971, 56 pages, $.50.

This is an instructor's guide for teaching an adult course in estate planning. There are six lessons and a case-problem analysis for planning an estate.

OHIO

A BRIEF GUIDE TO ELECTRONIC ALARM SYSTEMS. 1972, 25 pages, $1.50.

This 25-page summary of various types of alarm systems for retail security was prepared by Mosler Safe Company without bias for their own products. It details the advantages and disadvantages of various alarm systems to aid in the improvement of security.

CREATIVE THINKING. Teacher's Guide. 1969, 100 pages, $3.00.

This guide defines creativeness and presents ways to contribute creatively through an interplan of attitudes, aptitudes, resources, and planning. The unit can be used with high school students, post high school students, and adults. It is intended to provide an introductory study of the principles of creative thinking and to suggest ways and means by which individual and group creativity may be increased.

D.C.T. REFERENCE MATERIALS. 1970, 71 pages, $.50 plus $.40 shipping.

This is a listing of instructional materials for the teaching of prominent vocational subjects. These materials have been chosen by committee for their general excellence and are comprised of publications from most states active in vocational education. Also listed with the title of each publication are the reference materials with the address from which they may be obtained.

GETTING THE RIGHT JOB. Teacher's Guide. (Cooperative Training.) 1970, 54 pages, $1.50.

The content is organized into five units ranging from planning your career objective to the interview. The material is designed to aid the student in locating job sources, applying for employment, and successfully completing the interview. Teaching suggestions helpful in handling the content are included along with some instructional aids for teacher use.

INDUSTRIAL ARTS RESOURCE SUPPLEMENT TO CONSUMER EDUCATION CURRICULUM GUIDE FOR OHIO. 1971, 116 pages, $2.40 each plus $.40 shipping, 9th-12th grade.

This guide has been developed for the purpose of assisting industrial arts instructors in teaching consumer education as an integral part of their program.

MANPOWER TRAINING RESOURCE SUPPLEMENT TO CONSUMER EDUCATION CURRICULUM GUIDE FOR OHIO. 1971, 80 pages, $2.40 each plus $.40 shipping.

This is a teacher's guide for presenting consumer "know how" to the MDTA trainees. It contains concepts, suggested learning and evaluation experiences, and suggested resources.

OCCUPATIONAL WORK ADJUSTMENT RESOURCE SUPPLEMENT TO CONSUMER EDUCATION CURRICULUM GUIDE FOR OHIO. 1971, 63 pages, $2.40 each plus $.40 shipping, K-12.

This guide was developed for occupational work adjustment programs in Ohio. It is a teacher's guide including objectives, concepts, and suggested learning and evaluation experiences. Some areas included are the economic system, the job, ways to apply for a job, the paycheck, budgeting, money, banking, and credit.

OCCUPATIONAL WORK EXPERIENCE INSTRUCTOR'S MANUAL. 1973, 121 pages, $4.00 plus $.40 shipping.

This instructor's manual was developed for occupational work experience program use. It covers such areas as safety education in driving, using the telephone, decision making, ways to apply for and get a job, what the employee wants, and other work experience information.

PATHWAYS TO SELF-IMPROVEMENT. 1972, 83 pages, $2.50.

This is a course outline for developing attitudes about a student's personality, personal appearance, and ability to communicate. It includes measurable objectives, teaching content, and projects which will help the student learn to be more successful. Each project has objectives, step-by-step directions, and evaluation rating factors for the coordinator.

THINKING ABOUT YOUR FUTURE. 1971, 2 pages, $.04.

This is a handout used by most coordinators to gauge initial reaction in mass recruiting assemblies. It has a fill-in blank on the back cover for indication of interest in the program.

TRAINING PLANS FOR COOPERATIVE OFFICE EDUCATION. Teacher's Manual. (Cooperative Training.) 1970, 47 pages, $1.00.

This manual contains training plans for a variety of office occupations suitable for a high school cooperative education program.

AN UNDERSTANDING OF ECOLOGY FOR TOMORROW'S BUSINESS LEADER. 1972, 31 pages, $2.00.

A subject of national concern is presented in this teaching outline with the objective of incorporating outside projects to acquaint students with ecological problems in their own community. Several related films are listed as well as many printed references.

OKLAHOMA

COOPERATIVE VOCATIONAL EDUCATION - A BASIC COURSE OF STUDY. 1972, 553 pages, $10.00

This color-coded publication is a basic course of study for cooperative vocational education. Topics covered are: orientation, employment, personal development, employee relations, communications, financial management, and insurance. The self-contained units include performance objectives, suggested activities for teacher and students, information sheets, transparency masters, assignment sheets, tests, and answers to tests.

HANDBOOK FOR COOPERATIVE PROGRAMS. 1972, 51 pages, $1.25.

This publication is to serve as a handbook for teachers of cooperative programs in vocational education. Topics included are: purposes of vocational education, types of programs, responsibilities of the teacher-coordinator and the advisory committee, legal regulations, selection of students and training stations, evaluation, and sample forms to be used in the program.

VOCATIONAL RELATED ENGLISH. Curriculum Guide. 1972, 778 pages, $12.00, 8th, 9th, and/or 10th grade.

This color-coded publication developed for the disadvantaged includes six areas which relate English to the occupational clusters of construction, general mechanical trades, and home and community services. Each self-contained instructional unit includes performance objectives, suggested activities for teacher and students, information sheets, assignment sheets, transparency masters, tests, and answers to the tests. Areas cover general vocational, capitalization, punctuation, parts of speech, the sentence, and usage.

VOCATIONAL RELATED MATH. Curriculum Guide. 1972, 908 pages, $12.00.

This curriculum guide includes seven areas, each consisting of one or more units of instruction. Each instructional unit includes behavioral objectives, suggested activities for teacher and students, information sheets, assignment sheets, visual aids, tests, and answers to the test. Units are planned for more than one lesson or class period of instruction. There are a total of 39 units of instruction covering the following areas: measurement, whole numbers, fractions, decimals, percent, consumer education, and geometry.

VOCATIONAL RELATED SOCIAL STUDIES. Curriculum Guide. 1972, 546 pages, $10.00, 8th, 9th, and/or 10th grade.

This color-coded publication developed for the disadvantaged relates social studies to the vocational clusters of construction, general mechanical trades, and home

and community services. The four areas included are general vocational, government, social studies, and industry in Oklahoma. Each self-contained unit includes performance objectives, suggested activities for teacher and students, information sheets, assignment sheets, transparency masters, tests, and answers to the test.

PENNSYLVANIA

COOPERATIVE VOCATIONAL EDUCATION GENERAL RELATED THEORY CLASS OUTLINE. 1972, 45 pages, free.

This is a teacher's guide for use in cooperative vocational education general related theory class. There are eight units and included in each unit are objectives, class activities, suggested references, and films. Some of the units are: employer and employee relationship, human relationship, consumer education, and career and job exploration. This guide is appropriate for any cooperative class.

A GUIDE FOR TEACHING BASIC READING SKILLS TO ADULTS (A RIGHT TO READ PROGRAM). 1973, 100 pages, free.

This is a teacher's guide for teaching basic reading skills to adults. Worksheets are included in the manual for student use.

RESOURCE MATERIALS FOR HOME ECONOMICS EDUCATION IN PENNSYLVANIA SCHOOLS. 1970, 32 pages, free, secondary.

This bulletin is the introduction to the series of bulletins which constitute the resource materials for home economics education in Pennsylvania. It explains the terminology and curriculum structure which were used as the basis for developing the resource materials in each curriculum area.

SOUTH CAROLINA

FOOD DISTRIBUTION, THE SUPERMARKET ENTRY OCCUPATIONS. Teacher's Guide. 1971, 49 pages, $1.25, secondary; also available 19 transparencies, 1971, $2.75.

This publication was developed to assist coordinators of distribution and marketing to improve and expand instruction activities in preparing high school students to enter and progress in the area of food distribution. The manual contains activities and tests and includes areas such as history of the supermarket, store organization, major departments, channels of distribution, and other related information.

LOW-COST TEACHER-MADE OVERHEAD TRANSPARENCIES. Teacher's Manual. 1969, 63 pages, $1.00.

This printed, well-illustrated booklet contains a thorough discussion of the merit and potential of one material that can be used in the production of overhead transparencies. The material, known as three Mil Trycite, has been selected because it is economical, versatile, very transparent, and can be obtained in a pre-cut size useful in teaching. It can be utilized without expensive equipment or processing materials. The publication provides the "how to do it" of transparency production in excellent detail.

TENNESSEE

BASIC REMEDIAL EDUCATION. 1968, 289 pages, $5.25.

This handbook offers a suggested course outline, sample lesson plans, lists of instructional materials, and aids for basic-remedial education. It was designed to be used by MDT teachers.

BUILDING ENGLISH SKILLS - COMMUNICATIONS - LEVELS II and III, 1971, 335 pages, $4.25, secondary.

The material was prepared for use by instructors and students in vocational advancement programs in secondary schools. A student may begin at his own achievement level and progress at his individual rate under the instructor's guidance. Level II materials are written for students whose reading level ranges from grades 2-5; Level III materials are for grades 4-8. The English skill areas are divided into units which are made up of several lessons. The units cover the parts of speech and the sentence.

TEACHER'S GUIDE - VOCATIONAL RELATED TRAINING FOR SPECIAL STUDENTS. 1972, 225 pages, $4.25.

This teacher's guide was designed for use with the secondary disadvantaged, handicapped, or regular vocational student. There are four major sections covering equipment and materials, suggested instructional units, suggested grading standards, and references. Most of the guide deals with suggested instructional units such as personality, human relations, consumer education, and health.

TENNESSEE COOPERATIVE COORDINATOR'S HANDBOOK. 1972, 144 pages, $3.00.

The handbook provides suggestions for organizing and operating a cooperative vocational program. The manual includes most aspects of all cooperative programs. Some of the areas that are included are advantages of cooperative vocational education, school administrators' responsibility, establishing a program, and duties of coordinators.

WASHINGTON

DIVERSIFIED OCCUPATIONS UNITS OF INSTRUCTION. 1973, 150 pages, $7.50.

This publication was developed for diversified occupations coordinators but could be used by other cooperative education teachers. Some of the units of instruction are business matl., human relations, job orientation, and career exploration.

WYOMING

WYOMING MATHEMATICS CURRICULUM GUIDE. Teacher's Manual. 1970, 34 pages, free, 7th-12th grade.

Through the program of mathematics the student should become aware of the influences a command of figures can make in his continuing occupational and personal development. The content can be summarized as an attempt to: emphasize the "why" just as much as the "how," teach mathematics as a structure, allow students to discover relationships for themselves whenever possible, and teach the social utility or practical applications of mathematics and of arithmetic computation.

INSTRUCTIONS FOR ORDERING CURRICULUM MATERIALS

Orders for materials should be sent to the address of the appropriate State source. Specific ordering information is indicated where applicable. Prices are subject to change without notice. (An asterisk indicates that whether or not items are listed in this publication, a list of instructional materials from that source is available upon request.)

ALABAMA

For agriculture publications:

Mr. A. H. Halcomb, Subject Matter Specialist, Agribusiness Education, 101 Petrie Hall, Auburn, Alabama 36830.

For career education and home economics publications:

Division of Vocational Education, State Department of Education, State Office Building, Montgomery, Alabama 36104.

A catalog with instructions on how to obtain technical education and trade and industrial publications is available upon request from: Instructional Materials, Trade and Industrial Education, P.O. Box 2847, University, Alabama 35486.

ALASKA

Division of Vocational Education, Pouch F, Alaska Office Building, Juneau, Alaska 99801.

ARIZONA

Division of Career and Vocational Education, Arizona Department of Education, 1535 West Jefferson, Phoenix, Arizona 85007.

ARKANSAS

Division of Vocational, Technical, and Adult Education; State Department of Education; State Education Building; Little Rock, Arkansas 72201.

CALIFORNIA*

For vocational agriculture films, filmstrips, manuals, and other materials:

A catalog with instructions on how to obtain materials is available upon request from: Vocational Education Productions (VEP), California Polytechnic State College, San Luis Obispo, California 93401.

For health publications:

University of California, Division of Vocational Education, Allied Health Professions Projects, 12016 Wilshire Boulevard, Los Angeles, California 90025.

For home economics publications:

Film Fair Communications, 10900 Ventura Boulevard, Studio City, California 91604.

For fire service training manuals:

California State Department of Education, Business Services Section, Textbook and Publication Sales, 721 Capitol Mall, Sacramento, California 95814.

For apprentice and peace officer training materials:

California State Department of Education, Fiscal Office--Order Section, 721 Capitol Mall, Sacramento, California 95814. A separate price list is available upon request for police officer reference material and training films from: Officer of Procurement-Stores, Department of General Services, P.O. Box 20191, Sacramento, California 95820.

For peace officer training materials:

When ordering this material, officers should state their rank and the department with which they are connected. The order should be addressed to Documents and Publications, Office of Procurement-Stores, Department of General Services, P.O. Box 20191, Sacramento, California 95820. Sales tax of 5% must be added to all orders originating in California. Over-the-counter sales are made at the Publications Center, State Office Building No. 9, 744 P Street, Sacramento, at the public counter in the lobby.

Check or money order must be made payable to the state of California. NO ORDERS CAN BE FILLED C.O.D.

COLORADO

Center for Career Development, Dissemination Division, Room 318, Department of Vocational Education, University of Northern Colorado, Greeley, Colorado 80639.

CONNECTICUT

Angelo J. Tedesco, Consultant; Bureau of Vo-Tech Schools; Curriculum Center; Division of Vocational Education; State Office Building, Room 336; Hartford, Connecticut 06115. Publications are free and are sent postpaid. Requests must be made on official school system stationery.

DELAWARE

Dr. Burton Braverman, Supervisor; Curriculum and Research; Department of Public Instruction; John G. Townsend Building; Dover, Delaware 19901. Checks should be made payable to the State Board of Education.

GEORGIA

State Department of Education, Office of Instructional Services, State Office Building, Atlanta, Georgia 30334.

IDAHO

Idaho State Board for Vocational Education, 506 North 5th, Boise, Idaho 83720.

ILLINOIS*

Vocational Agriculture Services, University of Illinois, 434 Mumford Hall, Urbana, Illinois 61801. Terms of sale for ordering purposes are:

If orders are billed for payment, postage is added to the prices listed.

If payment is sent with the order, the following amounts should be added for postage and handling:

Orders up to $10 - add $.50
Orders $10 to $20 - add $.75
Orders over $20 - add $1.00

INDIANA

Instructional Materials Laboratory, T.A.W. Building, Indiana State University, Terre Haute, Indiana 47809.

IOWA

For agriculture publications:

Information and Publication Services Section, Department of Public Instruction, Grimes State Office Building, Des Moines, Iowa 50319.

For home economics publications:

University Book Store, Ames, Iowa 50010.

For occupational resource publications:

North Iowa Area Community College, Attention: Mariestelle Brown, 500 College Drive, Mason City, Iowa 50401.

MAINE

Department of Educational and Cultural Services, Augusta, Maine 04330.

MARYLAND

For health publications:

Publication Sales; American Association for Health, Physical Education, and Recreation; 1201 16th Street N.W.; Washington, D.C. 20036. Stock #244-2570.

For all other vocational publications:

P.O. Box 8717, Friendship International Airport, Baltimore, Maryland 21240.

MASSACHUSETTS

For career education publications:

Available for out-of-state telecast through the Eastern Educational Network. Direct inquiries to: Eastern Educational Network, Howard Spergel, 381 Elliot Street, Boston, Massachusetts 02164.

MISSISSIPPI

Curriculum Coordinating Unit, Mississippi State University, P.O. Drawer DX, Mississippi State, Mississippi 39762. Orders accompanied by payment will be sent postpaid. Billing for all other orders will have postage added.

MISSOURI*

Send requests for 1973 74 price list and order form to: Amon Herd, Director; Instructional Materials Laboratory; 8 Industrial Education Building; University of Missouri-Columbia; Columbia, Missouri 65201. A specific form provided from the above address must be used when ordering all materials. A check or money order for the total amount must accompany orders unless an official purchase order is furnished. Schools MUST attach official purchase order. Descriptions of the listed materials may be found in the 1973-74 Instructional Materials Laboratory Catalog.

NEVADA

State Supervisor, Home Economics Education, Department of Education, Carson City, Nevada 89701.

NEW HAMPSHIRE

Department of Education, Vocational-Technical Division, 105 Loudon Road, Concord, New Hampshire 03301.

NEW JERSEY*

New Jersey Vocational-Technical Curriculum Laboratory, Rutgers University, 4103 Kilmer Campus, New Brunswick, New Jersey 08903. All school orders should be made on official school purchase order form and sent to the above address. In addition to the price of the materials, you will be billed for postage or shipping charges. Individuals may order materials by including a check or postal money order for the amount of the materials plus $.30 per book postage. Please make all checks payable to: Vocational Curriculum Laboratory-Rutgers.

NEW MEXICO

Department of Education, Education Building, Santa Fe, New Mexico 87501.

NEW YORK

The State Education Department, Bureau of Finance, Publications Distribution Unit, Albany, New York 12224. Single copies only sold to education institutions outside the state. No "on approval" copies will be sent. Prices given are net and include book rate postage.

Orders, with remittance, should be sent to: The Publication Distribution Unit, State Education Department, Albany, New York 12224.

State education departments, colleges, or curriculum laboratories having similar materials to exchange should make arrangements with the Bureau of Secondary Curriculum Development, Albany, New York 12224. Copies of New York State curriculum materials are available through the microfiche services of The ERIC System.

OHIO

For agriculture publications:

Ohio Agricultural Education, Curriculum Materials Service, The Ohio State University, Room 254, 2120 Fyffe Road, Columbus, Ohio 43210.

For all other vocational publications:

Instructional Materials Laboratory, The Ohio State University, 1885 Neil Avenue, Columbus, Ohio 43210. Ohio schools or other Ohio public agencies should deduct 20 percent from price quoted. On out-of-state quantity orders of 26 to 100 copies of the same manual, a 10 percent discount is granted; on 101 or more copies, a 20 percent discount applies.

Statements will be rendered on receipt of official purchase orders; otherwise, remittance must accompany orders. All checks and money orders must be made payable to the Ohio State University. Postage must be included at the following rates: single copy--$.40; 2 to 12 copies--$.35 each; 13 or more copies--$.25 each. A catalog with order forms is available on request.

OKLAHOMA

The Curriculum and Instructional Materials Center, State Department of Vocational and Technical Education, 1515 West Sixth Avenue, Stillwater, Oklahoma 74074. Checks in the amount of order made payable to the Curriculum and Instructional Materials Center must accompany the order. Publications are postpaid.

OREGON

For health publications:

Documents Clerk, Oregon Board of Education, 942 Lancaster Drive NE, Salem, Oregon 97310.

For all other vocational publications:

Division of Community Colleges and Vocational Education, Oregon Board of Education, Public Services Building, Salem, Oregon 97310.

PENNSYLVANIA

Pennsylvania Department of Education, Office of Information and Publications, P.O. Box 911, Harrisburg, Pennsylvania 17126. Check or money order in the proper amount, made payable to the Commonwealth of Pennsylvania, must accompany each order.

SOUTH CAROLINA

Vocational Education Media Center, 109 Freeman Hall, Clemson University, Clemson, South Carolina 29631.

TENNESSEE

Voeational Curriculum Laboratory, Box 1114, Murfreesboro, Tennessee 37130. All orders must be:

1. On official purchase order properly signed by an official of the organization. Invoices will be rendered at list price plus postage.

2. Accompanied with check for full amount of materials plus postage and handling based on the following scale:

   single copy - $.50
   2 to 10 copies - $.35 each
   11 or more copies - $.25 each

   Make checks payable to State of Tennessee. Because a limited number of each item was printed, examination copies cannot be furnished. All sales are final--materials cannot be returned.

TEXAS

(A&M) Vocational Instructional Services Center, F.E. Box 182, Texas A&M University, College Station, Texas 77843. A school purchase order and check or money order must accompany each order and be made payable to Texas A&M University. A catalog is available upon request.

For home economics publications:

(TTU) Texas Tech University, Home Economics Instructional Materials Center, P.O. Box 4067, Lubbock, Texas 79409. Total payment or official purchase order must accompany order. Official purchase order terms are net 30 days. Make checks payable to Home Economics Instructional Materials Center. Prices include postage. Mailing will be insured only if insurance is requested when order is placed.

(UT) Industrial Materials Development (Industrial Education), Division of Extension, The University of Texas, Austin, Texas 78712. A school purchase order and check or money order must accompany each order and must be made payable to the University of Texas. Catalogs are available. A 2 percent state sales tax or tax exemption certificate is required in addition to prices listed.

VERMONT

State of Vermont, Department of Education, Montpelier, Vermont 05602.

VIRGINIA*

Mr. Harry Smith, Director of Public Information and Publications, State Department of Education, P.O. Box 6-Q, Richmond, Virginia 23216.

WASHINGTON

For career education publications:

Richard R. Lutz, Supervisor; Career Education; Old Capitol Building; Olympia, Washington 98504.

For teacher's resource publications:

LeRoy McCartney, Director; Distributive and Office Education; 216 Old Capitol Building, Olympia, Washington 98504.

WEST VIRGINIA

Coordinator of Curriculum Development; Bureau of Vocational, Technical and Adult Education; Room B-243, Building 6, Capitol Complex, Charleston, West Virginia 25305. Make checks payable to Vocational Curricula Material Funds for the amount of the order.

WISCONSIN

Mr. Clifford Zenor, Vocational Education Consultant–Instructional Services, Wisconsin Board of Vocational, Technical, and Adult Education, 4802 Sheboygan Avenue, Madison, Wisconsin 53702.

WYOMING

State Department of Education, Division of Public Information, Capitol Building, Cheyenne, Wyoming 82001.

NOTE: Request for specific material contained in this annotated listing should be sent to the appropriate State source.

ACCESSION NUMBER: VT101454

PUBLICATION DATE: 74

TITLE: VOCATIONAL EDUCATION STATE INSTRUCTIONAL MATERIALS FOR AGRICULTURE. REVISED 1974.

DESCRIPTOR: *ANNOTATED BIBLIOGRAPHIES; *ABSTRACTS; *VOCATIONAL EDUCATION; *INSTRUCTIONAL MATERIALS; *AGRICULTURE

EDRS PRICE: MF AVAILABLE IN VT-ERIC SET.

DESCRIPTIVE NOTE: 87P.

ABSTRACT: THIS ANNOTATED LISTING OF CURRICULUM MATERIALS FOR AGRICULTURE IS PROVIDED IN ORDER TO APPRISE PLANNERS, ADMINISTRATORS, VOCATIONAL EDUCATORS AND OTHERS INTERESTED IN OFFERING OR INVOLVED IN VOCATIONAL PROGRAMS OF THE AVAILABLE CURRICULUM MATERIALS DEVELOPED BY VARIOUS STATES. THE CURRICULUM MATERIALS HAVE BEEN IDENTIFIED WITH THE INSTRUCTIONAL TITLES AND CODES FROM THE CLASSIFICATION SYSTEM OF THE OFFICE OF EDUCATION. THE TITLE OF THE DOCUMENT, PUBLICATION DATE, THE NUMBER OF PAGES, PRICE, AND A SUMMARY OF THE CONTENT IS PROVIDED FOR EACH ANNOTATION. (KB)

CONTRACT NUMBER: OEG-0-72-4682

INSTITUTION NAME: OKLAHOMA STATE DEPT. OF VOCATIONAL AND TECHNICAL EDUCATION, STILLWATER. CURRICULUM AND INSTRUCTIONAL MATERIALS CENTER.

SPONSORING AGENCY NAME: OFFICE OF EDUCATION (DHEW), WASHINGTON, D.C.

VT 101 454

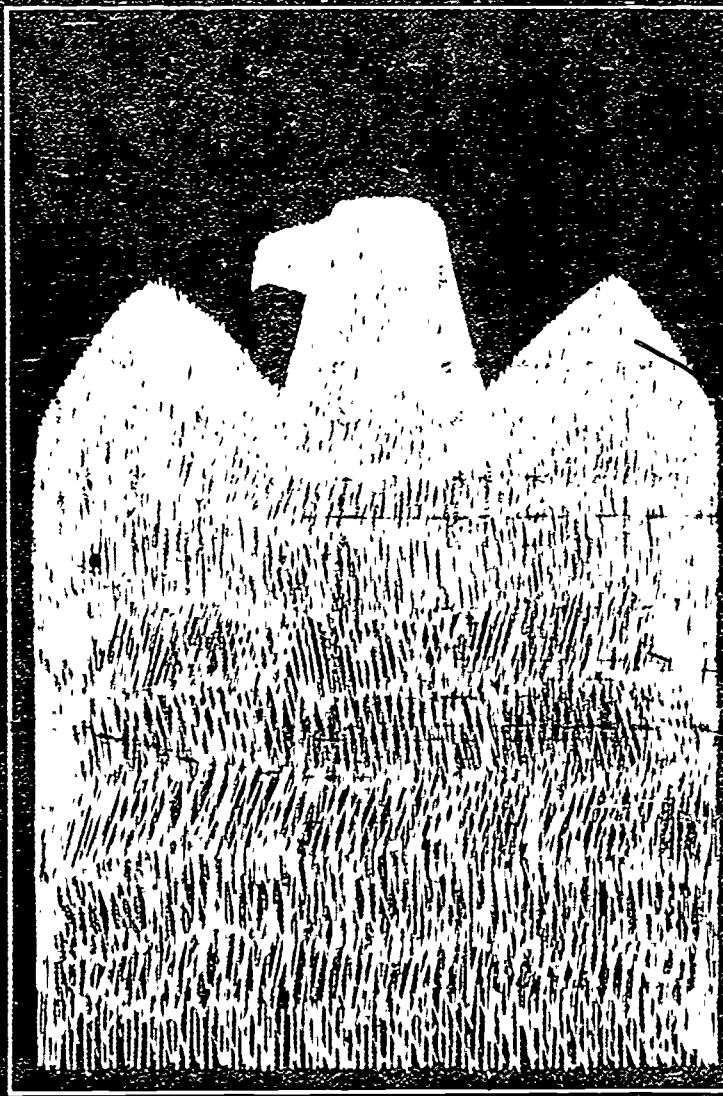
VOCATIONAL EDUCATION

STATE INSTRUCTIONAL MATERIALS

for...

AGRICULTURE

Revised 1974



VT 101 434

ERIC Full Text Provided by ERIC

AVAILABLE FROM STATE EDUCATION AGENCIES

Discrimination Prohibited - Title VI of the Civil Rights Act of 1964 states: "No person in the United States, shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance." Therefore, the Vocational Education program, like all other programs or activities receiving financial assistance from the Department of Health, Education, and Welfare, must be operated in compliance with this law.

The project presented or reported herein was performed pursuant to a contract from the U.S. Office of Education, Department of Health, Education, and Welfare. However, the opinions expressed herein do not necessarily reflect the position or policy of the U.S. Office of Education, and no official endorsement by the U.S. Office of Education should be inferred.

VOCATIONAL EDUCATION

STATE INSTRUCTIONAL MATERIALS

for...

AGRICULTURE

Revised 1974

AVAILABLE FROM STATE EDUCATION AGENCIES

Developed and disseminated pursuant to
Grant No. OEG-0-72-4682 with the U. S. Office of Education
Under Part I - Curriculum Development in Vocational and Technical Education,
Vocational Education Amendments of 1968, Public Law 90-576
by the
Curriculum and Instructional Materials Center
Oklahoma State Department of Vocational and Technical Education
1974-Revision

NOTE:

REQUEST FOR SPECIFIC MATERIAL CONTAINED IN THIS ANNOTATED LISTING SHOULD BE SENT TO THE APPROPRIATE STATE SOURCE.

SOURCE FOR EACH ITEM LISTED IS INDICATED AT THE END OF EACH ENTRY--SEE INSTRUCTIONS FOR ORDERING AT BACK OF PUBLICATION.

Revised publications (annotated listings) are available in the following vocational areas:

State Instructional Materials for Agriculture
State Instructional Materials for Distributive Education
State Instructional Materials for Health Occupational Education
State Instructional Materials for Home Economics
State Instructional Materials for Office Occupations
State Instructional Materials for Technical Education
State Instructional Materials for Trade and Industrial Occupations

The above items are available for purchase from: Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402

For sale by the Superintendent of Documents, #886,
U. S. Government Printing Office, Washington, D. C.
20402. Stock #1780-01341. Price $1.30.

INTRODUCTION AND EXPLANATION OF CODING SYSTEM

In recent years it has become apparent that a strong relationship exists between the world of education and the world of work. Emphasis is on the concept that the development of our human resources is vital to the well-being and growth of our society. In order to implement this belief, leaders in all fields have focused their attention on education and especially on vocational education.

This annotated listing of curriculum materials is provided in order to apprise planners, administrators, vocational educators, and others interested in offering or involved in vocational education programs of the available curriculum materials developed by the various states.

The curriculum materials are offset unless specified as mimeo. They have been identified with the instructional titles and codes from the classification system of the Office of Education. These titles and codes link vocational education programs to occupations. Utilizing the codes in this listing relates the curriculum materials to the instructional program. Seven major vocational education areas are identified in separate listings and coded as follows:

01	Agriculture	09	Home Economics
04	Distributive Education	14	Office Occupations
07	Health Occupations Education	16	Technical Education
		17	Trade and Industrial Occupations

The items are refined to include one or more related subitems as indicated in the following example:

First 2-digit position: subject matter area
Example: 14 OFFICE OCCUPATIONS

Second 2-digit position: principal segment of subject matter
Example: 14.02 BUSINESS DATA PROCESSING SYSTEMS OCCUPATIONS

Third 2-digit position: division of principal segment
Example: 14.0202 PERIPHERAL EQUIPMENT OPERATORS

Fourth 2-digit position: first level detail of division of principal segment
Example: 14.020201 KEY PUNCH AND CODING EQUIPMENT OPERATORS

The coding system is contained in:

U.S. Department of Health, Education, and Welfare, Office of Education. Vocational Education and Occupations (OE-80061). Washington, D.C.: U.S. Government Printing Office, July 1969.

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01. AGRICULTURE

Publications marked (Cooperative Training) in the title or supportive statement are designed for use in cooperative education programs.

AGRICULTURAL PRODUCTION: 01.01

ANIMAL SCIENCE: 01.0101

ILLINOIS

APPROVED PRACTICES FOR BEEF. 1973 (Revised), 4 pages, $.06.

Approved practices in beef production from selecting animals to evaluating and analyzing records are presented in this packet.

APPROVED PRACTICES FOR BEEF. Student's Guide. 1973, 4 pages, $.06.

This guide covers such items as getting started with beef, selecting foundation stock, caring for cow and calf, feeding cattle for market, and related information.

APPROVED PRACTICES FOR SHEEP. 1973 (Revised), 4 pages, $.06.

Information presented in this packet includes approved practices for sheep from selecting the breeding herd to analyzing records.

APPROVED PRACTICES FOR SHEEP. Student's Guide. 1973, 4 pages, $.06.

Material covered follows the format established in the leaflet Approved Practices for Sheep with details on marketing and record keeping.

APPROVED PRACTICES FOR SWINE. 1973 (Revised), 4 pages, $.06.

Information presented in this packet includes selecting the breeding herd, care and feeding, housing, and keeping records on swine.

APPROVED PRACTICES FOR SWINE. Student's Guide. 1973, 4 pages, $.06.

Covered in the leaflet are items about housing, feeding, handling, breeding, and caring for swine.

ARTIFICALLY INSEMINATING LIVESTOCK. 1972 (Revised), 8 pages, $.12.

This information pamphlet contains material on artificial insemination of livestock. Advantages and disadvantages of artificial insemination, reproductive organs of mammals, collecting and storing sperm, actual insemination, and breeding organizations are presented in this pamphlet.

BLOCKING AND TRIMMING SHEEP. 1971, 8 pages, $.12.

This pamphlet contains information on blocking and trimming sheep. It shows equipment to use and presents a step-by-step procedure for blocking and trimming breeding animals.

BLOCKING AND TRIMMING SHEEP (SLIDEFILM 144). 1970, $2.95.

This is a color, single-frame slidefilm of 42 frames. It shows the equipment needed and the step-by-step operation when blocking and trimming sheep for show.

BLOCKING AND TRIMMING SHEET. 1970, 31 transparencies, $2.60.

This is a set of 31 transparencies illustrating the step-by-step operation of blocking and trimming sheep for show.

BREEDS OF SHEEP. 1973, 20 pages, $.30.

This packet contains information about history and appearance of the major and minor breeds of sheep. Pictures of each are included.

BREEDS OF SHEEP (SLIDEFILM 145). 1973, 56 frames--color, $3.40.

BREEDS OF SWINE. 1971, 12 pages, $.18.

This pamphlet contains the history, description, and characteristics of the breeds of swine. It also contains a description of the meat type boy and requirements for certification.

BREEDS OF SWINE (SLIDEFILM 164A). 1970, $3.25.

This is a color, single-frame slidefilm of 52 frames which briefly describes nine breeds common to this country.

CARING FOR THE BROOD MARE AND FOAL. Student's Guide. 1967, 8 pages, $.12.

The guide presents information about breeding habits of the mare, the care of the mare and foal, and similar material of interest to breeders.

CARING FOR THE SOW AND LITTER AT FARROWING TIME. Student's Guide. 1964, 8 pages, $.1[illegible].

This well-illustrated leaflet provides much helpful information concerning ways to prepare the farrowing unit and other topics of interest to those in the hog business.

CLIPPING AND TRIMMING DAIRY CATTLE (SLIDEFILM 209). 1972, 34 frames--color, $2.70.

HORSE TRANSPARENCIES. 1973, 40 transparencies, $3.30.

HORSES AND HORSEMANSHIP. 1972, 44 pages, $.66.

This packet contains information about caring for and using horses properly.

JUDGING BEEF CATTLE, SWINE, AND SHEEP. Student's Guide. 1969, 21 pages, $.35.

Through pictures and explanatory material, this guide provides information helpful in judging state and/or national contests. Included are points to consider in developing a sound judging system.

JUDGING LIGHT HORSES. 1972, 20 pages, $.30.

This guide provides information for judging horses. It contains illustrations to show the correct parts and the faults of horses.

MANAGING THE BEEF BREEDING HERD. Student's Guide. 1969, 16 pages, $.24.

The content provides information on care of the breeding herd, care of the cow at calving time, care of calves, and feeds to use.

PLAN THE LIVESTOCK SYSTEM AND ESTIMATE FERTILITY COSTS (SLIDEFILM 372). 1968, $3.15.

This is a color, single-frame slidefilm of 48 frames. It discusses the fitting of livestock to various resources: land, feed, other capital, labor, and management. The film presents a shortcut method for estimating fertility costs.

PREPARING THE HORSE FOR RIDING (SLIDEFILM 151). 1972, 51 frames--color, $3.25.

PREVENTING TRANSPORTATION LOSSES OF LIVESTOCK (SLIDEFILM 186A). 1968, $2.65.

This is a color, single-frame slidefilm of 33 frames. It uses cartoons to show the causes and means of preventing bruises on livestock.

RABBIT RAISING. 1973, 12 pages, $.18.

Information contained in this packet includes breeds, equipment, and caring for and preventing injuries and diseases of rabbits.

SELECTING BEEF BREEDING ANIMALS (SLIDEFILM 100A). 1970, $4.00.

This is a color, single-frame slidefilm of 73 frames. It illustrates factors to remember in selecting beef breeding animals.

SELECTING BREEDING SHEEP (SLIDEFILM 143A). 1968, $3.90.

This is a color, single-frame slidefilm of 72 frames. It discusses and illustrates the anatomy of sheep and their desirable characteristics. It explains the way to select sheep by producing ability.

SHEARING SHEEP (SLIDEFILM 141A). 1970, $3.95.

This is a color, single-frame slidefilm of 73 frames. It illustrates the step-by-step operation of shearing sheep.

STUDY GUIDE FOR GOOD ANIMAL WASTE MANAGEMENT PREVENTS POLLUTION. 1973, 6 pages, $.20.

This is a slidefilm of 29 frames. It provides an understanding of problems farmers face as they try to conform to new state regulations concerning management of livestock waste. This should be used primarily with non-farm audiences. It can also be used as an individual student study guide.

SYSTEMS OF SWINE BREEDING. Student's Guide. 1965, 8 pages, $.12.

The leaflet describes the process of reproduction and causes of variation in offspring. Breeding systems are discussed and the effects of crossbreeding in swine are treated in some detail.

USDA GRADES OF SWINE. 1973, 8 pages, $.12.

Information contained in this packet includes the USDA grade requirements for swine. The illustrations are excellent and help tell the story.

USDA SWINE AND PORK CARCASS GRADES (SLIDEFILM 168). 1973, 50 frames--color, $3.20.

MAINE

ANIMAL PRODUCTION CURRICULUM GUIDE. 1973, 20 pages, high school.

This is a curriculum guide which uses behavioral objectives but is not self-contained. It contains information on breeds, management, genetics, feeds and feeding, housing, disease control, financing, and selection.

MISSISSIPPI

A REFERENCE UNIT ON BASIC PRINCIPLES OF ANIMAL SCIENCE. Instructor's Guide. 1965, 46 pages, $1.00.

The manual is designed to provide teachers and students with a comprehensive view of the basic principles of animal science. It contains five units covering anatomy and physiology, nutrition, environmental factors, diseases, and parasites of farm animals.

MISSOURI

ADVANCED (SEMESTER) SWINE PRODUCTION. 1971, 165 pages, $4.50.

This material has been organized into three sections: feeder pig production, finishing market hogs, and producing breeding stock. These units may be taught independently or in sequence.

OHIO

APPRAISING MARKET HOGS FOR CARCASS MERIT. 1969, $4.95.

This contains a series of 30 color slides and an illustrated script intended to assist the student in learning the methods of appraising market hogs for carcass value. Live hogs of different grades were obtained and photographed. The hogs were slaughtered in the meat laboratory and selected cuts were photographed.

THE INSIDE STORY OF MADAM BROOD SOW. 1972, $4.60.

This series of 28 color slides and illustrated script shows the sow's reproductive tract at progressive stages during gestation. The series was adapted from the Ralston Purina Company filmstrip of the same name.

SWINE DIGESTION. $2.00.

This series of 12 color slides and illustrated script shows the digestive process from the mouth to the large intestine.

TEXAS (A&M)

CATTLE FEEDERS' GUIDELINES FOR THE SOUTHWEST. 1973, 100 pages, $2.05.

This study guide provides general instruction for secondary students in a cooperative situation and also contains instruction for a student preparing for an occupation in the cattle judging industry. This guide provides information about the sources of cattle, types of cattle, receiving and processing feeders, feedlot construction, feeds and feeding, feedlot performance, and marketing.

ESSENTIALS OF COMPETITIVE LIVESTOCK MARKETING. 1973, 55 pages, $1.10, secondary.

This is a resource guide which is not self-contained and doesn't use behavioral objectives. This guide provides instruction for secondary students preparing for an occupation in livestock marketing and could be used effectively in a cooperative situation.

PLANT SCIENCE: 01.0102

ILLINOIS

APPROVED PRACTICES FOR ALFALFA. 1972 (Revised), 4 pages, $.06.

This packet contains information on approved practices for alfalfa. Areas included are: records, testing the soil, selecting seed, seeding, harvesting, controlling insects and diseases, and a form for analysis of production.

APPROVED PRACTICES FOR ALFALFA. Student's Guide. 1972, 4 pages, $.06.

The content in this guide is handled using the standard format as presented in the Approved Practices for Alfalfa packet. An evaluation sheet is also available.

APPROVED PRACTICES FOR OATS. 1972 (Revised), 4 pages, $.06.

Information contained in this packet includes approved practices for producing oats from tilling the soil to harvesting.

APPROVED PRACTICES FOR OATS. Student's Guide. 1972, 4 pages, $.06.

The content follows the format laid down in Approved Practices for the Corn Enterprise. Emphasis is given to selecting seed to yield well in one's area.

APPROVED PRACTICES FOR SOYBEANS. 1972 (Revised), 4 pages, $.06.

This packet contains the approved practices used in soybean production.

APPROVED PRACTICES FOR THE CORN ENTERPRISE. 1972 (Revised), 4 pages, $.06.

Approved practices for the corn enterprise from tilling to evaluating the yield and output are presented in this packet.

APPROVED PRACTICES FOR THE CORN ENTERPRISE. Student's Guide. 1972, 4 pages, $.06.

The leaflet, among other things, covers such topics as testing soil and applying fertilizer, selecting seed, planting, cultivating, controlling disease and insects, harvesting, and record keeping.

APPROVED PRACTICES FOR WHEAT. 1972 (Revised), 4 pages, S.06.

This packet contains information on procedures used in raising wheat from tilling the soil to harvesting.

APPROVED PRACTICES FOR WHEAT. Student's Guide. 1972, 4 pages, S.06.

The leaflet presents the subject of wheat using the standard format. An evaluation sheet is included in the guide.

APPROVED PRACTICES IN SOYBEANS. Student's Guide. 1972, 4 pages, S.06.

The leaflet follows the format laid down in Approved Practices for the Corn Enterprise. There is a worksheet for evaluating practices introduced in this guide.

CHOOSING SPECIFIC CROPS TO GROW AND ESTIMATING PRODUCTION. 1972 (Revised), 16 pages, S.24.

Information contained in this packet includes classification of crops, determination of which crops to grow, and estimation of yields and value.

DETERMINING MARKET GRADES OF CORN (SLIDEFILM 733). 1969. S3.10.

This is a color, single-frame slidefilm of 47 frames. It discusses various factors and standards used to determine market grades of shelled corn. It shows the step-by-step procedure of obtaining the sample, making the test weight, making the moisture test, and conducting a detailed analysis of the sample.

FACTORS AFFECTING CLASSES AND GRADES OF OATS (SLIDEFILM 772). 1969, $2.70.

This is a color, single-frame slidefilm of 42 frames. It discusses the various classes and grades of oats and shows the damaged kernels that affect market grades.

FACTORS AFFECTING CLASSES AND GRADES OF SHELLED CORN (SLIDEFILM 734). 1969, $2.95.

This is a color, single-frame slidefilm of 42 frames. It discusses various classes and grades of shelled corn and shows damaged kernels that affect market grades.

FACTORS AFFECTING CLASSES AND GRADES OF SOYBEANS (SLIDEFILM 746). 1970, $2.70.

This is a color, single-frame slidefilm of 34 frames. It discusses the various classes and grades of soybeans and shows damaged seeds that affect market grades.

FACTORS AFFECTING CLASSES AND GRADES OF WHEAT (SLIDEFILM 776). 1969, $3.30.

This is a color, single-frame slidefilm of 34 frames. It discusses the various classes and grades of wheat and shows damaged seeds that affect market grades.

IDENTIFICATION OF WEED SEEDLINGS, BROADLEAVES - PART I (SLIDEFILM 800). 1970, $3.05.

This is a color, single-frame slidefilm of 45 frames. It shows the emerging seedling, identifying characteristics of the emerging seedling, and also shows the material plant. Ten common weeds are shown.

IDENTIFICATION OF WEED SEEDLINGS, BROADLEAVES - PART II (SLIDEFILM 801). 1970, $3.05.

This is a color, single-frame slidefilm of 45 frames. It shows the emerging seedling, identifying characteristics of the emerging seedlings, and also shows the material plant. Ten common weeds are shown.

PLANNING THE CROPPING SYSTEM. 1972 (Revised), 16 pages, S.24.

This packet contains information about factors to consider in selecting a cropping system, crop sequencing, field layout, and preventing excessive soil loss.

PRODUCING HYBRID SEED CORN (SLIDEFILM 730A). 1968, $3.75

This is a color, single-frame slidefilm of 68 frames. It discusses various facts about hybrid seed corn and the way it is produced.

PRODUCING PLANTS BY ASEXUAL PROPAGATION. Student's Guide. 1968, 20 pages, S.30.

Production of a new plant from a growing part of a parent plant is identified as asexual propagation. The guide deals with propagating new plants, use of rooting media, placing cuttings, and plant grafting.

SOYBEAN DISEASES IN ILLINOIS (SLIDEFILM 747). 1970, $2.85.

This is a color, single-frame slidefilm of 39 frames. It discusses the common soybean diseases and pictures the common symptoms as they occur in plants.

STUDY GUIDE FOR PLANT NUTRIENTS IN THE ENVIRONMENT. 1973, 7 pages, S.20.

This is a color slidefilm and script consisting of 33 frames. It was prepared primarily for use with nonfarm audiences to acquaint them with food production problems and possible solutions as they relate to the environment. It can also be used as an individual student study guide.

MAINE

PLANT PRODUCTION CURRICULUM GUIDE. 1973, 34 pages, 11th and 12th grade.

This is a curriculum guide which is not self-contained but uses behavioral objectives. The material was designed for use with students in the 11th and 12th grade. It contains units on disease, fertilization, identification, marketing, cultivation needs, rodent control, and irrigation.

MISSISSIPPI

A REFERENCE UNIT ON BASIC PRINCIPLES OF PLANT SCIENCE. Instructor's Guide. 1965, 46 pages, $1.25.

The manual is designed to provide teachers and students with a comprehensive view of the basic principles of plant science. It contains eight units covering classification, growth, nutrition, insects and disease, and weed science.

A REFERENCE UNIT ON CORN. Instructor's Guide. 1966, 143 pages, $1.25.

The manual is designed to provide teachers and students with a comprehensive view of the corn enterprise in Mississippi from seeds to yields and profits. It contains 14 chapters covering the step-by-step sequence of corn production and marketing and a bibliography.

A REFERENCE UNIT ON VEGETABLE PRODUCTION. Teacher's Guide. 1969, 69 pages, $1.50.

The guide is intended to provide students and teacher with a comprehensive view of the area of vegetable production. There are 16 jobs defined, including selecting the kind of vegetables to produce, securing good seed, planting, fertilizing, irrigating, mulching and rotating, and similar pertinent tasks.

MISSOURI

ADVANCED (SEMESTER) CORN AND SORGHUM PRODUCTION. Instructor's Guide. 1973, 281 pages.

The materials have been organized into twelve problem areas: economic considerations in corn production, climatic soil and equipment needs for producing corn, selection of seed corn, fertilization of corn, soil preparation and planting corn, cultivation and chemical weed control, control of insects and diseases, irrigation and plant growth, harvesting and storing corn as grain or silage, marketing corn, growing grain sorghums, and growing forage sorghums for silage and pasture. Accompanying the guide are 33 transparency masters and 99 handouts. The guide is available in quantity.

ADVANCED (SEMESTER) SOYBEAN PRODUCTION. Instructor's Guide. 1973, 177 pages.

This guide contains behavioral objectives and is in outline form. The materials have been organized into nine problem areas: uses and economic trends for soybeans; resources and growing conditions necessary to produce soybeans, selection of soybean seed; fertilizer for soybeans; control planting procedure and seeding rate; control of weeds, insects, and diseases, providing additional water for soybeans; harvesting and storing soybeans, and marketing soybeans. Accompanying the units are 24 transparency masters and 59 handouts.

NO-TILL CORN PRODUCTION FOR CONSERVATION FARMING. 1973, 82 color slides, $23.00 plus postage and handling.

These slides are illustrations of developments in no-till farming that are keyed to the Corn and Sorghum Production unit. All slides are 2 X 2 inches in size. They are available in quantity.

OHIO

THE EARLY GROWTH OF CORN. $4.60.

This is a series of 26 color slides and script showing the development of the corn plant from germination to pollination. Special emphasis relative to date and depth of planting has been made.

FIELD CROP DISEASES. 1973, 78 pages, $2.25.

This student manual deals with plant diseases that present problems to farmers of the midwest. It is designed to assist the student in identifying plant diseases, knowing when diseases occur, and determining the appropriate action to take. The major headings are: Causes and Symptoms of Diseases, Prevention and Control of Diseases, Corn Diseases, Soybean Diseases, Small Grain Diseases, and Forage Crop Diseases. The manual is illustrated with photographs and drawings showing the characteristics of each disease.

INDIVIDUAL STUDY GUIDE FOR DRYING CORN ON THE FARM. 1970, 149 pages, $3.00.

This student manual deals with the following three types of corn drying: heated forced air, natural forced air, and natural drying in storage. The manual is well illustrated with pictures, drawings, and graphs.

INSECT PESTS OF FIELD CROPS AND STORED GRAINS. 1972, 112 pages, $3.00.

This booklet provides descriptions, identification aids, survey methods, and controls for harmful insects. The life stages of the insect are studied and the most appropriate stages at which to apply control measures are considered. The kind and extent of damage is also considered.

THE LATE GROWTH OF CORN. $5.00.

This is a series of 28 color slides and script showing the development of the corn plant from fertilization to maturity.

SEED PRODUCTION OF CORN, SOYBEANS, AND SMALL GRAINS. 1971 (Revised), 88 pages, $1.80.

This student study manual considers the importance of the seed industry, losses from using poor seed, the way plants produce seeds, crop varieties, production of certified seed, and seed laws.

SEED PRODUCTION OF CORN, SOYBEANS, AND SMALL GRAINS. 1972, $12.50.

This series of 70 color slides and illustrated script was designed to accompany the student reference of the same title.

SOME COMMON CROP AND WEED SEEDS. 1966, $9.75.

A series of 52 color slides and script to accompany the publication Some Identifying Characteristics of 60 Crop and Weed Seeds, it includes close-up views of the crop and weed seeds included in the Ohio agronomy contest.

SOME IDENTIFYING CHARACTERISTICS OF 60 CROP AND WEED SEEDS. 1972, 16 pages, $.80.

This booklet contains a brief description and illustration of the seeds included in the Ohio agronomy contest. The publication is designed for student use.

TILLAGE SYSTEMS FOR CORN. 1972, $12.50.

This series of 70 color slides and illustrated script deals with the agronomic and economic aspects of commonly used tillage systems for corn.

FARM MECHANICS: 01.0103

INDIANA

TEACHING UNITS IN FARM MACHINERY SAFETY FOR VOCATIONAL AGRICULTURE INSTRUCTION. 1970, 50 pages, $.75, 9th - 11th grade

This is a study guide which provides instruction for the 9th - 11th grade student. Each unit contains suggestions for teaching, nonbehavioral objectives, a motivational statement, study questions, answer references, and an evaluation. The units deal with farm machinery safety and safe tractor operation.

FARM BUSINESS MANAGEMENT: 01.0104

ILLINOIS

AGRICULTURAL BUSINESS MANAGEMENT - PRINCIPLES THAT AFFECT PRODUCTION. Student's Guide. 1967, 24 pages, $.36.

Some of the economic principles that can be applied to agricultural business management are discussed in this production-based unit.

AGRICULTURAL BUSINESS PROCEDURES. 1972, 32 pages, $.48.

This packet contains information on ordering and receiving merchandise, determining selling price, credit, making a sales ticket, taking an inventory, and developing financial statements and contracts for agriculture business.

AGRICULTURAL CHARTS TRANSPARENCIES. 1973, 55 transparencies, $[redacted].

AGRICULTURAL CREDIT INSTRUMENTS. 1973, 12 pages, $.18.

Agricultural credit instruments such as checks and drafts, promissory notes, secured transactions, warehouse receipts, and bills of lading are contained in this information packet. An illustration of each is presented.

APPRAISING FARM BUILDING. Student's Guide. 1970, 24 pages, $.36.

The guide examines problems of appraising farm buildings and provides information about various methods of appraisal.

CUSTOMER CREDIT MANAGEMENT IN AGRICULTURAL BUSINESSES. 1973, 12 pages, $.18.

This packet contains information on credit-management procedure, determining which customer to give credit, and handling accounts receivable.

DETERMINING CREDIT NEEDS ON THE FARM. Student's Guide. 1969, 12 pages, $.18.

The unit shows the need for capital on different kinds of farms and illustrates the credit needs of an Illinois grain-livestock farm.

DISPLAYING MERCHANDISE (SLIDEFILM 386). 1973, 55 frames--color, $3.60.

FACTORS INVOLVED IN THE BORROWING PROCESS. 1973 (Revised), 8 pages, $.12.

Information presented in this packet includes rules for use of credit, lending practices, and steps in obtaining credit.

A FARM RECORD PROBLEM. Student's Guide. 1973, 8 pages, $.10.

The content consists of the record from an Illinois farm for 1973 on an owner-operated basis. The material has been prepared for use with the Illinois Farm Record Book.

FITTING MACHINERY AND EQUIPMENT TO THE FARM. Student's Guide. 1965, 20 pages, $.30.

Farm profits are the differences between returns and costs. Machinery and equipment are costs for most farmers and keeping costs low may be a means of increasing net income. These topics are explored in this leaflet.

HUMAN RELATIONS IN AGRICULTURAL BUSINESS. 1971, 12 pages, $.18.

This packet contains information on human relations in agricultural business. The contents include evaluating personal appearance, communication, etiquette, and ways to get along with others in businesses.

HUMAN RELATIONS IN AGRICULTURAL BUSINESS (SLIDEFILM 392). 1972, 57 frames--color, $3.45.

ILLINOIS FARM RECORD BOOK. Teacher's Key. 1973, 30 pages, $.60.

This teacher's key contains the record book entries covering the operator's share of farm receipts for the year 1973.

INVENTORY MANAGEMENT AND CONTROL. 1973, 8 pages, $.12.

The contents of this packet include controlling inventory, inventory costs, determining the most profitable level of inventory, and determining quantity and frequency of ordering.

INVENTORY YOUR RESOURCES FOR FARM PLANNING. Student's Guide. 1964, 12 pages, $.18.

An inventory of farm resources is very important for planning and accounting purposes. This leaflet contains much valuable information on the method of making a resource inventory.

KEEPING RECORDS UP TO DATE (SLIDEFILM 351A). 57 frames--color, 1973 (Revised), $3.45.

KEY FOR ILLINOIS FARM RECORD BOOK PROBLEMS. 1973 (Revised), 28 pages, $.60.

This is a key to the Illinois Farm Record Book problems.

LAW FOR THE FARMER. 1973 (Revised), 24 pages, $.36.

This packet contains information on laws for farm, property, landlord and tenant, farm labor, drainage and water rights, fences, livestock, and animal diseases.

LAW FOR THE FARMER. Student's Guide. 1973, 24 pages, $.36.

Seven main sections of the booklet deal with an important area in which law and farm business meet. Covered are topics such as property, landlord and tenant, drainage and water rights, fences, livestock, and animal diseases.

PLANNING A PROFITABLE FARM BUSINESS. 1971 (Revised), 4 pages, $.06.

Contents in this packet include such things as resources in farm production, management, and farm planning.

PLANNING TO HAVE AN ADEQUATE SIZE OF BUSINESS. 1971 (Revised), 8 pages, $.12.

This packet presents information on size of business, ways to increase business, and determining the most profitable size of farm to operate.

PLANNING YOUR FARM BUSINESS. 1973 (Revised), 32 pages, $.45.

This pamphlet contains information on planning one's farm business. It provides worksheets to use to develop a specific plan.

PLANNING YOUR FARM BUSINESS. Student's Guide. 1973, 32 pages, $.45.

The booklet provides forms and space to record a farm inventory of the materials presently available. There is space and suggestions for plans covering the use of land, crop production, livestock, earnings, and similar items.

PLANNING FOR REPAYMENT OF LOANS. Student's Guide. 1969. 16 pages, $.24.

The unit explores a method of determining whether available funds will be sufficient to meet expenses in future years and the amount of money which may need to be borrowed.

PROBLEM FOR USE WITH ILLINOIS FARM RECORD BOOK. 1973 (Revised), 8 pages, $.10.

Problems are contained in this packet for use with the Illinois Farm Record Book. It provides practice in keeping good records.

PROBLEM ILLUSTRATION FOR PLANNING YOUR FARM BUSINESS. Student's Guide. 1970, 11 pages, $.15.

The leaflet provides an illustration of a filled-in booklet to estimate various cost and return items, including as a final figure, the estimated farm and family earnings.

SALESMANSHIP IN AGRICULTURAL BUSINESS (SLIDEFILM 391). 1972, 58 frames--color, $3.45.

SIMPLIFYING WORK IN AN AGRICULTURAL BUSINESS. 1972, 28 pages, $.42.

This packet contains information about work simplification procedures, studying various jobs, and determining when to invest in labor-saving equipment.

SOURCES OF FARM CREDIT. 1973 (Revised), 12 pages, $.18.

Information presented in this packet includes amounts and kinds of credit used, sources of credit, and characteristics to look for in a borrower-lender.

STANDARDS FOR MEASURES OF EFFICIENCY FOR 1973. Student's Guide. 1973, 6 pages, $.06.

The leaflet provides efficiency measures for beef breeding, dairy, feeder cattle, poultry, sheep, and swine in the animal science area. It provides tables for corn, soybeans, oats, and wheat in the plant science area. A schedule of land values and a preliminary crop yield report is also included in the standards.

STARTING TO KEEP RECORDS (SLIDEFILM 350A). 1973 (Revised), 56 frames--color, $3.40.

USING CREDIT TO INCREASE FARM EARNINGS. Student's Guide. 1969, 8 pages, $.12.

The unit shows the importance of credit in achieving the desired earnings from farming. The content supports the thesis that sufficient capital needs to be under one's control to make labor and management productive.

USING THE ILLINOIS FARM RECORD BOOK. Student's Guide. 1969, 20 pages, $.30.

The information provided in this booklet applies to record books in general - not to a specific book. It makes the job of record keeping reasonably simple.

WHAT FACTORS AFFECT PRICES OF AGRICULTURAL PRODUCTS. 1973, 12 pages, $.18.

Contents of this packet include ways supply and demand affect farm prices, effects of foreign trade, and effects of government programs.

WHAT RECORDS TELL ABOUT THIS FARM (SLIDEFILM 357A). 1969, $3.70.

This is a color, single-frame slidefilm of 65 frames. It shows the record results obtained from a farm in Champaign County and compares these with standards for similar farms. It presents a system for trouble-shooting the farm business and discusses strong and weak points of farming.

IOWA

CURRICULUM GUIDE IN AGRIBUSINESS AND NATURAL RESOURCE EDUCATION. 1973, 200 pages, $5.00 per set of ten curriculum guides.

This curriculum guide provides instruction for the junior high, high school, and post secondary student. This guide contains ten units: agribusiness natural resources; animal science; agronomic science; agricultural mechanics; farm business management; agricultural supplies and service; agricultural product, processing and distributive; horticulture; agriculture resource; and conservation.

NEW YORK

FARM PRODUCTION AND MANAGEMENT. Teacher's Guide. 1970, 46 pages, $.50.

This guide for planning and organizing programs in farm production and management is intended to aid school administrators, directors of occupational instruction, instructors, and others in establishing and conducting classes for young people in this occupational area. The content includes items such as applied mechanics in agriculture, field and forage crops, vegetable crops, apple production, grape production, soil science, livestock, and similar topics. Suggestions for planning facilities and equipment and help with selecting instructional materials are also given.

OHIO

FARM ACCOUNTING PROBLEM. 1972, student's manual, 69 pages, $1.50; teacher's manual, 86 pages, $2.00.

This is a farm accounting problem designed for use with the Ohio Commercial Farm Account Book. The problem is realistic and will involve the students in most of the problems encountered in record keeping. A student's manual presents the problem with suggestions about entry making. A teacher's manual gives suggestions for teaching, makes page reference to Farm Records--A Management Tool, and contains a computer printout of the farm accounting problem presented in the student manual.

FARM BUSINESS PLANNING AND ANALYSIS. 1971, 373 pages, $6.00.

This is a series of 41 teaching units for the three phases of the Farm Business Planning and Analysis Program. The three phases are: Phase I, keeping complete farm business accounts, 14 units; Phase II, summary and analysis of farm business records, 15 units; Phase III, planning and reorganization of the farm business, 12 units; and introduction to the Farm Business Planning and Analysis Program and teaching units, 10 pages. The materials are designed primarily for teacher use with farmers enrolled in the FBPA program. They may be adapted for use with high school farm management courses. The materials are sold as a complete set.

FARM RECORDS - A MANAGEMENT TOOL. 1972, 86 pages, $2.00.

This publication is designed to aid teachers of vocational agriculture and extension personnel in teaching farm business records and accounting. The content is built around the Ohio Commercial Farm Account Book; however, the accounting principles used in the publication would have application to other record keeping systems.

INSTRUCTIONAL UNITS ON AGRICULTURAL MARKETING PRINCIPLES. 1972 (Revised), 90 pages, $2.25.

This teacher's manual contains instructional units designed to assist agricultural educators in helping their students discover the application of basic marketing principles to the business of agriculture.

INTERPRETATION OF FARM BUSINESS ANALYSIS TRANSPARENCY MASTERS. 1971, $1.00.

This is a series of 12 transparency masters from which transparencies may be made. A description is printed on the back of those illustrations needing additional explanation.

A TEACHER'S GUIDE TO FARM MONEY MANAGEMENT. 1972, 79 pages, $2.00.

This guide was developed to assist teachers of vocational agriculture in teaching young and adult farmers as well as high school farm management classes. It deals with the ability to manage money wisely and examples are based upon the Farm Accounting Problem. The lessons are: need for capital in the farm business, preparation and analysis of a net worth statement, cash flow, use of farm credit, investing for the greatest return, income tax management, and developing a farm financial plan. The units are prepared in loose leaf form to be inserted into a notebook.

UNIT BUDGETS FOR MAJOR LIVESTOCK AND CROP ENTERPRISES. 1972, 59 pages, $1.00.

Unit budgets have been prepared for various production and price levels within each enterprise group. They are based upon average cost and price figures. The primary purpose of these budgets will be as guidelines for teachers to use in helping high school students develop budgets for crop and livestock enterprises and in helping farm operators with farm planning and reorganization.

SOUTH CAROLINA

KEEPING AGRICULTURE RECORDS - RECORD BOOK. Teacher's Guide. 1970, 37 pages, $1.25.

KEEPING AGRICULTURE RECORDS. Teacher's Guide. 1970, 41 pages, $1.25.

The guide includes the basic elements of keeping and using records in agriculture or other types of business. There are sufficient lesson materials to provide

instruction for up to four weeks. Lesson content is available on transparencies, and master copies are available for duplication where facilities for this reproduction are convenient for the teacher. Topics covered include the need for agricultural records, preparing a financial statement, taking an inventory, depreciating capital items, keeping records of expense and income, and keeping other business records.

KEEPING AGRICULTURE RECORDS. Teacher's Resource. 1970, 33 transparencies, $3.25.

The transparencies are prepared as a teaching resource and parallel the teacher's guide and student record book in production agriculture. They are helpful in teaching concepts important to one who would keep accurate records. This resource has great enrichment value and has possibilities as a motivational device.

Note: All transparencies are unframed and are printed by offset press on 8 1/2 x 11-inch clear three Mil Trycite, a Dow Chemical Company product.

ORGANIZATION AND FUNCTION OF AGRICULTURAL BUSINESSES. Teacher's Resource. 1969, 13 transparencies, $2.00.

This set of 13 transparencies considers the functions, services provided, and risks involved in business ownership. The basic types of business organizations are then applied to agriculture.

TENNESSEE

HANDBOOK - AGRICULTURAL CREDIT. 1967, 57 pages, $1.25, 11th and 12th grade and adult.

This is a handbook of agricultural credit for vocational agriculture teachers in Tennessee. It contains information on credit needs, types of credit, cost of credit, sources of credit, planning repayment terms, credit instruments, and proper use of credit. This handbook could be used for 11th and 12th grade students and adult or young farmer classes.

SUPPLEMENT TO AGRICULTURAL CREDIT HANDBOOK. 1967, 21 pages, $1.00.

This is an instructional supplement to a handbook of agricultural credit for vocational agriculture in Tennessee. The supplement contains objectives for students to accomplish and practical problems to be completed.

VERMONT

SUGGESTED COURSE OF STUDY - FARM PRODUCTION AND MANAGEMENT. 1969, 16 pages, free, 11th and 12th grade.

This suggested course of study for farm production and management contains topics and areas under each topic to teach in a two-year course. It does not contain behavioral objectives.

AGRICULTURAL PRODUCTION, OTHER: 01.0199

ILLINOIS

PRODUCT COMPETITION (SLIDEFILM 384). 1973, 43 frames--color, $3.20.

STUDY GUIDE FOR PRODUCT COMPETITION. 1973, 8 pages, $.20.

This is the script for a color slidefilm of 39 frames. It contains information on the importance of product competition in agribusiness. It can also be used as an individual student study guide.

PRODUCT PROCESSING. 1973, 20 pages, $.15.

This is a record book for students in a product processing program.

PRODUCT KNOWLEDGE (SLIDEFILM 383). 1973, 52 frames--color, $3.50.

STUDY GUIDE FOR PRODUCT KNOWLEDGE. 1973, 10 pages, $.25.

This is the script for a color slidefilm of 48 frames. It presents information on important product knowledge in agribusiness. It can also be used as an individual student study guide.

AGRICULTURAL SUPPLIES/SERVICES: 01.02

ILLINOIS

THE USE OF THE CASH REGISTER. 1972, 8 pages, $.12.

This packet contains information for cooperative program students to learn the proper use of the cash register in an agricultural business.

AGRICULTURAL CHEMICALS: 01.0201

ILLINOIS

CALIBRATING A GRANULAR APPLICATOR (SLIDEFILM 443). 1969, $2.65.

This is a color, single-frame slidefilm of 32 frames. It discusses the factors that affect calibration and the steps one would follow when calibrating an applicator for use with herbicides.

CALIBRATING FIELD SPRAYERS (SLIDEFILM 442). 1969, $3.45.

This is a color, single-frame slidefilm of 57 frames. It discusses the steps to follow in the calibration of field sprayers before applying herbicides to field crops.

CONTROL OF AQUATIC WEEDS (SLIDEFILM 795). ~~1966,~~ $3.00.

This is a color, single-frame slidefilm of 43 frames. It shows growth habits, identifying characteristics, and lists chemical control measures of the common weeds found in farm ponds and streams.

CORN INSECTS AND THEIR CONTROL. 1971 (Revised), 20 pages, $.30.

The contents of this packet include information about insects that attack the corn stalk, seed, ears, coats, and limbs and the control of these insects.

IDENTIFYING AND CONTROLLING LAWN INSECTS. 1973, 16 pages, $.24.

This packet contains information about insects that infect the soil, roots, leaves, stems, and those that suck plant juices. Control measures and safety precautions are included.

RECOGNIZING HERBICIDE INJURY (SLIDEFILM 798). 1968, $3.55.

This is a color, single-frame slidefilm of 61 frames. It shows the damage done to corn, soybeans, and some other common field crops by improper use of herbicides.

A SYSTEMATIC APPROACH TO WEED CONTROL (SLIDEFILM 799). 1969, $3.35.

This is a color, single-frame slidefilm of 55 frames with captions. It discusses the factors to be considered in selecting a herbicide for weed control in corn and soybeans.

USING PRE-EMERGENCE HERBICIDES (SLIDEFILM 797). 1967, $3.05.

This is a color, single-frame slidefilm of 45 frames. It gives information concerning pre-emergence herbicides including the way they work, what risks are involved in their use, and ways to get the best results. Additional points covered include the nature of the weed problem, the need for early planting, flexibility in timing of cultivation, "weather insurance," and the need for complete weed control.

MISSISSIPPI

A REFERENCE ON LIMING SOILS FOR GREATER PROFITS. Instructor's Guide. 1967, 25 pages, $1.00.

The manual is designed to provide teachers and students with a comprehensive view of liming soil in the state of Mississippi for greater profits. It contains eight chapters covering agriculture lime, its source, use, and proper applications.

OHIO

AGRICULTURAL CHEMICALS. 1972, student's manual, 90 pages, $2.00; teacher's guide to supply answers to student exercises, 9 pages, $1.00.

Designed for the agricultural business and service student who will be working with the sale and use of agricultural chemicals.

INSECT, TICK, AND MITE PESTS OF LIVESTOCK AND PETS. 1972, 53 pages, $1.75.

This booklet provides information on insects, ticks, and mites harmful to livestock, poultry, and pets. A description of each insect or other pest includes each life stage, type of metamorphosis, where each life stage will be found, the kind of damage done, and the seriousness of the damage.

INSECTICIDES - KINDS, FORMULATIONS, MIXING, AND APPLYING. 1973, 65 pages, $2.00.

This student reference gives different derivatives of insecticides, formulations available for use, determining mixtures to use, and restrictions regarding insecticide use. Calibrating application equipment and safety in use of pesticides and equipment are covered. Student exercises are provided for identifying characteristics of currently recommended pesticides. Problems dealing with pesticide mixtures and equipment calibration are included.

LIMING ACID SOILS. 1971, $20.00.

This series of 116 color slides and illustrated script is divided into the following nine sub-parts: introduction, why treat acid soils, why relime, soil testing, how to evaluate agricultural liming materials, where does lime come from, how to apply lime, when to apply lime, and the conclusion. The slides are organized so that any section may be used alone in teaching a lesson.

SOME COMMON TYPES OF INSECTS. 1972, 26 pages, $.75. This student manual is designed to assist the pupil in being familiar with some common insects and is an introduction to the system of classifying insects.

WEED CONTROL, CULTURAL AND CHEMICAL. 1969, 111 pages, $1.75.

This student manual deals with the control of weeds in farm crops. The economic importance of weed control is considered. Principles and concepts of weed control are presented with practical application to farm situations.

WEED CONTROL TRANSPARENCIES AND MASTERS. 1970, $6.75.

This series of 46 transparencies is ready for use with the overhead projector. The series is designed to accompany the book, Weed Control, Cultural and Chemical. Master sheets with the illustration on one side and a description and page reference to the book mentioned above are included with the set.

FEEDS: 01.0202

ILLINOIS

FEED ADDITIVES. Student's Guide. 1965, 8 pages, $.12.

Topics covered by this leaflet include such things as antibiotics, arsenicals, hormones, tranquilizers, and some other additives.

SILAGE AS AN ANIMAL FEED. Student's Guide. 1970, 8 pages, $.12.

The leaflet treats the subject of silage as it relates to dairy cattle, beef cattle, sheep, and swine. Tables giving recommended feeding levels are included as well.

FEEDS. 1972, student's manual, 81 pages, $1.85; teacher's guide, 22 pages, $1.00.

A student manual was prepared for the agricultural business and service student who is working in a place of business that prepares and sells feed to livestock producers. It provides knowledge about feeds, suggestions for assisting customers,

preparation and mixing of feeds, and legal requirements. Practical exercises are provided for the student with suggested solutions given in a teacher's guide.

TEXAS (A&M)

FEED SALES AND SERVICEMAN. Course of Study. 1973 (Revised), 435 pages, $9.60.

These materials are designed for the student enrolled in the Agricultural Cooperative Part-Time Training Program. The content consists of 8 units of instruction subdivided into 39 topics. The topic materials are organized to include assignment sheets, information sheets, and topic test sheets. Answer sheets are provided for questions and problems. References are included.

SEEDS: 01.0203

ILLINOIS

SEED QUALITY - A MAJOR FACTOR IN CROP YIELDS (SLIDEFILM 796). 1966, $2.85.

This is a color, single-frame slidefilm of 39 frames. Seed costs, seed selection, and various management decisions are stressed in the film.

FERTILIZERS (PLANT FOOD): 01.0204

ILLINOIS

DETERMINING AVAILABLE POTASSIUM IN SOILS. Student's Guide. 1970, 12 pages, $.18.

The content includes information on the equipment and supplies needed, the techniques used in making tests, and suggestions for recording the results of potassium testing.

HUNGER SIGNS IN CROPS. Student's Guide. 1968, 12 pages, $.30.

The probable responses from the use of limestone, phosphorus, and potassium are contained in this guide. It deals with problems arising when combinations are limiting.

PLANNING THE NITROGEN PROGRAM. Student's Guide. 1969, 16 pages, $.24.

This guide answers such questions as how much nitrogen should be applied per acre, which fertilizers are cheapest to buy, when should nitrogen be applied, and similar inquiries.

TESTING SOIL FOR PHOSPHORUS. Student's Guide. 1969, 16 pages, $.24.

The contents of the guide approach the subject from the point of view of the equipment and supplies needed for testing, the methods used to make soil tests, and ways to record the results.

TEXAS (A&M)

FERTILIZER SALES AND SERVICEMAN. Course of Study. 1972 (Revised), 340 pages, $6.65.

These materials are designed for the student enrolled in the Agricultural Cooperative Part-Time Training Program. The content consists of 10 units of instruction

subdivided into 45 topics. The topic materials are organized to include assignment sheets, information sheets, and topic test sheets. Answer sheets are provided for questions and problems. References are included.

AGRICULTURAL SUPPLIES/SERVICES, OTHER: 01.0299

ALABAMA

AGRICULTURAL SUPPLIES. Student's Guide. 1971, 154 pages, mimeo, $1.50.

The guide covers 42 jobs designed for 11th and 12th grade students. There appears in it such topics as the way animals use feeds, understanding seeds, damage done by weeds, fertilizers, soil testing, pipe work, and electrical wiring.

ILLINOIS

SALESMANSHIP IN AGRICULTURAL BUSINESS. Student's Guide. 1970, 24 pages, $.36.

This guide tells important information about the sales opportunities in agriculture.

STUDY GUIDE FOR A MARKET FOR YOUR PRODUCT. 1973, 8 pages, $.20.

This is the script of a color slidefilm of 40 frames. It contains information on the importance of evaluating and selecting the right market for one's products. It can also be used as an individual study guide for students.

STUDY GUIDE FOR DISPLAYING MERCHANDISE. 1973, 11 pages, $.25.

This is the script of a color slidefilm of 51 frames. It contains information on displaying merchandise in the agribusiness. It can also be used as an individual student study guide.

NEW MEXICO

A SUGGESTED COURSE OF STUDY FOR AGRIBUSINESS IN NEW MEXICO. Course Outline. 1970, 7 pages, mimeo, free.

This is a guide for teachers who are preparing students to select suitable off-farm agricultural occupations and who are preparing farm youth for employment.

OHIO

ADVERTISING AND PROMOTION. Student's Manual. 34 pages, $.60.

The areas of study are: the purpose of advertising, the cost of advertising, what makes good advertising, and an advertising calendar and budget.

ADVERTISING AND PROMOTION. Teacher's Guide. 11 pages, $.30.

This guide lists suggested references, answers to student exercises, and sample examinations.

AGRICULTURAL SUPPLIES, BUSINESS, AND SERVICE - RELATED CLASS UNITS. 1971.

This is a series of 7 student's manuals containing a total of 476 pages designed for the agricultural business and service related class. The student's manuals are

accompanied by a general teacher's guide and teacher's guide for each of the student's manuals, containing a total of 157 pages. The student's manuals are designed to provide the student with basic information needed in all the agricultural businesses. Provision is made for the student to complete practical exercises to provide him with experience in conjunction with his occupational experience program. Each student in the class should have his individual copy of the student's manual. The instructor must have a single copy of the general teacher's guide and the teacher's guide for each of the student's manuals used.

The student's manuals and teacher's guides may be purchased individually at the price indicated with the description of each publication or complete sets may be purchased at the slightly reduced prices: complete set of 7 student's manuals, one set per student, 476 pages, $6.00; complete set of 8 teacher's guides, one set per teacher, 157 pages, $3.50.

TEACHER'S GUIDE: AGRICULTURAL SUPPLIES, BUSINESS, AND SERVICE. Guide to All Units. 10 pages, $.30.

The course of study for the related class work is described.

BUSINESS MONEY MANAGEMENT. Student's Manual. 96 pages, $1.75.

The areas of study are as follows: taxes--income tax, real estate tax, personal property tax; insurance--motor vehicle insurance, public liability insurance, hospital insurance, life insurance, fire, wind, and hail insurance, health and accident insurance, Workman's Compensation, credit life insurance, and Social Security; and credit and interest charges, credit business, net worth and financial statements, bank credit, interest charges, and the credit policy of one company.

BUSINESS MONEY MANAGEMENT. Teacher's Guide. 30 pages, $.80.

The guide lists suggested references, answers to student exercises, and examinations.

BUSINESS PROCEDURES AND RECORDS. Student's Manual. 101 pages, $1.30.

The areas of study are: billing merchandise to customers, handling money and pricing merchandise, and inventory control and depreciation.

BUSINESS PROCEDURES AND RECORDS. Teacher's Guide. 41 pages, $.95.

The guide lists suggested references, answers to student exercises, and examinations.

HUMAN RELATIONS IN BUSINESS. Student's Manual. 70 pages, $.85.

The areas of study are: individual personality, relations with fellow workers, relations with superiors, accepting responsibility, relations with customers, and effective use of the telephone.

HUMAN RELATIONS IN BUSINESS. Teacher's Guide. 14 pages, $.40.

The guide lists suggested references, answers to student exercises, and situations for role playing in the class.

MARKETING AGRICULTURAL PRODUCTS. Student's Manual. 75 pages, $1.10.

The areas of study are marketing agricultural products, transportation, storage of grain, and contracts and leasing.

MARKETING AGRICULTURAL PRODUCTS. Teacher's Guide. 22 pages, $.60.

The guide lists suggested references, answers to student exercises, and examinations.

OFFICE PROCEDURES USED IN THE AGRICULTURAL SERVICES. Student's Manual. 1969, 86 pages, $1.25.

This manual is designed for the student working as an office clerk in an agricultural business. It includes information on problems outlined under the following headings: sales tickets, accounts receivable records, purchase orders, perpetual inventory, sales tax, discounts, daily cash balance, monthly bank balance, and grain accounts.

OFFICE PROCEDURES USED IN THE AGRICULTURAL SERVICES - TEST AND ANSWER SUPPLEMENT. Teacher's Guide. 1969, 64 pages, $2.00.

OPPORTUNITIES IN AGRICULTURAL OCCUPATIONS AND THE EMPLOYEE WITHIN THE BUSINESS ORGANIZATION. Student's Manual. 68 pages, $.80.

The areas of study are: considering jobs in agricultural business, reasons for on-the-job training, applying for a job, wage scales and payroll deductions, reasons for business organization, capitalism and the free enterprise system, organizational patterns, and the division of responsibility.

OPPORTUNITIES IN AGRICULTURAL OCCUPATIONS AND THE EMPLOYEE WITHIN THE BUSINESS ORGANIZATION. Teacher's Guide. 20 pages, $.50.

The guide lists suggested references, answers to student exercises, and sample examinations.

SELLING AND SALESMANSHIP. Student's Manual. 32 pages, $.60.

The areas of study are: what is good selling, what do we have to sell, successful in one's occupation, the actual sales transaction, the lost sale, and class demonstration on sales.

SELLING AND SALESMANSHIP. Teacher's Guide. 11 pages, $.30.

The guide lists suggested references, answers to student exercises, and examinations.

TEXAS (A&M)

POULTRY FARM WORKER - COMMERCIAL LAYING FLOCK. Course of Study. 1972 (Revised), 389 pages, $7.75.

Designed for the student enrolled in the Agricultural Cooperative Part-Time Training Program, the content consists of 13 units of instruction subdivided into 79 topics. The topic materials are organized to include assignment sheets, information sheets, and topic test sheets. Answer sheets are provided for questions and problems. References are also included.

POULTRY HATCHERY EMPLOYEE. Course of Study. 1967, 130 pages, $3.05.

These materials are designed for the student enrolled in the Agricultural Cooperative Part-Time Training Program. The content consists of 7 units of instruction subdivided into 24 topics. The topic materials are organized to include assignment sheets, information sheets, and topic test sheets. Answer sheets are provided for questions and problems. References are included.

POULTRY PROCESSING PLANT EMPLOYEE. Course of Study. 1967, 163 pages, $3.75.

Designed for the student enrolled in the Agricultural Cooperative Part-Time Training Program, the content consists of 8 units of instruction subdivided into 40 topics. The topic materials are organized to include assignment sheets, information sheets, and topic test sheets. Answer sheets are provided for questions and problems. References are included.

VERMONT

SUGGESTED COURSE OF STUDY - AGRICULTURAL MACHINERY - SALES AND SERVICES. 1970, 7 pages, free, 11th and 12th grade.

This is a course outline which contains suggested subjects and the number of hours required to teach each subject related to agricultural machinery sales and services.

AGRICULTURAL MECHANICS: 01.03

OHIO

BUSINESS PRACTICES FOR AGRICULTURAL MACHINERY DEALERS. 1969, student's manual, 231 pages, $2.50; teacher's guide, 51 pages, $1.50.

The manual is designed for the student who is working in one or more of the three phases of the agricultural machinery dealership: parts, service, and sales. The student materials are organized to provide information concerning business practices and to provide exercises to enable the student to experience the way the various procedures are carried out. The materials should be used in conjunction with the student's placement in a machinery dealership. The 231 pages of student materials are divided into four parts. The first section contains general information; part one, deals with the parts department; part two, shop service; and part three, equipment sales. Each student should have a complete set. A teacher's guide is also included; each teacher should have a copy.

AGRICULTURAL POWER AND MACHINERY: 01.0301

ALABAMA

AGRIBUSINESS POWER MECHANICS. Student's Guide. 1970, 166 pages, $1.50.

This two-year course contains 36 jobs for high school students at the 11th and 12th grades. Topics include such things as fundamentals of power engines, repair of small gasoline engines, engine tests, lubrication systems, fuel systems, valve mechanisms, and several more subjects.

ILLINOIS

AIR COMPRESSORS. Student's Guide. 1965, 20 pages, $.30.

Compressed air has become increasingly important to the farmer and home owner. It helps do many jobs with greater ease than formerly. The content of this guide

provides insights into the technical aspects of air compressors and their care and use.

ELECTRICAL FUNDAMENTALS USEFUL IN ENGINE ANALYSIS. Student's Guide. 1970, 20 pages, $.30.

Contained in this unit of instruction are such topics as fundamentals of electricity, magnets and magnetism, and electrical measuring instruments.

ENGINE COMPRESSION AND CYLINDER LEAKAGE TESTING. Student's Guide. 1967, 16 pages, $.24.

A discussion of the principles of four-cycle engine operation, the effects of cylinder leakage, and testing for cylinder leakage are included in the content of this guide.

THE ENGINE COOLING SYSTEM. Student's Guide. 1968, 24 pages, $.36.

Operators of farm equipment, like those who drive an automobile, must understand the function of the engine cooling system. This guide indicates tests to make on the system and steps to follow in preventive maintenance.

THE IGNITION SYSTEM - TESTING AND ANALYZING TEST RESULTS. Student's Guide. 1967, 28 pages, $.42.

This booklet covers 16 topics dealing with components of the battery ignition systems. It contains many illustrations helpful to students learning to test and analyze trouble in the system.

SAFETY IN THE AGRICULTURAL MECHANICS SHOPS. Student's Guide. 1967, 24 pages, $.36.

The content, in addition to establishing the general rules for safety in the agricultural mechanics shop, covers safety when working with hand tools, electricity, tractors, soldering irons, and metal working equipment.

SMALL ENGINE - REPAIR AND OVERHAUL. Student's Guide. 1965, 20 pages, $.30.

Small internal combustion engines can be overhauled if the owner has access to the proper tools and knows how to use them. The content of this guide provides much needed information for one who would recondition an engine and thereby achieve a reasonable cost outlay.

THE SPARK PLUG - OPERATION, SELECTION, AND MAINTENANCE. Student's Guide. 1967, 20 pages, $.30.

Construction, operation, and selection of spark plugs are presented in this information unit associated with the internal combustion engine.

THE STORAGE BATTERY. Student's Guide. 1967, 32 pages, $.48.

The content of this unit is designed to help one understand the storage battery, its installation, its charging, and testing. Safety measures to be taken when working with a battery are also included in this well-illustrated booklet.

TIRES FOR FARM EQUIPMENT. Student's Guide. 1970, 20 pages, $.30.

Because the investment in tires on modern farm equipment may be several thousand dollars, those who operate equipment should know the proper way to care for these tires to secure maximum life and service from them. Steps in a maintenance program and nine other topics are covered in this unit.

TRACTOR SAFETY TRANSPARENCIES. 1970, 40 transparencies, $3.30.

TRACTOR TUNE-UP AND MAINTENANCE TRANSPARENCIES. 1972, 36 transparencies, $3.00.

THE TWO-CYCLE ENGINE. Student's Guide. 1967, 20 pages, $.30.

Two-cycle gasoline engines are used to power many farm labor saving tools and devices today. This guide provides information helpful in servicing and maintaining these engines.

MISSOURI

BASIC HYDRAULICS FOR FARM MACHINERY. Instructor's Guide. 1973, 62 pages, $2.00 plus postage and handling, 11th and 12th grade.

The materials are organized into teaching units including handouts and transparencies. The guide is based upon the John Deere FOS Manual and slides.

NEW MEXICO

GASOLINE ENGINES IN VOCATIONAL AGRICULTURE. Instructor's Guide. 1967, 8 pages, mimeo, free.

This series of six lesson plans deals with the fundamentals of operation and maintenance of gasoline engines.

OHIO

COMBINES AND COMBINING. 1970 (Revised), 105 pages, $2.25.

A manual structured for student use, it is extensively illustrated by means of line drawings, charts, graphs, and pictures. The subject matter is divided into the following areas: what is the value of doing a good job of combining?, the basic design of the combine, the operation of the combine, and the economics of owning a combine.

COMBINES AND COMBINING EXAMINATION. 1965, mimeo, $.10.

This suggested examination consists of 50 objective questions that may be used with the publication Combines and Combining.

COMBINES, PRINCIPLES OF OPERATION. 1968 (Revised), $6.45.

This is a series of 39 color slides and illustrated script. The slide series is designed to accompany the manual Combines and Combining. The slides have been selected from several hundred provided by the farm machinery manufacturing companies. The design of the combine and the principles of operation are illustrated.

CORN PICKERS AND PICKING CORN. 1970, 137 pages, $2.25.

This student manual is extensively illustrated with pictures, drawings, and graphs. The subject matter is divided into the following areas: the value of doing a good job of picking corn, the basic design of the corn picker, operation of the corn picker, economics of corn picker ownership, and safety tips.

INDIVIDUAL STUDY GUIDE ON CARBURETION. 1970, 112 pages, $2.00.

The study guide is designed for students in farm power courses. The material is presented in such a way as to develop an understanding of the basic principles of carburetion. Through the assignment of projects the student is provided a means of applying the knowledge he has learned.

INDIVIDUAL STUDY GUIDE ON ELECTRICAL SYSTEMS FOR THE GASOLINE ENGINE. 1970, 212 pages, $2.75.

This individual study guide is designed for students in farm power courses. The student is given assignments, information to provide technical knowledge, and projects to provide practical experience.

PLOWS AND PLOWING. 1969, 124 pages, $2.25.

A manual structured for student use, the publication is extensively illustrated and includes the following sections: what is a good job of plowing?, design of the plow bottom, maintenance of the moldboard plow, forces acting upon the moldboard plow, principles of hitching the tractor, hitching the draw plow, hitching the integral-mounted and semi-integral mounted plow, adjusting attachments for efficient operation, and field adjusting the plow.

PLOWS AND PLOWING TRANSPARENCIES AND MASTERS. 1971, $5.00.

A series of 39 transparencies which are ready for use with the overhead projector, the series is designed to accompany the book Plows and Plowing. Master sheets with the illustration on one side and a description and page reference to the book mentioned above are included with the set.

SOUTH CAROLINA

AGRICULTURE SHOP SAFETY. Student's Manual. 1969, 61 pages, $1.25.

This is a reference manual for students in agriculture. It is in narrative form and has a teacher's manual that is used in conjunction with this manual.

AGRICULTURE SHOP SAFETY. Teacher's Guide. 1969, 41 pages, $1.25; also available are 62 transparencies, $5.

This teacher's guide is used in conjunction with the student's manual Agriculture Shop Safety.

TEXAS (A&M)

AGRICULTURAL MACHINERY OCCUPATIONS - IMPLEMENTS. Course of Study. 1973 (Revised), 278 pages, $5.50.

These materials are for use of students enrolled in cooperative part-time training programs in Agricultural Machinery Occupations. The cooperative areas identified are repairman, set-up and deliveryman, mechanic's helper, partsman, and service supervisor. An outline is included which indicates the sequence of learning experiences to be followed for each occupation. The content is divided into 13 units subdivided into 60 topics. The material is organized into assignment sheets, information sheets, and topic test sheets. In addition, answer sheets are provided for the questions and problems contained on assignment sheets and topic test sheets. References are included.

AGRICULTURAL MACHINERY OCCUPATIONS - POWER. Instructor's Guide. 1972 (Revised), 377 pages, $6.50.

These materials are for use of students enrolled in cooperative part-time training programs in Agricultural Machinery Occupations. The cooperative areas identified are repairman, set-up and deliveryman, mechanic's helper, partsman, and service supervisor. An outline is included which indicates the sequence of learning experiences to be followed for each occupation. The content is divided into 13 units which are subdivided into 66 topics. The material is organized into assignment sheets, information sheets, and topic test sheets. Answer sheets are provided for the questions and problems contained on the assignment sheets and topic test sheets. References are included.

LABORATORY EXERCISES AND LESSON PLANS FOR PRE-EMPLOYMENT LABORATORY TRAINING IN AGRICULTURAL MACHINERY SERVICE AND REPAIR. Instructor's Guide. 1973 (Revised), 325 pages, $14.40.

This guide is a vocational agriculture resource unit for use of the instructor in providing learning experiences for students enrolled in agricultural machinery service and repair courses. The content lists 15 units of instruction which are subdivided into 73 lesson plans, 24 information sheets, and 33 laboratory exercises. References are included.

AGRICULTURAL STRUCTURES AND CONVENIENCES: 01.0302

MISSOURI

HOW TO BUILD A SMALL ANIMAL SQUEEZE CHUTE. Bulletin Plans. 1973, 23 pages, $1.00 plus postage and handling.

These plans have been developed by agricultural instructors and agricultural mechanic specialists. The plans are printed in bulletin form and give a detailed step-by-step building procedure plus photographs of the finished product.

HOW TO BUILD A TWO WHEEL TRAILER. Bulletin Plans. 1973, 18 pages, $1.00 plus postage and handling.

These plans have been developed by agricultural instructors and agricultural mechanic specialists. The plans are printed in bulletin form and give a detailed step-by-step building procedure plus photographs of the finished product.

SOIL MANAGEMENT: 01.0303

ILLINOIS

FIELD ARRANGEMENT PRINCIPLES. Student's Guide. 1965, 8 pages, $.12.

The guide offers constructive help in determining the size and shape of fields for efficient use of land, labor, machinery, and fencing.

UNDERSTANDING SOILS. 1972, 20 pages, $.30.

This packet contains information about soils such as what soil is, the way soils were formed, the ways soils differ, and determining the land class.

USING THE ILLINOIS SOIL JUDGING SCORECARD. 1973, 24 pages, $.36.

The contents of this packet include information on the use of Illinois Soil Judging Cards, such as landscape characteristics, soil use and management, soil profile characteristics, and soil features.

TEXAS

PASTURE MANAGEMENT GUIDELINES: NITRATE ACCUMULATION IN FORAGES AND ITS EFFECT ON GRAZING ANIMALS. 1973, 27 pages, $.65, secondary and post secondary.

This is a resource guide providing instruction for secondary and post secondary students preparing for an occupation in ranch management. The guide contains information on nitrate accumulations, reductase, enzymes, sources of nitrate, sources of injury, and method of prevention.

PASTURE MANAGEMENT GUIDELINES: PERENNIAL AND TEMPORARY PASTURE GRASSES FOR IMPROVED PASTURES. 1973, 60 pages, $1.25, secondary and post secondary.

This resource guide provides general instructions for secondary and post secondary students preparing for an occupation in ranch and farm management. Information contained includes areas of plant adaptability, plants for improved pastures, recommendations for seeding, and small grain supplement.

PASTURE MANAGEMENT GUIDELINES: PRODUCING QUALITY HAY. 1973, 46 pages, $1.10.

This resource guide provides nonbehavioral instruction for students in a cooperative situation preparing for an occupation in the employment area and contains information on stages of hay growth, analysis, fertilizer rates, curing, classifying, costs, and stocking.

AGRICULTURAL MECHANICS SKILLS: 01.0305

ALABAMA

ADVANCED SHOP GUIDE FOR VO-AG STUDENTS. Student's and Teacher's Guide. 1969, 190 pages, $1.50 pp.

This guide has been prepared as a reference for the teacher and a workbook for the student. It contains many skills that should be taught to advanced Vo-Ag students. Topics include such items as arc welding, farm plumbing, small gasoline engines, farm electricity, painting, and hot and cold metal work.

AGRIBUSINESS METALWORKING. Student's Guide. 1970, 134 pages, $1.50 pp.

The metalworking course is designed for 2 years and provides 45 jobs. The first year is intended to take the learner through job number 23. Topics include safety, identification of metals, machining metals, arc and oxyacetylene welding, sheet metal work, and similar subjects.

AGRIBUSINESS WOODWORKING. Student's Guide. 1970, 146 pages, $1.50 pp.

This guide provides 2 years of instruction for grades 11 and 12. A bibliography of texts and a series of questions and problems keyed to the text materials are included. Jobs in the instruction include such things as building a carpenter's bench, sizing and squaring a table top, making lap joints, drawer rails and guides, and many other items.

GENERAL AGRICULTURAL MECHANICS. Student's Guide. 1970, 189 pages, $1.50 pp.

This well-illustrated guide contains 57 jobs ranging from the use of the grinder, sewage disposal systems, and curing concrete to welding and the gasoline engine. The content is intended for students at grades 11 and 12. This guide is one in a series on agribusiness.

ILLINOIS

LEARNING ARC WELDING SKILLS - PART I: PROCESS, EQUIPMENT, AND SAFETY (SLIDEFILM 450-64). 1964, $7.00 for set of 3.

This is a color, single-frame slidefilm of 45 frames. It describes the equipment used in arc welding and safety precautions to follow.

PART 2: FLAT POSITION WELDING (SLIDEFILM 451-64). 1964, priced with set.

This color, single-frame slidefilm of 63 frames tells the correct method to strike and hold the arc, run beads, and to make downhand, fillet, lap, and corner welds.

PART 3: VERTICAL, OVERHEAD, AND HORIZONTAL POSITION WELDING (SLIDEFILM 452-64). 1964, priced with set.

This is a color, single-frame slidefilm of 34 frames. It describes the way to make out-of-position welds.

METALLIC INERT GAS (MIG) WELDING. 1972, 44 pages, $.66.

This packet contains information on metallic inert gas (MIG). The contents include equipment, steps in welding, welding various metals, and maintenance.

MICROMETERS AND RELATED MEASURING TOOLS. Student's Guide. 1967, 8 pages, $.10.

Mechanics use micrometers chiefly to measure wear on engine parts. Because the micrometer measures accurately to a thousandth or ten-thousandth of an inch, one must know the way to accurately read the instrument. The information in this leaflet provides the basic knowledge for developing this reading "know-how."

THE PORTABLE ELECTRIC SAW - HOW TO USE IT SAFELY (SLIDEFILM 465). 1964, $3.45.

This is a color, single-frame slidefilm of 57 frames. The film identifies the parts of the saw and gives some suggestions as to the size of saw to select for various jobs. It shows the blades used with the saw to cut different materials. Special applications such as butt cuts, lap joints, notching, and angle cuts are shown. The film emphasizes safety precautions to follow when using the saw.

THE POWER GRINDER - HOW TO USE IT SAFELY (SLIDEFILM 463), 1964, $3.15.

This is a color, single-frame slidefilm of 48 frames. It includes a description of various types of grinders and suggestions to follow when selecting a grinder. This film lists safety checks, adjustments, and safety precautions to follow when using the grinder.

THE SAFE USE AND CARE OF LADDERS (SLIDEFILM 497). 1965, $1.10.

This is a black and white, single-frame slidefilm of 42 frames. It describes the safe use of stepladders and straight and extension ladders. It presents important safety measures to remember when erecting, climbing, and working on ladders.

SHIELDED METAL-ARC WELDING. 1973 (Revised), 48 pages, $.72.

This packet contains information on shielded metal-arc welding. The content includes history, safety, procedure, positions, preparing the metal, cutting, and special applications.

SHIELDED METAL-ARC WELDING TRANSPARENCIES. 1973, 80 transparencies, $6.50.

SOLDERING FOR HOME, FARM, AND SHOP APPLICATIONS. Student's Guide. 1968, 24 pages, $.36.

The content deals with the joining together of metals, using solder and a flux. Many appliances and equipment items can be quickly and economically repaired in the home or farm shop if the basic principles set forth in this guide are understood and practiced.

SPOT WELDING FOR AGRICULTURE MECHANICS SHOPS. Student's Guide. 1970, 12 pages, $.18.

Many parts of farm equipment are fabricated using the spot-welding process. The farm shop operator who would make repairs or develop new pieces of equipment needs to understand the potential in this welding process. This leaflet provides an excellent explanation of the process and its uses.

TRACTOR SAFETY TRANSPARENCIES. 1970, $3.30.

This is a set of 40 transparencies on the safe use and operation of tractors. The series was prepared from material developed by International Harvester Company, The Oklier Corporation, Massey-Ferguson, Inc., and the Farm and Industrial Equipment Institute.

TUNGSTEN INERT GAS (TIG) WELDING. 1972, 32 pages, $.48.

The content in this package gives a good overview for tungsten inert gas welding (TIG). This guide contains information about equipment, setting up and adjusting, techniques, and procedures.

USING THE CARBON-ARC TORCH. Student's Guide. 1969, 12 pages, $.18.

This leaflet provides information about the carbon-arc torch and illustrates the way to use it. The torch may be used for such things as heating metal, bending, melting lead and solder, brazing, heat-treating, and similar topics.

USING THE LEVEL IN FARM SURVEYING (SLIDEFILM 438). 1964, $1.25.

This black and white, single-frame slidefilm of 53 frames provides instruction in the proper procedures to follow when using the hand level, tripod level, and target rod. It describes the way to determine the slope and to stake out contours with the hand level. It gives instructions on setting up, focusing, and caring for the tripod level and suggestions on the way to read the target rod.

USING THE LEVEL TO STAKE OUT A BUILDING SITE (SLIDEFILM 439). 1966, $.85.

This black and white, single-frame slidefilm of 25 frames presents suggestions for setting up the level over a specific point. It shows the way to stake out a building with respect to another existing building and to erect batterboards at the corners of the new building.

NEW MEXICO

ARC WELDING IN VOCATIONAL AGRICULTURE. Instructor's Guide. 1967, 21 pages, mimeo, free.

The guide is a series of ten lesson plans in basic arc welding for use with classes in vocational agriculture.

COLD METAL WORK IN VOCATIONAL AGRICULTURE. Instructor's Guide. 1967, 6 pages, mimeo, free.

This is a series of five lesson plans concerned with the fundamentals covering the identification, cutting, drilling, bending, and threading of cold metal for use in shop class in vocational agriculture.

JOB BREAKDOWNS FOR FARM MECHANICS. INSTRUCTION IN VOCATIONAL AGRICULTURE I. Instructor's Guide. 1967, 39 pages, mimeo, free.

Prepared to assist the instructor in making class demonstrations, the job breakdowns are then mounted in student work areas for reference as needed. The job breakdowns cover sharpening of wood tools, welding and brazing, and servicing and maintenance of farm tractors.

WOODWORKING IN VOCATIONAL AGRICULTURE. Instructor's Guide. 1972, 12 pages, mimeo, free.

This series of eight lesson plans covers the use of common tools and power machines used in woodworking applicable to farming.

NEW YORK

AGRICULTURAL MECHANIZATION. Teacher's Guide. 1969, 36 pages, $.50.

Planning occupational programs for mechanics in agriculture has become vital because the mechanization of farming has developed at a phenomenal rate in recent years. The guide includes orientation to the world of work, agricultural power mechanics, planting and fertilizing equipment, weed control equipment, and related topics. Sections of the guide suggest facilities needed, equipment, and instructional materials helpful in planning programs and in developing the course of study.

AGRICULTURAL CONSTRUCTION AND MAINTENANCE: 01.0306

ALABAMA

AGRIBUSINESS CONSTRUCTION. Student's Guide. 1970, 144 pages, $1.50 pp.

The study guide, prepared for 11th and 12th grade students, provides questions, answers, suggested learning activity, skills to perform, and projects to build. Individual study and group discussion are features of this well-illustrated guide.

AGRIBUSINESS ELECTRICITY. Student's Guide. 1970, 141 pages, $1.50 pp.

Prepared for use in the 11th and 12th grades, the guide contains 25 jobs centered around electricity and electrical wiring. Space has been provided in the guide for answering questions and completing assignments.

AGRIBUSINESS MASONRY. Student's Guide. 1970, 156 pages, $1.50 pp.

The content has been prepared for a two-year course. Topics dealt with include such things as lime, mortar, concrete, and tile. Foundations, walls, fireplaces, and similar structural units are also set up as lessons. There are 20 jobs included in the lessons and projects in the guide prepared for 11th and 12th grades.

ILLINOIS

APPLYING ASPHALT ROOFING AND SIDING PRODUCTS. 1971, 24 pages, $.36.

This packet contains information on material available, estimation of materials, preparation, ways to lay roofing, and applying siding.

ASPHALT ROOFING TRANSPARENCIES. 1971, 76 transpareicnes, $6.15.

BUILDING WITH CONCRETE MASONRY. 1971, 16 pages, $.24.

This packet contains information about laying out a building, mixing, laying blocks, building walls, and special applications. It is very well illustrated.

LAYING CONCRETE MASONRY UNITS (SLIDEFILM 434). 1965, $1.25.

This black and white, single-frame slidefilm of 54 frames presents a step-by-step procedure of the techniques of laying concrete masonry units, building corners first and then completing the connecting walls.

PLANNING AND PREPARING FOR CONCRETE MASONRY CONSTRUCTION (SLIDEFILM 433). 1965, $1.35.

This is a black and white, single-frame slidefilm of 63 frames. It presents some of the advantages of concrete masonry construction and characteristics of masonry units to show their relationship to building plans and finishes. It discusses the selection of building sites and illustrates proper foundation construction.

SPECIAL CONCRETE MASONRY PROBLEMS (SLIDEFILM 435). 1965, $1.15.

This is a black and white, single-frame slidefilm of 48 frames. It shows the use of control joints, ways to construct them, and the method by which the plate is attached to the wall. It gives instructions on ways to finish basement walls and to provide proper drainage. It includes suggestions on patching and cleaning.

OHIO

CONCRETE MASONRY. 1962, $9.15.

This is a series of 55 color slides and script dealing with the selection and handling of concrete blocks, preparing mortar, laying blocks, construction practices to insure durable walls, and cement painting.

TEXAS (A&M)

FARM ARC WELDING PROCEDURES. 1973, 49 pages, $1.00, secondary and post secondary.

This general course outline provides instruction suggestions for secondary and post secondary students. The outline contains information on welding machines, electrodes, safety, positions, identifying metals, and weight of steel.

AGRICULTURAL ELECTRIFICATION: 01.0307

ILLINOIS

DIAGRAMMING ELECTRICAL WIRING CIRCUITS (SLIDEFILM 401-65). 1965, $1.30.

This is a black and white, single-frame slidefilm of 58 frames. It discusses electrical circuits and the use of standard symbols for diagramming. It shows that the use of these standard symbols makes neater diagrams which are easier to check and includes simple rules for wiring in cable and conduit.

ELECTRICAL WIRING EXERCISES. 1973 (Revised), 20 pages, $.25.

This pamphlet contains exercises on the wiring of farm buildings.

IDENTIFYING ELECTRIC WIRING ITEMS (SLIDEFILM 404C). 1972, $3.70.

This color, single-frame slidefilm of 66 frames is useful to Illinois teachers when unpacking and checking items contained in the Vocational Agriculture Service Electrical Wiring Loan Box. It is also helpful in teaching identification of commonly-used electrical items.

SUGGESTIONS FOR WIRING 100-AMPERE SERVICE ENTRANCE BOX WITH GFI. 1973, 8 pages, $.05.

This well-illustrated leaflet provides helpful information on wiring a 100-ampere service entrance box.

TENNESSEE

FARM ELECTRICITY. 1970, 96 pages, $2.00.

This is a curriculum reference manual which provides instruction for students in high school. The manual outlines the use of electricity on the farm.

TEXAS (A&M)

ELECTRICAL CONTROLS AND BASIC CONTROL CIRCUITS USED IN AGRICULTURAL PRODUCTION. Instructor's Guide. 1967, 58 pages, $.90.

This guide was prepared to assist teachers to meet the needs of their students to develop knowledge and some skills in the field of applied electricity. The content is divided into five units with lesson plans which are well illustrated. In addition, some transparencies are provided, and an answer guide to questions and problems is included in the appendix.

FARM ELECTRIFICATION LESSON PLANS - WIRING AND SAFETY. Instructor's Guide. 1967, 86 pages, $1.75.

These lesson plans were prepared to assist teachers of vocational agriculture classes to meet the needs of their students for instruction in electrical wiring and safety of farm operation. The content is divided into seven units with lesson plans developed for each unit. Electrical tables common to wiring and a large number of transparencies illustrative of content are included.

AGRICULTURAL MECHANICS, OTHER: 01.0399

ILLINOIS

USING POWER LAWN MOWERS SAFELY (SLIDEFILM 498). 1966, $4.10.

This color, single-frame slidefilm of 78 frames contains suggestions to follow when selecting a safe mower. It contains recommendations for proper dress and for inspection of the lawn. It lists safety precautions to follow when starting the mower and mowing the lawn.

NEW MEXICO

OXYACETYLENE IN VO-AG SUGGESTED LESSON PLAN. Teacher's Guide. 1969, mimeo, free.

This series of lesson plans contains the basic principles for use in an oxyacetylene welding unit of instruction.

AGRICULTURAL PRODUCTS: 01.04
FOOD PRODUCTS: 01.0401
ILLINOIS

IDENTIFICATION OF BEEF CUTS (SLIDEFILM 183A). 1971, $4.65.

This is a color, single-frame slidefilm of 52 frames. It illustrates the different cuts of beef and presents means of identifying them.

IDENTIFICATION OF KINDS OF MEAT (SLIDEFILM 181A). 1971, $2.65.

This color, single-frame slidefilm of 24 frames presents differences between beef, pork, lamb, and veal that help in identifying meat by species.

IDENTIFICATION OF LAMB CUTS (SLIDEFILM 185A). 1971, $3.15.

This is a color, single-frame slidefilm of 30 frames. It illustrates the different cuts of lamb and presents means of identifying them.

IDENTIFICATION OF PORK CUTS (SLIDEFILM 182A). 1971, $4.20.

This color, single-frame slidefilm of 46 frames illustrates the different cuts of pork and presents means of identifying them.

A MARKET FOR YOUR PRODUCT (SLIDEFILM 385). 1973, 44 frames--color, $3.20.

MARKETING AGRICULTURAL PRODUCTS. 1971 (Revised), 8 pages, $.12.

Information in this packet includes factors affecting supply and demand, marketing functions, and marketing information.

MEAT-JUDGING AND GRADING (SECOND REVISION): Student's Guide. 1970, 27 pages, $.35.

The guide points out that meat is evaluated on the basis of these major criteria: conformation, finish, and quality. Factors to consider in judging beef carcasses are set forth clearly in the guide. Meat cuts and their identification are discussed in the publication as well.

OHIO

POULTRY JUDGING. 1970, 22 pages; $.35.

The pamphlet describes the poultry judging contest, procedures for preparing a poultry judging team, the characteristics of poultry and eggs, and the terms used in working with poultry.

TEXAS (A&M)

VETERINARY ASSISTANT. Course of Study. 1972 (Revised), 467 pages, $9.60.

Designed for the student enrolled in the Agricultural Cooperative Part-Time Training Program, the content consists of 15 units of instruction subdivided into 89 topics. The topic materials are organized as assignment sheets, information sheets, and topic test sheets. Answer sheets are provided for questions and problems listed on assignment and topic test sheets. References are included.

DAIRY PRODUCTS: 01.040102

ILLINOIS

APPROVED PRACTICES FOR DAIRY. 1973 (Revised), 4 pages, $.06.

This packet contains information on approved practices in dairying from selecting the cow to analyzing the records.

APPROVED PRACTICES FOR DAIRY. Student's Guide. 1973, 4 pages, $.06.

Items covered in this leaflet follow the format shown above. Emphasis is given to keeping and using records.

BREEDS OF DAIRY CATTLE (SLIDEFILM 210). 1972, 35 frames--color, $2.75.

CATTLE TRANSPARENCIES. 1973 (Revised), 63 transparencies, $5.15.

THE COW'S UDDER AND HOW IT FUNCTIONS (SLIDEFILM 208A). 1968, $3.15.

This is a color, single-frame slidefilm of 52 frames. It illustrates and explains the functions of the various parts of the cow's udder, explains the way the cow lets down her milk, and what happens to milk letdown when a cow is frightened or injured.

DAIRY CATTLE BREEDS. 1972, 12 pages, $.18.

This information pamphlet contains history, characteristics, and description of the breeds of dairy cattle. It also contains pictures of the ideal type of each breed.

DAIRY CATTLE FEEDING. Student's Guide. 1968, 12 pages, $.18.

The leaflet points out that in addition to good feeding, other management practices are necessary to obtain the best results from the dairy herd. These other management practices are included in the publication along with the nutrients comprising good dairy cattle feed.

JUDGING DAIRY CATTLE. Student's Guide. 1969, 14 pages, $.25.

This guide provides the basic information for judging dairy cattle. It is well illustrated and contains a dairy cow score card that is very helpful to the amateur judge. The card emphasizes general appearance, dairy character, body capacity, and mammary system of the animal.

MARKETING DAIRY PRODUCTS. 1971 (Revised), 8 pages, $.12.

This packet contains information on uses of milk, need in the U.S., marketing, government regulations, and outlook for dairying.

MISSOURI

ADVANCED (SEMESTER) DAIRY PRODUCTION. 1972, 119 pages, $5.50.

The materials have been organized into two units which may be taught independently or in sequence as a part of the course Advanced Livestock

Production. This guide contains objectives, subject information in outline form, and transparency masters.

DIGESTION IN THE DAIRY COW. 1973, slides with programmed cassette tape and script, $27.75 plus postage and handling.

The set contains 106 2 X 2-inch color slides with cassette tape and script. The series covers the complete digestive process with explanations of what the dairy cow needs to produce more milk. It is available in quantity from source.

JUDGING DAIRY CATTLE. 1973, 68 slides, cassette tape, and script, $18.25 plus postage and handling.

The set contains 68 2 X 2-inch color slides with cassette tape and script. The series covers the basic characteristics which must be considered in judging the dairy cow. It is available in quantity from source.

MILK QUALITY AND DAIRY FOODS CONTEST. 1973, 85 slides, $25.00 plus postage and handling.

One can enrich one's dairy products team with the new series of color slides of FFA Milk Quality and Dairy Foods Contest. Dr. Bob Marshall and his colleagues at the University of Missouri have developed a series of 85 slides with a 30-minute cassette tape to cover all the phases of the National FFA Milk Quality and Dairy Foods Contest. Also the series covers new contest phases such as cheese identification as well as hints on exams. It is available in quantity from source.

TEXAS (A&M)

DAIRY FARM WORKER. Course of Study. 1971 (Revised), 240 pages, $5.90.

Designed for the student enrolled in the Agricultural Cooperative Part-Time Training Program, the content consists of 9 units of instruction subdivided into 56 topics. The topic materials are organized as assignment sheets, information sheets, and topic test sheets. Answer sheets are provided for questions and problems. References are included.

MILK PROCESSING PLANT EMPLOYEE. Course of Study. 1970 (Revised), 325 pages, $7.05.

Designed for the student enrolled in the Agricultural Cooperative Part-Time Training Program, the content consists of 11 units of instruction subdivided into 84 topics. The topic materials are organized to include assignment sheets, information sheets, and topic test sheets. Answer sheets are provided for questions and problems. References are included.

AGRICULTURAL PRODUCTS, OTHER: 01.0499

ALABAMA

AGRICULTURAL PRODUCTS. Student's Guide. 1970, 125 pages, $1.50. pp.

Prepared for specialized study in agribusiness at the 11th and 12th grades, the guide contains 21 jobs. Much of the content deals with processing farm products and the techniques of marketing.

ORNAMENTAL HORTICULTURE: 01.05

NEW YORK

ORNAMENTAL HORTICULTURE. Teacher's Guide. 1968, 63 pages, $.50.

This guide for planning and organizing an occupational program in ornamental horticulture includes information about the production and distribution of plants used to decorate both indoors and outdoors. It deals with flowers, bulbs, shrubs, ornamental trees, lawn grasses, house plants, and many more horticultural topics. Helpful suggestions are also given in planning facilities, selecting equipment, and in choosing instructional materials.

OHIO

VOCATIONAL HORTICULTURE RECORD SYSTEM. This system consists of the following three parts:

VOCATIONAL HORTICULTURE RECORD. 19 pages, $3.50.

This is a record book for the supervised occupational experience programs of vocational horticulture students. The book provides for the establishment of student occupational goals in horticulture, a record of in-school activities, improvement projects, occupational experience activities, cooperative training agreement, summaries of the learning experiences and financial activities, and evaluation of the student's occupational experience program.

SUPPLEMENT TO VOCATIONAL HORTICULTURE RECORD. 23 pages, $.30.

The supplement reproduces the cooperative training agreement and that part of the record book dealing with the cooperative occupational experience program. It is for those students who elect more than one occupational training program and will eliminate the need for purchasing and keeping a second record book.

COOPERATIVE HORTICULTURE TRAINING AGREEMENT. 2 pages, $.05.

The training agreement contained in the record book and supplement has been reproduced so that students may provide additional copies for their parents and employers.

TEXAS (A&M)

ORNAMENTAL HORTICULTURE OCCUPATIONS. Course of Study. 1973 (Revised), 388 pages, $8.00.

This course of study is designed for students enrolled in the Agricultural Cooperative Part-Time Training Program. The content consists of 12 units of instruction subdivided into 81 topics. The topic materials are organized as assignment sheets, information sheets, and topic test sheets. Answer sheets are provided for questions and problems. References are included.

ARBORICULTURE: 01.0501

ILLINOIS

FERTILIZING AND WATERING SHADE AND ORNAMENTAL TREES (SLIDEFILM 640). 1969, $3.15.

This is a color, single-frame slidefilm of 48 frames with captions. It gives basic

information on fertilizing and watering shade and ornamental trees. It emphasizes the establishment and maintenance of small trees.

PRUNING DECIDUOUS SHRUBS (SLIDEFILM 644). 1973, 45 frames--color, $3.25.

STUDY GUIDE FOR PRUNING DECIDUOUS SHRUBS. 1973, 8 pages, $.20.

This is a script of a color slidefilm of 41 frames and contains detailed information and examples for pruning deciduous shrubs. It can also be used as an individual student study guide.

PRUNING EVERGREENS (SLIDEFILM 643). 1973, 79 frames--color, $4.35.

STUDY GUIDE FOR PRUNING EVERGREENS. 1973, 15 pages, $.25.

This is a script of a color slidefilm of 79 frames and contains information on the method of pruning evergreens. This can also be used as an individual student study guide.

PRUNING FLOWERING TREES (SLIDEFILM 645). 1973, 46 frames--color, $3.30.

STUDY GUIDE FOR PRUNING FLOWERING TREES. 1973, 8 pages, $.20.

This is the script of a color slidefilm of 40 frames. It contains detailed information and examples on ways to prune flowering trees. It can also be used as an individual student study guide.

PRUNING SHADE TREES. Student's Guide. 1967, 8 pages, $.12.

Excellent tree pruning is an art. Properly done, pruning increases the vigor of the trees; done to excess, it can cause stunting. The content of this guide is helpful in understanding the art of pruning.

SELECTING TREES FOR HOME PLANTING. Student's Guide. 1967, 40 pages, $.60.

The well-illustrated content of the guide helps the student to identify factors to consider when buying trees and the care needed in selection of the right species to accomplish given results.

TRANSPLANTING SHADE TREES. Student's Guide. 1967, 12 pages, $.18.

The content provides help in preparing trees for moving and planting and protecting trees that have been transplanted.

TREE AND SHRUB INSECTS AND THEIR CONTROL. 1971 (Revised), 36 pages, $.54.

This packet contains information such as facts about insects, description of pests, and control measures for insects of trees and shrubs.

OHIO

FLOWERING SHRUBS. 1972, 14.00.

Composed of 84 color slides and illustrated script, this series of slides is not intended to be a complete compilation of all available flowering shrubs. Most of the plants shown are rather common with a few that are not used as often. The slides include the characteristics for identification such as leaf, flower, fruit, fall color (if worthy of mention), and the winter dormant bud. The series is designed to help the horticulture instructor in the classroom when actual plants are not available or are out of season.

SHRUBS FOR LANDSCAPING, IDENTIFICATION, CULTURE, USE. 1972 (Revised), 110 pages, $2.55.

The publication is designed to provide a simple key for 32 shrubs commonly used for landscaping in Ohio. The shrubs included in the key have been selected on the basis of their recommended use in Ohio.

TREES FOR LANDSCAPING, IDENTIFICATION, CULTURE, USE. 1972 (Revised), 76 pages, $2.10.

The publication is designed to provide a simple key for 20 trees commonly used for landscaping in Ohio. The trees included in the key were selected on the basis of their recommended use in Ohio.

FLORICULTURE: 01.0502

ILLINOIS

ARRANGING FLOWERS IN VASES AND BOWLS. Student's Guide. 1969, 20 pages, $.30.

This interesting booklet helps consider plant materials, tools used in arranging flowers, containers, flower arrangements, and ways to design arrangements.

BUYING BEDDING PLANTS. Student's Guide. 1969, 20 pages, $.30.

This helpful booklet answers such questions as whether to buy plants or grow one's own, what varieties to select, and ways to care for bedding plants.

FOLIAGE PLANT IDENTIFICATION - PART I (SLIDEFILM 610). 1969, $3.20.

This color, single-frame slidefilm of 49 frames shows 30 foliage plants which are commonly found in the home. It includes common and scientific names, descriptive information, use, and code indicating ideal growing conditions.

FOLIAGE PLANT IDENTIFICATION - PART I: PRACTICE SET (SLIDEFILM 610 SUPPLEMENT). 1969, $2.85.

This is a color, single-frame slidefilm of 39 frames. It presents a set of pictures of foliage plants for use in practice work in teaching students to identify plants. It supplements the filmstrip entitled "Foliage Plant Identification, Part I."

FOLIAGE PLANT IDENTIFICATION - PART II (SLIDEFILM 611). 1969, $3.20.

This is a color, single-frame slidefilm of 49 frames with captions which shows 30 foliage plants which are commonly found in the home. It includes common and scientific names, descriptive information, use, and code indicating ideal growing conditions.

FOLIAGE PLANT IDENTIFICATION - PART II: PRACTICE SET (FILMSTRIP 611 SUPPLEMENT). 1969, $2.85.

This is a color, single-frame slidefilm of 39 frames. It presents a set of pictures of foliage plants for use in practice work in teaching students to identify plants. It supplements the filmstrip entitled "Foliage Plant Identification, Part II."

FOLIAGE PLANT IDENTIFICATION - PART III (SLIDEFILM 612). 1970, $3.35.

This color, single-frame slidefilm of 55 frames with captions shows 30 foliage plants which are commonly found in the home. It includes common and scientific names, descriptive information, use, and code indicating ideal growing conditions.

GARDEN FLOWERS: ANNUAL, PART I (SLIDEFILM 601). 1969, $3.20.

This is a color, single-frame slidefilm of 50 frames which illustrates common annuals, giving their scientific names, normal height range, uses, and flower colors.

GARDEN FLOWERS: ANNUAL, PART II (SLIDEFILM 602). 1970, $3.20.

This color, single-frame slidefilm of 50 frames illustrates common annuals, giving their scientific names, normal height range, uses, and flower colors.

GROWING LILIES. 1971, 20 pages, $.30.

Information contained in this packet includes propagating lilies, trimming lilies for Easter, care of lilies, and growing garden lilies.

POINSETTIAS - CARE AND PROPAGATION. Student's Guide. 1970, 8 pages, $.12.

The care of Christmas poinsettias is covered in this leaflet. The after-Christmas care and the starting of new plants is discussed in the guide also.

PRACTICE SET FOR FOLIAGE PLANT IDENTIFICATION (SLIDEFILM 612 SUPPLEMENT). 1970, $2.85.

This is a color, single-frame slidefilm of 39 frames without script. It presents a set of pictures of foliage plants and could be used for testing or practice work in teaching students to identify plants. It supplements the filmstrip entitled "Foliage Plant Identification, Part III."

PRODUCING POINSETTIAS COMMERCIALLY. Student's Guide. 1970, 12 pages, $.18.

Because poinsettias are the major potted plants grown for Christmas, they have tremendous economic importance. The varieties, planting practices, and similar topics for success in growing these plants are covered in the text material.

OHIO

DESIGNING WITH FLOWERS AND DECORATIVE MATERIALS. $10.50.

This series of 63 color slides and script briefly illustrates ways 5 of the most popular floral designs may be constructed. The designs illustrated are the horizontal, vertical, symmetrical, triangle, asymmetrical triangle, and the right triangle. The series is not a complete coverage of the subject but should provide assistance for the beginner.

GERANIUM. 1970, $4.95.

This series of 30 color slides and illustrated script includes the following sections: geranium varieties, geranium propagation, geranium potting, geranium commercial production, and geranium uses. The slides may be used when working with the geranium in the school greenhouse or with the student's occupational experience program.

POINSETTIA. 1971, $7.50.

This series of 43 color slides and illustrated script includes the following sections: sex of flower, varieties, propagation, potting, photoperiodism, and commercial production. The slides may be used when working with the poinsettia in the school greenhouse or with the student's occupational experience program.

VIBURNUM. 1972, $7.85.

Consisting of 48 color slides and illustrated script, the series shows 14 of more than 90 species and varieties of the viburnums which are grown in landscapes and are readily available in nurseries. An overall view of the plant is shown along with the flowers, fruit, and dormant winter twig.

GREENHOUSE OPERATION AND MANAGEMENT: 01.0503

ILLINOIS

GREENHOUSES - USES AND DESIGN (SLIDEFILM 680). 1972, 44 frames--color, $3.00.

GROWING PLANTS INDOORS. Student's Guide. 1968, 12 pages, $.18.

This guide points out that the selection of plants for indoor landscaping is dependent upon environment. One approaches the problem in two ways: (1) select the plant to suit the environment, or (2) change the environment to suit the plant selected.

PLANNING AND OPERATING A GARDEN CENTER. Student's Guide. 1970, 24 pages, $.36.

This guide describes garden centers, gives information about selecting a suitable location, provides insights into marketing strategy, and indicates the records that must be kept for successful operation of a center.

PROPAGATION BY AIR LAYERING (SLIDEFILM 600). 1968, $2.55.

This is a color, single-frame slidefilm of 29 frames. Air layering is a common method used in horticulture to produce new plants from a stem or branch which remains in position on the parent plant while rooting. It is used to increase choice shrubs, trees, and plants which are difficult to root by cuttings or other means.

HOOSIER VOCATIONAL HORTICULTURE GREENHOUSE. 1967, 50 pages, $.75, 11th and 12th grade.

This is a study guide which is divided into modules on exploring greenhouse occupational opportunities, the greenhouse facility, greenhouse growing media, greenhouse environment, greenhouse pests, greenhouse diseases, propagating plants in the greenhouse, producing desired quality greenhouse crops, and keeping greenhouse records. Each module contains one, two, or three lessons. Each lesson has the objective, discussion questions, references, and special learning activities.

OHIO

THE GARDEN CENTER WORKER. 1971, 140 pages, $2.50.

This student reference manual deals with orientation in the garden center, business practices, selling, plant identification, care of plants in the garden center, and other products offered for sale by garden centers.

WATERING AND FEEDING. 1968, $3.95.

This series of 24 color slides and script explains the automatic injection of fertilizer into the waterlines to fertilize greenhouse crops at the time of watering.

TEXAS (A&M)

ELECTRICAL APPLICATIONS FOR GREENHOUSES. Instructor's Guide, 1967, 65 pages, $1.45.

The content of this resource material for lesson plans in greenhouse management is divided into 9 lessons which are subdivided into 52 topics. In addition, there is included some electrical tables, electrical diagrams, a bibliography, addresses of state extension services, and a list of suggested references.

ERECTING AND MANAGING THE GREENHOUSE IN THE VOCATIONAL AGRICULTURE PROGRAM. Resource Material. 1967, 29 pages, $.70.

For reference use of students and teachers, this content is divided into 17 sections. Each section presents pertinent material concerned with the greenhouse--its erection and management.

LANDSCAPING: 01.0504

ILLINOIS

LANDSCAPING - DO'S AND DON'TS (SLIDEFILM 642). 1972, 80 frames-color, $4.60.

LANDSCAPE PLANNING AND BED PREPARATION TRANSPARENCIES. 1973, 30 transparencies, $2.50.

STUDY GUIDE FOR GROUND COVERS AND THEIR USES. 1973, 12 pages, $.25.

This is the script of a color slidefilm of 59 frames. It contains information on ground covers and their uses. It also provides an example of where each type of cover can be used effectively. This can also be used as an individual student study guide.

STUDY GUIDE FOR LANDSCAPING - DO'S AND DON'TS. 1972, 16 pages, $.25.

This is the script of a color slidefilm of 87 frames and contains detailed information on the do's and don'ts of landscaping. This can also be used as an individual student study guide.

OHIO

BUSINESS PRINCIPLES OF LANDSCAPE SERVICE ORGANIZATIONS. 1972, student manual, 85 pages, $2.50, teacher's manual, 19 pages, $1.00.

The student manual contains a description of the organization of a landscape service including the business forms used to complete a landscaping job from the first call through the billing procedure for final payment. A problem to provide students with practice is included. The teacher's manual provides suggested solutions for the student practical exercise.

COMMONLY USED TREES, SHRUBS, GROUNDCOVERS, AND VINES. $8.60.

This series of 52 color slides and script illustrates selected ornamental plants that may be used in landscaping. Some slides of materials which are more applicable to Ohio conditions are included.

LANDSCAPING THE HOME GROUNDS. 1969, $21.00 for slides and script; script only, $1.25.

This series of 130 color slides and illustrated script is arranged in four sections: introduction to design, 24 slides; site analysis, 26 slides; the public area, 40 slides; and the private area, 40 slides. The series is composed of pictures of actual situations and of art work to illustrate concepts of landscaping.

SOUTH CAROLINA

LANDSCAPING YOUR HOME. Teacher's Guide. 1968, 80 pages, $1.50.

Improving the home and school grounds is an area of instruction in which a majority of the students can participate. The guide contains five sections including planning for landscape improvement, plant propagation, establishing shrubs, maintaining shrubs, and the establishment and maintenance of lawns.

LANDSCAPING YOUR HOME. Teacher's Resource. 1970, 40 transparencies and paper copies, $4.50.

The transparencies in this set are designed for use with the teacher's guide dealing with landscaping. The paper copies are useful in preparing worksheets, tests, bulletin board materials, and similar activities.

*Note: All transparencies are unframed and printed on the offset press on 8 1/2 x 11-inch three Mil Trycite, a Dow Chemical Company clear plastic product.

NURSERY OPERATION AND MANAGEMENT: 01.0505

INDIANA

HOOSIER VOCATIONAL HORTICULTURE NURSERY. 1967, 50 pages, $.75, 11th and 12th grades.

This study guide is divided into modules which in turn are divided into lessons. Each lesson contains the objective, discussion questions, references, and special learning activities. Modules contained in this guide are: nursery business operation; propagation of nursery stock; harvesting, packing, and marketing nursery stock; and planting and growing nursery stock.

OHIO

THE NURSERY WORKER - PART I: BASIC PLANT AND SOIL SCIENCE. (Part I of two parts). 1973 (Revised), 148 pages, $1.95.

This student reference manual provides basic information required by nursery workers. Part I is divided into the following sections: introduction to the nursery industry, soils, identification and characteristics of ornamental plants, plant growth, and plant nutrients. Each section lists the behavioral objectives that are developed within the section. Horticultural teachers, nurserymen, and horticultural specialists were consulted by the author in determining the objectives and subject matter content.

THE NURSERY WORKER - PART II: NURSERY PRACTICES. (Part II of two parts). 1971, 180 pages, $1.95.

This student reference manual deals with practices performed by nursery workers. Part II is divided into the following sections: methods of plant propagation, nursery field practices, controlling pests, marketing nursery stock, and keeping records and accounts. Each section lists the behavioral objectives that are developed within the section. Horticultural teachers, nurserymen, and horticultural specialists were consulted by the author in determining the objectives and subject matter content.

TURF MANAGEMENT: 01.0506

ILLINOIS

BALLING AND BURLAPPING TREES AND SHRUBS (SLIDEFILM 641). 1971, 65 frames--color, $3.70.

ESTABLISHING A LAWN. Student's Guide. 1969, 8 pages, $.12.

Discussed in this guide are such areas of lawn care as preparation of the soil, grasses, seeding practices, care in establishing a lawn, and some other aspects.

GRAIN FUTURES TRANSPARENCIES. 1972, 49 transparencies, $4.00.

GROUND COVERS AND THEIR USES (SLIDEFILM 646). 1973, 60 frames--color, $3.75.

HOW HERBICIDES WORK TRANSPARENCIES. 1972, 46 transparencies, $3.75.

LAWN WEEDS - IDENTIFICATION AND CONTROL (SLIDEFILM 650). 1973, 39 frames--color, $3.05.

STUDY GUIDE FOR LAWN WEEDS - IDENTIFICATION AND CONTROL. 1973, 8 pages, .S.20.

This is the script of a color slide film of 35 frames which provides information on identification and controlling lawn weeds. It can also be used as an individual student study guide.

STEPS TO A BETTER LAWN (SLIDEFILM 651). 1973, 69 frames--color, $4.05.

STUDY GUIDE FOR STEPS TO A BETTER LAWN. 1973, 13 pages, $.25.

This is the script of a color slidefilm of 64 frames. It contains information on selecting the right grass, seeding, and fertilizing a lawn as well as information on controlling weeds and diseases. It can also be used as an individual student study guide.

TURFGRASS DISEASES AND THEIR CONTROL. 1973, 28 pages, $.42.

Information contained in this packet includes control of turfgrass diseases such as helminthasporium leaf, crown, and root diseases; dollar spot powdery mildew; fairy rings; snow molds; fusorium blight; slime mold; and leaf smuts.

WEED CONTROL TRANSPARENCIES. 1972, 45 transparencies, $3.70.

OHIO

EXPLORING TURFGRASS OCCUPATIONS. 1968, $4.60.

This is a series of 28 color slides and script illustrating the jobs that are available in the areas of turfgrass establishment and maintenance. Some slides which are more applicable to Ohio conditions are included.

LAWN CARE AND MANAGEMENT. 1972 (Revised), $7.75.

This is a series of 46 color slides and illustrated script dealing with the following areas of lawn management: seed selection, seeding, fertilizing, mowing, weed control, disease control, watering, and thatch control.

LAWN WEED IDENTIFICATION. $6.45.

This is a series of 39 color slides and script illustrating weeds commonly found in lawns. Control measures are suggested in the script.

TURF MANAGEMENT. 1973, 109 pages, $3.00.

This student manual provides knowledge and skills required for entering employment in the turfgrass industry. Sections of the manual include: soil for turf, drainage for turf, turfgrass species and varieties, turf propagation, and turf maintenance.

TYPES OF TURF. 1968, $2.80.

This series of 17 color slides and script illustrates the uses of different kinds of turf. Settings of home and industrial sites, athletic fields, playgrounds, highway right-of-way, and other sites are shown. Four Pennsylvania slides that were not suitable to Ohio conditions were replaced by other slides.

ORNAMENTAL HORTICULTURE, OTHER: 01.0599

ALABAMA

ORNAMENTAL HORTICULTURE FOR VOCATIONAL AGRICULTURE IN ALABAMA. Student's Guide. 1970, 349 pages, mimeo, $2.50 pp.

This reference is for the student who wants to study ornamental horticulture and for the teacher who wants to teach it. There are 11 major divisions within the text dealing with such areas as identifying plants, plant propagation, floral crop production, nursing plant production, merchandising plants and supplies, and lawn and turf care.

NEW MEXICO

A SUGGESTED COURSE OF STUDY FOR VOCATIONAL HORTICULTURE OCCUPATION IN NEW MEXICO. Course Outline. 1970, 13 pages, mimeo, free.

The booklet contains a suggested three-year course outline for preparing secondary students for general employment in ornamental horticulture.

VERMONT

COURSE OF STUDY IN ORNAMENTAL HORTICULTURE. 1971, 15 pages, free.

This suggested course outline contains topics for teaching ornamental horticulture and gives the suggested time to teach each topic.

AGRICULTURAL RESOURCES (CONSERVATION, UTILIZATION, AND SERVICES): 01.06

ILLINOIS

STUDY GUIDE FOR AGRICULTURE AND THE ECOSYSTEM. 1973, 8 pages, $.20.

This is a slidefilm of 47 frames. It contains information on ecology and ways it fits into agriculture. This should be used primarily with nonfarm audiences. It can also be used as an individual student study guide.

STUDY GUIDE FOR AGRICULTURE AND THE ENVIRONMENT. 1972, 12 pages, $.25.

This is a color slidefilm of 67 frames. It contains information on agriculture and its pollution problems. It can also be used as an individual student study guide.

OHIO

INTRODUCTION TO ENVIRONMENTAL PROTECTION. 1972, 108 pages, $3.00.

This is a student reference prepared as an introduction for the two-year environmental management program in water treatment operation, wastewater treatment operation, and air pollution inspection. However, the unit could be used with high school students interested in pollution problems that are present in the environment and would assist them in determining ways these problems may be solved. This unit is not meant as a complete environmental text, but as a source of information to develop student interest in the various areas of environmental protection. Suggested experiments are included to provide students with a greater understanding of the problems that exist in the environment today.

OCCUPATIONAL OPPORTUNITIES IN ENVIRONMENTAL MANAGEMENT. 1972, 48 pages, $1.60.

This student reference was prepared as an introduction to the careers available to high school graduates in environmental management. The careers include: wastewater treatment operator, water treatment operator, air pollution inspector, solid waste managers, and soil conservation technicians. The unit is designed to provide the student with an awareness of the job opportunities and the nature of the work in the above mentioned occupations.

VIRGINIA

NATURAL RESOURCES MANAGEMENT: A CURRICULUM FOR AGRICULTURAL EDUCATION. 1972, 57 pages, $.35.

This is a curriculum guide which provides suggestions for instruction for 180 periods. The guide requires additional materials.

FORESTS: 01.0601

MAINE

FORESTRY CONSERVATION RECREATION CURRICULUM GUIDE. 1973, 38 pages.

This is a curriculum guide for high school students interested in forestry occupations. It contains units on tree identification, mapping, measurements, diseases, insects, and others that prepare students for entry level jobs in the forestry, conservation, and recreation areas.

OREGON

FOREST PRODUCTS. 1972, 198 pages, $2.50.

This is a curriculum guide which uses the cluster approach to teach jobs in forestry and relates the jobs in the D.O.T. to the actual work situation.

VERMONT

SUGGESTED COURSE OF STUDY FORESTRY, CONSERVATION, AND OUTDOOR RECREATION. 1970, 15 pages, free.

This course outline of study is designed for a two-year program. It contains suggested topics and time to teach each topic. This manual is nonbehavioral in format.

RECREATION: 01.0602
ILLINOIS

OUTDOOR RECREATION. 1973, 20 pages, $.15.

This is a record book for students in an outdoor recreation program.

SOIL: 01.0603
ILLINOIS

COLLECTING AND PREPARING SOIL SAMPLES FOR TESTING (SLIDEFILM 703-64). 1964, $.95.

This is a black and white, single-frame slidefilm of 31 frames. It lists the equipment needed for taking soil samples and explains ways to take samples and prepare them for testing.

DETERMINING PROBABLE SOIL LOSSES. 1973, 16 pages, $.24.

Information in this packet includes the soil loss equation, soil map, and examples of the soil loss prediction equation.

NITRATES IN WATER SUPPLIES, FIELD CROPS, AND RUMINANT NUTRITION. Student's Guide. 1970, 12 pages, $.18.

The content deals with nitrates. It covers such topics as nitrate lost in water, ways plants take in nitrates, reducing the danger of nitrates, safety in well water, and water supply protection.

SOIL COLOR (SLIDEFILM 708). 1964, $3.10.

This color, single-frame slidefilm of 47 frames with captions discusses the way soil color helps to determine how to use and manage different soil types. The slidefilm considers native vegetation, drainage, amount of organic matter, and other factors that affect soil color.

SOIL SCIENCE TRANSPARENCIES. 1971, 32 transparencies, $2.65.

STUDY GUIDE FOR EROSION, SEDIMENTATION, AND ENVIRONMENTAL QUALITY. 1973, 7 pages, $.20.

This is a color slidefilm of 36 frames. It contains information prepared primarily for use with nonfarm audiences to acquaint them with food production problems and possible solutions as they relate to the environment. It can also be used as an individual student study guide.

STUDY GUIDE FOR VEGETATION CONTROL AS AN AID TO ENVIRONMENTAL QUALITY. 1973, 12 pages, $.25.

This is a slide film of 73 frames. It contains information on controlling vegetation as an aid to environmental quality. This should be used primarily with nonfarm audiences. It can also be used as an individual student study guide.

MISSOURI

SOIL EROSION AND SEDIMENT POLLUTION CONTROL. Instructor's Guide. 1973, 164 pages, $7.50 plus postage and handling, 11th and 12th grade and post secondary.

This course was developed to provide information on surveying and soil erosion control for upper class high school and post high school vocational students. The materials have been organized into 13 units: surveying; man and the land; water erosion, rainfall and run-off; grassed waterways; underground outlets; terraces; diversions and cross-slope channels; farm ponds; soil and water conservation structures, planning agricultural systems, urban development-erosion control; and wind erosion. Accompanying the units are 78 transparencies and handouts. This guide contains behavioral objectives and is in outline form.

OHIO

CONSERVATION AIDE. 1972.

This is a series of five publications designed for the student placed with the local Soil and Water Conservation office. The publications contain technical information and guide the student to other references contained in the local Soil and Water Conservation office. They also provide the student with practical exercises with space provided for student response. Thus, the publications serve as both a reference and workbook. Individual publications may have applications in other parts of the Agricultural Education Program. The individual publication titles, number of pages, and prices are as follows:

I. SOIL AND WATER-CONSERVATION: WHAT, WHY, AND HOW. 30 pages, $.50.
II. DEFINING SOILS AND WATERSHEDS. 42 pages, $.75.
III. WHAT ARE THE RESPONSIBILITIES OF A SOIL AND WATER DISTRICT EMPLOYEE. 62 pages, $1.10.
IV. SURVEYING. 70 pages, $1.25.
V. ENGINEERING CONSERVATION STRUCTURES AND PRACTICES. 62 pages, $1.00.

SOIL AND ITS PROPERTIES. 1971, $10.75.

Comprised of 64 color slides and illustrated script, the series is designed for use in courses requiring a basic knowledge of soils. The series first deals with the dependence on the soil for one's living and the various persons requiring a knowledge of soil properties in carrying out their work. The remainder of the series deals with the following soil property areas: soil horizons, soil color and drainage, soil texture, soil structure, and soil moisture. The series should be valuable for students in production agriculture, agricultural conservation education, horticulture, agricultural mechanics, and conservation aide programs.

WILDLIFE: 01.0604

ILLINOIS

FISH AND WILDLIFE MANAGEMENT. 1973, 20 pages, $.15.

This is a record book for students in a fish and wildlife management program.

FISH: 01.0607

MISSISSIPPI

CATFISH FARMING. Teacher's Guide. 1971, 108 pages, $2.00.

Designed for use by the secondary teacher, the guide is written so that a knowledge of fishery biology will not be required. Students may also use the publication in organized classes. In addition to an introduction, the content is divided into 11 jobs having such titles as determining the possibilities of catfish farming; constructing ponds; growing food catfish; and harvesting, marketing, and processing fish products.

FORESTRY (PRODUCTION, PROCESSING, MANAGEMENT, MARKETING, AND SERVICES): 01.07

ILLINOIS

FORESTRY MANAGEMENT. 1973, 20 pages, $.15.

This is a record book designed for students in a forestry management program.

WOOD UTILIZATION: 01.0704

OHIO

RELATIONSHIP OF HARDWOOD LOG AND LUMBER GRADES. 1968, $9.25.

This series of 58 slides and script was prepared by the U.S. Forest Service, Northeastern Area. This slide series is designed to show the relationship that exists between the National Hardwood Lumber Association Rules for the Measurement and Inspection of Hardwood Lumber and the U.S. Forest Service Grading Rules for Factory Grade Hardwood Logs. The series is divided into three sections: basic lumber grading terms and rules that need to be understood before discussing the relationship of log and lumber grades; grading of the log face; and example slabs and jacket boards to establish the relationship.

AGRICULTURE, OTHER: 01.99

ILLINOIS

APPLYING FOR A JOB (SLIDEFILM 390). 1971, $3.35.

This 54-frame color slidefilm illustrates the following aspects of applying for a job: deciding on the kind of job, taking a personal inventory, getting additional training, finding out what jobs are available, writing a letter of application, and interviewing with a prospective employer.

A GUIDE TO PARLIAMENTARY PRACTICES (REVISED). Student's Guide. 1969, 44 pages, $.50.

The guide is a condensed version of parliamentary procedure aimed at high school level students. It contains much helpful information from obtaining the floor through all the rules of order.

INDIANA

FARM FIRE SAFETY FOR VOCATIONAL AGRICULTURE INSTRUCTION. 1973, 49 pages, $.50.

This material contains the following units: safeguarding one's farm again fire, farmstead fire hazard check list, classification of fire extinguishers, safe usage of flammable liquids and gases, lightning protection, and fire alarms and fire detection systems for home and farm use. This material also contains an inspection report form.

NEW JERSEY

MATHEMATICS FOR AGRICULTURE. 1972, 190 pages, $2.50.

This is a curriculum manual designed to teach math to agricultural students by using everyday types of problems facing the farmer. It contains objectives for each job. It includes all the arithmetic processes that a farmer or nurseryman would need to master in the course of his career. Units on whole numbers, fractions, decimals, ratio and proportion, percentage, measurement (linear, square, cubic), weights and measures (dry and liquid), square root, and interest are included. Also included is a brief discussion of the metric system. The appendix contains 13 pages of tables of useful information. All of the text and all word problems relate to farming and landscaping. The annual is illustrated with humorous cartoons. Included are 14 tests.

NEW MEXICO

MANUAL FOR OPERATION OF AGRICULTURE EDUCATION PROGRAMS. Supervisor's Manual. 1971, 7 pages, mimeo, free.

This manual was designed for use as a guide for agricultural education supervisors in New Mexico. It lists agricultural forms and reports and available materials for use in teaching agricultural subjects.

A SUGGESTED COURSE OF STUDY FOR AGRICULTURAL WORK-EXPERIENCE PROGRAM IN NEW MEXICO. Course Outline. 1970, 12 pages, mimeo, free.

This booklet contains a suggested course outline for use in an agricultural work-experience program.

NEW YORK

LEADERSHIP TRAINING MANUAL. Teacher's Resource. (Cooperative Training.) 1968, 150 pages, $1.00.

The manual presents concise information which will enable members of F.F.A. chapters and their advisors to plan and conduct effective F.F.A. meetings.

OHIO

AGRIBUSINESS, IS IT FOR ME? 1971, 15 pages, 1-10 copies, $.25 each; 11-49 copies, $.20 each; and 50 or more copies, $.15 each.

This brochure is for use in presenting the agribusiness program to new and prospective students and their parents. It defines the program and the role of the student, the parents, the school, and the employer.

AGRICULTURAL WORK EXPERIENCE UNITS. This series of short individual student manuals is written in the language used by students with special needs. The series is now under development with ten titles presently being available.

AWE - A VOCATIONAL EDUCATION PROGRAM WITH A SPECIAL ACCENT. 1971, $4.75.

This series of 28 color slides and script depicts the developmental stages and highlights of a well-operated AWE program.

BUDGETING AND SPENDING, AWE 6. 1971, 20 pages, $.30.

Looking at money management, the procedures in developing a budget, and suggestions for good spending are topics included in the booklet. Sample budgets are provided with forms included for the student to prepare his own budget.

BUILDING AN INSURANCE PROGRAM, AWE 9. 1973, 26 pages, $.30.

The booklet describes the purpose of insurance. It provides assistance in planning an insurance program and includes sections on life insurance, automobile insurance, property and liability insurance, and health insurance.

CREDIT, AWE 4. 1971, 26 pages, $.30.

Identifying sources of credit in the student's home community, applying for credit, using credit cards, and reading credit statements are topics included in the booklet. Taking a look at the cost of credit, the student is provided with expetience in completing the forms he will encounter in applying for credit.

DECIDING ON AND LOCATING YOUR KIND OF JOB, AWE 1. 1971, 15 pages, $.30.

The content includes looking at job possibilities, ways of finding out more about jobs, and conducting self-inventories. A combination student reference and workbook, it contains samples of many forms the student will encounter when looking for a job.

GETTING ALONG ON YOUR JOB, AWE 10. 1973, $.30.

The booklet includes a collection of ten typical situations that can occur on the job. Each is followed by provocative discussion questions. The purpose is to assist the student in identifying and correcting faults he may have.

GETTING STARTED ON YOUR JOB, AWE 7. 1971, 30 pages, $.30.

The steps to follow after getting the new job include getting a physical examination, filling out the forms required by the employer and the government, getting instructions for job duties and job safety, getting the necessary clothing and equipment, joining the union, and getting along with people. A sample pay check and stub is illustrated with the many deductions being described.

GETTING YOUR JOB, AWE 2. 1971, 14 pages, $.30.

Topics covered include making application for Social Security, preparing a personal data sheet (resume), filling out job application forms, and preparing for a job interview. The combination student reference and workbook contains samples of many forms the student will encounter when applying for a job.

INSTALLING THE AGDEX FILING SYSTEM. 1969, $4.50.

This series of 29 color slides and script explains what AGDEX filing can do for a person, the way the system may be installed, and use of the filing system. It should be used with teachers or others desiring to learn the way to install and use the AGDEX filing system.

KEEPING YOUR RECORDS STRAIGHT, AWE 5. 1971, 17 pages, $.30.

The student is guided through a process of buying the materials needed to establish a filing system, getting his important papers together, and organizing them in a filing system. Suggestions for paying bills and keeping a monthly expense account are provided. Each step is illustrated.

MEMBERSHIP - THE PATHWAY TO LEADERSHIP. 1972, 23 pages, $.35. A student reference designed for all students of vocational agriculture, this is the first of a series of curriculum materials designed to instill in all students, not just officers, the fundamental leadership competencies which need to be developed during high school years for use in later life. This unit considers the reasons for belonging to organizations, history of the FFA, organization of the FFA, benefits of belonging, importance of taking part, and assuming responsibility.

SAVINGS AND CHECKING ACCOUNTS, AWE 3. 1971, 22 pages, $.30.

The manual gives step-by-step procedures for opening and using checking and savings accounts with banks and savings accounts with savings and loan associations. A combination student reference and workbook, it provides the student with experience in completing forms he will encounter at the bank or savings and loan association.

TAKING CARE OF YOURSELF, AWE 8. 1972, 27 pages, $.30.

The manual considers personal hygiene, outward appearance, health, and ways to take care of oneself so that one is acceptable to one's friends and associates.

UPS AND DOWNS - THE BASIC PRINCIPLES OF LADDER SAFETY. 1972, 20 pages, $.30. The booklet was designed for students in agricultural education programs who have an occasion to use some type of ladder in their work.

VOCATIONAL AGRICULTURE RESOURCE SUPPLEMENT TO CONSUMER EDUCATION CURRICULUM GUIDE FOR OHIO. 1971, 100 pages, $2.40 each plus $.40 shipping.

This is a curriculum guide providing instruction for grades 9 through post secondary. Contained in this guide are transparency master references and teaching plans for teachers. Additional references must be used. Areas outlined for study are: the economic system; income procurement; consumer alternatives; consumer behavior determinants; roles, rights, and responsibilities; and community resources. Teaching plans do contain behavioral objectives.

OKLAHOMA

VOCATIONAL AGRICULTURE I: A CURRICULUM GUIDE. 1971, 352 pages, $10.00, 9th grade.

This curriculum manual is self-contained and uses behavioral objectives. This manual provides instruction for 9th grade students in vocational agriculture. Units of instruction have been developed to cover 60 percent of an agriculture teacher's time in teaching basic information in the following areas: orientation and careers, leadership, supervised farm training, animal science, plant science, and agricultural mechanics.

VOCATIONAL AGRICULTURE II: A CURRICULUM GUIDE. 1971, 542 pages, $10.00, 10th grade.

This is a curriculum manual which is self-contained and includes the following components: behavioral objectives, suggested activities for instructors and students, information sheets, assignment sheets, job sheets, tests, answers to tests, and transparency masters. This manual provides instruction for 10th grade students. Units of instruction have been developed to cover 60 percent of an agriculture teacher's time in teaching basic information in the following areas: agricultural chemicals, plant and soil science, animal science, supervised farm training, leadership, and agricultural mechanics.

VOCATIONAL AGRICULTURE III: A CURRICULUM GUIDE. 1972, 935 pages, $15.00, 11th grade.

This is a curriculum manual which is self-contained and includes the following components: behavioral objectives, suggested activities for instructors and students, information sheets, assignment sheets, job sheets, tests, answers to tests, and transparency masters. This manual provides instruction for 11th grade students. Units of instruction have been developed to cover 60 percent of an agriculture teacher's time in teaching basic information in the following areas: plant and soil science, animal science, supervised farm training, farm business management, leadership, career selection, and agricultural mechanics.

VOCATIONAL AGRICULTURE IV: A CURRICULUM GUIDE. 1973, 825 pages, $12.00, 12th and post secondary.

This is a curriculum manual which is self-contained and includes the following components: behavioral objectives, suggested activities for instructors and students, information sheets, assignment sheets, job sheets, tests, answers to tests, and transparency masters. This manual provides instruction for students in grade 12 and post secondary students. Units of instruction have been developed to cover 60 percent of an agriculture teacher's time in teaching basic information in the following areas: farm business management, agricultural mechanics, leadership, careers, and plant and soil science.

OREGON

AGRICULTURE. Curriculum Guide. 1970, 151 pages, $2.50.

This is a curriculum guide which contains information for students in an agricultural occupations course. The material is not self-contained.

TENNESSEE

VIP COMMUNICATIONS CURRICULUM FOR AGRICULTURE. 1971, 248 pages, $4.50, high school level.

This is a curriculum manual which provides instruction for high school students. It contains ten communications skill units based on vocationally related material. Each unit contains a pretest and a post test. The material is not self-contained.

VERMONT

SUGGESTED COURSE OF STUDY - AGRICULTURAL ORIENTATION. 1970, 5 pages, free.

This is a course outline containing suggested topics and a number of basics to teach each topic for agricultural orientation.

SUGGESTED COURSE OF STUDY AGRICULTURAL SCIENCE, LEADERSHIP TRAINING, AND AGRICULTURAL MECHANICS. 1970, 6 pages, free.

This suggested course of study for agricultural science, leadership training, and agricultural mechanics contains suggested topics, also included are the hours required to teach each topic.

OCCUPATIONAL RESOURCE MATERIAL

Materials that follow are general in nature, apply to all vocational areas, and are listed under the headings of Administrator's Resource, Career Education, Student's Resource, or Teacher's Resource. The Teacher's Resource material may prove helpful to supervisors and administrators as well.

ADMINISTRATOR'S RESOURCE: All Vocational Areas

OHIO

ORGANIZATION AND OPERATION OF A LOCAL PROGRAM OF VOCATIONAL EDUCATION. 1968, 86 pages, $1.00 plus $.40 shipping.

This publication deals with establishing, maintaining, and improving comprehensive programs of vocational and technical education. The publication should prove to be a valuable guide for administrators of vocational and technical education programs: superintendents of schools, directors, coordinators, or deans. The references at the end of each chapter provide added resource material helpful to those who desire to pursue information in depth.

SUGGESTED SPACE AND EQUIPMENT COSTS FOR JOB TRAINING PROGRAMS. Planning Guide. 1967, 53 pages, $1.50.

This illustrated guide was prepared to assist school administrators, architects, home economics teachers, and others to plan and develop programs in high schools and joint vocational schools. Details for space and equipment have been developed at an optimum level. The facilities suggested would provide for self-contained work experience opportunities within the school. A bibliography is included.

PENNSYLVANIA

COOPERATIVE VOCATIONAL EDUCATION EVALUATION CRITERIA. 1972, 8 pages, free.

This manual is designed to be used in evaluating cooperative vocational education programs.

VERMONT

GUIDELINES COOPERATIVE VOCATIONAL EDUCATION IN VERMONT. 1972, 96 pages.

This manual provides guidelines for developing a cooperative vocational education program in Vermont. Part I includes cooperative vocational education programs in area vocational centers and Part II covers cooperative vocational education in other high schools.

CAREER EDUCATION: All Vocational Areas

ALABAMA

CAREER GUIDANCE HANDBOOK. 1973, 23 pages.

This handbook briefly explains a career guidance program, what it is, and ways to do it. It lists components of a career guidance program and responsibilities of the following persons for career guidance: guidance specialists, teachers, vocational educators, administrators, parents, and other community members.

ARIZONA

CAREER EDUCATION CLEARINGHOUSE BIBLIOGRAPHY AND INDEX. 1972, 350 pages.

This guide contains three major sections: an annotated bibliography of all materials, indexes to Arizona career education materials by career education element and grade levels, and indexes to other project and non-project produced materials by subject-matter area and grade levels.

COLORADO

COMMUNICATIONS AND MEDIA. 1972, 137 pages, $5.00, junior high and high school level.

This guide provides units of instruction in the following areas of the communications and media cluster: reading skill development, meeting the public, listening and following directions, parliamentary procedure, group discussion, public speaking, conversational skill, use of references, and mass media. It is suggested for use as a separate "mini" course or as part of an English class at the junior high or high school level.

DELAWARE

INTRODUCTION TO THE WORLD OF BUSINESS. Curriculum Guide. 1973, 90 pages, $1.25, 9th grade.

This curriculum guide provides instruction for a ninth grade course concerning career opportunities within the world of business. It is a three-column guide giving goals and objectives, procedures and activities, and resources and references. The units are designed to provide information as well as "hands on" experiences necessary to aid in career selection.

IOWA

AN INDIVIDUALIZED PROGRAM FOR COLLEGE AND CAREER. 1973, 100 pages, $20.00, high school and junior college level.

This is an individualized program designed to be used in a resource center or other independent study area under the direction of a student advisor. After a period of evaluation to determine the student's strengths and needs, the student selects the options on which he wishes to concentrate his efforts. The material does not include instructions for use. Anyone planning to use the system would need to obtain more information about it. Material is written with objectives and does include multi-media resources and books.

MAINE

CAREER EDUCATION IN MAINE BROCHURE. 1973, 23 pages.

This is a short brochure explaining general concepts of career education. Included is a short description of career education programs in Maine. It is designed to make teachers in Maine aware of career education and to provide insights, perspectives, and knowledge of ways career education can be planned and implemented in Maine schools.

CAREER EDUCATION IN MAINE CURRICULUM GUIDE. 1973, 268 pages.

This curriculum guide is designed to provide Maine educators with a model for developing concepts, activities, and resource materials that will introduce career education into the schools. It contains a short chapter on concepts and a chapter delineating the role of the teacher, the counselor, the administrator, the school board, the State Department of Education, the career education coordinator, and the guidance aide. The next four chapters provide examples of activities developed and tested in Maine schools for integration of career education into the classroom at elementary and junior and senior high school levels. This is a helpful publication for schools developing a career education program.

CAREER EDUCATION K-12 - SAD #9. 1973, 95 pages.

This is a final report of a research and development project in career education conducted under Part C of Public Law 90-576. The project was conducted for one year in School District Number 9, Farmington, Maine. The communities served by this district are mostly small and rural. A comprehensive report includes goals and objectives, procedures followed, results and accomplishments, conclusions, implications, and recommendations for the future.

MARYLAND

CALLING CAREERS. Television Series. 1973, 15 lessons.

Lesson #4 Medical Services I and Lesson #5 Medical Services II are segments of a career awareness series suitable for the intermediate grades. A teacher's manual and supplement are included. Produced by Division of Instructional Television, in collaboration with the Division of Vocational-Technical Education, Maryland State Department of Education, it is available for out-of-state telecast through the Eastern Educational Network. Direct inquiries to: Eastern Educational Network, Howard Spergel, 381 Elliot Street, Boston, Massachusetts 02164.

MISSISSIPPI

TEACHER'S GUIDE FOR OCCUPATIONAL ORIENTATION: AN INTRODUCTION TO THE WORLD OF WORK. 1972, 452 pages, $7.50.

This guide is designed to help the teacher plan a course of study for a class in occupational orientation/career education. Ideas could be adopted by teachers in other classes who wish to integrate some career orientation. Topics covered include: the importance of work; understanding the world of work; what is success?; preparing for a career; and exploring service occupations, business contact occupations, organization occupations, technology occupations, outdoor occupations, general cultural occupations, and arts and entertainment occupations. Student materials are also available.

MISSOURI

JOB APPLICATION AND INTERVIEW. Instructor's Guide. 1973, 354 pages, $15.00 plus postage and handling, high school and adult basic education.

The instructor's guide is divided into nine instructional units: why work; career opportunities, occupational information; self-evaluation; letter of application and application blank; job interview, tests, and forms, money management; job success factors; and job promotion and advancement. Each instructional unit includes behavioral objectives, suggested activities for teacher and students, information sheets, visual aids, tests, and answers to the tests. Units are planned for more than one lesson or class period of instruction.

NEW JERSEY

AN AGE-GRADED MODEL FOR CAREER DEVELOPMENT EDUCATION. 1969, 41 pages, $2.50.

This is an invaluable aid in developing and implementing career education. It discusses the theoretical underpinnings of child development and constructs a model for career development on a K-12 continuum. It examines the practical applications of the theories of self-awareness, career awareness, and career decision making.

CAREER DEVELOPMENT - INCREASING THE VOCATIONAL AWARENESS OF ELEMENTARY SCHOOL CHILDREN. Guidebook for Teachers. 1969, 31 pages, $1.50.

This is a six-part volume. The first two parts introduce the problems associated with the development of vocational awareness and introduce a concept model for the systematic introduction of the concept. The third part provides material which may be used in classroom assessment of vocational awareness. Section four provides sample instructional units for increasing vocational awareness. Section five describes some commonly used social studies activities which enhance vocational awareness. Section six introduces several job families or clusters of occupations.

CAREER DEVELOPMENT - JOB PLACEMENT. 1969, 63 pages, $1.50.

The first thirty-four pages develop the concept of job placement. This development starts with a detailed identification of the nature of the problem and a rationale for handling the problem. Sections three and four provide specific, concrete suggestions for the initiation and operation of a job placement program. The last twenty-nine pages report some of the information gained in the operation of five experimental job placement programs.

INTRODUCTION TO VOCATIONS. Teacher's Guide. 1973, 450 pages, $7.50.

This manual contains material which may be used as a text by the teacher for student instruction. It is also intended to be used as a guide to assist the teacher and coordinator of the program. It contains the following cycles: know yourself, environment, health and environmental careers, mechanical contracting, science-engineering-technology, small business, textile, transportation, and the following mini-cycles. bookkeeping, beauty culture, business education, careers in advertising, florist-horticulture, graphic arts, measurement, police careers, and United States Coast Guard.

INTRODUCTION TO VOCATIONS FOR EDUCABLE MENTALLY RETARDED. 1972, 55 pages, $1.00.

This is a part of career development for a special group. It is designed to aid the teacher and covers the following: general plans, the student as a member of society, economic aspects of living, exploratory units on occupation employment information, bibliography, information form, occupational interest form, and jobs for the retarded.

PHYSICS AND CHEMISTRY FOR AUTOMOTIVE TRADES. 1972, 243 pages, $2.50, 11th and 12th grade.

This manual contains units on introduction to physical science, matter and its properties, mechanics, heat, electricity, sound, and light. Each unit consists of related information, illustrations, and experiments.

NEW YORK

IDENTIFYING OPPORTUNITIES FOR EMPLOYMENT. Instructor's Guide. 1973, 84 pages, $.50.

This publication is intended to expose the students in adult basic education programs to some possibilities for marketing their newly acquired skills. The curriculum is sequenced as one unit in five phases, but any one of the sections could be used for individual guidance, for small group instruction, or for mini-seminars. Sections covered are. evaluating interest and abilities, preparing for employment, exploring the world of occupations, planning and preparing for interviews, and getting the job.

OHIO

OCCUPATIONAL WORK EXPERIENCE STUDENT HANDBOOKS. 1973, $8.00 plus $.40 shipping, available only as complete set, one set per student.

This is a set of 32 individual student handbooks designed for students enrolled in the Occupational Work Experience program in the Ohio Public Schools. This program is to provide an opportunity for students who are not intending to go to college or to a technical school to learn a trade so they can be employed immediately after high school. It consists of a half-day school program and a half-day training on the job. The handbooks can be used for individual instruction on a variety of topics such as reasons to stay in school, safety, conducting a meeting, decision making, ways to apply for and get a job, personal budgeting, and personality.

OKLAHOMA

CAREER EXPLORATION - A GUIDE FOR TEACHERS. 1970, 101 pages, $1.75, 8th, 9th, and 10th grade.

This guide is designed for use by teachers to plan and implement a course in exploration of careers for grades 8, 9, or 10. Units included are: know yourself, world of work, use of occupational information, and career education planning. This guide is written in a four-column format with objectives, activities, evaluation, and resources. The objectives are not behavioral.

A GUIDE FOR DEVELOPMENTAL VOCATIONAL GUIDANCE. 1973, 173 pages, $2.00.

This resource guide is divided into four sections: grades K-3, grades 4-6, grades 7-9, and grades 10-12. Each section contains general goals of vocational guidance for that grade level, specific things which the student needs to know, suggested activities, instructional materials, and resources.

OREGON

CAREER EDUCATION IN OREGON. 1970, 8 pages, $.25.

This is a position paper developed by the Director of Career Education in Oregon to present recommendations for career education in Oregon. It could be interpreted as a statement of broad objectives to implement career education in Oregon.

ELECTRICITY-ELECTRONICS. Curriculum Guide. 1969, 88 pages, $2.50, 7th-12th grade.

This manual was developed for the Oregon Board of Education to be used as a guide to establish a career cluster program in the area of electricity-electronics. The suggested curriculum plan is for grade levels 7 through 12.

GUIDE FOR PLANNING CAREER EDUCATION IN OREGON'S SECONDARY SCHOOLS. 1970, 22 pages, free.

This guide is intended for use by administrators in developing long-range plans for career education in individual schools. It is divided into five major parts: community data, school data, master career education plan, factors of implementation, and long-range planning sheets.

TEACHER'S GUIDE TO SUTOE (SELF UNDERSTANDING THROUGH OCCUPATIONAL EXPLORATION). 1971, 183 pages, $3.00, junior high.

This is a teacher's guide for a year-long course combining occupational exploration and self-understanding. It contains objectives for each unit followed by suggestions for implementation. The units are entitled: Pupil Involvement in SUTOE, Self-Appraisal and Self-Understanding, Relating School to Occupational Planning, The Individual's Role in the Economic System, Preparing Students for In-Depth Career Study, Exploring Jobs, Evaluating Experiences, and Planning Ahead.

WORLD OF WORK. 1971, 68 pages, $1.00, K-12,

This is a curriculum guide which is not self-contained. It uses behavioral objectives and is designed to relate the social studies curriculum to the world of work. For each grade level there are suggested activities, resources, and evaluation suggestions for reaching the objectives. It also includes a bibliography of occupationally oriented books and some worksheets for teacher use in planning the units.

SOUTH CAROLINA

THE WORLD OF WORK - A UNIT IN PRE-VOCATIONAL INSTRUCTION. Teacher's Guide. 1971, 216 pages and 31 game cards, $5.00, 9th and 10th grade.

This guide is designed for a course of instruction for 9th and 10th grade students. The guide contains 20 major activities or units each with objectives, student worksheets, and transparency masters.

TENNESSEE

CHARLES LIVES AND WORKS. 1970, 32 pages, $1.00, high school.

This is a short individualized instructional unit in job hunting, banking, and budgeting for use in vocational improvement programs. It could be used in math, English, or social studies classes at the high school level.

VIRGINIA

INDUSTRIAL ARTS CURRICULUM GUIDE. 1972, 109 pages, $2.50, secondary.

This guide has been designed as a professional resource for the secondary industrial arts teacher. The guide gives specific direction to the broad content courses in industrial arts and provides supplementary direction to the general unit-type courses. It includes a series of approaches to teaching industrial arts curriculum, ways to use educational television, a resource index, and transparency masters.

WASHINGTON

GUIDELINES FOR CAREER AWARENESS PROGRAMS FOR THE ELEMENTARY SCHOOL - PART 3: WHAT ABOUT VOCATIONAL EDUCATION? 1974 (Revised), 62 pages, free.

This is a resource guide to provide suggestions to elementary teachers in developing career awareness programs. For each grade level it includes goals, concepts and objectives, suggested activities, and learner's expectations. An appendix with resources for career awareness programs is also included.

SUGGESTED GUIDELINES FOR CAREER EDUCATION WORKSHOPS. 1973, 29 pages, free.

To develop continuity in the career education effort, this guide is designed to propose suggested content, methods, and techniques for in-service workshops that will assist teachers in integrating career education into their classrooms.

STUDENT'S RESOURCE: All Vocational Areas

ILLINOIS

APPLYING FOR A JOB. Student's Guide. 1969, 12 pages, $.18.

Many questions confronting students are answered in this leaflet. It deals with such items as taking personal inventory, getting additional training, discovering what jobs are available, writing a letter of application, and being interviewed by a prospective employer.

MISSOURI

BASIC MATHEMATICS. Instructor's Guide. 1971, 88 pages, $1.50.

This guide is designed for vocational students. The concepts of number theory, whole number operations, fractions, decimal fractions, and applied geometry are all included. There are five topic units with eleven developed lessons.

NEW JERSEY

DICTIONARY. 1973, 21 pages, $.50.

This manual can be used by students and is designed to give information on ways to use a dictionary. There are sample problems to provide the learner with learning experience needed to use a dictionary.

ENGLISH AT WORK - VOLUME I. 1970, 248 pages, $2.50.

This is written for the high school student who plans to go to work upon graduation. The format and examples are designed to motivate the vocational student. The table of contents lists ten unit titles: The Role of Language, The Dictionary, The Sentence, Written Expressions, Common Mistakes, Reading, The Newspaper, The Library, Expressing Yourself, and Spelling.

ENGLISH AT WORK - VOLUME II. 1970, 472 pages, $2.50.

This volume, as an extension of Volume I, continues in the same vein with no change in philosophy. The general areas covered are listed as units XI through XVI. These units are entitled: Written Correspondence, Vocabulary Building, Punctuation, Straight Thinking, Industrial and Business Forms, and Job Planning.

FINDING A JOB. 1973, 56 pages, $.50.

The publication includes information needed for finding a job. Areas included are: where to look for a job, the interview, things to learn about the job, the application form, and the resume.

THE NEWSPAPER. 1970, 28 pages, $.50.

This publication was developed to help the student learn to read and use newspapers. Problems and quizzes are included.

OHIO

JOB METHODS FOR SUPERVISORY PERSONNEL. Handout Sheets. Leader's Resource Material. 1966, 15 pages, $1.00 plus $.40 postage and handling.

This portfolio of handout sheets is essential for students to illustrate important points. Each of the 15 sheets is keyed for use in the instructor's manual and should be given to learners and participants at the appropriate time.

SOUTH CAROLINA

LOCATING AND SECURING A JOB. Student's Manual. 1970, 29 pages, $.75.

The manual was prepared for high school students enrolled in vocational education courses. Addressed to the student, the manual takes him through a series of seven steps in securing a job. There are assignments and helpful illustrations which provide opportunity for the application of the ideas set forth in the text material.

TENNESSEE

VOCATIONAL RELATED MATH--BLAST OFF! 1971, 169 pages, $4.75.

This manual was designed for student use. At the beginning of each unit is a skill test. As long as the student successfully completes all the problems on these tests, he gets to disregard all of the assignments in that unit. The content includes the number system, addition, subtraction, multiplication, and division of whole numbers.

VOCATIONAL RELATED MATH--TOUCHDOWN! 1971, 125 pages, $4.25.

This publication is designed to help a student improve math skills. Related information sheets, skill practice sheets, assignment sheets, and evaluation (test) sheets are included. Vocationally related problems are used for skill practice and assignments.

TEXAS

YOUR ATTITUDE IS SHOWING. 1972, $3.90.

This reference manual has been prepared by Elwood H. Chapman and published by Science Research Associates, Chicago, Illinois. It is a part of a set of three manuals dealing with attitudes.

YOUR ATTITUDE IS SHOWING ANSWER BOOK. 1972, $1.25.

This manual contains suggested acceptable answers to the assignment questions. The material is helpful in assessing student understanding and comprehension.

YOUR ATTITUDE IS SHOWING ASSIGNMENT MANUAL. 1972, $1.00.

This publication contains 20 assignments based upon the reference manual described above. Assignments cover such items as fundamentals of good human relations, ways to compensate for youth and inexperience, and ways to make good first impressions.

TEACHER'S RESOURCE: All Vocational Areas

INDIANA

ADVISORY COMMITTEES FOR HOME ECONOMICS. 1969, 17 pages, $.20.

This bulletin was written to help teachers with the organization and implementation of an advisory committee. The contents of this publication are: a description guideline for establishing a committee, steps in organizing and implementing the advisory committee, the meeting, purposes of the committee, a sample letter to members, constitution or guidelines, and a bibliography.

MAINE

IDEAS FOR TEACHERS. 1973, 77 pages.

This booklet was developed to help teachers motivate the disadvantaged, but could be valuable in working with all students. It is a teacher's guide giving suggested teaching activities for such areas as entering the world of work, occupations, living with your job, managing more, mathematics, and other areas.

MARYLAND

A TENTATIVE COURSE OUTLINE FOR USE IN COOPERATIVE VOCATIONAL EDUCATION PROGRAMS THREE YEAR SEQUENCE. 1972, 69 pages.

This is a three-year course outline for cooperative vocational education. The outline includes lessons, suggested activities, and references.

MISSOURI

ORIENTATION TO EMPLOYMENT. 1973, 124 pages, $3.00.

This is designed to aid the teacher coordinators of cooperative education in teaching general employment information needed by young beginning employees. The instruction should be valuable to any young worker regardless of the occupation of the student. The study guide and instructor's manual are each attractively bound in a three-ring plastic binder.

TECHNIQUES OF THE COOP METHOD. Instructor's Guide. 1973, 118 pages, $4.00 plus postage and handling.

The job of the coordinator in cooperative education requires the mastery of many specific skills which are identified and explained in this publication. The performance of the coordinator's role calls for knowledge of concepts and principles which are also described. However, the difference between an outstanding coordinator and one who is only average is usually the application of tricks of the trade that normally are gained only by experience. In this handbook, the author relates the many little tricks that he has found to work from his years of rich experience as a coordinator, supervisor, administrator, and teacher-educator.

NEW JERSEY

STUDENT'S MANUAL FOR SUPERVISED TEACHING OF VOCATIONAL SUBJECTS. Student's Manual. 1970, 63 pages, $2.00.

This manual is prepared specifically for trainees enrolled in the course entitled "Supervised Teaching of Vocational Subjects." Responsibilities and requirements of teaching vocational subjects are stressed in the publication.

TIME. 1970, 65 pages, $.50.

This manual is about time, its importance, its use, zones, and other information. This manual also includes problems and tests.

THE WORKER IN MODERN SOCIETY. 1970, 287 pages, $5.00.

The units presented are: problems of labor and management, capitalism of its rivals, history of the labor movement, structure and function of trade unions, personnel responsibilities in modern industry, problem-solving techniques of labor and management, intra-labor problems, corrective legislation, the worker's responsibility, and forthcoming problems. Each unit is presented as a series of lessons, and each lesson provides various outlooks on the topic presented. Thirty-nine pages of unit tests are included.

WORLD PROBLEMS FOR AMERICANS. 1969, 106 pages, $2.00.

The author intended this book as a guide to be used in exploring contemporary problems. There is no attempt to give final answers. The major areas explored are nationalism, war, rule by force, population, and religions.

NEW MEXICO

PERSONAL GROWTH CURRICULUM FOR ADULT BASIC EDUCATION. Curriculum Guide. 1970, 157 pages, free.

The content is designed not only to provide skill development in mathematics, reading, and writing, but also to develop a new life perspective and an awareness of family and social responsibilities. It is intended to lift attitudes from defeatism and rejection to those of confidence and leadership. The guide contains six major divisions including an introduction, family life, health education, world of work, money management, and citizen government.

NEW YORK

EVERYMAN'S ESTATE PLANNING. Curriculum Guide. 1971, 56 pages, $.50.

This is an instructor's guide for teaching an adult course in estate planning. There are six lessons and a case-problem analysis for planning an estate.

OHIO

A BRIEF GUIDE TO ELECTRONIC ALARM SYSTEMS. 1972, 25 pages, $1.50.

This 25-page summary of various types of alarm systems for retail security was prepared by Mosler Safe Company without bias for their own products. It details the advantages and disadvantages of various alarm systems to aid in the improvement of security.

CREATIVE THINKING. Teacher's Guide. 1969, 100 pages, $3.00.

This guide defines creativeness and presents ways to contribute creatively through an interplan of attitudes, aptitudes, resources, and planning. The unit can be used with high school students, post high school students, and adults. It is intended to provide an introductory study of the principles of creative thinking and to suggest ways and means by which individual and group creativity may be increased.

D.C.T. REFERENCE MATERIALS. 1970, 71 pages, $.50 plus $.40 shipping.

This is a listing of instructional materials for the teaching of prominent vocational subjects. These materials have been chosen by committee for their general excellence and are comprised of publications from most states active in vocational education. Also listed with the title of each publication are the reference materials with the address from which they may be obtained.

GETTING THE RIGHT JOB. Teacher's Guide. (Cooperative Training.) 1970, 54 pages, $1.50.

The content is organized into five units ranging from planning your career objective to the interview. The material is designed to aid the student in locating job sources, applying for employment, and successfully completing the interview. Teaching suggestions helpful in handling the content are included along with some instructional aids for teacher use.

INDUSTRIAL ARTS RESOURCE SUPPLEMENT TO CONSUMER EDUCATION CURRICULUM GUIDE FOR OHIO. 1971, 116 pages, $2.40 each plus $.40 shipping, 9th-12th grade.

This guide has been developed for the purpose of assisting industrial arts instructors in teaching consumer education as an integral part of their program.

MANPOWER TRAINING RESOURCE SUPPLEMENT TO CONSUMER EDUCATION CURRICULUM GUIDE FOR OHIO. 1971, 80 pages, $2.40 each plus $.40 shipping.

This is a teacher's guide for presenting consumer "know how" to the MDTA trainees. It contains concepts, suggested learning and evaluation experiences, and suggested resources.

OCCUPATIONAL WORK ADJUSTMENT RESOURCE SUPPLEMENT TO CONSUMER EDUCATION CURRICULUM GUIDE FOR OHIO. 1971, 63 pages, $2.40 each plus $.40 shipping, K-12.

This guide was developed for occupational work adjustment programs in Ohio. It is a teacher's guide including objectives, concepts, and suggested learning and evaluation experiences. Some areas included are the economic system, the job, ways to apply for a job, the paycheck, budgeting, money, banking, and credit.

OCCUPATIONAL WORK EXPERIENCE INSTRUCTOR'S MANUAL. 1973, 121 pages, $4.00 plus $.40 shipping.

This instructor's manual was developed for occupational work experience program use. It covers such areas as safety education in driving, using the telephone, decision making, ways to apply for and get a job, what the employee wants, and other work experience information.

PATHWAYS TO SELF-IMPROVEMENT. 1972, 83 pages, $2.50.

This is a course outline for developing attitudes about a student's personality, personal appearance, and ability to communicate. It includes measurable objectives, teaching content, and projects which will help the student learn to be more successful. Each project has objectives, step-by-step directions, and evaluation rating factors for the coordinator.

THINKING ABOUT YOUR FUTURE. 1971, 2 pages, $.04.

This is a handout used by most coordinators to gauge initial reaction in mass recruiting assemblies. It has a fill-in blank on the back cover for indication of interest in the program.

TRAINING PLANS FOR COOPERATIVE OFFICE EDUCATION. Teacher's Manual. (Cooperative Training.) 1970, 47 pages, $1.00.

This manual contains training plans for a variety of office occupations suitable for a high school cooperative education program.

AN UNDERSTANDING OF ECOLOGY FOR TOMORROW'S BUSINESS LEADER. 1972, 31 pages, $2.00.

A subject of national concern is presented in this teaching outline with the objective of incorporating outside projects to acquaint students with ecological problems in their own community. Several related films are listed as well as many printed references.

OKLAHOMA

COOPERATIVE VOCATIONAL EDUCATION - A BASIC COURSE OF STUDY. 1972, 553 pages, $10.00

This color-coded publication is a basic course of study for cooperative vocational education. Topics covered are: orientation, employment, personal development, employee relations, communications, financial management, and insurance. The self-contained units include performance objectives, suggested activities for teacher and students, information sheets, transparency masters, assignment sheets, tests, and answers to tests.

HANDBOOK FOR COOPERATIVE PROGRAMS. 1972, 51 pages, $1.25.

This publication is to serve as a handbook for teachers of cooperative programs in vocational education. Topics included are: purposes of vocational education, types of programs, responsibilities of the teacher-coordinator and the advisory committee, legal regulations, selection of students and training stations, evaluation, and sample forms to be used in the program.

VOCATIONAL RELATED ENGLISH. Curriculum Guide. 1972, 778 pages, $12.00, 8th, 9th, and/or 10th grade.

This color-coded publication developed for the disadvantaged includes six areas which relate English to the occupational clusters of construction, general mechanical trades, and home and community services. Each self-contained instructional unit includes performance objectives, suggested activities for teacher and students, information sheets, assignment sheets, transparency masters, tests, and answers to the tests. Areas cover general vocational, capitalization, punctuation, parts of speech, the sentence, and usage.

VOCATIONAL RELATED MATH. Curriculum Guide. 1972, 908 pages, $12.00.

This curriculum guide includes seven areas, each consisting of one or more units of instruction. Each instructional unit includes behavioral objectives, suggested activities for teacher and students, information sheets, assignment sheets, visual aids, tests, and answers to the test. Units are planned for more than one lesson or class period of instruction. There are a total of 39 units of instruction covering the following areas: measurement, whole numbers, fractions, decimals, percent, consumer education, and geometry.

VOCATIONAL RELATED SOCIAL STUDIES. Curriculum Guide. 1972, 546 pages, $10.00, 8th, 9th, and/or 10th grade.

This color-coded publication developed for the disadvantaged relates social studies to the vocational clusters of construction, general mechanical trades, and home

and community services. The four areas included are general vocational, government, social studies, and industry in Oklahoma. Each self-contained unit includes performance objectives, suggested activities for teacher and students, information sheets, assignment sheets, transparency masters, tests, and answers to the test.

PENNSYLVANIA

COOPERATIVE VOCATIONAL EDUCATION GENERAL RELATED THEORY CLASS OUTLINE. 1972, 45 pages, free.

This is a teacher's guide for use in cooperative vocational education general related theory class. There are eight units and included in each unit are objectives, class activities, suggested references, and films. Some of the units are: employer and employee relationship, human relationship, consumer education, and career and job exploration. This guide is appropriate for any cooperative class.

A GUIDE FOR TEACHING BASIC READING SKILLS TO ADULTS (A RIGHT TO READ PROGRAM). 1973, 100 pages, free.

This is a teacher's guide for teaching basic reading skills to adults. Worksheets are included in the manual for student use.

RESOURCE MATERIALS FOR HOME ECONOMICS EDUCATION IN PENNSYLVANIA SCHOOLS. 1970, 32 pages, free, secondary.

This bulletin is the introduction to the series of bulletins which constitute the resource materials for home economics education in Pennsylvania. It explains the terminology and curriculum structure which were used as the basis for developing the resource materials in each curriculum area.

SOUTH CAROLINA

FOOD DISTRIBUTION, THE SUPERMARKET ENTRY OCCUPATIONS. Teacher's Guide. 1971, 49 pages, $1.25, secondary; also available 19 transparencies, 1971, $2.75.

This publication was developed to assist coordinators of distribution and marketing to improve and expand instruction activities in preparing high school students to enter and progress in the area of food distribution. The manual contains activities and tests and includes areas such as history of the supermarket, store organization, major departments, channels of distribution, and other related information.

LOW-COST TEACHER-MADE OVERHEAD TRANSPARENCIES. Teacher's Manual. 1969, 63 pages, $1.00.

This printed, well-illustrated booklet contains a thorough discussion of the merit and potential of one material that can be used in the production of overhead transparencies. The material, known as three Mil Trycite, has been selected because it is economical, versatile, very transparent, and can be obtained in a pre-cut size useful in teaching. It can be utilized without expensive equipment or processing materials. The publication provides the "how to do it" of transparency production in excellent detail.

TENNESSEE

BASIC REMEDIAL EDUCATION. 1968, 289 pages, $5.25.

This handbook offers a suggested course outline, sample lesson plans, lists of instructional materials, and aids for basic-remedial education. It was designed to be used by MDT teachers.

BUILDING ENGLISH SKILLS - COMMUNICATIONS - LEVELS II and III. 1971, 335 pages, $4.25, secondary.

The material was prepared for use by instructors and students in vocational advancement programs in secondary schools. A student may begin at his own achievement level and progress at his individual rate under the instructor's guidance. Level II materials are written for students whose reading level ranges from grades 2-5; Level III materials are for grades 4-8. The English skill areas are divided into units which are made up of several lessons. The units cover the parts of speech and the sentence.

TEACHER'S GUIDE - VOCATIONAL RELATED TRAINING FOR SPECIAL STUDENTS. 1972, 225 pages, $4.25.

This teacher's guide was designed for use with the secondary disadvantaged, handicapped, or regular vocational student. There are four major sections covering equipment and materials, suggested instructional units, suggested grading standards, and references. Most of the guide deals with suggested instructional units such as personality, human relations, consumer education, and health.

TENNESSEE COOPERATIVE COORDINATOR'S HANDBOOK. 1972, 144 pages, $3.00.

The handbook provides suggestions for organizing and operating a cooperative vocational program. The manual includes most aspects of all cooperative programs. Some of the areas that are included are advantages of cooperative vocational education, school administrators' responsibility, establishing a program, and duties of coordinators.

WASHINGTON

DIVERSIFIED OCCUPATIONS UNITS OF INSTRUCTION. 1973, 150 pages, $7.50.

This publication was developed for diversified occupations coordinators but could be used by other cooperative education teachers. Some of the units of instruction are business math, human relations, job orientation, and career exploration.

WYOMING

WYOMING MATHEMATICS CURRICULUM GUIDE. Teacher's Manual. 1970, 34 pages, free, 7th-12th grade.

Through the program of mathematics the student should become aware of the influences a command of figures can make in his continuing occupational and personal development. The content can be summarized as an attempt to: emphasize the "why" just as much as the "how," teach mathematics as a structure, allow students to discover relationships for themselves whenever possible, and teach the social utility or practical applications of mathematics and of arithmetic computation.

INSTRUCTIONS FOR ORDERING CURRICULUM MATERIALS

Orders for materials should be sent to the address of the appropriate State source. Specific ordering information is indicated where applicable. Prices are subject to change without notice. (An asterisk indicates that whether or not items are listed in this publication, a list of instructional materials from that source is available upon request.)

ALABAMA

For agriculture publications:

Mr. A. H. Halcomb, Subject Matter Specialist, Agribusiness Education, 101 Petrie Hall, Auburn, Alabama 36830.

For career education and home economics publications:

Division of Vocational Education, State Department of Education, State Office Building, Montgomery, Alabama 36104.

A catalog with instructions on how to obtain technical education and trade and industrial publications is available upon request from: Instructional Materials, Trade and Industrial Education, P.O. Box 2847, University, Alabama 35486.

ALASKA

Division of Vocational Education, Pouch F, Alaska Office Building, Juneau, Alaska 99801.

ARIZONA

Division of Career and Vocational Education, Arizona Department of Education, 1535 West Jefferson, Phoenix, Arizona 85007.

ARKANSAS

Division of Vocational, Technical, and Adult Education; State Department of Education; State Education Building; Little Rock, Arkansas 72201.

CALIFORNIA*

For vocational agriculture films, filmstrips, manuals, and other materials:

A catalog with instructions on how to obtain materials is available upon request from: Vocational Education Productions (VEP), California Polytechnic State College, San Luis Obispo, California 93401.

For health publications:

University of California, Division of Vocational Education, Allied Health Professions Projects, 12016 Wilshire Boulevard, Los Angeles, California 90025.

For home economics publications:

Film Fair Communications, 10900 Ventura Boulevard, Studio City, California 91604.

For fire service training manuals:

California State Department of Education, Business Services Section, Textbook and Publication Sales, 721 Capitol Mall, Sacramento, California 95814.

For apprentice and peace officer training materials:

California State Department of Education, Fiscal Office--Order Section, 721 Capitol Mall, Sacramento, California 95814. A separate price list is available upon request for police officer reference material and training films from: Officer of Procurement-Stores, Department of General Services, P.O. Box 20191, Sacramento, California 95820.

For peace officer training materials:

When ordering this material, officers should state their rank and the department with which they are connected. The order should be addressed to Documents and Publications, Office of Procurement-Stores, Department of General Services, P.O. Box 20191, Sacramento, California 95820. Sales tax of 5% must be added to all orders originating in California. Over-the-counter sales are made at the Publications Center, State Office Building No. 9, 744 P Street, Sacramento, at the public counter in the lobby.

Check or money order must be made payable to the state of California. NO ORDERS CAN BE FILLED C.O.D.

COLORADO

Center for Career Development, Dissemination Division, Room 318, Department of Vocational Education, University of Northern Colorado, Greeley, Colorado 80639.

CONNECTICUT

Angelo J. Tedesco, Consultant; Bureau of Vo-Tech Schools; Curriculum Center; Division of Vocational Education; State Office Building, Room 336; Hartford, Connecticut 06115. Publications are free and are sent postpaid. Requests must be made on official school system stationery.

DELAWARE

Dr. Burton Braverman, Supervisor; Curriculum and Research; Department of Public Instruction; John G. Townsend Building; Dover, Delaware 19901. Checks should be made payable to the State Board of Education.

GEORGIA

State Department of Education, Office of Instructional Services, State Office Building, Atlanta, Georgia 30334.

IDAHO

Idaho State Board for Vocational Education, 506 North 5th, Boise, Idaho 83720.

ILLINOIS*

Vocational Agriculture Services, University of Illinois, 434 Mumford Hall, Urbana, Illinois 61801. Terms of sale for ordering purposes are:

If orders are billed for payment, postage is added to the prices listed.

If payment is sent with the order, the following amounts should be added for postage and handling:

Orders up to $10 - add $.50
Orders $10 to $20 - add $.75
Orders over $20 - add $1.00

INDIANA

Instructional Materials Laboratory, T.A.W. Building, Indiana State University, Terre Haute, Indiana 47809.

IOWA

For agriculture publications:

Information and Publication Services Section, Department of Public Instruction, Grimes State Office Building, Des Moines, Iowa 50319.

For home economics publications:

University Book Store, Ames, Iowa 50010.

For occupational resource publications:

North Iowa Area Community College, Attention: Mariestelle Brown, 500 College Drive, Mason City, Iowa 50401.

MAINE

Department of Educational and Cultural Services, Augusta, Maine 04330

MARYLAND

For health publications:

Publication Sales; American Association for Health, Physical Education, and Recreation; 1201 16th Street N.W.; Washington, D.C. 20036. Stock #244-2570.

For all other vocational publications:

P.O. Box 8717, Friendship International Airport, Baltimore, Maryland 21240.

MASSACHUSETTS

For career education publications:

Available for out-of-state telecast through the Eastern Educational Network. Direct inquiries to: Eastern Educational Network, Howard Spergel, 381 Elliot Street, Boston, Massachusetts 02164.

MISSISSIPPI

Curriculum Coordinating Unit, Mississippi State University, P.O. Drawer DX, Mississippi State, Mississippi 39762. Orders accompanied by payment will be sent postpaid. Billing for all other orders will have postage added.

MISSOURI*

Send requests for 1973-74 price list and order form to: Amon Herd, Director; Instructional Materials Laboratory; 8 Industrial Education Building; University of Missouri-Columbia; Columbia, Missouri 65201. A specific form provided from the above address must be used when ordering all materials. A check or money order for the total amount must accompany orders unless an official purchase order is furnished. Schools MUST attach official purchase order. Descriptions of the listed materials may be found in the 1973-74 Instructional Materials Laboratory Catalog.

NEVADA

State Supervisor, Home Economics Education, Department of Education, Carson City, Nevada 89701.

NEW HAMPSHIRE

Department of Education, Vocational-Technical Division, 105 Loudon Road, Concord, New Hampshire 03301.

NEW JERSEY*

New Jersey Vocational-Technical Curriculum Laboratory, Rutgers University, 4103 Kilmer Campus, New Brunswick, New Jersey 08903. All school orders should be made on official school purchase order form and sent to the above address. In addition to the price of the materials, you will be billed for postage or shipping charges. Individuals may order materials by including a check or postal money order for the amount of the materials plus $.30 per book postage. Please make all checks payable to: Vocational Curriculum Laboratory-Rutgers.

NEW MEXICO

Department of Education, Education Building, Santa Fe, New Mexico 87501.

NEW YORK

The State Education Department, Bureau of Finance, Publications Distribution Unit, Albany, New York 12224. Single copies only sold to education institutions outside the state. No "on approval" copies will be sent. Prices given are net and include book rate postage.

Orders, with remittance, should be sent to: The Publication Distribution Unit, State Education Department, Albany, New York 12224.

State education departments, colleges, or curriculum laboratories having similar materials to exchange should make arrangements with the Bureau of Secondary Curriculum Development, Albany, New York 12224. Copies of New York State curriculum materials are available through the microfiche services of The ERIC System.

OHIO

For agriculture publications:

Ohio Agricultural Education, Curriculum Materials Service, The Ohio State University, Room 254, 2120 Fyffe Road, Columbus, Ohio 43210.

For all other vocational publications:

Instructional Materials Laboratory, The Ohio State University, 1885 Neil Avenue, Columbus, Ohio 43210. Ohio schools or other Ohio public agencies should deduct 20 percent from price quoted. On out-of-state quantity orders of 26 to 100 copies of the same manual, a 10 percent discount is granted; on 101 or more copies, a 20 percent discount applies.

Statements will be rendered on receipt of official purchase orders; otherwise, remittance must accompany orders. All checks and money orders must be made payable to the Ohio State University. Postage must be included at the following rates: single copy--$.40; 2 to 12 copies--$.35 each; 13 or more copies--$.25 each. A catalog with order forms is available on request.

OKLAHOMA

The Curriculum and Instructional Materials Center, State Department of Vocational and Technical Education, 1515 West Sixth Avenue, Stillwater, Oklahoma 74074. Checks in the amount of order made payable to the Curriculum and Instructional Materials Center must accompany the order. Publications are postpaid.

OREGON

For health publications:

Documents Clerk, Oregon Board of Education, 942 Lancaster Drive NE, Salem, Oregon 97310.

For all other vocational publications:

Division of Community Colleges and Vocational Education, Oregon Board of Education, Public Services Building, Salem, Oregon 97310.

PENNSYLVANIA

Pennsylvania Department of Education, Office of Information and Publications, P.O. Box 911, Harrisburg, Pennsylvania 17126. Check or money order in the proper amount, made payable to the Commonwealth of Pennsylvania, must accompany each order.

SOUTH CAROLINA

Vocational Education Media Center, 109 Freeman Hall, Clemson University, Clemson, South Carolina 29631.

TENNESSEE

Vocational Curriculum Laboratory, Box 1114, Murfreesboro, Tennessee 37130. All orders must be:

1. On official purchase order properly signed by an official of the organization. Invoices will be rendered at list price plus postage.

2. Accompanied with check for full amount of materials plus postage and handling based on the following scale:

   single copy - $.50
   2 to 10 copies - $.35 each
   11 or more copies - $.25 each

   Make checks payable to State of Tennessee. Because a limited number of each item was printed, examination copies cannot be furnished. All sales are final--materials cannot be returned.

TEXAS

(A&M) Vocational Instructional Services Center, F.E. Box 182, Texas A&M University, College Station, Texas 77843. A school purchase order and check or money order must accompany each order and be made payable to Texas A&M University. A catalog is available upon request.

For home economics publications:

(TTU) Texas Tech University, Home Economics Instructional Materials Center, P.O. Box 4067, Lubbock, Texas 79409. Total payment or official purchase order must accompany order. Official purchase order terms are net 30 days. Make checks payable to Home Economics Instructional Materials Center. Prices include postage. Mailing will be insured only if insurance is requested when order is placed.

(UT) Industrial Materials Development (Industrial Education), Division of Extension, The University of Texas, Austin, Texas 78712. A school purchase order and check or money order must accompany each order and must be made payable to the University of Texas. Catalogs are available. A 2 percent state sales tax or tax exemption certificate is required in addition to prices listed.

VERMONT

State of Vermont, Department of Education, Montpelier, Vermont 05602.

VIRGINIA*

Mr. Harry Smith, Director of Public Information and Publications, State Department of Education, P.O. Box 6-Q, Richmond, Virginia 23216.

WASHINGTON

For career education publications:

Richard R. Lutz, Supervisor; Career Education; Old Capitol Building; Olympia, Washington 98504.

For teacher's resource publications:

LeRoy McCartney, Director; Distributive and Office Education; 216 Old Capitol Building; Olympia, Washington 98504.

WEST VIRGINIA

Coordinator of Curriculum Development; Bureau of Vocational, Technical and Adult Education; Room B-243, Building 6, Capitol Complex; Charleston, West Virginia 25305. Make checks payable to Vocational Curricula Material Funds for the amount of the order.

WISCONSIN

Mr. Clifford Zenor, Vocational Education Consultant--Instructional Services; Wisconsin Board of Vocational, Technical, and Adult Education; 4802 Sheboygan Avenue; Madison, Wisconsin 53702.

WYOMING

State Department of Education, Division of Public Information, Capitol Building, Cheyenne, Wyoming 82001.

NOTE: Request for specific material contained in this annotated listing should be sent to the appropriate State source.

ACCESSION NUMBER: VT101455

PUBLICATION DATE: 74

TITLE: VOCATIONAL EDUCATION STATE INSTRUCTIONAL MATERIALS FOR TRADE AND INDUSTRIAL OCCUPATIONS. REVISED 1974.

DESCRIPTOR: *ANNOTATED BIBLIOGRAPHIES; *ABSTRACTS; *VOCATIONAL EDUCATION; *INSTRUCTIONAL MATERIALS; *TRADE AND INDUSTRIAL EDUCATION

EDRS PRICE: MF AVAILABLE IN VT-ERIC SET.

DESCRIPTIVE NOTE: 80P.

ABSTRACT: THIS ANNOTATED LISTING OF CURRICULUM MATERIALS FOR TRADE AND INDUSTRIAL OCCUPATIONS IS PROVIDED IN ORDER TO APPRISE PLANNERS, ADMINISTRATORS, VOCATIONAL EDUCATORS, AND OTHERS INTERESTED IN OFFERING OR INVOLVED IN VOCATIONAL PROGRAMS OF THE AVAILABLE CURRICULUM MATERIALS DEVELOPED BY VARIOUS STATES. THE CURRICULUM MATERIALS HAVE BEEN IDENTIFIED WITH THE INSTRUCTIONAL TITLES AND CODES FROM THE CLASSIFICATION SYSTEM OF THE OFFICE OF EDUCATION. THE TITLE OF THE DOCUMENT, THE PUBLICATION DATE, THE NUMBER OF PAGES, PRICE, AND A SUMMARY OF THE CONTENT IS PROVIDED FOR EACH ANNOTATION. (KB)

CONTRACT NUMBER: OEG-0-72-4682

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VT 101 455

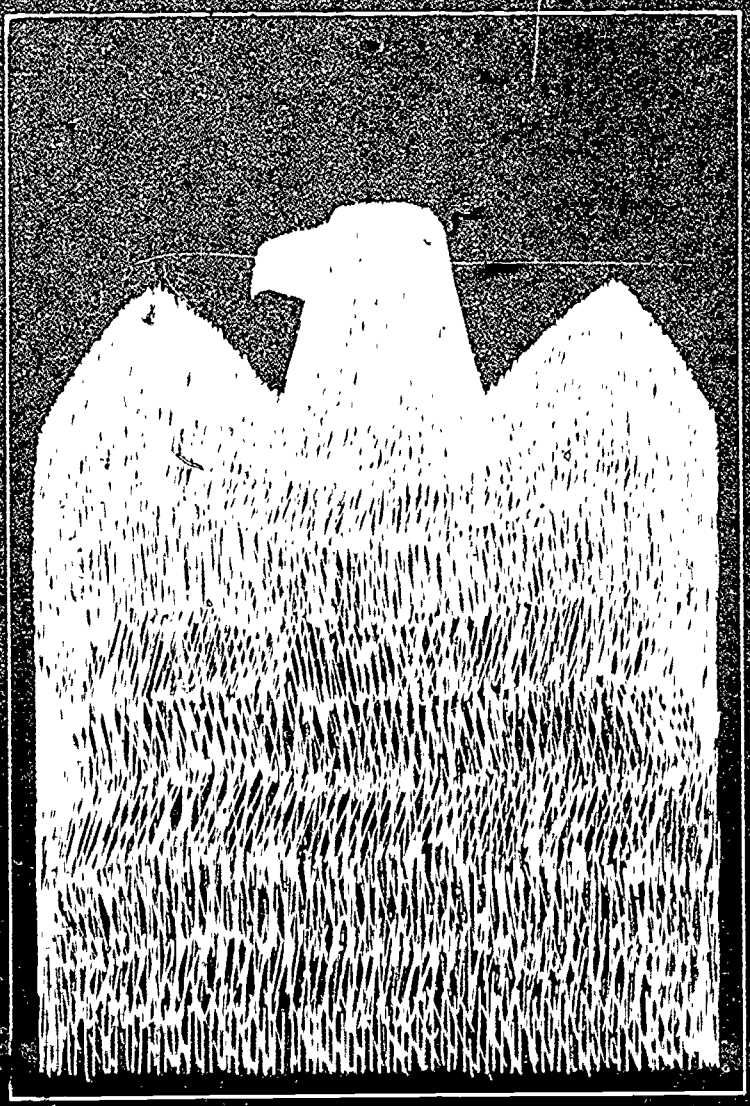
VOCATIONAL EDUCATION

STATE INSTRUCTIONAL MATERIALS

for...

TRADE AND INDUSTRIAL OCCUPATIONS

Revised 1974



VT 101 455

AVAILABLE FROM STATE EDUCATION AGENCIES

ERIC

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The project presented or reported herein was performed pursuant to a contract from the U.S. Office of Education, Department of Health, Education, and Welfare. However, the opinions expressed herein do not necessarily reflect the position or policy of the U.S. Office of Education, and no official endorsement by the U.S. Office of Education should be inferred.

VOCATIONAL EDUCATION

STATE INSTRUCTIONAL MATERIALS

for...

TRADE AND INDUSTRIAL OCCUPATIONS

Revised 1974

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Oklahoma State Department of Vocational and Technical Education
1974 Revision

NOTE:

REQUEST FOR SPECIFIC MATERIAL CONTAINED IN THIS ANNOTATED LISTING SHOULD BE SENT TO THE APPROPRIATE STATE SOURCE.

SOURCE FOR EACH ITEM LISTED IS INDICATED AT THE END OF EACH ENTRY--SEE INSTRUCTIONS FOR ORDERING AT BACK OF PUBLICATION.

Revised publications (annotated listings) are available in the following vocational areas:

State Instructional Materials for Agriculture
State Instructional Materials for Distributive Education
State Instructional Materials for Health Occupational Education
State Instructional Materials for Home Economics
State Instructional Materials for Office Occupations
State Instructional Materials for Technical Education
State Instructional Materials for Trade and Industrial Occupations

The above items are available for purchase from: Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402

For sale by the Superintendent of Documents, #892, U. S. Government Printing Office, Washington, D. C. 20402. Stock #1780-01346. Price $1.20.

INTRODUCTION AND EXPLANATION OF CODING SYSTEM

In recent years it has become apparent that a strong relationship exists between the world of education and the world of work. Emphasis is on the concept that the development of our human resources is vital to the well-being and growth of our society. In order to implement this belief, leaders in all fields have focused their attention on education and especially on vocational education.

This annotated listing of curriculum materials is provided in order to apprise planners, administrators, vocational educators, and others interested in offering or involved in vocational education programs of the available curriculum materials developed by the various states.

The curriculum materials are offset unless specified as mimeo. They have been identified with the instructional titles and codes from the classification system of the Office of Education. These titles and codes link vocational education programs to occupations. Utilizing the codes in this listing relates the curriculum materials to the instructional program. Seven major vocational education areas are identified in separate listings and coded as follows:

01 Agriculture	09 Home Economics
04 Distributive Education	14 Office Occupations
07 Health Occupations Education	16 Technical Education
17 Trade and Industrial Occupations	

The items are refined to include one or more related subitems as indicated in the following example:

First 2-digit position: subject matter area
Example: 14 OFFICE OCCUPATIONS

Second 2-digit position: principal segment of subject matter
Example: 14.02 BUSINESS DATA PROCESSING SYSTEMS OCCUPATIONS

Third 2-digit position: division of principal segment
Example: 14.0202 PERIPHERAL EQUIPMENT OPERATORS

Fourth 2-digit position: first level detail of division of principal segment
Example: 14.020201 KEY PUNCH AND CODING EQUIPMENT OPERATORS

The coding system is contained in:
U.S. Department of Health, Education, and Welfare, Office of Education. Vocational Education and Occupations. (OE-80061). Washington, D.C.: U.S. Government Printing Office, July 1969.

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17. TRADE AND INDUSTRIAL OCCUPATIONS

Publications marked (Cooperative Training) in the title or supportive statement are designed for use in cooperative education programs.

AIR CONDITIONING: 17.01

COOLING: 17.0101

MISSOURI

AIR CONDITIONING AND REFRIGERATION. (Air Conditioning.) Instructor's Guide. 1973, 225 pages, $10.00 plus postage and handling, 11th and 12th grade.

The instructional guide is designed to provide curriculum materials that vocational and practical arts instructors can utilize in identifying, selecting, and organizing air conditioning and refrigeration materials for their courses of study. The guide is organized into lesson plan formats. Each lesson plan format includes a scope of the unit statement; a lesson title; lesson objectives; informational references to the most current textbook; a list of supplementary teaching aids; an introductory statement; a lesson outline or steps of procedure; lesson interaction items; a list of suggested classroom, shop, or laboratory activities; and example unit test items for each lesson.

AIR CONDITIONING AND REFRIGERATION. (Refrigeration.) Instructor's Guide. 1972, 342 pages, $13.00 plus postage and handling.

The instructional guide is designed to provide curriculum materials that vocational and practical arts instructors can utilize in identifying, selecting, and organizing air conditioning and refrigeration materials for their courses of study. The guide is organized into lesson plan formats. Each lesson plan format includes a scope of the unit statement; a lesson title; lesson objectives; informational references to the most current textbooks; a list of supplementary teaching aids; an introductory statement; a lesson outline or steps of procedure; lesson interaction items; a list of suggested classroom, shop, or laboratory activities; and example unit test items for each lesson.

NEW JERSEY

ELECTRICITY IN REFRIGERATION AND AIR CONDITIONING - I. Student's Manual, 1970, 248 pages, $2.50.

This is the first part of a student's manual in refrigeration electricity. It contains nine units with titles such as Shop Adjustment, Safety, Compressors, Electric Power, Capacitors, and Relays.

ELECTRICITY IN REFRIGERATION AND AIR CONDITIONING - II. Student's Manual. 1968, 180 pages, $2.50.

This second part of a student's manual has 11 units entitled: Temperature and Pressure Controls, Time Controls, Solenoids, Safety Switches, Magnetic Starters, Wiring Circuits, Three Phase Wiring, Electrical Tests, Terminal Identification, Trouble Shooting, and Instruments.

TEXAS (UT)

REFRIGERATION AND AIR CONDITIONING - STUDY GUIDE AND UNIT TESTS. Student's Guide. (Cooperative Training.) 1969, 19 units, 106 assignments, $5.45.

Included in the guide is a progress chart covering the jobs and related assignments. The answer book is helpful in evaluating work on the assignments and unit tests.

REFRIGERATION AND AIR CONDITIONING ANSWER BOOK. 1969, $2.50.

HEATING: 17.0102

NEW JERSEY

BASIC COMFORT HEATING PRINCIPLES. Student's Manual. 1968, 140 pages, $2.00.

This is a first-year book that introduces the physical and psychological aspects of comfort heating. It covers basic design theory including heat units, air motion characteristics, load calculations. and heat transmission. The student is provided with opportunities to calculate the heating load of structure. Charts and supplementary materials are available in the appendix.

AIR CONDITIONING, OTHER: 17.0199

MISSISSIPPI

VOCATIONAL REFRIGERATION, AIR CONDITIONING, AND HEATING. Teacher's Guide. 1969, 187 pages, $2.00.

The content is sufficient to provide 2160 hours of instruction spread over two years. Organization provides for related instruction being given preceding the application by the trainee in the shop. There are 19 blocks into which the instruction is organized including such areas as fundamentals of electricity, refrigeration and air conditioning, controls, metering devices, comfort control, and special applications.

APPLIANCE REPAIR: 17.02

TEXAS (UT)

APPLIANCE SERVICING - STUDY GUIDE AND UNIT TESTS. Student's Guide. (Cooperative Training.) 1971, 11 units, 45 assignments, price on request.

Included in the guide is a progress chart covering the jobs and related assignments. The answer book is helpful in evaluating work on the assignments and unit tests.

APPLIANCE SERVICING - ANSWER BOOK. 1968, price on request.

MAJOR APPLIANCE REPAIR. Course Outline. 1970, 299 pages, $3.00.

This manual contains first and second year units of instruction covering both gas and electric heating and laundry appliances. Kitchen aids such as dishwashers and disposals are included as are domestic refrigeration appliances.

WEST VIRGINIA

APPLIANCE REPAIR. Instructor's Guide. 1966, 18 pages, $1.25.

This is an instructional outline divided into 17 topics covering basic skills and technical information taught in the course. It can be used with classes at the secondary and adult level. It contains a bibliography, list of service manuals, equipment and tool list, and a suggested facility layout.

AUTOMOTIVE SERVICES: 17.03

TENNESSEE

V.I.P. COMMUNICATIONS CURRICULUM FOR AUTO MECHANICS - Unit I. 1970, 20 pages, $.50, 11th and 12th grade.

This publication consists of a series of assignment sheets each of which includes a descriptive paragraph and questions with multiple choice responses.

BODY AND FENDER: 17.0301

CALIFORNIA

AUTOMOBILE BODY REPAIR. (Apprenticeship.) Workbook. 1970 (Revised), 252 pages, $3.00.

The workbook is designed for use in related instruction courses for apprentices. It contains 10 units and 52 instructional topics.

Testbook. 1970 (Revised), $2.25.
Examination. 1970 (Revised), $.35.

MISSOURI

AUTO BODY REPAIR. Instructor's Guide. 1972, 350 pages, $7.00 plus postage and handling.

This master teaching plan with accompanying analysis and reference list is designed to aid auto body instructors in identifying information topics and demonstrations and selecting supplementary items and learning activities to reinforce these lesson topics. Also included are 180 transparency masters keyed to the master teaching plan. The masters have a two-fold purpose: (1) for making transparencies for use on the overhead projector, and (2) for making worksheets for students. This instructor's guide is available in an attractively designed three-ring, two-inch capacity plastic notebook.

NEW JERSEY

AUTO BODY REFINISHING. 1970, 105 pages, $1.75, 11th and 12th grade.

This manual on auto body refinishing contains units on shop orientation, equipment, tools, materials, basic operations, spraying, refinishing procedures, and paint difficulties. Each unit contains objectives, related information, and illustrated examples.

AUTO BODY REFINISHING. Student's Manual. 1969, 106 pages, $1.75.

This manual contains the refinishing portion of the auto body repair trade. The content is geared to secondary student level. Each lesson is well illustrated. An achievement test is included in each unit.

AUTO BODY REPAIR - RELATED MATHEMATICS 1. 1973, 146 pages, $1.75, 11th and 12th grade.

Part one of this two-part related mathematics book contains units on whole numbers, fractions, decimals, percentage, measurement, and ratio and proportion. Each unit contains objectives, explanation of related information, and illustrated examples.

AUTO BODY REPAIR - RELATED MATHEMATICS 2. 1970, 120 pages, $1.75, 11th and 12th grade.

Part two of this two-part related mathematics book contains units on assets, liabilities and net worth, income-sales, purchases, operating expenses, financial statements, and references. Each unit contains objectives, explanation of related information, and illustrated examples.

NEW MEXICO

AUTO BODY. Course Outline. Teacher's Guide. 1973, 41 pages, free, 11th and 12th grade.

This suggested course outline for auto body contains sections on related instruction, automotive metals, body panel and fender straightening, weldings and leading, frame straightening, front end repair and alignment, refinishing processes, removing and replacing upholstery and trim, glass removal and replacement, and indirectly related information.

TEXAS (UT)

AUTO BODY AND FENDER REPAIR - STUDY GUIDE AND UNIT TESTS. Student's Guide. (Cooperative Training.) 1971, 23 units, 60 assignments, price on request.

Included in the guide is a progress chart covering the jobs and related assignments. The answer book is helpful in evaluating work on the assignments and unit tests.

AUTO BODY AND FENDER REPAIR ANSWER BOOK. 1971, price on request.

AUTOMOTIVE REFINISHING (AUTOMOTIVE REFINISHER) STUDY MANUAL, REFERENCES, AND ASSIGNMENT TESTS. 1971, 33 assignments, 8 units, $9.95.

Included in the guide is a progress chart covering the jobs and related assignments. The answer book is helpful in evaluating work on the assignments and unit tests.

AUTOMOTIVE REFINISHING ANSWER BOOK. 1971, $2.50.

MECHANICS: 17.0302

CALIFORNIA

AUTO MECHANICS. (Apprenticeship.)

These materials are designed for use in related instruction courses for apprentices.

Part I. Workbook. 1973 (Revised), 110 pages, $2.00, 7 units, 38 instructional topics; Textbook. 1973 (Revised), $2.00; Examination. 1973 (Revised), $.50.

Part II. Workbook. 1968 (Revised), $2.50; Textbook. 1968 (Revised), $2.00; Examination. 1968 (Revised), $.50.

Part III. Workbook. 1970 (Revised), $2.50; Textbook. 1970 (Revised), $2.50; Examination. 1970 (Revised), $.50.

Part IV. Workbook. 1973 (Revised), 109 pages, $2.00, 12 units, 38 instructional topics; Textbook. 1973 (Revised), $2.00; Examination. 1973 (Revised), $.50.

MISSISSIPPI

AUTOMOTIVE MECHANICS INSTRUCTION SHEETS. 1971, 89 pages, $1.50, 11th and 12th grade.

This publication is a series of assignment sheets and job sheets dealing with automotive mechanics, such as chemically cleaning and flushing the cooling system, replacing upper and lower control-arm brushings, and adjusting toe-in.

SECONDARY VOCATIONAL AUTOMOTIVE MECHANICS. 1971, 189 pages, $2.50, 11th and 12th grade.

This two-year teacher's outline contains sections in tool usage, service operation, engines, cooling, tune-up, electrical system, power train, braking system, suspension system, steering system, and advanced general automotive. The appendix contains suggested jobs, progress chart, applied math and science, supplies, and examples of instruction sheets, a lesson plan, assignment sheets, information sheet, operation sheet, and job sheet.

MISSOURI

AUTO MECHANICS - Volume I. Individual Study Guide. 1973, 273 pages, $8.50, 11th and 12th grade.

This study guide consists of an analysis of Auto Mechanics, Volume I, and assignment sheets covering the related (occupational) information to be taught by the school. It has been designed to help the student learn auto mechanics on an individual basis either in a full-time school program or a cooperative part-time program. The individual guide is directly related to the instructor's guide in Auto Mechanics, Volume I, and can be used in conjunction with it.

AUTO MECHANICS - Volume II. Individual Study Guide. 1973, 351 pages, $9.50, 11th and 12th grade.

This study guide consists of an analysis of Auto Mechanics, Volume II, and assignment sheets covering the related (occupational) information to be taught by the school. It has been designed to help the student learn auto mechanics on an individual basis either in a full-time school program or a part-time program. The individual study guide is directly related to the instructor's guide in Auto Mechanics, Volume II, and can be used in conjunction with it.

NEW JERSEY

THE INTERNAL COMBUSTION ENGINE (GASOLINE ENGINE). Student's Manual. 1966, 84 pages, $1.50.

For use in day trade preparatory classes, this book contains a series of lessons designed to develop knowledge of the gasoline internal combustion engine. The content is divided into units of instruction with the number of lessons indicated in brackets: engine fundamentals (7); valve systems (5); cylinder heads (5); engine block (5); pistons, rings, and connecting rods (3); camshaft and bushings (2); crank shaft and bearings (3); timing chain, gears, and flywheel (3); lubricating systems (3); and cooling systems (5).

NEW MEXICO

AUTO MECHANICS. Course Outline. Teacher's Guide. 1973, 73 pages, free, 11th and 12th grade.

This suggested course outline for auto mechanics contains sections on engines, fuel systems, cooling system service, electrical systems, transmissions, standard differentials and rear axles, steering suspension, braking systems, air ventilation systems, engine tune-up, equipment list, building specifications for vocational auto mechanics, observation program, and VICA.

OKLAHOMA

AUTO MECHANICS. Curriculum Guide. 1971, 421 pages, $12.00, 11th and 12th grade.

This self-contained instructional manual is written in terms of student performance and contains 17 units in safety and orientation, leadership, engine, electrical, power train, brakes, and front end. Each unit contains behavioral objectives, suggested activities, information sheets, transparency masters, assignment sheets, job sheets, tests, and answers to the tests.

SOUTH CAROLINA

POWER TRANSMISSION. Teacher Resource. 1971, 85 transparencies, $9.25.

This teacher's resource consists of a set of 85 transparencies illustrating the basic principles of power transmission. It includes devices used for power transmission such as bearings, belts and pulleys, chains, gears, couplings, clutches, power take offs, transmissions, and differentials; examples of these in use; and characteristics of these devices.

TRADES AND INDUSTRIES CURRICULUM GUIDE FOR AUTOMOTIVE MECHANICS. Teacher Guide. 1971, 92 pages, $2.50, 11th and 12th grade.

This teacher's guide is designed to prepare the student for entry as an automobile repairman, automotive mechanic helper, or automotive-service technician. Units of instruction include basic engines, ignition, fuel systems, tune-ups, brakes, wheel alignment and balancing, steering, suspension, clutch, standard transmissions, drive shafts, differential, and automotive accessories.

TEXAS (UT)

AUTOMOBILE MECHANICS - STUDY GUIDE AND UNIT TESTS. Student's Guide. (Cooperative Training.) 1970, 14 units, 87 assignments, $5.00.

Included in the guide is a progress chart covering the job and related assignments. The answer book is helpful in evaluating work on the assignments and unit tests.

AUTOMOBILE MECHANICS - ANSWER BOOK. 1970, $2.50.

WEST VIRGINIA

AUTO MECHANICS. Instructor's Guide. 1973, 52 pages, $1.25, 11th and 12th grade.

The course presented in this outline is intended to develop a skill level which will qualify individuals for employment. A suggested list of machines, tools, equipment, supplies, textbooks, films, and a floor plan of the training facility are included. The outline includes 21 units such as lubrication, automotive engine, rotary engine, emission control, cooling system, clutches, and drive line.

SPECIALIZATION, OTHER: 17.0303

NEW JERSEY

BASIC AUTO AIR CONDITIONING. Student's Manual. 1970, 150 pages, $2.00.

This manual is useful in courses where the shop instructor also teaches the related theory. Fifteen units deal with such basic principles as identification and explanation of system components and repair and service procedure. A glossary of terms and achievement tests are also provided in the book.

BASIC AUTOMOTIVE CARBURETION AND IGNITION. 1973, 87 pages, $1.75, 11th and 12th grade.

This manual on basic automotive carburetion and ignition contains units on safety, hand tools, carburetor, choke system, fuel pump, storage battery, coil and ballast resistor, points and condenser, distributor, and spark plugs. Each unit contains objectives, related information, and illustrated examples.

BASIC IGNITION AND THE SUN OSCILLOSCOPE. Instructor's Guide. 1970, 150 pages, $2.00, 11th and 12th grade.

This instructor's guide contains units on the ignition circuit team; battery, coil, and distributor; basic timings and timing advance; spark delivery; sun scope; sun scope test; scope test indications; superimposed scope patterns; comparison test; achievement tests; and projectuals.

BRAKE SERVICE. 1973, 69 pages, $1.50, 11th and 12th grade.

This manual on brake service contains units on hydraulic brake systems, drum brakes, disc brakes, power assisted brakes, brake lining materials, brake types, adjusting brakes, bleeding the hydraulic brake system, relining brakes, reconditioning brake drums and disc rotors, and basic math for brake repair.

WHEEL AND STEERING ALIGNMENT. Student's Manual. 1968, 90 pages, $1.50.

The units presented in this manual are: camber, steering axis inclination, tow, tracking and wheel balance, and steering alignment. Lessons are presented in step-by-step instruction using clear and simple language. There is a technical vocabulary section for trade terms. A majority of the lessons are illustrated. Each lesson has an assignment question section.

NEW YORK

AUTOMOTIVE INDUSTRIES OCCUPATIONS - AUTOMATIC TRANSMISSIONS SERVICES. Instructor's Guide. 1973, 60 pages, $.50, 11th and 12th grade.

This guide is designed to prepare students for employment in a specialized area of automotive services. A two-column format was used in writing the guide. The left-hand column of each unit contains a suggested topic outline; the right-hand column gives related factual information. The three units included in this guide are the introduction, automatic transmission operation, and automatic transmission service.

AUTOMOTIVE INDUSTRIES OCCUPATIONS - FUEL SYSTEM SERVICES. Instructor's Guide. 1972, 112 pages, $1.00, 11th and 12th grade.

This guide is designed to prepare students for employment in a specialized area of automotive services. A two-column format was used in writing the guide. The left-hand column includes a suggested topic outline; the right-hand column gives related factual information. The guide contains the following eight units: introduction, minor components, carburetor fundamentals, automotive carburetors, carburetor diagnosis and overhaul, automotive fuels, automotive emission control systems, fuel injection-superchargers, and L.P. gas systems.

AUTOMOTIVE INDUSTRIES OCCUPATIONS - SUSPENSION AND ALIGNMENT SERVICES. Instructor's Guide. 1973, 72 pages, $.75, 11th and 12th grade.

This guide is designed to prepare students for employment in a specialized area of automotive services. A two-column format was used in writing the guide. The left-hand column of each unit contains a suggested topic outline; the right-hand column gives related factual information. The five units that are included in the guide are: introduction, suspension service and repair, wheel alignment, wheel balance, and manual and power steering.

TEXAS (UT)

AUTOMOTIVE ELECTRICIAN. Student's Guide. (Cooperative Training.) 1971, 49 assignments, price on request.

The guide includes assignments and unit tests. An answer book is available to aid the coordinator in assessing student's progress.

AUTOMOTIVE ELECTRICIAN ANSWER BOOK. Teacher's Manual. 1971, price on request.

BRAKE AND WHEEL ALIGNMENT. Student's Guide. (Cooperative Training.) 1971, 39 assignments, price on request.

The content includes assignments and unit tests designed for cooperative trainees. The answer book helps the coordinator evaluate progress on the job as well as in the classroom.

BRAKE AND WHEEL ALIGNMENT ANSWER BOOK. Teacher's Manual. 1971, price on request.

AUTOMOTIVE SERVICES, OTHER: 17.0399

NEW JERSEY

AUTOMOTIVE POLLUTION CONTROL. 1973, 79 pages, $2.00.

This manual on automotive pollution control contains several units: introduction, crankcase emissions, air injection systems, clean air system, combustion control system, climatic combustion control system, improved combustion exhaust-emission-control system, "engine mod" system, vapor-saver system, evaporation control system, fuel evaporation emission-control system, and evaporative emission control system. Each unit contains objectives, related information, and illustrated examples.

TEXAS (UT)

AUTOMOTIVE PARTSMAN - STUDY GUIDE AND UNIT TESTS. Student's Guide. (Cooperative Training.) 1964, 4 divisions, 8 units, 58 assignments, $3.15.

Included in the guide is a progress chart covering the jobs and related assignments. The answer book is helpful in evaluating work on the assignments and unit tests.

AUTOMOTIVE PARTSMAN - ANSWER BOOK. 1964, $1.55.

AVIATION OCCUPATIONS: 17.04

AIRCRAFT MAINTENANCE: 17.0401

CONNECTICUT

PROGRESS RECORD, THEORY OUTLINE, AND JOB ASSIGNMENT PLAN BOOK - AIRFRAME AND POWERPLANT COURSE. Instructor's Manual. 1969, free.

The manual contains such details as a plan book, progress record, and attendance report. There is also an airframe and powerplant theory outline to guide the instructor with his teaching.

COMMERCIAL ART OCCUPATIONS: 17.07

TEXAS (UT)

COMMERCIAL ARTIST. Student's Guide. (Cooperative Training.) 1969, 59 assignments, $5.85.

This guide contains 9 units for a total of 59 assignments. A coordinator's answer book is available.

COMMERCIAL ARTIST ANSWER BOOK. Teacher's Manual. 1969, $2.95.

FLORAL DESIGNER - STUDY GUIDE AND UNIT TESTS. Student's Guide. (Cooperative Guide.) 1968, 8 units, 46 assignments, $6.05.

Included in the guide is a progress chart covering the jobs and related assignments. The answer book is helpful in evaluating work on the assignments and unit tests.

FLORAL DESIGNER ANSWER BOOK, 1968, $2.40.

This manual provides answers to Floral Designer - Study Guide and Unit Tests.

COMMERCIAL PHOTOGRAPHY OCCUPATIONS: 17.09

PHOTOGRAPHIC LABORATORY AND DARKROOM OCCUPATIONS: 17.0901

TEXAS (UT)

PHOTOGRAPHY. Student's Manual. (Cooperative Training.) 1969, 47 assignments, $3.75.

Photography as an employment source is the topic of the manual. The assignments are grouped under 20 units. The answer book is intended for use by the coordinator in evaluating student's performance and success.

PHOTOGRAPHY ANSWER BOOK. Teacher's Manual. 1969, $2.50.

CONSTRUCTION AND MAINTENANCE TRADES: 17.10

CONNECTICUT

GLOSSARY OF TERMS FOR THE BUILDING TRADES. Teacher's Manual. 1964, 75 pages, free.

The definitions contained in the text material are similar to those in standard textbooks and references. The material would be most helpful to cooperative education trainees in the area of building construction.

MAINE

BUILDING TRADES PLANNING AND EQUIPPING GUIDE. 1973, 80 pages.

This manual is presented as a guide to be used by educational teams and architects engaged in planning and designing vocational school facilities. The guide contains guidelines for the planning of vocational education, a building trades course outline, a building trades floor plan and equipment layout, a suggested book list, and suggested tools and equipment for a building trades program.

MISSOURI

BUILDING CONSTRUCTION - Volume I. Individual Study Guide. 1973, 173 pages, $6.50, 11th and 12th grade.

The course of study covers five general trade areas: masonry and concrete, carpentry, plumbing, electrical wiring, and finishing or decorating. The analysis is a systematic listing and breakdown of the instruction units that a craftsman of that particular trade must know in order to properly perform his work. The left-hand column contains a list of the manipulative skills which the student should be able to perform. He will become familiar with these skills through the practical activities experienced in the construction of a house. The right-hand column contains the related information topics; these will be taught through the assignments in this manual.

BUILDING CONSTRUCTION - Volume II. Individual Study Guide. 1973, 243 pages, $8.50, 11th and 12th grade.

The course of study covers five general trade areas: masonry and concrete, carpentry, plumbing, electrical wiring, and finishing or decorating. The analysis is a systematic listing and breakdown of the instruction units that a craftsman of that particular trade must know in order to properly perform his work. The left-hand column contains a list of the manipulative skills which the student should be able to perform. He will become familiar with these skills through the practical activities experienced in the construction of a house. The right-hand column contains the related information topics; these will be taught through the assignments in this manual.

BUILDING CONSTRUCTION - Volume I. Instructor's Guide. 1973, 309 pages, $10.00, 11th and 12th grade.

The instructional guide is designed to provide curriculum materials that vocational and practical arts instructors can utilize in identifying, selecting, and organizing building construction materials for their courses of study. The guide is organized into lesson plan formats, each of which includes a scope of the unit statement, a lesson title, lesson objectives, informational references to the most current textbooks, a list of supplementary teaching aids, an introductory statement, lesson outline or steps of procedure, lesson interaction items, and example unit test items for each lesson.

BUILDING CONSTRUCTION - Volume II. Instructor's Guide. 1973, 690 pages, $11.00, 11th and 12th grade.

This instructional guide contains information and demonstration lesson plans and is designed to provide curriculum materials that vocational and practical arts instructors can utilize in identifying, selecting, and organizing course content for building construction. The guide includes units in carpentry, plumbing, electrical wiring, and air conditioning and heating.

NEW MEXICO

BUILDING TRADES. Course Outline. Teacher's Guide. 1973, 53 pages, free, 11th and 12th grade.

This suggested course outline for building trades contains sections on orientation, foundation, framing, exterior trim, electrical, plumbing, air conditioning, masonry, concrete construction, insulation, sheetrock or drywall, interior finish, flooring, painting, miscellaneous, and indirect related information.

NEW YORK

BUILDING INDUSTRIES OCCUPATIONS SYLLABUS. Teacher's Guide. 1971, 126 pages, $.75, 11th and 12th grade.

This syllabus is organized in units by trade areas: carpentry, masonry, electricity, plumbing, heating, air conditioner installation, and painting/decorating. A three-column format is used. Column 1 is the content outline, column 2 lists the objectives of the unit, and column 3 presents suggested methods of presentation.

BUILDING MAINTENANCE SYLLABUS. Teacher's Guide. 1973, 70 pages, $.75, 11th and 12th grade.

This syllabus is organized in sections by traditional skill groupings; custodial services, grounds maintenance, redecorating, carpentry, masonry, electricity, plumbing, climate control, drawings and specifications, bookkeeping, and estimating. A two-column format is used. The first column lists the course content; the second column lists suggested audiovisuals and methodology.

OKLAHOMA

GENERAL CONSTRUCTION TRADES. Curriculum Guide. 1972, 507 pages, $10.00, 8th, 9th and 10th grade.

Coordinated Vocational Education and Training (CVET) for Disadvantaged and Handicapped Youth is the State Department of Vocational and Technical Education program designed for students with special learning needs. General Construction Trades curriculum material was developed to prepare students for employment in the construction trades cluster. Upon completion of this course, the student should be trained for entry level employment in carpentry, concrete work, plumbing, painting, and electricity. The curriculum is to be supplemented by field trips to places of employment, resource people from business and industry, role playing, and if possible, cooperative work experience in the occupational areas. Awareness of the world of work attitudes, employment skills such as ways to find a job, steps to obtain a Social Security card, communication skills, and math skills are included in the English, math, and social studies manuals.

RESIDENTIAL CARPENTRY. Curriculum Material. 1973, 1,017 pages, $15.00, 11th and 12th grade.

This self-contained instructional manual is written in terms of student performance. It contains 27 units in 12 sections. introduction, leadership, related information, tools, blueprint reading, site forming, framing, exterior finish, interior wall finish, interior trim, and flooring. Each unit contains behavioral objectives, suggested activities, information sheets, transparency masters, assignment sheets, job sheets, test, and answers to the test.

OREGON

BUILDING CONSTRUCTION. 1972, 270 pages, $2.50, secondary.

This occupational cluster guide contains suggested learning activities, related skills, and knowledge in seven areas. communications, layout, construction materials, cutting and fitting, fastening and assembling, finishing, and safety.

SOUTH CAROLINA

BUILDING CONSTRUCTION EQUIPMENT TRANSPARENCIES. Teacher's Resource. 1970, 20 transparencies, $3.75.

The transparencies are clear line drawings with the major machine parts named. They are nicely packaged with a protective sheet between each transparency. Assembled in a file folder with a printed tab, the packet is ready for filing and immediate use.

NOTE: All transparencies are unframed and printed by offset press on 8 1/2 x 11-inch three Mil Trycite, a Dow Chemical Company plastic product.

BUILDING CONSTRUCTION PROGRAMS. Curriculum Guide. 1970, 91 pages, $1.75.

This curriculum guide was developed to aid the teacher in offering an effective instructional program. It suggests seven steps that will help in teaching the course. The guide serves as a basic framework upon which to develop an instructional program. It contains a complete outline of the construction area and the resources for developing teaching materials for student use.

CARPENTRY: 17.1001

CALIFORNIA

CARPENTRY. (Apprenticeship.)

These materials are designed for use in related instruction courses for apprentices.

Volume 1. Workbook 1968 (Revised), 314 pages, $3.00, 5 units, 47 instructional topics, Textbook 1968 (Revised), $2.00, Examination. 1968 (Revised), $.50.

Volume 2. Workbook. 1969 (Revised), $3.00, Testbook. 1969 (Revised), $2.00; Examination. 1969 (Revised), $.50.

Volume 3. Workbook. 1971 (Revised), $3.00; Testbook. 1971 (Revised), $2.00; Examination. 1971 (Revised), $.50.

MISSISSIPPI

VOCATIONAL CARPENTRY - BASIC PLAN FOR THE ORGANIZATION AND MANAGEMENT OF INSTRUCTION. Instructor's Guide. 1967, 35 pages, $1.00.

This guide contains an analysis of operations, suggested jobs for training, and an outline of related instruction. It also contains references and an equipment list. This course outline is primarily designed as a guide to a high school course requiring 1080 hours of training.

NEW JERSEY

CARPENTRY I - HOUSE FRAMING. Student's Manual. 1966, 190 pages, $1.75.

This manual is designed for preparatory and extension classes. The content is divided into 10 units under titles. Sill Construction, Girders and Columns; Header, Joists, and Bridging; Framing Floor Openings; Sub-Flooring; Exterior Wall Framing; Interior Partitions, Ceiling Joists and Roof Construction, Special Framing Problems, and Safety. Appendices include a glossary of terms, bibliography, tests, and a final examination.

TEXAS (UT)

BUILDING TRADES. Basic Course Outline. 1970 (Revised), 97 pages, $1.50.

The content covers basic skills and technical information to be taught in the first and second years of the trade preparatory program. The material is arranged under the following headings. content, information and skills to be taught, suggestions

on teaching skills and information, and sources of information. A bibliography and an audiovisual aid list are included.

CARPENTRY - STUDY GUIDE AND UNIT TESTS. Student's Guide. (Cooperative Training.) 1967, 11 units, 65 assignments, $5.35.

Included in the guide is a progress chart covering the jobs and related assignments. The answer book is helpful in evaluating work on the assignments and unit tests.

CARPENTRY ANSWER BOOK. 1967, $3.15.

ELECTRICITY: 17.1002

CALIFORNIA

ELECTRIC WIRING. (Apprenticeship.)

These materials are designed for use in related instruction courses for apprentices.

Part I Workbook. 1967 (Revised), 279 pages, $3.00, 7 units, 29 instructional topics, Testbook. 1967 (Revised), $2.00, Examination. 1967 (Revised), $.50.

Part II. Workbook. 1969 (Revised), 138 pages, $3.00, 5 units, 31 instructional topics, Testbook. 1969 (Revised), $2.00; Examination. 1969 (Revised), $.50.

Part III. Workbook. 1969 (Revised), 270 pages, $2.50, 5 units, 41 instructional topics, Testbook. 1969 (Revised), $2.00; Examination. 1969 (Revised), $.50.

Part IV. Workbook. 1971 (Revised), 107 pages, $2.50, 4 units, 34 instructional topics; Testbook. 1971 (Revised), $2.00; Examination. 1971 (Revised), $.50.

OHIO

CONSTRUCTION ELECTRICIAN. Curriculum Guide. 1968, 80 pages, $2.00 plus $.40 shipping.

The guide provides suggested guidelines for developing a high school trade and industrial education program for the 11th and 12th grades. Topics cover such items as descriptions of the construction electrician program, equipment lists, course length, time schedule, and advisory committee information.

CONSTRUCTION ELECTRICITY. Suggested Course Outline. 1973, 37 pages, $2.00 each plus $.40 shipping, 11th and 12th grade.

This is a suggested course outline for a two-year vocational construction electricity program. It includes an outline of manipulative tasks, related technology, and references. It contains units in mathematics, electrical theory, national codes, wiring methods, and blueprint reading and layout.

TEXAS (UT)

RESIDENTIAL WIRING. Student's Guide. (Cooperative Training.) 1970, 34 assignments, $4.40.

The student's material is prepared under 8 unit headings giving wide diversity to the 34 assignments. The answer book is available to coordinators.

RESIDENTIAL WIRING ANSWER BOOK. Teacher's Manual. 1970, $2.00.

MAINTENANCE, HEAVY EQUIPMENT: 17.100301

MISSISSIPPI

VOCATIONAL HEAVY EQUIPMENT MECHANICS: Instructor's Guide. 1967, 65 pages, $2.00.

The guide is designed primarily as an outline to a high school course of study requiring 2880 hours of training in maintenance and repair of heavy equipment. The course content is organized in a two column format with the trade principles in one column and the practices in the other and under 12 divisions entitled: Power Plants, Engine Systems, Drive Trains, Control Systems, Supporting Trade Practices, Undercarriage, Upper works, Lower Works, Brakes, Air Compressors, Small Equipment, and Equipment Operation. A bibliography and an equipment list are included.

MASONRY: 17.1004

MISSISSIPPI

VOCATIONAL BRICKLAYING - BASIC PLAN FOR THE ORGANIZATION AND MANAGEMENT OF INSTRUCTION. Instructor's Guide. 1967, 25 pages, $1.00.

This suggested outline contains an analysis of operations, suggested jobs for training, and an outline of related instructions. It also contains references and equipment and supply lists. The course outline is primarily designed as a guide to a high school course requiring 1080 hours of training.

NEW YORK

TRADE MASONRY SYLLABUS. Teacher's Guide. 1972, 62 pages, $.75, 11th and 12th grade.

This guide is written in the form of a syllabus with six sections: concrete work, block work, brick work stone work, tile work, and plaster work. Each section is arranged in three columns. column 1 lists units of course content, column 2 lists objectives for each unit of instruction, and column 3 lists suggested methods, audio visuals, and means of motivation.

OHIO

BRICKLAYING I. Student's Manual. 1963, 136 pages, $1.60 plus $.40 shipping.

The content includes assignments and related information in such areas as blueprint reading, layout, joints, bonding, block, tile, cavity walls, and similar material.

BRICKLAYING I ANSWER BOOK. Teacher's Manual. 1968, 50 pages, $1.00 plus $.40 shipping.

Answers helpful in evaluating student understanding of the information and the on-the-job experiences are contained in a booklet of handy size for the instructor's use.

BRICKLAYING II. Student's Manual. 1969 (Reprint), 156 pages, $2.00 plus $.40 shipping.

The manual contains such assignments as fireplaces, chimneys, glass block, stone work, blueprint reading, and estimating.

BRICKLAYING II ANSWER BOOK. Teacher's Manual. 1964, 33 pages, $1.00 plus $.40 shipping.

Answers to the problems in the student's manual have been developed as an aid to the bricklaying instructor in checking student progress in the given assignments.

SOUTH CAROLINA

CURRICULUM GUIDE FOR TRADES AND INDUSTRIES - BRICK MASONRY PROGRAM. 1968, 77 transparencies, $9.75.

The transparencies are in two parts: the first 30 show the materials and methods used in masonry, the last 47 show patterns and plans used in construction and methods of constructing them.

CURRICULUM GUIDE FOR TRADES AND INDUSTRIES - BRICK MASONRY PROGRAM. Teacher's Guide. 1968, 31 pages, $1.25, 11th and 12th grade.

This curriculum guide is not intended to be a complete course of study. It is intended, however, to be a framework upon which the teacher can construct a complete course of study tailored to fit his own situation. The guide contains sections on orientation, masonry materials, hand tools and equipment, basic movements, bonds and joints, basic units of construction, fireplaces, blueprint reading, and shop practices.

PAINTING AND DECORATING: 17.1005

NEW JERSEY

ART AND DESIGN FOR PAINTERS - 1. Student's Manual. 1969, 111 pages, $1.50.

This opening volume in a series of three manuals begins with a unit on drawing instruments and proceeds to a unit on lettering. Covered in the text are such principles of design as rhythm, discord, balance, simplicity, proportion, and types of design.

ART AND DESIGN FOR PAINTERS - 2. Student's Manual. 1969, 99 pages, $1.50.

The theory of color, harmony of color, and effect of color begin this volume. Also included are units on ornaments and stencils. The information is presented as individual lessons with illustrations for each lesson.

ART AND DESIGN FOR PAINTERS - 3. Student's Manual. 1969, 99 pages, $1.50.

Lettering, color schemes, and architectural blueprint reading are included in this text. An advanced lettering unit introduces and develops Gothic, Roman, and Old English lettering. Colors are discussed, including commercial safety color systems. The architectural blueprint reading concentrates on the items a painter would be required to read while being involved in construction work.

ART AND DESIGN FOR PAINTERS - 4. Student's Manual. 1969, 89 pages, $1.50.

Contained in this volume are such topics as the basic rules of layout, sign lettering, and the basic forms of decoration used by signpainters. There are 32 lessons and 3 unit tests in this manual.

PLUMBING AND PIPE FITTING: 17.1007

MISSISSIPPI

VOCATIONAL PLUMBING - BASIC PLAN FOR THE ORGANIZATION AND MANAGEMENT OF INSTRUCTION. Instructor's Guide. 1967, 23 pages, $1.00.

This guide contains an analysis of operations, suggested jobs for training, and an outline of related instruction. It also contains references and suggested equipment and supply lists. This course outline is primarily designed as a guide to a high school course requiring 1080 hours of training--30 hours a week for 36 weeks, a one year course; or 15 hours a week for 72 weeks, a two year course.

TEXAS (UT)

PLUMBER. Student's Guide. (Cooperative Training.) 1969, 65 assignments, $4.25.

The assignments in this guide are grouped under 20 unit headings. An answer book is also available.

PLUMBER ANSWER BOOK. Teacher's Manual. 1969, $2.25.

DRY WALL INSTALLATION: 17.1008

CALIFORNIA

DRY WALL CONSTRUCTION. (Apprenticeship.)

These materials are designed for use in related instruction courses for apprentices.

Part I. Workbook. 1969 (Revised), 325 pages, $3.00, 4 units, 43 instructional topics; Testbook. 1969 (Revised), $2.00; Examination. 1969 (Revised), $.50.

Part II. Workbook. 1971 (Revised), 174 pages, $3.00; Testbook. 1971 (Revised), $2.00; Examination. 1971 (Revised), $.50.

GLAZING: 17.1009

CALIFORNIA

GLAZING. Workbook. (Apprenticeship.) 1967 (Revised), 360 pages, $3.00.

This workbook was developed for use in related instruction courses for apprentices.

Testbook. 1967 (Revised), $2.00. Examination. 1967 (Revised), $.50.

ROOFING: 17.1010

CALIFORNIA

ROOFING. (Apprenticeship.)

These materials are designed for use in related instruction courses for apprentices.

Part I. Workbook. 1964, 137 pages, 5 units, 20 instructional topics, $2.00; Testbook. 1964, $1.00; Examination. 1964, $.50.

Part II. Workbook. 1967, 271 pages, 6 units, 32 instructional topics, $3.00; Testbook. 1967, $2.00; Examination. 1967, $.50.

OHIO

ASBESTOS WORKERS. Learner's Manual. 1970, 369 pages, $4.15 plus S.40 shipping.

This learner's manual contains problems and projects which make it a very worthwhile workbook for the trainee. The content is well organized and illustrated. Topics parallel those described in the instructor's manual.

ASBESTOS WORKERS. Instructor's Manual. 1970, 369 pages, $5.25 plus $.40 shipping.

The manual was developed as an aid to apprenticeship training for asbestos workers. Major topical areas covered include orientation, safety, applied mathematics and science, blueprint reading, sheet metal layout and fabrication, layouts, materials, and methods.

CONSTRUCTION AND MAINTENANCE TRADES, OTHER. 17.1099

CALIFORNIA

FLOOR COVERING. (Apprenticeship.)

These materials are designed for use in related instruction courses for apprentices.

Part I. RESILIENT COVERINGS. Workbook. 1973, 195 pages, 9 units, 38 instructional topics, $2.50; Testbook. 1973 (Revised), $2.00; Examination. 1973 (Revised), $.50.

Part II. CARPETING. Workbook. 1972 (Revised), 105 pages, 6 units, 26 instructional topics, $2.25; Testbook. 1972 (Revised), $2.00; Examination. 1972 (Revised), $.50.

TEXAS (UT)

BULDING MAINTENANCE MAN - STUDY MANUAL AND ASSIGNMENT TESTS. 1973.

Included in the guide is a progress chart covering the jobs and related assignments. The answer book is helpful in evaluating work on the assignments and unit tests.

BUILDING MAINTENANCE MAN ANSWER BOOK. 1973.

CUSTODIAL SERVICES: 17.11

OHIO

CUSTODIAL TRAINING. Learner's Manual. 1966, 165 pages, $2.25 plus $.40 shipping.

This manual is designed to give building custodians a better understanding of problems involved in providing adequate building services. In an organized manner it presents many ideas, practices, and suggestions which have been successfully used in this country. The material included is adaptable for training custodians for any type of building, such as office, school, industrial establishment, institution, hotel, or public building.

DIESEL MECHANIC: 17.12

MISSISSIPPI

VOCATIONAL DIESEL-ENGINE MECHANICS, - BASIC PLAN FOR THE ORGANIZATION AND MANAGEMENT OF INSTRUCTION. Instructor's Guide. 1967, 44 pages, $1.00.

This suggested outline contains an analysis of operations, suggested jobs for training, and an outline of related instruction. References and an equipment and supply list are included. The course outline is primarily designed as a guide to a high school course requiring 1080 hours of training.

DRAFTING: 17.13

MISSISSIPPI

DRAFTING. Teacher's Guide. 1969, 80 pages, $1.50.

The first-year content outlines the fundamentals, knowledge, and skills involved in drafting, drafting media, and reproduction. Sheet metal drafting is included for purposes of aiding visualization of plane surfaces. There is also an introductory statement addressed to the instructor, an extensive appendix of helpful items, and an example of a lesson plan, a job sheet, and an assignment sheet.

SECONDARY VOCATIONAL INDUSTRIAL DRAFTING. 1971, 81 pages, $2.50, 11th and 12th grade.

This two-year teacher's outline contains four sections: fundamentals of drafting, machine drafting, advanced machine drafting, and architectural drafting. The appendix contains suggested jobs, progress chart, operations analysis; legend layout, supplies; and examples of a lesson plan, job sheet, operation sheet, information sheet, and assignment sheet.

MISSOURI

DRAFTING I. Instructor's Guide. 1972, 293 pages, $10.00, 11th and 12th grade.

The instructional guide is designed to provide curriculum materials which practical arts and vocational education instructors may utilize in identifying, selecting, or organizing course content for drafting. The guide consists of an instructional analysis of drafting, a list of references, sources of instructional media, and completely developed lesson plans. Each lesson plan format includes a scope of the unit statement; a lesson title; lesson objectives; informational references to the most current textbooks, a list of supplementary teaching aids; an introductory statement; lesson outline or steps of procedure; lesson interaction items; a list of suggested classroom, shop or laboratory activities; and example unit test items for each lesson.

NEW JERSEY

EXPLORATORY DRAFTING. 1971, 88 pages, $1.75.

This is one of a series of ten booklets, each showing ways drafting can help in various trades. Each booklet has three units entitled: Basic Drafting Tools, Basic Blueprint Reading, and Specific Trade Drafting. It is designed for beginning students to explore various shops at the beginning of their vocational training.

STRUCTURAL DRAWING MANUAL. 1968, 178 pages, $2.00.

This manual has been prepared to meet the requirements of drafting technicians and structural draftsmen. It covers the duties of the structural steel draftsman in the preparation of the detailed working drawings for members of steel and concrete structures. It is recommended that the Manual of Steel Construction by ASIC be used in conjunction with this manual. The presentation of this structural drawing manual is divided into four chapters entitled: Foundation Construction, Structural Steel Columns and Walls, Steel Beams and Trusses, and Roofing Material and Construction. Each chapter is concluded with a summary.

NEW MEXICO

DRAFTING. Course Outline. Teacher's Guide. 1973, 27 pages, free, 11th and 12th grade.

This suggested course outline for drafting contains several sections: drafting careers, instruments and materials, line systems, lettering systems, drawing reproduction, pictorial drawing, orthographic projection, dimensioning system, sectioning, auxiliary views, fasteners, welding drawings, assembly, detail sheet metal development, architecture, and indirectly related information.

NEW YORK

MECHANICAL TRADE DRAFTING SYLLABUS. Teacher's Guide. 1971, 42 pages, $.50, 11th and 12th grade.

This syllabus is composed of 2 sections (first year and second year). Each section contains 14 units concerning mechanical drafting. Each unit contains objectives, a suggested allotment of total course time, and suggestions for teaching.

OKLAHOMA

DRAFTING. Curriculum Guide. 1972, 644 pages, $15.00, 11th and 12th grade.

This self-contained instructional manual is written in terms of student performance. It contains 13 units of instruction: orientation, plot information, uppercase lettering, sketching, major equipment orientation, geometric constructions, architects scale usage, dimensioning procedures, orthographic projection, pictorial drawings, sectional views, and auxiliary views. Each unit contains behavioral objectives, suggested activities, information sheets, transparency masters, assignment sheets, tests, and answers to the tests.

TEXAS (UT)

DRAFTING - STUDY GUIDE AND UNIT TESTS. Student's Guide. (Cooperative Training.) 1968, 18 units, 80 assignments, $4.00.

Included in the guide is a progress chart covering the jobs and related assignments. The answer book is helpful in evaluating work on the assignments and unit tests.

DRAFTING ANSWER BOOK. 1968, $1.95.

WEST VIRGINIA

DRAFTING. Instructor's Guide. 1973, 27 pages, $1.25.

For use in secondary and adult education classes, it contains a course outline divided into 16 units outlining 2 years of instruction scheduled on a half-day basis. A

bibliography, an equipment list with estimated costs, and a suggested facility layout are included.

ELECTRICAL OCCUPATIONS: 17.14

INDIANA

ELECTRICIANS NATIONAL ELECTRICAL CODE. 1969, 41 pages, $.70, 11th and 12th grade.

This set of assignment sheets was developed to allow the student to progress at his own rate. Each assignment sheet contains references, instructions, and questions to be answered.

MISSOURI

FUNDAMENTALS OF ELECTRICITY/ELECTRONICS - Level I, Section A. Instructor's Guide. 1972, 251 pages, $8.00 plus postage and handling, 11th and 12th grade.

This instructional guide is designed to provide curriculum materials which vocational and practical arts instructors may utilize in identifying, selecting, or organizing course content for electricity/electronics. The guide is organized into lesson plan formats. Each lesson plan format includes a scope of the unit statement; a lesson title; lesson objectives; informational references to the most current textbooks; a list of supplementary teaching aids; an introductory statement; a lesson outline or steps of procedure; lesson interaction items; a list of suggested classroom, shop, or laboratory activities; and example unit test items.

FUNDAMENTALS OF ELECTRICITY/ELECTRONICS - Level I, Section B. Instructor's Guide. 1972. 180 pages, $5.75 plus postage and handling.

This instructional guide is designed to provide curriculum materials which vocational and practical arts instructors may utilize in identifying, selecting, or organizing course content for electricity/electronics. The guide is organized into lesson plan formats. Each lesson plan format includes a scope of the unit statement; a lesson title; lesson objectives; informational references to the most current textbooks; a list of supplementary teaching aids; an introductory statement; a lesson outline or steps of procedure; lesson interaction items; a list of suggested classroom, shop, or laboratory activities; and example unit test items.

NEW JERSEY

PRINCIPLES OF ELECTRIC WIRING. Student's Manual. 1969, 243 pages, $2.25.

The content is prepared for the first-year electrical student. Various phases of structural wiring are covered using charts and standards to introduce the theory of the trade. Chapter titles include safety, electrical symbols, tools, and many more electrical subjects.

NEW YORK

TECHNICAL ELECTRICITY - ELECTRONICS. Teacher's Guide. 1971, 73 pages, $.50, 11th and 12th grade.

This syllabus has been written in a two column format. One column identifies content and the other lists teaching suggestions. Seven units are included in the syllabus: basic electricity, basic electronics, advanced electricity, advanced electronics, computer circuitry, electrical electronic drafting, and electrical construction.

OHIO

BASIC ELECTRICITY. Experiment Manual. 1969, 56 pages, $1.00 plus $.40 shipping.

This is an experiment manual in basic electricity. It contains 62 experiments approximately 10 to 15 minutes in length. The learner's manual and instructor's manual are also available in the series.

BASIC ELECTRICITY. Instructor's Manual. 1972, 194 pages, $2.00 plus $.40 shipping, 11th and 12th grade.

This instructor's guide is intended to be used as the beginning unit in any electrical training program. Each lesson is broken down into the "4 step" method of instruction: step 1 - introduce the lesson; step 2 - present the lesson; step 3 - application; and step 4 - checking and follow-up. The manual contains the following major sections: magnetism, electromagnetism, EMF by induction, energy force and work, generators, motors, and meters and measurements. This manual is one of a three part set including an experiment manual and learner's workbook.

BASIC ELECTRICITY. Learner's Manual. 1972, 129 pages, $2.00 plus $.40 shipping.

This is a learner's manual in basic electricity containing 37 lessons approximately one hour in length. The topics covered are electric circuits, electric current, resistance, EMF, magnetism, electromagnetism, EMF by induction, energy force and work, generators, motors, and meters and measurements. The instructor's manual and experiment manual are also available in this series.

SOUTH CAROLINA

ELECTRICITY FOR TRADES AND INDUSTRY. Teacher's Resource. 1970, 64 transparencies and paper copies, 64 pages, $10.25.

The transparencies are professionally prepared and have tremendous potential for the teacher of electricity. The paper copies are useful in preparing tests, bulletin board items, and displays. Most items usually shown through the use of diagrams in the teaching of electricity are included in this set of transparencies.

NOTE: All transparencies are unframed and printed by offset press on 8 1/2 x 11-inch three Mil Trycite, a clear plastic.

INDUSTRIAL ELECTRICIAN: 17.1401

NEW JERSEY

BASIC ELECTRICITY - DIRECT CURRENT GENERATORS, MOTORS, AND CONTROLLERS. Student's Manual. 1965, 161 pages, $2.00.

This manual contains a series of lessons to develop knowledge of the theory and operation of direct current machinery and controllers. For use with day trade preparatory classes, the content is divided into units and each unit is broken down into a number of lessons as indicated in brackets: introduction to DC machinery (5); shunt generators (6); series generators (1); compound generators (7); parallel operation (2); introduction to DC motors (4); DC motor manual starters (4); DC shunt motors (4); DC series motors (2); compound motors (4); and automatic motor controls (4). Unit achievement tests are included.

OREGON

ELECTRICAL METERING THEORY. 1970, 405 pages, $7.25, post secondary.

This course was developed and designed to be used either in formal classroom work or for home study on a correspondence basis if the widespread location of apprentices makes class work impractical. The course is intended to be a common course of instruction for both electrical meterman and station wireman apprentices in their first two years of training; the third year study is specialized. Metermen will study material related to electrical construction and maintenance of power stations.

ELECTRICAL POWER STATION THEORY. 1970, 276 pages, $7.25, post secondary.

This third year course for electrical power station wireman apprentices is a foundation for the study of all aspects of installation and maintenance of power station equipment. It does not cover in detail all the devices utilized in design, construction, or operation; manufacturers' literature on specific equipment will serve as an adequate source for such details.

ELECTRICAL THEORY. 1970, 207 pages, $4.00, adult.

This course was developed and designed to be used either in formal classroom work or for home study on a correspondence basis if the widespread location of apprentices makes class work impractical. The course is intended to be a common course of instruction for both electrical meterman and station wireman apprentices in their first two years of training; the third year study is specialized. Metermen will study material that is related to their specialty and wiremen will study material related to electrical construction and maintenance of power stations.

LINEMAN: 17.1402

OHIO

ELECTRIC LINEMAN TRAINING.

A series of four manuals was developed cooperatively by Ohio electrification personnel and rural electrification job training and safety instructors throughout the nation. These manuals when used in an organized lineman training program will result in the progression of a groundman trainee to groundman first class, to lineman trainee, to lineman second class, and to lineman first class, thus progressively meeting the training requirements in the line craft. Safety and safe working procedures are emphasized in all of the manuals.

SERIES 100. Learner's Manual. 1970 (Revised), 235 pages, $2.75 plus $.40 shipping.

This manual contains 45 basic job training procedures and 54 assignment sheets.

SERIES 100. Answer Book. 1970, 31 pages, $.85 plus $.40 postage and handling.

SERIES 200. Learner's Manual. 1966, 246 pages, $3.25 plus $.40 shipping and handling.

This manual contains 55 job training procedures and 56 assignment sheets.

SERIES 200. Answer Book. 1966, 46 pages, $.85 plus $.40 shipping and handling.

SERIES 300. Learner's Manual. 1966, 154 pages, $2.50 plus $.40 shipping and handling.

This manual contains 21 job training procedures and 29 assignment sheets.

SERIES 300. Answer Book. 1966, 35 pages, $.85 plus $.40 shipping and handling.

SERIES 400. Learner's Manual. 1966, 209 pages, $3.00 plus $.40 shipping and handling.

This manual contains 30 job training procedures and 41 assignment sheets.

SERIES 400. Answer Book. 1966, 35 pages, $.85 plus $.40 shipping and handling.

MOTOR REPAIRMAN: 17.1403

TEXAS (UT)

ELECTRIC MOTOR REPAIR (ELECTRIC MOTOR REPAIRMAN) - STUDY GUIDE AND ASSIGNMENT TESTS. 1973, 58 assignments, $19.95.

Included in the guide is a progress chart covering the jobs and related assignments. The answer book is helpful in evaluating work on the assignments and unit tests.

ELECTRIC MOTOR REPAIR ANSWER BOOK. 1973, $6.50.

ELECTRICAL OCCUPATIONS, OTHER: 17.1499

NEW JERSEY

PHYSICS FOR ELECTRICAL CONSTRUCTION AND MAINTENANCE, Student's Manual. 1965, 272 pages, $2.50.

For use with day trade preparatory classes, this manual is suitable as a textbook for a related physics course offered to electrical trades students. The unit titles are Introduction to Physics, Matter and Its Properties, Mechanics, Heat, Light, and Sound. The material in each unit is organized into several checking levels; each level contains one or more lessons and experiments. In addition, questions for discussion and review are included for each checking level.

PROJECTS IN ELECTRICITY - I. Student's Manual. 1965, 184 pages, $1.75.

This manual contains a series of projects and related information to provide practical experiences for day preparatory classes. The content is divided into divisions; numbers in brackets indicate the jobs included in the division: introductory material, care and use of tools and equipment, types of wire (8), soldering tools (2), signal wiring (14), appliance grounding, electrical symbols and outlets (11), nonmetallic sheathed cable (6), oil burner circuitry (1), gas burner circuitry (1), service entrance calculations, service entrance equipment, branch circuit overcurrent protection, and installing a service entrance.

OHIO

BASIC INSTRUCTIONAL UNITS FOR THE ELECTRICAL TRADE. Instructor's Manual. 1965, 40 pages, $1.25.

This manual contains a suggested course outline for basic electricity and basic electronics to aid the instructor in developing a more complete course of study in these areas. Suggested jobs and problems are included.

TEXAS (UT)

BASIC ELECTRICITY AND CONVENTIONAL MOTOR CONTROL SERIES.

This series is designed primarily for electricians who want to qualify for advanced electrical installation and servicing. Each of the units in this series contains an assignment book and an instructor's guide. Units 2, 3, and 4 utilize the same textbook; Units 5, 6, and 7 also are keyed to one text. The instructor's guide contains information sheets and examinations.

Unit 1 BASIC MATHEMATICS. Assignment Book. 85 pages, $3.00; Instructor's Guide. 102 pages, $3.00.

Unit 2 BASIC ELECTRICITY. Assignment Book. 96 pages, $3.00; Instructor's Guide. 120 pages, $3.00.

Unit 3 BASIC ELECTRICITY. Assignment Book. 104 pages, $3.00; Instructor's Guide. 97 pages, $3.00.

Unit 4 BASIC ELECTRICITY, ALTERNATING CURRENT. Assignment Book. 123 pages, $3.00; Instructor's Guide. 147 pages, $3.00.

Unit 5 AC CONVENTIONAL MAGNETIC MOTOR CONTROL - Part I. Assignment Book. 55 pages, $2.75; Instructor's Guide. 74 pages, $2.75.

Unit 6 AC CONVENTIONAL MAGNETIC MOTOR CONTROL - Part II. Assignment Book. 90 pages, $2.75; Instructor's Guide. 103 pages, $2.75.

Unit 7 DC MAGNETIC MOTOR CONTROL. Assignment Book. 121 pages, $3.00; Instructor's Guide. 122 pages, $3.00.

COMMERCIAL ELECTRICIAN. Student's Guide. (Cooperative Training.) 1969, 33 assignments, $3.50.

This manual contains study material broadly categorized under five unit headings.

COMMERCIAL ELECTRICIAN ANSWER BOOK. Teacher's Manual. 1969, $1.55.

STATIC CONTROL SERIES. (Cooperative Training.)

This series of five unit courses is designed to assist the student in learning to read logic diagrams and to understand the functions of static control elements. These are programmed texts with information sheets supplemented by examples and illustrations.

Unit 9A BASIC CONTROL FUNCTIONS. Programmed Text. 1964, $5.40.

Unit 9B MAGNETIC AMPLIFIERS. Study Guide. 1964, $3.25; Unit 9B Instructor's Guide. 1964, $3.25.

Unit 9C REMOTE CONTROL BY INDUSTRIAL TELEMETRY. Programmed Text. 1965, $6.40.

Unit 10A LOGICAL FUNDAMENTALS OF DIGITAL COMPUTERS. Programmed Text. 1967, 347 pages, $7.00.

Unit 10B COMPUTERIZED PROCESS CONTROL. Programmed Text. 1970, 331 pages, $10.50.

ELECTRONICS OCCUPATIONS: 17.15

NEW MEXICO

VOCATIONAL ELECTRONICS. Course Outline. Teacher's Guide. 1973, 67 pages, free, 11th and 12th grade.

This suggested course outline for vocational electronics contains sections on orientation, basic principles of electricity/electronics, fundamentals of direct current, AC fundamentals, electron tube fundamentals, solid state fundamentals, test equipment, systems, television, industrial applications, and job preparation.

SOUTH CAROLINA

PRINCIPLES OF AC GENERATION AND TRANSMISSION. Teacher Resource. 1973, 29 transparencies, $4.00.

This book contains a set of 29 transparencies illustrating transformer grounding, connections, and arrangement. The transparencies contain definitions and detailed diagrams that carefully explain ways transformers work. Examples of the transparencies included in the set are: Development of Sine Wave, Simple Transformer - Step Down Type, Rules for Star Connections - Current and Voltage Relationships, Typical Transmission, and Distribution System for Three Phase AC.

COMMUNICATIONS: 17.1501

OHIO

COMMUNICATION ELECTRONICS. Suggested Course Outline. 1973, 59 pages, $2.00 each plus $.40 shipping, 11th and 12th grade.

This is a suggested course outline for a two-year vocational communications electronics program. It includes an outline of manipulative tasks, related technology, and references. Task areas include DC and AC current, tubes, semi-conductors, audio devices, receivers, transmitters, TV servicing, and business practices.

INDUSTRIAL ELECTRONICS: 17.1502

OHIO

BASIC ELECTRONICS I. Experiment Manual. 1967, 386 pages, $4.50 plus $.40 postage and handling.

This manual provides the student with the opportunity to develop the skills and knowledge necessary to enter and progress in the electronics industry. As is common with other manuals, the material is arranged in a series of experiments paralleling the subject matter.

BASIC ELECTRONICS I. Instructor's Guide. 1967, 311 pages, $4.25 plus $.40 shipping and handling.

This is one of a series of three manuals and includes a learner's manual These manuals were developed to meet the requirements for personnel trained in the fundamentals of industrial electronics. The guide consists of 140 lesson plans and is to be used in conjunction with the other two manuals organized similarly. A bibliography is included.

BASIC ELECTRONICS I. Learner's Manual. 1967, 280 pages, $3.75 plus $.40 postage and handling.

The purpose of this manual is to aid the student to perform assignments in an organized manner. The manual consists of 140 study guides. The numbering and subject matter of each guide parallels the arrangement of materials in the other two manuals. Each guide contains specific study directives and references.

BASIC ELECTRONICS II. Experiment Manual. 1971, 455 pages, $6.00 plus $.40 shipping, 12th grade.

This laboratory manual is one of a three-part set of manuals designed for the second year of electronics. The laboratory manual coordinates the student's practical experiences with his technical training. The other parts of the set include a learner's manual and an instructor's manual.

BASIC ELECTRONICS II. Instructor's Manual. 1972, 264 pages, $4.50 plus $.40 shipping, 12th grade.

This instructor's manual is one of a three-part set of manuals designed for the second year of electronics. The manual includes lesson plans and outlines to follow as the instructor presents a particular lesson during the related instruction period. Also included are page references to recommended textbooks and to additional information for further study. The other parts of the set include a learner's manual and a laboratory manual.

BASIC ELECTRONICS II. Learner's Manual. 1972, 246 pages, $4.50 plus $.40 shipping, 12th grade.

This learner's manual is one of a three-part set of manuals designed for the second year of electronics. The learner's manual is to be used in conjunction with the instructor's manual of the same title. The purpose of the guide is to aid each student in studying the specific textbooks recommended. It divides the books into small study units, informs the student of the essence of each unit, and provides each student an opportunity to determine the extent to which he has learned each unit. The other parts of the set include a laboratory manual and an instructor's manual.

INDUSTRIAL ELECTRONICS. Suggested Course Outline. 1973, 41 pages, $2.00 each plus $.40 shipping, 11th and 12th grade.

This is a suggested course outline for a two-year vocational industrial electronics program. It includes an outline of manipulative tasks, related technology, and references.

OHIO

UNDERSTANDING RADIO. Instructor's Manual. 1967 (Reprint), 81 pages, $1.30 plus S.40 shipping, 11th and 12th grade.

This manual furnishes an abbreviated lesson plan for the instructor using group instruction methods for the teaching of a course in radio. The lessons are correlated with the assignment sheets found in the learner's manual, and a combination of both will greatly aid in the teaching of both shop and related information for the radio trade. The manual includes a list of reference readings for each lesson. A series of guide posts for effective presentation stresses visual aids and models and lists the assignment sheets which will aid in the mastery of each lesson. This is a valuable aid when using the group instruction method of teaching school, trade extension, or apprentice groups.

UNDERSTANDING RADIO. Learner's Manual 1967 (Reprint), 158 pages, $1.60 plus S.40 shipping, 11th and 12th grade.

This manual consists of 60 individual assignments which constitute a beginning course in radio. Each assignment covers a fundamental, easily understandable lesson and is correlated with the instructor's manual. The material is excellent for individual as well as group instruction use. It will be of value when instructing school, trade extension, or apprentice groups.

TEXAS (UT) (A & M UNIVERSITY - EES)

RADIO AND TELEVISON SERVICING. Course Outline. 1970, 105 pages, $1.50.

This is a suggested basic course outline designed to assist the teacher in developing a course of study. Topics include radio fundamentals, construction, receiver construction, transistors, television servicing, and other aspects of the trade. A bibliography and list of visual aids are included.

TELEVISION SERVICE AND REPAIR - STUDY GUIDE AND UNIT TESTS. Student's Guide. (Cooperative Training.) 1968, 4 divisions, 37 units, 98 assignments, $8.00.

Included in the guide is a progress chart covering the jobs and related assignments. The answer book is helpful in evaluating work on the assignments and unit tests.

TELEVISION SERVICE AND REPAIR ANSWER BOOK. 1968, $2.50.

ELECTRONICS OCCUPATIONS, OTHER: 17.1599

NEW JERSEY

ELECTRONICS LABORATORY MANUAL - Volume I. Student's Manual. 1970, 92 pages, $1.75.

This manual contains problem solving techniques in such fields as electrostatics, basic circuits, power supply, and electromagnetic force.

ELECTRONICS LABORATORY MANUAL - Volume II. Student's Manual. 1970, 73 pages, $1.75.

This is a continuation of Volume I and covers oscilloscopes, frequency and phase, inductance, circuits, and transformers.

INTRODUCTION TO ELECTRONICS FOR ELECTRICAL AND ELECTRONICS STUDENTS - Part I. Student's Manual. 1969, 198 pages, $2.00.

The manual introduces vocational electronics students to the theory underlying the trade. Included are such units as atoms, electrons, electricity, current and conductors, resistors, and meters.

INTRODUCTION TO ELECTRONICS FOR ELECTRICAL AND ELECTRONICS STUDENTS - Part II. Student's Manual. 1969, 169 pages, $2.00.

This manual contains such units as magnetism, meter movements, multimeters, and amateur radio licensing. Each lesson is suitably illustrated for secondary students.

WEST VIRGINIA

ELECTRONIC TECHNOLOGY. Instructor's Guide. 1966, 46 pages, $1.25.

This is an instructional outline designed to be used in secondary, post secondary, and adult education classes for 1256 hours of instruction covering the basic skills and technical information in this field. It contains a bibliography, list of instructional aids, equipment and tool lists with costs, test equipment and costs, supplies, manuals, and a suggested facility layout.

FOREMANSHIP, SUPERVISION, AND MANAGEMENT DEVELOPMENT: 17.17

OHIO

EFFECTIVE SPEAKING FOR SUPERVISORY PERSONNEL. Leader's Manual. 1967 (Reprint), 86 pages, $2.00 plus $.40 postage and handling.

The manual is a step-by-step guide for presenting a practical course in effective speaking. There are supportive materials that help the leader to make an attractive and interesting presentation of the course content.

EFFECTIVE SPEAKING FOR SUPERVISORY PERSONNEL - HANDOUT SHEETS. Leader's Resource Material. 1967, 20 pages, $1.00 plus $.40 postage and handling.

This is a packet of handout sheets. Each sheet emphasizes an important part of the course.

HUMAN RELATIONS TRAINING FOR SUPERVISORY PERSONNEL. Leader's Manual. 1970 (Reprint), 85 pages, $2.80 plus $.40 postage and handling.

The manual provides an orderly presentation to help supervisors develop skill in obtaining results through those they supervise. There are five 2-hour sessions which include such resource material as handouts, flannel board cutouts, and tape recordings to make the course an interesting and helpful experience for supervisors and managers.

HUMAN RELATIONS TRAINING FOR SUPERVISORY PERSONNEL. Handout Sheets. Leader's Resource Material. 1970, 15 pages, $1.00 plus $.40 postage and handling.

The sheets are designed to emphasize the important points in the presentation and to provide the trainee with a visual reminder of the highlight of the course content.

HUMAN RELATIONS TRAINING FOR SUPERVISORY PERSONNEL. Tape Recordings. Leader's Resource Material. 1970, tapes, $4.00 plus $.40 shipping and handling.

The cases presented by the leader are recorded and are available on tape or records. The professional manner in which the material is handled heightens interest in the course when the recordings are used.

GRAPHIC ARTS OCCUPATIONS: 17.19

INDIANA

A GUIDE FOR TEACHING GRAPHIC ARTS IN INDIANA. 1970, 131 pages, $1.25, 11th and 12th grade.

This guide for teaching graphic arts is designed to assist the teacher in his attempt to acquaint his students with the graphic arts industry. It is written in outline form listing teaching activities, text references, student activities, technical content outline, and suggested audiovisuals.

NEW MEXICO

GRAPHIC ARTS. Course Outline. Teacher's Guide. 1973, 39 pages, free, 11th and 12th grade.

This suggested course outline for graphic arts contains sections such as orientation, letterpress, basic photography, silk screen printing, offset printing, and indirectly related information.

PRINTING PRESS OCCUPATIONS: 17.1902

MISSISSIPPI

VOCATIONAL OFFSET PRINTING - BASIC PLAN FOR THE ORGANIZATION AND MANAGEMENT OF INSTRUCTION. Instructor's Guide. 1967, 50 pages, $1.00.

The guide contains an analysis of operations, suggested jobs for training, and outline-related instructions. It also contains references and suggested equipment and supply lists. The course outline is primarily designed as a guide for a high school course requiring 1080 hours of training.

MISSOURI

GRAPHIC COMMUNICATIONS. Instructor's Guide. 1971, 51 pages, $4.25 plus postage and handling, 11th and 12th grade.

This publication contains a course outline and a sample course of study for graphic communications. It is designed to be used by teachers as a guide in setting up and operating vocational printing programs. The content of this publication is based on the latest references available at the time of publication. Included in this guide are course objectives, analysis of printing, suggested teaching plan, student projects, assignment sheets, a final exam, and evaluation procedures.

NEW JERSEY

ENGLISH FOR PRINTERS. Student's Manual. 1968, 159 pages, $2.00.

The viewpoint of this text is that of English as an everyday working tool. The printing student is aided in understanding punctuation, trade terms, special

punctuation marks, and abbreviations. Spelling and proofreading are also emphasized. Achievement tests are incorporated at the end of each unit, and a final examination is at the back of the book.

PHYSICS FOR PRINTERS. Student's Manual. 1969, 119 pages, $2.00.

The physical principles that apply to printing are dealt with in relevant fashion in this manual. Units include measurements, molecular theory, application of heat, levers, light, optics, color, and electricity. Each lesson contains a section dealing with things to do, terms to define, and other activities.

TEXAS (UT)

PRINTING - STUDY GUIDE AND UNIT TESTS. Student's Guide. (Cooperative Training.) 1970, 8 units, 82 assignments, $4.25.

Included in the guide is a progress chart covering the jobs and related assignments. The answer book is helpful in evaluating work on assignments and unit tests.

PRINTING - ANSWER BOOK. 1970, $2.50.

LITHOGRAPHY, PHOTOGRAPHY, AND PLATEMAKING: 17.1903

NEW JERSEY

PHOTO-OFFSET PRINTING AND COMMERCIAL PHOTOGRAPHY - Volume 2, Elementary. Student's Manual. 1965, 210 pages, $2.00.

This manual is designed for students enrolled in preparatory and extension classes. The content is divided into six units of instruction, each broken down into a number of lessons as shown in brackets: camera work (8); dark room work (2); offset stripping (10); plate making (3); offset press work (22); and bindery work (9). A bibliography and a series of achievement tests are included.

PHOTOENGRAVING: 17.1904

NEW JERSEY

ART OF PHOTOENGRAVING II. Student's Manual. 1968, 151 pages, $1.50.

This is a fundamental text for first-year students. It discusses types of engraving, copy, and art work and introduces tools and basic equipment. The process camera and the fundamentals of photoengraving are also treated in the text material.

MARITIME OCCUPATIONS: 17.22

TEXAS (UT)

MOTORBOAT MECHANIC. Student's Guide. (Cooperative Training.) 1970, 32 assignments, $4.00.

This unusual occupation has been broken down into 9 units with 32 individual assignments available for student's use in completing the training sequence. An answer book is available to coordinators.

MOTORBOAT MECHANIC ANSWER BOOK. Teacher's Manual. 1970, $2.00.

METAL WORKING: 17.23

MACHINE SHOP: 17.2302

CALIFORNIA

MACHINE SHOP. (Apprenticeship.)

These materials are designed for use in related instruction courses for apprentices.

Part I. Workbook. 1973 (Revised), 157 pages, 5 units, 53 instructional topics, $2.50; Testbook. 1973 (Revised), $2.50; Examination. 1973 (Revised), $.50.

Part II. Workbook. 1967 (Revised), 120 pages, $2.25; Testbook. 1967 (Revised), $2.50; Examination. 1967 (Reprint), $.50.

Part III. Workbook. 1962 (Revised), 99 pages, $2.50; Testbook. 1962 (Revised), $2.00; Examination. 1962 (Revised), $.50.

Part IV. Workbook. 1969, 168 pages, $2.50; Testbook. 1969, $2.00; Examination. 1969, $.50.

CONNECTICUT

PROGRESS RECORD, THEORY OUTLINE AND JOB ASSIGNMENT PLAN BOOK - MACHINE COURSE. Instructor's Manual. 1969, free.

The assignment book is designed to reduce paper work. The book not only aids in planning but it has space for locker assignments, text assignments, notes, and other papers. It contains trade theory outlines for machine shop at grades 10, 11, and 12.

INDIANA

MACHINE TRADES GRINDING AND HEAT TREATING. 1969, 150 pages, $3.00, 11th and 12th grade.

This study guide contains an outline listing the skills, knowledge, and methods used in machine trades. Also included in each unit are an assignment sheet which contains several questions, a listing of the text and reference material, technical terms, and safety hints.

MODERN MATHEMATICS AS APPLIED TO MACHINE TRADES - Volume 1. 1973, 381 pages, 11th and 12th grade.

MODERN MATHEMATICS AS APPLIED TO MACHINE TRADES - Volume 2. 1973, 288 pages, 11th and 12th grade.

Volume 1 and Volume 2 were developed through a research project. Included in each of these two volumes are technical information lead-in sheets, machine trades technical information sheets, technical assignment sheets, sample technical operation sheets, and sample technical job sheets. Volume 1 is designed to be utilized by first-year machine tool technology students; Volume 2 is designed for students in the second year. Each volume was written with the student in mind; ease of reading and understanding is a primary objective. Although the two volumes are not designed to be a complete course of study for the machine trades area, sample operation sheets and sample job sheets have been included to illustrate the utilization of the technical information sheets in specific operations and jobs.

MISSOURI

VOCATIONAL MACHINE SHOP. Individual Study Guide. 1973, 137 pages, 11th and 12th grade.

This study guide consists of an analysis of Basic Vocational Machine Shop along with assignment sheets covering the related occupational information to be taught

by the school. It has been designed to help the student learn machine shop on an individual basis either in full-time school or cooperative part-time programs. This guide is directly related to the instructions in Basic Vocational Machine Shop and can be used in conjunction with the instructor's guide.

VOCATIONAL MACHINE SHOP. Instructor's Guide. 1972, 275 pages, $10.00, 11th and 12th grade.

The instructional guide is designed to provide curriculum materials that vocational and practical arts instructors can utilize in identifying, selecting, and organizing basic machine shop courses. The guide is organized into lesson plans. Each lesson plan format includes a scope of the unit statement; a lesson title; lesson objectives; informational references to the most current textbooks; a list of supplementary teaching aids; an introductory statement; a lesson outline or steps of procedure; lesson interaction items; a list of suggested classroom, shop, or laboratory activities; and example unit test items for each lesson.

NEW JERSEY

MATHEMATICS I - MACHINE SHOP. Student's Manual. 1970, 107 pages, $1.50.

The content utilizes such machine shop items as the vernier, the micrometer, tapers, and belt distances upon which to base problems. The units include numbers, percentages, ratios, powers and roots, measurements, speeds and feeds, screw threads, and other machine shop information.

OHIO

JIGS AND FIXTURES. Learner's Manual. 1971 (Reprint), 64 pages, $1.25 plus $.40 shipping, 11th and 12th grade.

This is a workbook that is intended to be used with the textbook, Jig and Fixture Design. Albany New York: Delmar Publishers, 1947.

MACHINE TRADES I. Learner's Manual. 1965 (Revised), 378 pages, $3.25 plus $.40 postage and handling.

This manual is organized on the basis of 131 assignment sheets under the following divisions: bench work, drilling machine work, engine lathe work, turret lathe work, and power saw work. It is designed for use with in-school related work classes, apprenticeship, and trade extension-type training. An objective test is contained at the end of each division. References are included.

MACHINE TRADES I. Answer Book. 1965 (Revised), 97 pages, $1.50 plus $.40 postage and handling.

This book contains answers to questions listed on assignment sheets in the Machine Trades I learner's manual.

MACHINE TRADES II. Learner's Manual. 1962, 389 pages, $3.00 plus $.40 postage and handling.

This is a companion volume to Machine Trades I. The content is organized on the basis of 153 assignment sheets under the following divisions: shaper work, milling machine work, planer work, grinder work, metallurgy, heat treating, gears,

and gearing. It was designed for use with in-school related work classes, apprenticeship, and trade extension-type training. An objective test is contained at the end of each division. References are included.

MACHINE TRADES II. Instructor's Manual. 1971, 394 pages, $4.00 plus $.40 shipping, 12th grade.

The instructor's manual is a companion volume to Machine Trades I; a learner's manual is also available. This manual contains shaper work, milling machine work, planer work, grinder work, metallurgy, heat treating, gears, and gearing. The manual has been designed to assist the instructor in teaching the technical knowledge of the machine trades.

OKLAHOMA

MACHINE SHOP. Curriculum Guide. 1972, 794 pages, $15.00, 11th and 12th grade.

This self-contained instructional manual is written in terms of student performance. It contains 16 units of instruction in orientation and safety, materials, heat treating, measuring tools, cutting tools, and machine tools. Each unit contains behavioral objectives, suggested activities, information sheets, transparency masters, assignment sheets, job sheets, tests, and answers to the tests.

TEXAS (UT)

MACHINIST - STUDY GUIDE AND ASSIGNMENT TESTS. 1972, 71 assignments, 17 units, $8.50.

Safety, tools and equipment, principles of measurement and drawing, metals and alloys, and basic metallurgy are covered in the 71 assignments presented in 17 units.

MACHINIST ANSWER BOOK. 1972, $4.00.

This manual provides the answers to the Machinist manual.

MACHINE TOOL OPERATION: 17.2303

INDIANA

PRECISION MEASUREMENT. 1967, 100 pages, $1.00, 11th and 12th grade.

This instructor's guide contains a series of assignments designed to develop skill in precision measuring for the machine tool industry.

NEW YORK

ENGINE LATHE OPERATOR. Instructor's Guide. 1972, 132 pages, $1.00, 11th and 12th grade.

This instructor's guide is written in the form of a syllabus with 16 shop projects for training engine lathe operators. Each project includes objectives, an equipment list, operations, materials, and selected references.

SURFACE GRINDER OPERATOR. Instructor's Guide. 1973, 103 pages, $.75, secondary and adult

This is a curriculum guide for training the surface grinder operator. The guide contains job sheets with drawings for the construction of 17 shop projects covering the operation of the surface grinder only.

SOUTH CAROLINA

READING THE MICROMETER. Student's Guide. 1970, 8 pages, $.75.

The guide contains an explanation of the steps involved in reading the micrometer. There is a series of exercises to strengthen and reinforce learning. A test completes the leaflet.

READING THE MICROMETER. Teacher's Handbook. 1970, 7 pages, $1.00.

This handbook was prepared to assist the teacher in acquainting students with the micrometer, its parts, and methods of reading it. An introduction giving some nomenclature and transparencies showing the parts of the micrometer are included. A student guide is also available at 50¢.

METAL TRADES, COMBINED: 17.2304

MISSISSIPPI

VOCATIONAL METAL TRADES - BASIC PLAN FOR THE ORGANIZATION AND MANAGEMENT OF INSTRUCTION. Instructor's Guide. 1967, 62 pages, $1.00.

This guide contains an analysis of operations, suggested jobs for training, and an outline of related instruction. References and an equipment list are included. The course plan follows the "cluster" concept covering the machinist, sheet metal worker, and combination welder. The course outline is primarily designed as a guide for a high school course requiring 1080 hours of training.

OREGON

METALS. Curriculum Guide. 1969, 124 pages, $2.50, 11th and 12th grade.

This instructor's guide is designed to prepare students for entry into one of five key metals occupations: welder (arc, gas shielded arc), machinist, foundry worker, sheet metal worker, and combination. The guide is organized in a three-column format which includes required knowledges and skills, objectives for the student, and suggested learning activities.

SHEET METAL: 17.2305

CALIFORNIA

SHEET METAL. (Apprenticeship.)

These materials are available for use in related instruction courses for apprentices.

Part I. Workbook. 1966, [illegible] pages, $2.50, 7 units, 71 instructional topics; Testbook. 1966, $2.50, Examination. 1966, $.50.

Part II. Workbook. 1968 (Revised), $3.00; Testbook. 1968 (Revised), $2.00; Examination. 1968 (Revised), $.50.

Part III. Workbook. 1970 (Revised), $3.00; Testbook. 1970 (Revised), $2.00; Examination. 1970 (Revised), $.50.

Part IV. Workbook. 1972 (Revised), 96 pages, $2.00; Testbook. 1972 (Revised), $2.00; Examination. 1972 (Revised), $.50.

MISSISSIPPI

VOCATIONAL SHEET METAL - BASIC PLAN FOR THE ORGANIZATION AND MANAGEMENT OF INSTRUCTION. Instructor's Guide. 1967, 29 pages, $1.00.

This guide contains an analysis of operations, suggested jobs for training, and an outline of related instruction. It also contains references and suggested equipment and supply lists. The outline is primarily designed as a guide for a high school course requiring 1080 hours of training.

TEXAS (UT)

SHEET METAL - STUDY GUIDE AND UNIT TESTS. Student's Guide. (Cooperative Training.) 1966, 3 divisions, 14 units, 55 assignments, $5.00.

Included in the guide is a progress chart covering the jobs and related assignments. The answer book is helpful in evaluating work on the assignments and unit tests.

SHEET METAL ANSWER BOOK. 1966, $2.40.

WELDING AND CUTTING: 17.2306

MISSOURI

RESISTANCE AND SPECIAL WELDING PROCESSES. Instructor's Guide. 1972, 250 pages, $5.50, 11th and 12th grade.

This instructional guide is composed of two sections, resistance welding and special welding processes. The resistance welding section contains 15 lessons ranging from principles of resistance welding to electroslag-electrogas welding. The special welding section is composed of 8 lessons ranging from laser welding to submerged arc welding.

WELDING TECHNOLOGY. 1970, 123 pages, $2.50, 11th and 12th grade.

This study guide consists of an analysis of welding with assignment sheets covering related occupational information and is designed for use in cooperative educational programs with instruction on an individual basis. A table of contents and a list of references are included to aid the instructor or coordinator in making assignments according to individual need.

NEW MEXICO

WELDING. Course Outline. Teacher's Guide. 1973, 47 pages, free, 11th and 12th grade.

This suggested course outline for welding contains sections on orientation, oxygen-acetylene, arc welding, TIG welding, MIG welding, blueprint reading layout, and indirectly related information.

NEW YORK

TRADE WELDING SYLLABUS. Teacher's Guide. 1972, 56 pages, $.75, 11th and 12th grade.

This guide is written in the form of a syllabus with 14 units covering the various types of welding, resources, suggested minimum equipment, eye safety, and welder certification. A three-column format is used in the syllabus. Column 1 lists units of instruction; column 2 consists of objectives for the instructional units; and column 3 contains suggestions for the teacher.

OKLAHOMA

WELDING. Curriculum Guide. 1971, 356 pages, $6.00, 11th and 12th grade.

This self-contained instructional manual is written in terms of student performance and contains units of instruction in safety and orientation, blueprint reading, weld symbols, oxyacetylene welding, arc welding, TIG welding, miscellaneous, and becoming a good leader. Each unit contains behavioral objectives, suggested activities, information sheets, transparency masters, assignment sheets, job sheets, tests, and answers to the tests.

GAS WELDING: 17.230601

MISSOURI

GAS TUNGSTEN ARC AND GAS METAL ARC. Instructor's Guide. 1972, 250 pages, $9.00 plus postage and handling.

The instructional guide is designed to provide curriculum materials that vocational and practical arts instructors can utilize in identifying, selecting, and organizing welding course content for their courses of study. The guide is organized into lesson plan formats. Each lesson plan format includes a scope of the unit statement; a lesson title; lesson objectives; informational references to the most current textbooks; a list of supplementary teaching aids; an introductory statement; a lesson outline or steps of procedure; lesson interaction items; a list of suggested classroom, shop, or laboratory activities; and example unit test items. It also contains 39 lessons on TIG welding and 17 lessons on MIG welding.

OXYACETYLENE WELDING. Instructor's Guide. 1971, 200 pages, $6.25.

This instructional guide is designed to provide curriculum materials that vocational and practical arts instructors can utilize in identifying, selecting, and organizing welding course content for their courses of study. The guide is organized into lesson plan formats. Each lesson plan format includes a scope of the unit statement; a lesson title; lesson objectives; informational references to the most current textbooks; a list of supplementary teaching aids; an introductory statement; a lesson outline or steps of procedure; lesson interaction items; a list of suggested classroom, shop, or laboratory activities; and example unit test items.

ELECTRIC WELDING: 17.230602

MISSOURI

SHIELDED METAL ARC. Instructor's Guide. 1972, 225 pages, $9.00 plus postage and handling.

The instructional guide is designed to provide curriculum materials that vocational and practical arts instructors can utilize in identifying, selecting, and organizing welding course content for their courses of study. The instructional guide is organized into lesson plan formats. Each lesson plan format includes a scope of the unit statement; a lesson title; lesson objectives; informational references to the most current textbooks; a list of supplementary teaching aids; an introductory statement; a lesson outline or steps of procedure; lesson interaction items; a list of suggested classroom, shop, or laboratory activities; and example unit test items.

TOOL AND DIE MAKING: 17.2307

CONNECTICUT

TOOL AND DIE COURSE - Grade 11. Instructor's Manual. 1969, free.

In addition to containing the objectives for tool and die making at the 11th grade, the book provides space for taking attendance and assigning jobs and work areas. There is a course outline included that covers the trade theory at the designated grade level.

TOOL AND DIE COURSE - Grade 12. Instructor's Manual. 1969, free.

In addition to being an aid in reducing the instructor's paper work, the manual contains a trade course outline for tool and die making at the 12th grade level.

TOOL AND DIE COURSE - Grade 13. Instructor's Manual. 1969, free.

This manual combines details of a plan book and a trade theory course outline for activity at the 13th grade level.

MISSISSIPPI

VOCATIONAL TOOL AND DIE MAKING - BASIC PLAN FOR THE ORGANIZATION AND MANAGEMENT OF INSTRUCTION. Instructor's Guide. 1967, 61 pages, $1.00.

This guide contains an analysis of operations, suggested jobs for training, and an outline of related instruction. It also contains a bibliography and a suggested equipment list. This course outline is primarily designed as a guide for setting up a course for post-high school students 25 hours a week for 36 weeks, a two year course; or 30 hours a week for 72 weeks, a total of 2160 hours.

PERSONAL SERVICES: 17.26

BARBERING: 17.2601

NEW JERSEY

ETHNIC HAIRDRESSING. 1973, 72 pages, $2.50.

This is an introductory manual covering the actual practice of hairdressing procedures with emphasis on the hair types of blacks. Units include professional ethics, sanitary procedures and requirements, nature of hair, disorders of hair and scalp, shampooing and drying the hair, methods of hair straightening, methods of curling and setting the hair, haircutting, and hairstyling hints. The manual is illustrated with drawings and photographs. A set of questions follows each unit and an answer book is available.

COSMETOLOGY: 17.2602

NEW JERSEY

BEAUTY CULTURE I. Teacher's Guide. 1973, 501 pages, $6.00.

This manual is a course outline for the first semester (270 hours) of a four-semester course in beauty culture. The book is intended to be a complete guide for the teacher. All lessons are outlined in detail, including the advance preparation needed. Teaching tips are given in many instances and space for the teacher's own tips in other instances. Student activities are outlined and include quizzes.

MATHEMATICS FOR COSMETOLOGY. Student's Manual. 1968, 345 pages, $2.50.

This is a mathematics text related to the cosmetology trade. The usual principles of general math are presented in the first six units with virtually every problem related to cosmetology. The last three units, taxes, insurance, and accounts, provide many practical problems.

RELATED SCIENCE COSMETOLOGY. 1972, 137 pages, $2.00.

This manual gives background information designed to be taught separately from the practical-application side of cosmetology. No field of science is presented in detail, but an overview of each is given. Topics include hygiene and sanitation; the unseen world (microorganisms); the human body (includes 8 systems); the skin; the hair and scalp; nails; chemistry of hair products, tints and bleaches, and cosmetics; electricity; and light.

THEORY OF BEAUTY CULTURE. 1968, 204 pages, $2.25.

This is an attractively illustrated basic book for a course in beauty culture. The text has 20 units. The first 7 units present fundamentals and the health theory underlying the practice of beauty culture. The last 13 units concentrate on the various skills.

NEW YORK

COSMETOLOGY. Teacher's Guide. 1968, 123 pages, $2.00.

This is a suggested instructional guide in cosmetology which presents the essential content to prepare candidates to meet state licensure. Teachers will need to review the content and adapt it to local conditions. There is included a job description in cosmetology, detail of several required units of instruction, material on shop operation and management, and a selected bibliography.

PUBLIC SERVICE OCCUPATIONS: 17.28

FIREMAN TRAINING: 17.2801

CALIFORNIA

CALIFORNIA FIRE SERVICE OCCUPATION ANALYSIS. (Apprenticeship.) Student Manual. 1971, 28 pages, $.50.

This is part of a master plan for fire service training and education and is prepared to assist in the development of school curriculums, in-service training programs, courses of instruction, and instructional materials. It contains 391 tasks ranging from relatively simple operations to complex management responsibilities. The tasks are grouped into 19 blocks and into a variable number of units within each block. The block and unit system is designed to facilitate utilization of the analysis.

FIRE GROUND HYDRAULICS. (Apprenticeship.) Student Manual. 1970, 56 pages, $1.00 each.

This is designed for use as a fire department training manual, a reference for students enrolled in fire service training and fire science courses, and a source of information for individual study toward career advancement in the fire service. Included are

such topics as a simplified fire ground hydraulics system; calculating engine pressures for standard handlines and master streams, overcoming the effects of head pressure, calculating engine pressure for layouts using various size hoses, utilizing pump capacity; pumping in relay; supplying pressures other than standard nozzle pressures; estimating available flow from hydrants; supplying automatic sprinkler systems, and making other calculations.

NARCOTICS AND DANGEROUS DRUGS - Training Series 33. Resource Manual. 1969, $3.00.

This manual contains information generally unavailable from any one source. Of significance is content concerning the actions the courts permit officers to take in apprehending drug offenders.

MAINE

FIRE TRAINING SERVICE PROGRAM. 1972, 8 pages, adult.

This is a brief outline of areas covered in a 12 to 27 hour training program for firefighters. Major areas of instruction are extinguishers, hose, protective breathing equipment, resuscitator, basic ladders, pumps, aerial platforms, ladders, officers' course, and tactics.

OHIO

EMERGENCY VICTIM CARE AND RESCUE TRAINING. Instructor's Manual. 1971, $4.50 plus $.40 postage and handling.

The manual consists of a series of teaching guides prepared as a plan of instruction using the textbook, Emergency Victim Care and Rescue Training.

EMERGENCY VICTIM CARE AND RESCUE TRAINING. Textbook. 1971, 372 pages, $4.25 plus $.40 postage and handling.

For use in adult and extension classes, this text reflects recent medical findings about closed heart compression, artificial respiration, maneuvering auto accident victims onto backboards, and other new materials. Medical aspects were reviewed by physicians who are experts in various specialties. The text is well illustrated. Chapter titles are: Emergency and Rescue Vehicles, Equipment, Personnel, Operations, Safe Driving Practices, Controlling the Situation, Childbirth, Common Squad Emergencies, the Mentally Disturbed Patient, Resuscitation, Oxygen Therapy, Closed Chest Heart Compression, Use of Backboards, Rescue Carrier and Drags, Aerial Ladder, Rescue Procedures, Forcible Entry, Gas Masks, Electrical Emergencies, Cutting Torches, Rope and Rigging, Shoring and Tunneling, Waterfront Operations, Unusual Situations, Records and Reports, Postmortem Conferences, and Legal Aspects.

FIRE SERVICE TRAINING. Instructor's Manual. 1973, 327 pages, $10.00 plus $.40 postage and handling.

This manual contains 26 detailed teaching guides for the basic course and is keyed to the Fire Service Training textbook. These guides will serve as a plan for the instructor when utilizing the group instruction method.

FIRE SERVICE TRAINING. Learner's Workbook. 1973, 141 pages, $1.25 plus $.40 postage and handling.

This workbook consists of 26 assignments which break the Fire Service Training textbook down into easily understandable lessons. Excellent for department and brigade basic training, class study, and self-study and improvement when used with the textbook.

FIRE SERVICE TRAINING. Textbook. 1972, 612 pages, $6.00 plus $.40 postage and handling.

This well-illustrated revised text is designed for use in basic and advanced fire service training courses and other specialized courses in fire fighting. It provides information for training volunteer and paid fire fighters. Chapter titles are: Community Fire Defense, Chemistry of Fire, Classification and Use of Fire Extinguishers, Water as Used in Fire Fighting, Fire Hydrants, Standpipe and Hose Systems, Sprinkler Equipment and Automatic Alarms, Fire Pumps, Fire Hose, Tools and Equipment, Rope in the Fire Service, Ladders, Gas Masks, Advance Information--The Alarm, Size Up, Forcible Entry, Rescue, Exposures and Confinements, Fire Extinguishment, Ventilation, Salvage, Overhaul and Pick-Up, Care of Apparatus, Driving Suggestions, The Run, Postmortem Conference, Fire Detection and Arson Investigation, Inspections, and Radiation Hazards.

LAW ENFORCEMENT TRAINING: 17.2802

NEW YORK

LAW - EVERYONE SHOULD KNOW - Adult Course Outline Bulletin No. 98. 1966, 95 pages, $.50.

This is a teacher's guide for an adult education course for a class of laymen - people who want some basic knowledge of law as it applies to everyday life.

OHIO

LAW ENFORCEMENT OFFICER TRAINING. Learner's Manual. 1971, 587 pages, $4.00 plus $.40 postage and handling.

This manual is designed for use in training programs to provide the law enforcement officer with the skills and technical knowledge essential in performing his duties. It covers the practices and techniques of the following procedures: acquiring and maintaining uniform, patrolling on foot - daytime - nighttime, patrolling in an automobile - daytime - nighttime, handling misdemeanors witnessed by officers, handling misdemeanors not witnessed by officers, handling felonies, handling traffic violations, handling traffic accidents, arresting, and testifying in court.

LAW ENFORCEMENT OFFICER TRAINING. Instructor's Manual. 1971, 800 pages, $8.25 plus $.40 postage and handling.

This guide contains teaching guides for each of the training procedures included in the learner's manual.

SUGGESTED GUIDELINES FOR DEVELOPING A HIGH SCHOOL TRADE AND INDUSTRIAL PROGRAM IN LAW ENFORCEMENT. 1972, 62 pages, $1.50 plus $.40 shipping, 11th and 12th grade.

This manual of suggested guidelines for developing a high school law enforcement training program is designed to provide enough skill aptitude and related knowledge

for a student to enter law enforcement at the patrolman level, as security agent, or in other law enforcement agencies at their starting level. The manual includes outlines of courses in math, administration of justice, history of law enforcement, law enforcement, defensive tactics, emergency victim care, business and industrial security, report writing, crimes and elements of law, ethics and canons of law enforcement, techniques of law enforcement photography, data processing, science and laboratory, and patrolling and driving techniques used in law enforcement.

QUANTITY FOOD OCCUPATIONS: 17.29

BAKER: 17.2901

TEXAS (UT)

BAKING. Student's Guide. (Cooperative Training.) 1970, 132 assignments, $6.00.

This guide contains assignments and unit tests. An answer book is available for use by the coordinator.

BAKING ANSWER BOOK. Teacher's Manual. 1970, $2.70.

COOK/CHEF: 17.2902

TEXAS (UT)

CHEF. Student's Guide. (Cooperative Training.) 1969, 66 assignments, $3.75.

There are 25 units and 66 assignments in this guide covering a wide range of information on food preparation. The answer book is for use by the coordinator in evaluating student's performance.

CHEF ANSWER BOOK. Teacher's Manual. 1969, $1.90.

MEAT CUTTER: 17.2903

CALIFORNIA

MEATCUTTING. (Apprenticeship.)

These materials are designed for use in related instruction courses for apprentices.

Part I. Workbook. 1971 (Revised), 142 pages, 33 instructional topics, $2.25; Testbook. 1963 (Revised), $2.25; Examination. 1963 (Revised), $.35.

Part II. Workbook. 1964 (Revised), 123 pages, 4 units, 23 instructional topics, $2.25; Testbook. 1964 (Revised), $2.25; Examination. 1964 (Revised), $.35.

TEXAS (UT)

MEAT CUTTER STUDY MANUAL AND ASSIGNMENT TESTS. 1973, $12.95.

This manual provides a thorough study of the meatcutting trade including safety; tools and equipment; careers in meatcutting; a short history of the cattle industry; ways to break down the carcass of a beef, lamb, or pork; cutting retail cuts from wholesale cuts; trade mathematics; pricing, storing, and displaying meat; and other aspects of the trade.

MEAT CUTTER ANSWER BOOK. 1973, $3.50.

This manual provides answers to the manual Meat Cutter.

SMALL ENGINE REPAIR, INTERNAL COMBUSTION: 17.31

MISSOURI

INTERNAL COMBUSTION ENGINE. 1970, 107 pages, $3.00 plus postage and handling, 11th and 12th grade.

This is an instructor's guide which includes 15 teaching plans for 90 days or periods of instruction. The materials are based upon the Briggs and Stratton Corporation instructional materials and engines. It includes a complete overhaul tool list and procedures for the 6 and 8 cubic inch Briggs and Stratton engines.

SOUTH CAROLINA

ROTARY MOWER SAFETY. Teacher's Resource. 1971, 4 transparencies, $1.25.

This set of four transparencies includes speed of the blade, impact of the blade at two different speeds, and the amount actually cut by the blade at walking speed.

SMALL GASOLINE ENGINES--FLOAT-TYPE CARBURETOR REPAIR. Student's Manual. 1972, 38 pages, $1.25.

This instructional manual is designed for individual student use with a minimum of teacher involvement. Each student progresses at his own speed. Only the float-type carburetor system and the related parts necessary for servicing this type carburetor are covered in this manual.

SMALL GASOLINE ENGINES--IGNITION SYSTEM REPAIR. Student's Manual. 1971, 51 pages, $1.50, 11th and 12th grade.

This instructional manual is designed for individual student use with a minimum of teacher involvement. Each student progresses at his own speed. Only the ignition system and the related parts necessary for servicing the ignition system are covered in this manual. The testing of the coil and condenser using specialized testing equipment is not covered.

TEXAS (UT)

MOTORCYCLE REPAIR. Student's Guide. (Cooperative Training.) 1970, 59 assignments, $6.85.

This guide contains repairmen's informational material and assignments under 17 unit headings. An added aid to the coordinator is the answer book.

MOTORCYCLE ANSWER BOOK. Teacher's Manual. 1970, $2.90.

SMALL ENGINES AND OUTBOARD MOTORS - STUDY GUIDE AND UNIT TESTS. Student's Guide. (Cooperative Training.) 1965, small engines: 14 units, 53 assignments; outboard motors: 4 units, 15 assignments; $4.00.

Included in the guide is a progress chart covering the jobs and related assignments. The answer book is helpful in evaluating work on the assignments and unit tests.

SMALL ENGINES AND OUTBOARD MOTORS ANSWER BOOK. 1965, $2.40.

This manual contains answers to the manual Small Engines and Outboard Motors - Study Guide and Unit Tests.

STATIONARY ENERGY SOURCES OCCUPATIONS: 17.32
PUMPING PLANTS: 17.3202
OHIO

BASIC HYDRAULICS. Learner's Manual. 1973 (Reprint), 95 pages, $3.00 plus $.40 shipping, 11th and 12th grade.

This is a workbook that contains a series of assignment sheets in basic hydraulics including review of math, hydraulic principles and formulas, pumps, bases and tubing, trouble shooting, filtration, and circuit diagrams. An answer book is also available.

BASIC HYDRAULICS. Answer Book. 1973 (Reprint), 27 pages, $1.00 plus $.40 shipping.

This answer book accompanies the Basic Hydraulics learner's manual.

STATIONARY ENERGY SOURCES OCCUPATIONS, OTHER: 17.3299
CALIFORNIA

FIRST COURSE IN APPRENTICESHIP - OPERATING ENGINEERS. (Apprenticeship.)

These materials are available for use in related instruction courses for apprentices.

Part I. Workbook. 1965, 141 pages, 4 units, 19 instructional topics, $1.25; Testbook. 1965, $.50.

Part II. Workbook. 1966, 117 pages, 3 units, 13 instructional topics, $1.50; Testbook. 1966, $.50.

HEAVY EQUIPMENT AND ITS USES - OPERATING ENGINEERS. (Apprenticeship.) Workbook. 1966, 171 pages, 9 units, 16 instructional topics, $2.00; Testbook. 1966, $.25.

The workbook is designed for use in related instruction courses for apprentices.

INTERNAL COMBUSTION ENGINES - OPERATING ENGINEERS. (Apprenticeship.) Workbook. 1967, 174 pages, 7 units, 16 instructional topics, $2.00; Testbook. 1967, $.50.

This workbook is available for use in related instruction courses for apprentices.

LEATHERWORKING: 17.34
SHOE REPAIR: 17.3402
INDIANA

LEATHER TECHNOLOGY AND SHOE REPAIR. 1969, 148 pages, $2.00.

This manual on leather technology and shoe repair includes sections on men's soles, men's heels, women's soles, women's heels, and shoe repair machinery. Each section is written in the form of a job sheet with an outline of procedures and appropriate illustrations.

UPHOLSTERING: 17.35

TEXAS (UT)

FURNITURE REPAIRMAN AND UPHOLSTERER. Student's Guide. (Cooperative Training.) 1970, 48 assignments. $4.50.

The guide. designed for student's study contains 11 units dealing with both upholstering and furniture repairing. An answer book is helpful to the coordinator in evaluating student's work.

FURNITURE REPAIRMAN AND UPHOLSTERER ANSWER BOOK. Teacher's Manual. 1970, $2.50.

WOODWORKING OCCUPATIONS: 17.36

MILLWORK AND CABINETMAKING: 17.3601

CALIFORNIA

CABINETMAKING AND MILLWORK. (Apprenticeship.)

These materials are designed for use in related instruction courses for apprentices.

Part I. Workbook. 1962 (Revised), $2.00; Testbook. 1962 (Revised), $2.00; Examination. 1962 (Revised), $.35.

Part II. Workbook. 1964 (Revised), 99 pages, 8 units, 34 instructional topics, $2.00; Testbook. 1964 (Revised), $2.00; Examination. 1964 (Revised), $.35.

Part III. Workbook. 1966 (Revised), 117 pages, 7 units, 27 instructional topics, $2.00; Testbook. 1966 (Revised), $2.00; Examination. 1966 (Revised), $.35.

TEXAS (UT)

CABINETMAKING - STUDY GUIDE AND UNIT TESTS. Student's Guide. (Cooperative Training.) 1969, 8 units, 78 assignments, $4.70.

Included in the guide is a progress chart covering the jobs and related assignments. The answer book is helpful in evaluating work on the assignments and unit tests.

CABINETMAKING ANSWER BOOK. 1969, $1.95.

WOODWORKING, OTHER: 17.3699

TEXAS

FURNITURE FINISHING - STUDY GUIDE AND UNIT TESTS. Student's Guide. (Cooperative Training.) 1967, 13 units, 51 assignments.

Included in the guide is a progress chart covering the jobs and related assignments. The answer book is helpful in evaluating work on the assignments and unit tests.

FURNITURE FINISHING ANSWER BOOK. 1967, $1.95.

TRADE AND INDUSTRIAL OCCUPATIONS, OTHER: 17.99

CALIFORNIA

INTRODUCTION TO APPRENTICESHIP. Workbook. (Apprenticeship.) 1968 (Revised), $2.75; Testbook. 1968 (Revised), $2.50; Examination. 1968 (Revised), $.35.

The workbook is designed for use in related instruction courses for apprentices.

INDIANA

CHARACTER DEVELOPMENT PERSONALITY AND HUMAN RELATIONS. 1971, 16 pages, $.30.

This manual was developed for trade and industrial students' use and includes such topics as: what is character?, what is personality?, industriousness, accuracy, and many other subjects.

RESPONSIBILITIES OF THE EMPLOYEE. 1971, 10 pages, $.30.

This publication was developed for industrial cooperative students. It covers such topics as: adjusting to the employer, you and others, adjusting to fellow workers, accepting responsibility, tardiness, and other subjects.

SAFETY HEALTH & HYGIENE FIRST-AID & ENVIRONMENT. 1971, 20 pages, $.30.

This manual's content consists of areas included in the title. The manual is for use by industrial cooperative students.

SAFETY - OVERVIEW OF O.S.H.A. 1973, 22 pages, $.60, post secondary.

This is a plan for implementing OSHA into the safety program of skill centers in Indiana.

MISSOURI

SAFETY TRANSPARENCIES. 36 transparencies, $4.00 plus postage and handling.

The transparencies illustrate safety in trade and industrial education.

NEW JERSEY

BUILDING CONSTRUCTION: RELATED DRAWING. 1973, 20 pages, $1.00.

This course outline is designed to prepare a student to read blueprints and to learn the techniques required to make a sketch. These capabilities are necessary if he is to become a successful craftsman in the field of building construction. As each individual progresses in his chosen vocation, he will become more competent in reading construction prints. The outline is planned to allow the individual to work at a rate he can maintain for maximum learning.

BUILDING CONSTRUCTION: RELATED MATHEMATICS. 1973, 58 pages, $1.50.

This is a teacher's guide expressed in behavioral terms for a course in related mathematics for the building trades. It contains related material for whole numbers, equations, fractions, decimal fractions, useful shortcuts, measurements, ratio and proportion, area and volume calculations, the framing square, percentage, common business transactions, insurance, taxes, business partnerships, and estimating.

BUILDING CONSTRUCTION: RELATED SCIENCE. 1973, 18 pages, $1.00.

Industrial Science in Building Construction is designed for an 80-hour program scheduled for five periods per week during the first half of the student's senior

year. It is offered in a self-contained laboratory with all work taught as related to the field of building construction. This outline is one of a series of outlines in the building construction program and is intended to inform the student as to why things he uses in his chosen field work the way they do and to anticipate how they will work in actual practice. The course is core-oriented with major emphasis on the doing.

BUILDING CONSTRUCTION: SKILLS OUTLINE. 1973, 37 pages, $1.50.

This is an outline of skills required in the building construction field, specifically in masonry, carpentry, roofing, sheet metal, and general contracting. These are expressed in behavioral terms and are useful for individual instruction. It is designed for a two-year program.

SAFETY PRACTICES AND PROCEDURES IN SCHOOL SHOPS. Student's Manual. 1968, 185 pages, $1.50.

A basic safety text, this book can be used as a classroom group text or as an individual reference. The book presents the material in 42 topics ranging from safety squads to individual pieces of safety equipment.

NEW MEXICO

ADVISORY COMMITTEES. Teacher's and Administrator's Guide. 1973, 22 pages, free.

This guide was developed to help trade and industrial instructors and administrators organize advisory committees. The guide defines advisory committees, gives the need for advisory committees, tells ways to organize them, and covers other topics.

INDUSTRIAL COOPERATIVE TRAINING. Administrator's Handbook. 1973, 41 pages, free.

This handbook describes for administrators ways to organize an industrial cooperative training program. It defines the program, gives advantages, tells ways to start a program, and other topics.

INDUSTRIAL COOPERATIVE TRAINING. Course Outline. Teacher's Guide. 1973, 15 pages, free.

This suggested course outline for industrial cooperative training contains sections on course outline, educational specifications, equipment list, floor plan, observation of programs, and VICA.

NEW YORK

RELATED GENERAL INFORMATION FOR COOPERATIVE TRADE AND INDUSTRIAL EDUCATION. Teacher's Guide. (Cooperative Training.) 1970, 254 pages, $2.00.

The material is designed for use by teachers of general related information who are preparing students for placement in the world of work. It contains eight sections such as orientation, getting a job, job practices and human relations, personnel management and labor relations, consumer economics, and some other general information.

OHIO

OCCUPATIONAL WORK EXPERIENCE SAMPLE COURSE OF STUDY. 1971, 33 pages, $2.00 plus $.40 shipping.

This manual gives guidelines for the operation of an occupation work experience program. Included are objectives of the program, operational policies, program content, suggested fields of training, ways to organize programs, and other topics.

OHIO ASSOCIATION - VOCATIONAL INDUSTRIAL CLUBS OF AMERICA (LOCAL CHAPTER AND LEADERSHIP DEVELOPMENT HANDBOOK) VICA-4. 1972, 42 pages, $1.00 plus $.40 shipping.

This publication is a local officer's handbook including areas on orientation to VICA, development of leadership, hints for making speeches, parliamentary procedures, and the duties of each officer. Recordkeeping examples and a sample parliamentary procedure quiz are included.

OHIO ASSOCIATION - VOCATIONAL INDUSTRIAL CLUBS OF AMERICA (LOCAL OFFICER'S HANDBOOK) VICA-2. 1969, 88 pages, $1.00 plus $.40 shipping, 11th and 12th grade.

This local officer's handbook is prepared to present a guide of activities and programs necessary to the successful implementation of a rewarding youth activity. The handbook contains sections on introduction, leadership development, dynamic personal leadership, a leadership plan for personal improvement, individual leadership skills, organization, and management.

OHIO VICA CONTEST MANUAL. 1972, 187 pages, $2.95 plus $.40 shipping, 11th and 12th grade.

This VICA contest manual is designed to aid the local chapter in preparing for state and national contests. The manual contains sections on general rules, specific rules, procedures for all of the club, and skill contests.

TEACHING PARLIAMENTARY PROCEDURE. 1971, 56 pages, $1.00 plus $.40 shipping.

This handbook on parliamentary procedure includes a series of lesson plans and information sheets for teaching parliamentary procedure. Each lesson plan gives a step-by-step procedure for teaching a specific parliamentary skill.

TRADE AND INDUSTRIAL RESOURCE SUPPLEMENT TO CONSUMER EDUCATION CURRICULUM GUIDE FOR OHIO. 1971, 84 pages, $2.40 each plus $.40 shipping, [illegible] and 12th grade.

This guide has been developed for the purpose of assisting T&I instructors in teaching consumer education during their related period.

VOCATIONAL EDUCATION IN DIVERSIFIED COOPERATIVE TRAINING. 1972 (Revised), 19 pages, $.85 plus $.40 shipping.

This publication includes a description of the objectives and standards of a cooperative trade and industrial education program (diversified cooperative training) planned to meet the needs of the smaller community with small enrollment and

limited employment opportunities. The program is defined and a sample class schedule is included. The appendix includes a sample student application blank and diversified cooperative training agreement.

OREGON

INDUSTRIAL MECHANICS. Curriculum Guide. 1969, 127 pages, $2.50, 11th and 12th grade.

This instructor's guide is designed to prepare students for entry into one of five key industrial mechanics occupations: automobile mechanics, construction equipment mechanic, diesel mechanic, garage foreman, and office machine serviceman. The guide is organized in a three-column format which includes required knowledges and skills, objectives for the student, and suggested learning activities.

SOUTH CAROLINA

DIVERSIFIED OCCUPATIONS COORDINATOR'S HANDBOOK. Teacher's Guide. 1973, 59 pages, $4.00, 11th and 12th grade.

This handbook is designed to assist school administrators and coordinators in establishing new diversifed occupations programs and to assist the coordinators of existing programs to operate them as efficiently as possible. The handbook contains units on the role and qualifications of the diversified occupations coordinator, advisory committee, recruiting, selection of work stations, placement of students, supervising students on the job, evaluation, and records and reports.

SAFETY. Teacher's Guide. 1968, 39 pages, $1.25, 11th and 12th grade.

This guide has been prepared to aid teachers in conducting an effective program of safety instruction and contains general information in safety responsibilities, first aid, teacher liability, categories of safety rules, preventable accidents, specific shop rules, shop and lab safety, and a transparency list.

SAFETY. 1968, 31 transparencies, $3.00.

The set of 31 transparencies and paper copies stress the importance of proper safety habits in trades and industrial education.

TENNESSEE

SHOP LAYOUT AND EQUIPMENT LIST. 1971, 155 pages, $3.00, 11th and 12th grade.

This publication contains suggested shop layouts and equipment lists for the following trades: air conditioning and refrigeration, appliance repair, auto body, auto mechanics, bricklaying, commercial art, commercial foods, cosmetology, drafting, electricity, carpentry, masonry, plumbing, painting and decorating, general metals, machine shop, prevocational, printing, radio broadcasting, radio and television service, shoe repair, small engines, tailoring, welding, and woodworking.

TEXAS (UT)

OPTICIAN - STUDY GUIDE AND UNIT TESTS. Student's Guide. (Cooperative Training.) 1967, 7 units, 53 assignments, $3.75.

Included in the guide is a progress chart covering the jobs and related assignments. The answer book is helpful in evaluating work on the assignments and unit tests.

STUDENT'S PERSONAL ADJUSTMENT TO WORK. 1973, $12.95.

This is a valuable classroom tool for the cooperative and trade and industrial teacher. Special information for the teacher include: the use of group discussions, audiovisual equipment, lesson plans, and public relations. Lesson topics for the student include safety, job application, job attitudes and relations, personal traits, money and banking, and school and civic responsibilities. Fifty-one transparencies accompany the text and may be used to strengthen class discussion.

WISCONSIN

INDUSTRIAL SAFETY EDUCATION FOR SMALL INDUSTRIES. 1971, 137 pages, $2.50.

This is an industrial safety curriculum guide developed for small industries in the state of Wisconsin by Stout State University. The guide contains an overview of industrial accident prevention; the Occupational Safety Health Act of 1970; management's responsibility; supervisory control; motivation of staff; equipment-tools as potential hazards; materials as potential hazards; requisites for safe, healthful place of employment and protection systems; and programs for a safe place of employment.

OCCUPATIONAL RESOURCE MATERIAL

Materials that follow are general in nature, apply to all vocational areas, and are listed under the headings of Administrator's Resource, Career Education, Student's Resource, or Teacher's Resource. The Teacher's Resource material may prove helpful to supervisors and administrators as well.

ADMINISTRATOR'S RESOURCE: All Vocational Areas

OHIO

ORGANIZATION AND OPERATION OF A LOCAL PROGRAM OF VOCATIONAL EDUCATION. 1968, 86 pages, $1.00 plus $.40 shipping.

This publication deals with establishing, maintaining, and improving comprehensive programs of vocational and technical education. The publication should prove to be a valuable guide for administrators of vocational and technical education programs: superintendents of schools, directors, coordinators, or deans. The references at the end of each chapter provide added resource material helpful to those who desire to pursue information in depth.

SUGGESTED SPACE AND EQUIPMENT COSTS FOR JOB TRAINING PROGRAMS. Planning Guide. 1967, 53 pages, $1.50.

This illustrated guide was prepared to assist school administrators, architects, home economics teachers, and others to plan and develop programs in high schools and joint vocational schools. Details for space and equipment have been developed at an optimum level. The facilities suggested would provide for self-contained work experience opportunities within the school. A bibliography is included.

PENNSYLVANIA

COOPERATIVE VOCATIONAL EDUCATION EVALUATION CRITERIA. 1972, 8 pages, free.

This manual is designed to be used in evaluating cooperative vocational education programs.

VERMONT

GUIDELINES COOPERATIVE VOCATIONAL EDUCATION IN VERMONT. 1972, 96 pages.

This manual provides guidelines for developing a cooperative vocational education program in Vermont. Part I includes cooperative vocational education programs in area vocational centers and Part II covers cooperative vocational education in other high schools.

CAREER EDUCATION: All Vocational Areas

ALABAMA

CAREER GUIDANCE HANDBOOK. 1973, 23 pages.

This handbook briefly explains a career guidance program, what it is, and ways to do it. It lists components of a career guidance program and responsibilities of the following persons for career guidance: guidance specialists, teachers, vocational educators, administrators, parents, and other community members.

ARIZONA

CAREER EDUCATION CLEARINGHOUSE BIBLIOGRAPHY AND INDEX. 1972, 350 pages.

This guide contains three major sections: an annotated bibliography of all materials, indexes to Arizona career education materials by career education element and grade levels, and indexes to other project and non-project produced materials by subject-matter area and grade levels.

COLORADO

COMMUNICATIONS AND MEDIA. 1972, 137 pages, $5.00, junior high and high school level.

This guide provides units of instruction in the following areas of the communications and media cluster: reading skill development, meeting the public, listening and following directions, parliamentary procedure, group discussion, public speaking, conversational skill, use of references, and mass media. It is suggested for use as a separate "mini" course or as part of an English class at the junior high or high school level.

DELAWARE

INTRODUCTION TO THE WORLD OF BUSINESS. Curriculum Guide. 1973, 90 pages, $1.25, 9th grade.

This curriculum guide provides instruction for a ninth grade course concerning career opportunities within the world of business. It is a three-column guide giving goals and objectives, procedures and activities, and resources and references. The units are designed to provide information as well as "hands on" experiences necessary to aid in career selection.

IOWA

AN INDIVIDUALIZED PROGRAM FOR COLLEGE AND CAREER. 1973, 100 pages, $20.00, high school and junior college level.

This is an individualized program designed to be used in a resource center or other independent study area under the direction of a student advisor. After a period of evaluation to determine the student's strengths and needs, the student selects the options on which he wishes to concentrate his efforts. The material does not include instructions for use. Anyone planning to use the system would need to obtain more information about it. Material is written with objectives and does include multi-media resources and books.

MAINE

CAREER EDUCATION IN MAINE BROCHURE. 1973, 23 pages.

This is a short brochure explaining general concepts of career education. Included is a short description of career education programs in Maine. It is designed to make teachers in Maine aware of career education and to provide insights, perspectives, and knowledge of ways career education can be planned and implemented in Maine schools.

BEST COPY AVAILABLE

CAREER EDUCATION IN MAINE CURRICULUM GUIDE. 1973, 268 pages.

This curriculum guide is designed to provide Maine educators with a model for developing concepts, activities, and resource materials that will introduce career education into the schools. It contains a short chapter on concepts and a chapter delineating the role of the teacher, the counselor, the administrator, the school board, the State Department of Education, the career education coordinator, and the guidance aide. The next four chapters provide examples of activities developed and tested in Maine schools for integration of career education into the classroom at elementary and junior and senior high school levels. This is a helpful publication for schools developing a career education program.

CAREER EDUCATION K-12 - SAD #9. 1973, 95 pages.

This is a final report of a research and development project in career education conducted under Part C of Public Law 90-576. The project was conducted for one year in School District Number 9, Farmington, Maine. The communities served by this district are mostly small and rural. A comprehensive report includes goals and objectives, procedures followed, results and accomplishments, conclusions, implications, and recommendations for the future.

MARYLAND

CALLING CAREERS. Television Series. 1973, 15 lessons.

Lesson #4 Medical Services I and Lesson #5 Medical Services II are segments of a career awareness series suitable for the intermediate grades. A teacher's manual and supplement are included. Produced by Division of Instructional Television, in collaboration with the Division of Vocational-Technical Education, Maryland State Department of Education, it is available for out-of-state telecast through the Eastern Educational Network. Direct inquiries to: Eastern Educational Network, Howard Spergel, 381 Elliot Street, Boston, Massachusetts 02164.

MISSISSIPPI

TEACHER'S GUIDE FOR OCCUPATIONAL ORIENTATION: AN INTRODUCTION TO THE WORLD OF WORK. 1972, 452 pages, $7.50.

This guide is designed to help the teacher plan a course of study for a class in occupational orientation/career education. Ideas could be adopted by teachers in other classes who wish to integrate some career orientation. Topics covered include: the importance of work; understanding the world of work; what is success?; preparing for a career; and exploring service occupations, business contact occupations, organization occupations, technology occupations, outdoor occupations, general cultural occupations, and arts and entertainment occupations. Student materials are also available.

MISSOURI

JOB APPLICATION AND INTERVIEW. Instructor's Guide. 1973, 354 pages, $15.00 plus postage and handling, high school and adult basic education.

The instructor's guide is divided into nine instructional units: why work; career opportunities; occupational information; self-evaluation; letter of application and application blank; job interview, tests, and forms; money management; job success factors; and job promotion and advancement. Each instructional unit includes behavioral objectives, suggested activities for teacher and students, information sheets, visual aids, tests, and answers to the tests. Units are planned for more than one lesson or class period of instruction.

NEW JERSEY

AN AGE-GRADED MODEL FOR CAREER DEVELOPMENT EDUCATION. 1969, 41 pages, $2.50.

This is an invaluable aid in developing and implementing career education. It discusses the theoretical underpinnings of child development and constructs a model for career development on a K-12 continuum. It examines the practical applications of the theories of self-awareness, career awareness, and career decision making.

CAREER DEVELOPMENT - INCREASING THE VOCATIONAL AWARENESS OF ELEMENTARY SCHOOL CHILDREN. Guidebook for Teachers. 1969, 31 pages, $1.50.

This is a six-part volume. The first two parts introduce the problems associated with the development of vocational awareness and introduce a concept model for the systematic introduction of the concept. The third part provides material which may be used in classroom assessment of vocational awareness. Section four provides sample instructional units for increasing vocational awareness. Section five describes some commonly used social studies activities which enhance vocational awareness. Section six introduces several job families or clusters of occupations.

CAREER DEVELOPMENT - JOB PLACEMENT. 1969, 63 pages, $1.50.

The first thirty-four pages develop the concept of job placement. This development starts with a detailed identification of the nature of the problem and a rationale for handling the problem. Sections three and four provide specific, concrete suggestions for the initiation and operation of a job placement program. The last twenty-nine pages report some of the information gained in the operation of five experimental job placement programs.

INTRODUCTION TO VOCATIONS. Teacher's Guide. 1973, 450 pages, $7.50.

This manual contains material which may be used as a text by the teacher for student instruction. It is also intended to be used as a guide to assist the teacher and coordinator of the program. It contains the following cycles: know yourself, environment, health and environmental careers, mechanical contracting, science-engineering-technology, small business, textile, transportation, and the following mini-cycles: bookkeeping, beauty culture, business education, careers in advertising, florist-horticulture, graphic arts, measurement, police careers, and United States Coast Guard.

INTRODUCTION TO VOCATIONS FOR EDUCABLE MENTALLY RETARDED. 1972, 55 pages, $1.00.

This is a part of career development for a special group. It is designed to aid the teacher and covers the following: general plans, the student as a member of society, economic aspects of living, exploratory units on occupation employment information, bibliography, information form, occupational interest form, and jobs for the retarded.

PHYSICS AND CHEMISTRY FOR AUTOMOTIVE TRADES. 1972, 243 pages, $2.50, 11th and 12th grade.

This manual contains units on introduction to physical science, matter and its properties, mechanics, heat, electricity, sound, and light. Each unit consists of related information, illustrations, and experiments.

NEW YORK

IDENTIFYING OPPORTUNITIES FOR EMPLOYMENT. Instructor's Guide. 1973, 84 pages, $.50.

This publication is intended to expose the students in adult basic education programs to some possibilities for marketing their newly acquired skills. The curriculum is sequenced as one unit in five phases, but any one of the sections could be used for individual guidance, for small group instruction, or for mini-seminars. Sections covered are: evaluating interest and abilities, preparing for employment, exploring the world of occupations, planning and preparing for interviews, and getting the job.

OHIO

OCCUPATIONAL WORK EXPERIENCE STUDENT HANDBOOKS. 1973, $8.00 plus $.40 shipping, available only as complete set, one set per student.

This is a set of 32 individual student handbooks designed for students enrolled in the Occupational Work Experience program in the Ohio Public Schools. This program is to provide an opportunity for students who are not intending to go to college or to a technical school to learn a trade so they can be employed immediately after high school. It consists of a half-day school program and a half-day training on the job. The handbooks can be used for individual instruction on a variety of topics such as reasons to stay in school, safety, conducting a meeting, decision making, ways to apply for and get a job, personal budgeting, and personality.

OKLAHOMA

CAREER EXPLORATION - A GUIDE FOR TEACHERS. 1970, 101 pages, $1.75, 8th, 9th, and 10th grade.

This guide is designed for use by teachers to plan and implement a course in exploration of careers for grades 8, 9, or 10. Units included are: know yourself, world of work, use of occupational information, and career education planning. This guide is written in a four-column format with objectives, activities, evaluation, and resources. The objectives are not behavioral.

A GUIDE FOR DEVELOPMENTAL VOCATIONAL GUIDANCE. 1973, 173 pages, $2.00.

This resource guide is divided into four sections: grades K-3, grades 4-6, grades 7-9, and grades 10-12. Each section contains general goals of vocational guidance for that grade level, specific things which the student needs to know, suggested activities, instructional materials, and resources.

OREGON

CAREER EDUCATION IN OREGON. 1970, 8 pages, $.25.

This is a position paper developed by the Director of Career Education in Oregon to present recommendations for career education in Oregon. It could be interpreted as a statement of broad objectives to implement career education in Oregon.

ELECTRICITY-ELECTRONICS. Curriculum Guide. 1969, 88 pages, $2.50, 7th-12th grade.

This manual was developed for the Oregon Board of Education to be used as a guide to establish a career cluster program in the area of electricity-electronics. The suggested curriculum plan is for grade levels 7 through 12.

GUIDE FOR PLANNING CAREER EDUCATION IN OREGON'S SECONDARY SCHOOLS. 1970, 22 pages, free.

This guide is intended for use by administrators in developing long-range plans for career education in individual schools. It is divided into five major parts: community data, school data, master career education plan, factors of implementation, and long-range planning sheets.

TEACHER'S GUIDE TO SUTOE (SELF UNDERSTANDING THROUGH OCCUPATIONAL EXPLORATION). 1971, 183 pages, $3.00, junior high.

This is a teacher's guide for a year-long course combining occupational exploration and self-understanding. It contains objectives for each unit followed by suggestions for implementation. The units are entitled: Pupil Involvement in SUTOE, Self-Appraisal and Self-Understanding, Relating School to Occupational Planning, The Individual's Role in the Economic System, Preparing Students for In-Depth Career Study, Exploring Jobs, Evaluating Experiences, and Planning Ahead.

WORLD OF WORK. 1971, 68 pages, $1.00, K-12.

This is a curriculum guide which is not self-contained. It uses behavioral objectives and is designed to relate the social studies curriculum to the world of work. For each grade level there are suggested activities, resources, and evaluation suggestions for reaching the objectives. It also includes a bibliography of occupationally oriented books and some worksheets for teacher use in planning the units.

SOUTH CAROLINA

THE WORLD OF WORK - A UNIT IN PRE-VOCATIONAL INSTRUCTION. Teacher's Guide. 1971, 216 pages and 31 game cards, $5.00, 9th and 10th grade.

This guide is designed for a course of instruction for 9th and 10th grade students. The guide contains 20 major activities or units each with objectives, student worksheets, and transparency masters.

TENNESSEE

CHARLES LIVES AND WORKS. 1970, 32 pages, $1.00, high school.

This is a short individualized instructional unit in job hunting, banking, and budgeting for use in vocational improvement programs. It could be used in math, English, or social studies classes at the high school level.

VIRGINIA

INDUSTRIAL ARTS CURRICULUM GUIDE. 1972, 109 pages, $2.50, secondary.

This guide has been designed as a professional resource for the secondary industrial arts teacher. The guide gives specific direction to the broad content courses in industrial arts and provides supplementary direction to the general unit-type courses. It includes a series of approaches to teaching industrial arts curriculum, ways to use educational television, a resource index, and transparency masters.

WASHINGTON

GUIDELINES FOR CAREER AWARENESS PROGRAMS FOR THE ELEMENTARY SCHOOL - PART 3: WHAT ABOUT VOCATIONAL EDUCATION? 1974 (Revised), 62 pages, free.

This is a resource guide to provide suggestions to elementary teachers in developing career awareness programs. For each grade level it includes goals, concepts and objectives, suggested activities, and learner's expectations. An appendix with resources for career awareness programs is also included.

SUGGESTED GUIDELINES FOR CAREER EDUCATION WORKSHOPS. 1973, 29 pages, free.

To develop continuity in the career education effort, this guide is designed to propose suggested content, methods, and techniques for in-service workshops that will assist teachers in integrating career education into their classrooms.

STUDENT'S RESOURCE: All Vocational Areas

ILLINOIS

APPLYING FOR A JOB. Student's Guide. 1969, 12 pages, $.18.

Many questions confronting students are answered in this leaflet. It deals with such items as taking personal inventory, getting additional training, discovering what jobs are available, writing a letter of application, and being interviewed by a prospective employer.

MISSOURI

BASIC MATHEMATICS. Instructor's Guide. 1971, 88 pages, $1.50.

This guide is designed for vocational students. The concepts of number theory, whole number operations, fractions, decimal fractions, and applied geometry are all included. There are five topic units with eleven developed lessons.

NEW JERSEY

DICTIONARY. 1973, 21 pages, $.50.

This manual can be used by students and is designed to give information on ways to use a dictionary. There are sample problems to provide the learner with learning experience needed to use a dictionary.

ENGLISH AT WORK - VOLUME I. 1970, 248 pages, $2.50.

This is written for the high school student who plans to go to work upon graduation. The format and examples are designed to motivate the vocational student. The table of contents lists ten unit titles: The Role of Language, The Dictionary, The Sentence, Written Expressions, Common Mistakes, Reading, The Newspaper, The Library, Expressing Yourself, and Spelling.

ENGLISH AT WORK - VOLUME II. 1970, 472 pages, $2.50.

This volume, as an extension of Volume I, continues in the same vein with no change in philosophy. The general areas covered are listed as units XI through XVI. These units are entitled: Written Correspondence, Vocabulary Building, Punctuation, Straight Thinking, Industrial and Business Forms, and Job Planning.

FINDING A JOB. 1973, 56 pages, $.50.

The publication includes information needed for finding a job. Areas included are: where to look for a job, the interview, things to learn about the job, the application form, and the resume.

THE NEWSPAPER. 1970, 28 pages, $.50.

This publication was developed to help the student learn to read and use newspapers. Problems and quizzes are included.

OHIO

JOB METHODS FOR SUPERVISORY PERSONNEL. Handout Sheets. Leader's Resource Material. 1966, 15 pages, $1.00 plus $.40 postage and handling.

This portfolio of handout sheets is essential for students to illustrate important points. Each of the 15 sheets is keyed for use in the instructor's manual and should be given to learners and participants at the appropriate time.

SOUTH CAROLINA

LOCATING AND SECURING A JOB. Student's Manual. 1970, 29 pages, $.75.

The manual was prepared for high school students enrolled in vocational education courses. Addressed to the student, the manual takes him through a series of seven steps in securing a job. There are assignments and helpful illustrations which provide opportunity for the application of the ideas set forth in the text material.

TENNESSEE

VOCATIONAL RELATED MATH--BLAST OFF! 1971, 169 pages, $4.75.

This manual was designed for student use. At the beginning of each unit is a skill test. As long as the student successfully completes all the problems on these tests, he gets to disregard all of the assignments in that unit. The content includes the number system, addition, subtraction, multiplication, and division of whole numbers.

VOCATIONAL RELATED MATH--TOUCHDOWN! 1971, 125 pages, $4.25.

This publication is designed to help a student improve math skills. Related information sheets, skill practice sheets, assignment sheets, and evaluation (test) sheets are included. Vocationally related problems are used for skill practice and assignments.

TEXAS

YOUR ATTITUDE IS SHOWING. 1972, $3.90.

This reference manual has been prepared by Elwood H. Chapman and published by Science Research Associates, Chicago, Illinois. It is a part of a set of three manuals dealing with attitudes.

YOUR ATTITUDE IS SHOWING ANSWER BOOK. 1972, $1.25.

This manual contains suggested acceptable answers to the assignment questions. The material is helpful in assessing student understanding and comprehension.

YOUR ATTITUDE IS SHOWING ASSIGNMENT MANUAL. 1972, $1.00.

This publication contains 20 assignments based upon the reference manual described above. Assignments cover such items as fundamentals of good human relations, ways to compensate for youth and inexperience, and ways to make good first impressions.

TEACHER'S RESOURCE: All Vocational Areas

INDIANA

ADVISORY COMMITTEES FOR HOME ECONOMICS. 1969, 17 pages, $.20.

This bulletin was written to help teachers with the organization and implementation of an advisory committee. The contents of this publication are: a description guideline for establishing a committee, steps in organizing and implementing the advisory committee, the meeting, purposes of the committee, a sample letter to members, constitution or guidelines, and a bibliography.

MAINE

IDEAS FOR TEACHERS. 1973, 77 pages.

This booklet was developed to help teachers motivate the disadvantaged, but could be valuable in working with all students. It is a teacher's guide giving suggested teaching activities for such areas as entering the world of work, occupations, living with your job, managing more, mathematics, and other areas.

MARYLAND

A TENTATIVE COURSE OUTLINE FOR USE IN COOPERATIVE VOCATIONAL EDUCATION PROGRAMS THREE YEAR SEQUENCE. 1972, 69 pages.

This is a three-year course outline for cooperative vocational education. The outline includes lessons, suggested activities, and references.

MISSOURI

ORIENTATION TO EMPLOYMENT. 1973, 124 pages, $3.00.

This is designed to aid the teacher coordinators of cooperative education in teaching general employment information needed by young beginning employees. The instruction should be valuable to any young worker regardless of the occupation of the student. The study guide and instructor's manual are each attractively bound in a three-ring plastic binder.

TECHNIQUES OF THE COOP METHOD. Instructor's Guide. 1973, 118 pages, $4.00 plus postage and handling.

The job of the coordinator in cooperative education requires the mastery of many specific skills which are identified and explained in this publication. The performance of the coordinator's role calls for knowledge of concepts and principles which are also described. However, the difference between an outstanding coordinator and one who is only average is usually the application of tricks of the trade that normally are gained only by experience. In this handbook, the author relates the many little tricks that he has found to work from his years of rich experience as a coordinator, supervisor, administrator, and teacher-educator.

NEW JERSEY

STUDENT'S MANUAL FOR SUPERVISED TEACHING OF VOCATIONAL SUBJECTS. Student's Manual. 1970, 63 pages, $2.00.

This manual is prepared specifically for trainees enrolled in the course entitled "Supervised Teaching of Vocational Subjects." Responsibilities and requirements of teaching vocational subjects are stressed in the publication.

TIME. 1970, 65 pages, $.50.

This manual is about time, its importance, its use, zones, and other information. This manual also includes problems and tests.

THE WORKER IN MODERN SOCIETY. 1970, 287 pages, $5.00.

The units presented are: problems of labor and management, capitalism of its rivals, history of the labor movement, structure and function of trade unions, personnel responsibilities in modern industry, problem-solving techniques of labor and management, intra-labor problems, corrective legislation, the worker's responsibility, and forthcoming problems. Each unit is presented as a series of lessons, and each lesson provides various outlooks on the topic presented. Thirty-nine pages of unit tests are included.

WORLD PROBLEMS FOR AMERICANS. 1969, 106 pages, $2.00.

The author intended this book as a guide to be used in exploring contemporary problems. There is no attempt to give final answers. The major areas explored are nationalism, war, rule by force, population, and religions.

NEW MEXICO

PERSONAL GROWTH CURRICULUM FOR ADULT BASIC EDUCATION. Curriculum Guide. 1970, 157 pages, free.

The content is designed not only to provide skill development in mathematics, reading, and writing, but also to develop a new life perspective and an awareness of family and social responsibilities. It is intended to lift attitudes from defeatism and rejection to those of confidence and leadership. The guide contains six major divisions including an introduction, family life, health education, world of work, money management, and citizen government.

NEW YORK

EVERYMAN'S ESTATE PLANNING. Curriculum Guide. 1971, 56 pages, $.50.

This is an instructor's guide for teaching an adult course in estate planning. There are six lessons and a case-problem analysis for planning an estate.

OHIO

A BRIEF GUIDE TO ELECTRONIC ALARM SYSTEMS. 1972, 25 pages, $1.50.

This 25-page summary of various types of alarm systems for retail security was prepared by Mosler Safe Company without bias for their own products. It details the advantages and disadvantages of various alarm systems to aid in the improvement of security.

CREATIVE THINKING. Teacher's Guide. 1969, 100 pages, $3.00.

This guide defines creativeness and presents ways to contribute creatively through an interplan of attitudes, aptitudes, resources, and planning. The unit can be used with high school students, post high school students, and adults. It is intended to provide an introductory study of the principles of creative thinking and to suggest ways and means by which individual and group creativity may be increased.

D.C.T. REFERENCE MATERIALS. 1970, 71 pages, $.50 plus $.40 shipping.

This is a listing of instructional materials for the teaching of prominent vocational subjects. These materials have been chosen by committee for their general excellence and are comprised of publications from most states active in vocational education. Also listed with the title of each publication are the reference materials with the address from which they may be obtained.

GETTING THE RIGHT JOB. Teacher's Guide. (Cooperative Training.) 1970, 54 pages, $1.50.

The content is organized into five units ranging from planning your career objective to the interview. The material is designed to aid the student in locating job sources, applying for employment, and successfully completing the interview. Teaching suggestions helpful in handling the content are included along with some instructional aids for teacher use.

INDUSTRIAL ARTS RESOURCE SUPPLEMENT TO CONSUMER EDUCATION CURRICULUM GUIDE FOR OHIO. 1971, 116 pages, $2.40 each plus $.40 shipping, 9th-12th grade.

This guide has been developed for the purpose of assisting industrial arts instructors in teaching consumer education as an integral part of their program.

MANPOWER TRAINING RESOURCE SUPPLEMENT TO CONSUMER EDUCATION CURRICULUM GUIDE FOR OHIO. 1971, 80 pages, $2.40 each plus $.40 shipping.

This is a teacher's guide for presenting consumer "know how" to the MDTA trainees. It contains concepts, suggested learning and evaluation experiences, and suggested resources.

OCCUPATIONAL WORK ADJUSTMENT RESOURCE SUPPLEMENT TO CONSUMER EDUCATION CURRICULUM GUIDE FOR OHIO. 1971, 63 pages, $2.40 each plus $.40 shipping, K-12.

This guide was developed for occupational work adjustment programs in Ohio. It is a teacher's guide including objectives, concepts, and suggested learning and evaluation experiences. Some areas included are the economic system, the job, ways to apply for a job, the paycheck, budgeting, money, banking, and credit.

OCCUPATIONAL WORK EXPERIENCE INSTRUCTOR'S MANUAL. 1973, 121 pages, $4.00 plus $.40 shipping.

This instructor's manual was developed for occupational work experience program use. It covers such areas as safety education in driving, using the telephone, decision making, ways to apply for and get a job, what the employee wants, and other work experience information.

PATHWAYS TO SELF-IMPROVEMENT. 1972, 83 pages, $2.50.

This is a course outline for developing attitudes about a student's personality, personal appearance, and ability to communicate. It includes measurable objectives, teaching content, and projects which will help the student learn to be more successful. Each project has objectives, step-by-step directions, and evaluation rating factors for the coordinator.

THINKING ABOUT YOUR FUTURE. 1971, 2 pages, $.04.

This is a handout used by most coordinators to gauge initial reaction in mass recruiting assemblies. It has a fill-in blank on the back cover for indication of interest in the program.

TRAINING PLANS FOR COOPERATIVE OFFICE EDUCATION. Teacher's Manual. (Cooperative Training.) 1970, 47 pages, $1.00.

This manual contains training plans for a variety of office occupations suitable for a high school cooperative education program.

AN UNDERSTANDING OF ECOLOGY FOR TOMORROW'S BUSINESS LEADER. 1972, 31 pages, $2.00.

A subject of national concern is presented in this teaching outline with the objective of incorporating outside projects to acquaint students with ecological problems in their own community. Several related films are listed as well as many printed references.

OKLAHOMA

COOPERATIVE VOCATIONAL EDUCATION - A BASIC COURSE OF STUDY. 1972, 553 pages, $10.00

This color-coded publication is a basic course of study for cooperative vocational education. Topics covered are: orientation, employment, personal development, employee relations, communications, financial management, and insurance. The self contained units include performance objectives, suggested activities for teacher and students, information sheets, transparency masters, assignment sheets, tests, and answers to tests.

HANDBOOK FOR COOPERATIVE PROGRAMS. 1972, 51 pages, $1.25.

This publication is to serve as a handbook for teachers of cooperative programs in vocational education. Topics included are: purposes of vocational education, types of programs, responsibilities of the teacher-coordinator and the advisory committee, legal regulations, selection of students and training stations, evaluation, and sample forms to be used in the program.

VOCATIONAL RELATED ENGLISH. Curriculum Guide. 1972, 778 pages, $12.00, 8th, 9th, and/or 10th grade.

This color-coded publication developed for the disadvantaged includes six areas which relate English to the occupational clusters of construction, general mechanical trades, and home and community services. Each self-contained instructional unit includes performance objectives, suggested activities for teacher and students, information sheets, assignment sheets, transparency masters, tests, and answers to the tests. Areas cover general vocational, capitalization, punctuation, parts of speech, the sentence, and usage.

VOCATIONAL RELATED MATH. Curriculum Guide. 1972, 908 pages, $12.00.

This curriculum guide includes seven areas, each consisting of one or more units of instruction. Each instructional unit includes behavioral objectives, suggested activities for teacher and students, information sheets, assignment sheets, visual aids, tests, and answers to the test. Units are planned for more than one lesson or class period of instruction. There are a total of 39 units of instruction covering the following areas: measurement, whole numbers, fractions, decimals, percent, consumer education, and geometry.

VOCATIONAL RELATED SOCIAL STUDIES. Curriculum Guide. 1972, 546 pages, $10.00, 8th, 9th, and/or 10th grade.

This color-coded publication developed for the disadvantaged relates social studies to the vocational clusters of construction, general mechanical trades, and home

and community services. The four areas included are general vocational, government, social studies, and industry in Oklahoma. Each self-contained unit includes performance objectives, suggested activities for teacher and students, information sheets, assignment sheets, transparency masters, tests, and answers to the test.

PENNSYLVANIA

COOPERATIVE VOCATIONAL EDUCATION GENERAL RELATED THEORY CLASS OUTLINE. 1972, 45 pages, free.

This is a teacher's guide for use in cooperative vocational education general related theory class. There are eight units and included in each unit are objectives, class activities, suggested references, and films. Some of the units are: employer and employee relationship, human relationship, consumer education, and career and job exploration. This guide is appropriate for any cooperative class.

A GUIDE FOR TEACHING BASIC READING SKILLS TO ADULTS (A RIGHT TO READ PROGRAM). 1973, 100 pages, free.

This is a teacher's guide for teaching basic reading skills to adults. Worksheets are included in the manual for student use.

RESOURCE MATERIALS FOR HOME ECONOMICS EDUCATION IN PENNSYLVANIA SCHOOLS. 1970, 32 pages, free, secondary.

This bulletin is the introduction to the series of bulletins which constitute the resource materials for home economics education in Pennsylvania. It explains the terminology and curriculum structure which were used as the basis for developing the resource materials in each curriculum area.

SOUTH CAROLINA

FOOD DISTRIBUTION, THE SUPERMARKET ENTRY OCCUPATIONS. Teacher's Guide. 1971, 49 pages, $1.25, secondary; also available 19 transparencies, 1971, $2.75.

This publication was developed to assist coordinators of distribution and marketing to improve and expand instruction activities in preparing high school students to enter and progress in the area of food distribution. The manual contains activities and tests and includes areas such as history of the supermarket, store organization, major departments, channels of distribution, and other related information.

LOW-COST TEACHER-MADE OVERHEAD TRANSPARENCIES. Teacher's Manual. 1969, 63 pages, $1.00.

This printed, well-illustrated booklet contains a thorough discussion of the merit and potential of one material that can be used in the production of overhead transparencies. The material, known as three Mil Trycite, has been selected because it is economical, versatile, very transparent, and can be obtained in a pre-cut size useful in teaching. It can be utilized without expensive equipment or processing materials. The publication provides the "how to do it" of transparency production in excellent detail.

TENNESSEE

BASIC REMEDIAL EDUCATION. 1968, 289 pages, $5.25.

This handbook offers a suggested course outline, sample lesson plans, lists of instructional materials, and aids for basic-remedial education. It was designed to be used by MDT teachers.

BUILDING ENGLISH SKILLS - COMMUNICATIONS - LEVELS II and III. 1971, 335 pages, $4.25, secondary.

The material was prepared for use by instructors and students in vocational advancement programs in secondary schools. A student may begin at his own achievement level and progress at his individual rate under the instructor's guidance. Level II materials are written for students whose reading level ranges from grades 2-5; Level III materials are for grades 4-8. The English skill areas are divided into units which are made up of several lessons. The units cover the parts of speech and the sentence.

TEACHER'S GUIDE - VOCATIONAL RELATED TRAINING FOR SPECIAL STUDENTS. 1972, 225 pages, $4.25.

This teacher's guide was designed for use with the secondary disadvantaged, handicapped, or regular vocational student. There are four major sections covering equipment and materials, suggested instructional units, suggested grading standards, and references. Most of the guide deals with suggested instructional units such as personality, human relations, consumer education, and health.

TENNESSEE COOPERATIVE COORDINATOR'S HANDBOOK. 1972, 144 pages, $3.00.

The handbook provides suggestions for organizing and operating a cooperative vocational program. The manual includes most aspects of all cooperative programs. Some of the areas that are included are advantages of cooperative vocational education, school administrators' responsibility, establishing a program, and duties of coordinators.

WASHINGTON

DIVERSIFIED OCCUPATIONS UNITS OF INSTRUCTION. 1973, 150 pages, $7.50.

This publication was developed for diversified occupations coordinators but could be used by other cooperative education teachers. Some of the units of instruction are business math, human relations, job orientation, and career exploration.

WYOMING

WYOMING MATHEMATICS CURRICULUM GUIDE. Teacher's Manual. 1970, 34 pages, free, 7th-12th grade.

Through the program of mathematics the student should become aware of the influences a command of figures can make in his continuing occupational and personal development. The content can be summarized as an attempt to: emphasize the "why" just as much as the "how," teach mathematics as a structure, allow students to discover relationships for themselves whenever possible, and teach the social utility or practical applications of mathematics and of arithmetic computation.

INSTRUCTIONS FOR ORDERING CURRICULUM MATERIALS

Orders for materials should be sent to the address of the appropriate State source. Specific ordering information is indicated where applicable. Prices are subject to change without notice. (An asterisk indicates that whether or not items are listed in this publication, a list of instructional materials from that source is available upon request.)

ALABAMA

For agriculture publications:

Mr. A. H. Halcomb, Subject Matter Specialist, Agribusiness Education, 101 Petrie Hall, Auburn, Alabama 36830.

For career education and home economics publications:

Division of Vocational Education, State Department of Education, State Office Building, Montgomery, Alabama 36104.

A catalog with instructions on how to obtain technical education and trade and industrial publications is available upon request from: Instructional Materials, Trade and Industrial Education, P.O. Box 2847, University, Alabama 35486.

ALASKA

Division of Vocational Education, Pouch F, Alaska Office Building, Juneau, Alaska 99801.

ARIZONA

Division of Career and Vocational Education, Arizona Department of Education, 1535 West Jefferson, Phoenix, Arizona 85007.

ARKANSAS

Division of Vocational, Technical, and Adult Education; State Department of Education; State Education Building; Little Rock, Arkansas 72201.

CALIFORNIA*

For vocational agriculture films, filmstrips, manuals, and other materials:

A catalog with instructions on how to obtain materials is available upon request from: Vocational Education Productions (VEP), California Polytechnic State College, San Luis Obispo, California 93401.

For health publications:

University of California, Division of Vocational Education, Allied Health Professions Projects, 12016 Wilshire Boulevard, Los Angeles, California 90025.

For home economics publications:

Film Fair Communications, 10900 Ventura Boulevard, Studio City, California 91604.

For fire service training manuals:

California State Department of Education, Business Services Section, Textbook and Publication Sales, 721 Capitol Mall, Sacramento, California 95814.

For apprentice and peace officer training materials:

California State Department of Education, Fiscal Office--Order Section, 721 Capitol Mall, Sacramento, California 95814. A separate price list is available upon request for police officer reference material and training films from: Officer of Procurement-Stores, Department of General Services, P.O. Box 20191, Sacramento, California 95820.

For peace officer training materials:

When ordering this material, officers should state their rank and the department with which they are connected. The order should be addressed to Documents and Publications, Office of Procurement-Stores, Department of General Services, P.O. Box 20191, Sacramento, California 95820. Sales tax of 5% must be added to all orders originating in California. Over-the-counter sales are made at the Publications Center, State Office Building No. 9, 744 P Street, Sacramento, at the public counter in the lobby.

Check or money order must be made payable to the state of California. NO ORDERS CAN BE FILLED C.O.D.

COLORADO

Center for Career Development, Dissemination Division, Room 318, Department of Vocational Education, University of Northern Colorado, Greeley, Colorado 80639.

CONNECTICUT

Angelo J. Tedesco, Consultant; Bureau of Vo-Tech Schools; Curriculum Center; Division of Vocational Education; State Office Building, Room 336; Hartford, Connecticut 06115. Publications are free and are sent postpaid. Requests must be made on official school system stationery.

DELAWARE

Dr. Burton Braverman, Supervisor; Curriculum and Research; Department of Public Instruction; John G. Townsend Building; Dover, Delaware 19901. Checks should be made payable to the State Board of Education.

GEORGIA

State Department of Education, Office of Instructional Services, State Office Building, Atlanta, Georgia 30334.

IDAHO

Idaho State Board for Vocational Education, 506 North 5th, Boise, Idaho 83720.

ILLINOIS*

Vocational Agriculture Services, University of Illinois, 434 Mumford Hall, Urbana, Illinois 61801. Terms of sale for ordering purposes are:

If orders are billed for payment, postage is added to the prices listed.

If payment is sent with the order, the following amounts should be added for postage and handling:

Orders up to $10 - add $.50
Orders $10 to $20 - add $.75
Orders over $20 - add $1.00

INDIANA

Instructional Materials Laboratory, T.A.W. Building, Indiana State University, Terre Haute, Indiana 47809.

IOWA

For agriculture publications:

Information and Publication Services Section, Department of Public Instruction, Grimes State Office Building, Des Moines, Iowa 50319.

For home economics publications:

University Book Store, Ames, Iowa 50010.

For occupational resource publications:

North Iowa Area Community College, Attention: Mariestelle Brown, 500 College Drive, Mason City, Iowa 50401.

MAINE

Department of Educational and Cultural Services, Augusta, Maine 04330

MARYLAND

For health publications:

Publication Sales; American Association for Health, Physical Education, and Recreation; 1201 16th Street N.W.; Washington, D.C. 20036. Stock #244-2570.

For all other vocational publications:

P.O. Box 8717, Friendship International Airport, Baltimore, Maryland 21240.

MASSACHUSETTS

For career education publications:

Available for out-of-state telecast through the Eastern Educational Network. Direct inquiries to: Eastern Educational Network, Howard Spergel, 381 Elliot Street, Boston, Massachusetts 02164.

MISSISSIPPI

Curriculum Coordinating Unit, Mississippi State University, P.O. Drawer DX, Mississippi State, Mississippi 39762. Orders accompanied by payment will be sent postpaid. Billing for all other orders will have postage added.

MISSOURI*

Send requests for 1973-74 price list and order form to: Amon Herd, Director; Instructional Materials Laboratory; 8 Industrial Education Building; University of Missouri-Columbia; Columbia, Missouri 65201. A specific form provided from the above address must be used when ordering all materials. A check or money order for the total amount must accompany orders unless an official purchase order is furnished. Schools MUST attach official purchase order. Descriptions of the listed materials may be found in the 1973-74 Instructional Materials Laboratory Catalog.

NEVADA

State Supervisor, Home Economics Education, Department of Education, Carson City, Nevada 89701.

NEW HAMPSHIRE

Department of Education, Vocational-Technical Division, 105 Loudon Road, Concord, New Hampshire 03301.

NEW JERSEY*

New Jersey Vocational-Technical Curriculum Laboratory, Rutgers University, 4103 Kilmer Campus, New Brunswick, New Jersey 08903. All school orders should be made on official school purchase order form and sent to the above address. In addition to the price of the materials, you will be billed for postage or shipping charges. Individuals may order materials by including a check or postal money order for the amount of the materials plus $.30 per book postage. Please make all checks payable to: Vocational Curriculum Laboratory-Rutgers.

NEW MEXICO

Department of Education, Education Building, Santa Fe, New Mexico 87501.

NEW YORK

The State Education Department, Bureau of Finance, Publications Distribution Unit, Albany, New York 12224. Single copies only sold to education institutions outside the state. No "on approval" copies will be sent. Prices given are net and include book rate postage.

Orders, with remittance, should be sent to: The Publication Distribution Unit, State Education Department, Albany, New York 12224.

State education departments, colleges, or curriculum laboratories having similar materials to exchange should make arrangements with the Bureau of Secondary Curriculum Development, Albany, New York 12224. Copies of New York State curriculum materials are available through the microfiche services of The ERIC System.

OHIO

For agriculture publications:

Ohio Agricultural Education, Curriculum Materials Service, The Ohio State University, Room 254, 2120 Fyffe Road, Columbus, Ohio 43210.

For all other vocational publications:

Instructional Materials Laboratory, The Ohio State University, 1885 Neil Avenue, Columbus, Ohio 43210. Ohio schools or other Ohio public agencies should deduct 20 percent from price quoted. On out-of-state quantity orders of 26 to 100 copies of the same manual, a 10 percent discount is granted; on 101 or more copies, a 20 percent discount applies.

Statements will be rendered on receipt of official purchase orders; otherwise, remittance must accompany orders. All checks and money orders must be made payable to the Ohio State University. Postage must be included at the following rates: single copy--$.40; 2 to 12 copies--$.35 each; 13 or more copies--$.25 each. A catalog with order forms is available on request.

OKLAHOMA

The Curriculum and Instructional Materials Center, State Department of Vocational and Technical Education, 1515 West Sixth Avenue, Stillwater, Oklahoma 74074. Checks in the amount of order made payable to the Curriculum and Instructional Materials Center must accompany the order. Publications are postpaid.

OREGON

For health publications:

Documents Clerk, Oregon Board of Education, 942 Lancaster Drive NE, Salem, Oregon 97310.

For all other vocational publications:

Division of Community Colleges and Vocational Education, Oregon Board of Education, Public Services Building, Salem, Oregon 97310.

PENNSYLVANIA

Pennsylvania Department of Education, Office of Information and Publications, P.O. Box 911, Harrisburg, Pennsylvania 17126. Check or money order in the proper amount, made payable to the Commonwealth of Pennsylvania, must accompany each order.

SOUTH CAROLINA

Vocational Education Media Center, 109 Freeman Hall, Clemson University, Clemson, South Carolina 29631.

TENNESSEE

Vocational Curriculum Laboratory, Box 1114, Murfreesboro, Tennessee 37130. All orders must be:

1. On official purchase order properly signed by an official of the organization. Invoices will be rendered at list price plus postage.
2. Accompanied with check for full amount of materials plus postage and handling based on the following scale:

   single copy - $.50
   2 to 10 copies - $.35 each
   11 or more copies - $.25 each

   Make checks payable to State of Tennessee. Because a limited number of each item was printed, examination copies cannot be furnished. All sales are final--materials cannot be returned.

TEXAS

(A&M) Vocational Instructional Services Center, F.E. Box 182, Texas A&M University, College Station, Texas 77843. A school purchase order and check or money order must accompany each order and be made payable to Texas A&M University. A catalog is available upon request.

For home economics publications:

(TTU) Texas Tech University, Home Economics Instructional Materials Center, P.O. Box 4067, Lubbock, Texas 79409. Total payment or official purchase order must accompany order. Official purchase order terms are net 30 days. Make checks payable to Home Economics Instructional Materials Center. Prices include postage. Mailing will be insured only if insurance is requested when order is placed.

(UT) Industrial Materials Development (Industrial Education), Division of Extension, The University of Texas, Austin, Texas 78712. A school purchase order and check or money order must accompany each order and must be made payable to the University of Texas. Catalogs are available. A 2 percent state sales tax or tax exemption certificate is required in addition to prices listed.

VERMONT

State of Vermont, Department of Education, Montpelier, Vermont 05602.

VIRGINIA*

Mr. Harry Smith, Director of Public Information and Publications, State Department of Education, P.O. Box 6-Q, Richmond, Virginia 23216.

BEST COPY AVAILABLE

WASHINGTON

For career education publications:

Richard R. Lutz, Supervisor; Career Education; Old Capitol Building; Olympia, Washington 98504.

For teacher's resource publications:

LeRoy McCartney, Director; Distributive and Office Education; 216 Old Capitol Building; Olympia, Washington 98504.

WEST VIRGINIA

Coordinator of Curriculum Development; Bureau of Vocational, Technical and Adult Education; Room B-243, Building 6, Capitol Complex; Charleston, West Virginia 25305. Make checks payable to Vocational Curricula Material Funds for the amount of the order.

WISCONSIN

Mr. Clifford Zenor, Vocational Education Consultant--Instructional Services; Wisconsin Board of Vocational, Technical, and Adult Education; 4802 Sheboygan Avenue; Madison, Wisconsin 53702.

WYOMING

State Department of Education, Division of Public Information, Capitol Building, Cheyenne, Wyoming 82001.

NOTE: Request for specific material contained in this annotated listing should be sent to the appropriate State source.

ACCESSION NUMBER: VT101456

PUBLICATION DATE: 74

TITLE: VOCATIONAL EDUCATION STATE INSTRUCTIONAL MATERIALS FOR HOME ECONOMICS. REVISED 1974.

DESCRIPTOR: *ANNOTATED BIBLIOGRAPHIES; *ABSTRACTS; *VOCATIONAL EDUCATION; *INSTRUCTIONAL MATERIALS; *HOME ECONOMICS

EDRS PRICE: MF AVAILABLE IN VT-ERIC SET.

DESCRIPTIVE NOTE: 50P.

ABSTRACT: THIS ANNOTATED LISTING OF CURRICULUM MATERIALS FOR HOME ECONOMICS IS PROVIDED IN ORDER TO APPRISE PLANNERS, ADMINISTRATORS, VOCATIONAL EDUCATORS AND OTHERS INTERESTED IN OFFERING OR INVOLVED IN VOCATIONAL PROGRAMS OF THE AVAILABLE CURRICULUM MATERIALS DEVELOPED BY VARIOUS STATES. THE CURRICULUM MATERIALS HAVE BEEN IDENTIFIED WITH THE INSTRUCTIONAL TITLES AND CODES FROM THE CLASSIFICATION SYSTEM OF THE OFFICE OF EDUCATION. THE TITLE OF THE DOCUMENT, PUBLICATION DATE, THE NUMBER OF PAGES, PRICE, AND A SUMMARY OF THE CONTENT IS PROVIDED FOR EACH ANNOTATION. (KB)

CONTRACT NUMBER: OEG-0-72-4682

INSTITUTION NAME: OKLAHOMA STATE DEPT. OF VOCATIONAL AND TECHNICAL EDUCATION, STILLWATER. CURRICULUM AND INSTRUCTIONAL MATERIALS CENTER.

SPONSORING AGENCY NAME: OFFICE OF EDUCATION (DHEW), WASHINGTON, D.C.

VT 101 456

BEST COPY AVAILABLE

VT 101 456

ERIC

Discrimination Prohibited - Title VI of the Civil Rights Act of 1964 states: "No person in the United States, shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance." Therefore, the Vocational Education program, like all other programs or activities receiving financial assistance from the Department of Health, Education, and Welfare, must be operated in compliance with this law.

The project presented or reported herein was performed pursuant to a contract from the U.S. Office of Education, Department of Health, Education, and Welfare. However, the opinions expressed herein do not necessarily reflect the position or policy of the U.S. Office of Education, and no official endorsement by the U.S. Office of Education should be inferred.

VOCATIONAL EDUCATION

STATE INSTRUCTIONAL MATERIALS

for...

HOME ECONOMICS

Revised 1974

AVAILABLE FROM STATE EDUCATION AGENCIES

Developed and disseminated pursuant to
Grant No. OEG-0-72-4682 with the U. S. Office of Education
Under Part I - Curriculum Development in Vocational and Technical Education,
Vocational Education Amendments of 1968, Public Law 90-576
by the
Curriculum and Instructional Materials Center
Oklahoma State Department of Vocational and Technical Education
1974 Revision

NOTE:

REQUEST FOR SPECIFIC MATERIAL CONTAINED IN THIS ANNOTATED LISTING SHOULD BE SENT TO THE APPROPRIATE STATE SOURCE.

SOURCE FOR EACH ITEM LISTED IS INDICATED AT THE END OF EACH ENTRY-SEE INSTRUCTIONS FOR ORDERING AT BACK OF PUBLICATION.

Revised publications (annotated listings) are available in the following vocational areas:

State Instructional Materials for Agriculture
State Instructional Materials for Distributive Education
State Instructional Materials for Health Occupational Education
State Instructional Materials for Home Economics
State Instructional Materials for Office Occupations
State Instructional Materials for Technical Education
State Instructional Materials for Trade and Industrial Occupations

The above items are available for purchase from: Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402

For sale by the Superintendent of Documents, #889,
U. S. Government Printing Office, Washington, D. C.
20402. Stock #1780-01344. Price $.85.

INTRODUCTION AND EXPLANATION OF CODING SYSTEM

In recent years it has become apparent that a strong relationship exists between the world of education and the world of work. Emphasis is on the concept that the development of our human resources is vital to the well-being and growth of our society. In order to implement this belief, leaders in all fields have focused their attention on education and especially on vocational education.

This annotated listing of curriculum materials is provided in order to apprise planners, administrators, vocational educators, and others interested in offering or involved in vocational education programs of the available curriculum materials developed by the various states.

The curriculum materials are offset unless specified as mimeo. They have been identified with the instructional titles and codes from the classification system of the Office of Education. These titles and codes link vocational education programs to occupations. Utilizing the codes in this listing relates the curriculum materials to the instructional program. Seven major vocational education areas are identified in separate listings and coded as follows:

01	Agriculture	09	Home Economics
04	Distributive Education	14	Office Occupations
07	Health Occupations Education	16	Technical Education
	17 Trade and Industrial Occupations		

The items are refined to include one or more related subitems as indicated in the following example:

First 2-digit position: subject matter area
Example: 14 OFFICE OCCUPATIONS

Second 2-digit position: principal segment of subject matter
Example: 14.02 BUSINESS DATA PROCESSING SYSTEMS OCCUPATIONS

Third 2-digit position: division of principal segment
Example: 14.0202 PERIPHERAL EQUIPMENT OPERATORS

Fourth 2-digit position: first level detail of division of principal segment
Example: 14.020201 KEY PUNCH AND CODING EQUIPMENT OPERATORS

The coding system is contained in:
U.S. Department of Health, Education, and Welfare, Office of Education. Vocational Education and Occupations (OE-80061). Washington, D.C.: U.S. Government Printing Office, July 1969.

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09. HOME ECONOMICS

Publications marked (Cooperative Training) in the title or supportive statement are designed for use in cooperative education programs.

HOMEMAKING: 09.01

ALASKA

GUIDELINES FOR HOME ECONOMICS IN ALASKA. Instructor's Guide. 1973 (Revised), free.

This guide is designed for junior and senior high school students. It contains a suggested course outline for seventh and eighth grade home economics and Home Economics I and II. A suggested course outline for courses in family relationships, home management, housing and home furnishings, advanced food and nutrition, clothing and textiles, and family living is included. In addition, it contains suggested learning experiences for the course outlines, a bibliography, and selected resources.

COMPREHENSIVE HOMEMAKING OR HOME ECONOMICS: 09.0101

OKLAHOMA

HOME AND COMMUNITY SERVICES. Curriculum Guide. 1972, 723 pages, $12.00, 9th and 10th grade.

The curriculum guide includes five areas: child care service, clothing services, food services, consumer education, and household maintenance. Each area consists of one or more units of instruction. Each instructional unit includes behavioral objectives, suggested activities for teacher and students, information sheets, assignment sheets, job sheets, visual aids, tests, and answers to the test. Units are planned for more than one lesson or class period of instruction.

HOME ECONOMICS I - BASIC CORE. 1972, 878 pages, $12.00, 9th grade.

This basic core curriculum includes materials for about 60% of the classroom time. The areas included are basic knowledge and skills necessary for all ninth grade home economics students. The units of instruction include career exploration, child development, clothing and textiles, consumer education, foods and nutrition, health, housing and home furnishings, and personal and family relations. Each unit of instruction contains behavioral objectives, suggested activities for instructor and student, information sheets, assignment sheets, job sheets, tests, answers to tests, and transparency masters.

HOME ECONOMICS II - BASIC CORE. 1973, 703 pages, $12.00, 10th grade.

This is a self-contained curriculum guide which uses behavioral objectives. Units include career exploration, child development, clothing and textiles, consumer education, food and nutrition, health, housing and home furnishings, and personal and family relations. Transparency masters are included in the text.

TEXAS (TTU)

ORIENTATION - PART ONE. Teacher's-Student's Guide. (Cooperative Training.) 1971, 219 pages, $6.50.

The learning experiences contained in the guide are written from the student's viewpoint. Notes to the teacher are inserted through the learning experiences. There

are 11 units dealing with a wide range of the world of work topics such as job success, civic responsibilities, personal adjustment, planning one's future, and other information. Part two is closely interrelated with this guide and is a necessary adjunct in accomplishing the behavioral objectives of the units of instruction involved.

ORIENTATION - PART TWO. 1971, 212 pages, $6.50.

Part two contains material for both students and teacher. The content is presented as programmed instruction, stories, case situations, simulation games, skits, cartoons, ideas for bulletin boards, and visual aids.

CHILD DEVELOPMENT: 09.0102

SOUTH CAROLINA

CHILD DEVELOPMENT. Teacher Resource. 1973, 35 transparencies, $4.50.

The concept of development and nurture of young children is presented in this set of 35 transparencies and overlays which include stages of development, mental growth and development, emotional growth, physical growth and development, and social growth and development.

TEXAS (TTU)

CHILD DEVELOPMENT, (Reference List, 18 pages). 1973, 332 pages, $3.00, 9th - 12th grade.

This subject area guide provides sections for Homemaking I, II, III, and IV as well as a child development semester course. Within each of these courses is a unit emphasizing career and job opportunities in the area of child development. Each unit contains subconcepts and generalizations, behavioral objectives, and learning and evaluation experiences. A large reference list and sources of materials are included.

CLOTHING AND TEXTILES: 09.0103

MISSOURI

TEXTILE FIBERS PACKET AND TRANSPARENCY MASTERS. 1973, 34 masters, 45 pages, $1.50 plus postage and handling, secondary.

This is a resource packet developed for use by secondary home economics teachers. The materials can enrich a textiles unit by supplementing the usual textile subject matter and may also be used to individualize instruction for students. Sufficient flexibility is built into the materials so they can be used for a variety of purposes. Accompanying the unit are 34 transparency masters. The materials are three-hole punched.

WARDROBE PLANNING AND CLOTHING CONSTRUCTION. Instructor's Guide. 1973, 104 pages, $4.00 plus postage and handling, secondary.

Wardrobe planning and clothing construction are highly related concepts. The two have been integrated within one curriculum guide which places emphasis upon four major concepts: wardrobe planning, clothing construction, the clothing industry, and personal and family clothing.

NEW JERSEY

THE ART OF SEWING. Student's Manual. 1969, 249 pages, $2.50.

This is a basic text containing 11 units covering such topics as handsewing, stitches, seams, hems, bias binding, buttonholes, pockets, and other elements of construction. The material is well illustrated and contains an assignment at the end of each lesson.

DRESS DESIGN-2: THE PROBLEM FIGURE. Student's Manual. 1969, 86 pages, $1.50.

The content consists of 6 units divided into 36 lessons dealing with the problem figure. Units include material such as the fashion figure, principles of design, lines and the figure, designing for the problem figure, and other aspects.

LEARNING TO SEW - PART I. Student's Manual. 1969, 172 pages, $2.00.

This introduction to sewing includes lessons with illustrations and descriptions of the basic processes. Information includes such items as hand tools, measurements, sewing machine adjustments, machine care, and other processes. The material is paced for the slower student.

LEARNING TO SEW - PART II. 1970, 375 pages, $2.00.

This is a continuation of Learning to Sew - Part I. The book begins with Unit XI. This second part contains the final seven units of the text. Topics cover seam finishes, hemming stitches, suggested projects, commercial patterns, common and special construction skills, and sewing equipment.

NEW YORK

HOME LAUNDERING - HELPFUL HINTS IN CONSUMER HOMEMAKING. Student's Manual. 1971, 22 pages, $.25, secondary.

This booklet for students is to be used with the instructor's guide as a learning package to teach methods of home laundering. Areas included are sorting, washing, and drying various types of clothes.

HOME LAUNDERING. Instructor's Guide. 1971, 11 pages, $.25, secondary.

This instructor's guide for laundering is part of a learning package designed to aid instructors in presenting information relative to the methods of home laundering and to assist in teaching machine laundering techniques using any type of laundry facilities.

REMOVING COMMON STAINS FROM FABRICS. Photo Flipchart. 1971, 92 pages, $1.25, secondary.

This photo flipchart is part of a learning package to be used in the classroom. It is designed to show the steps to use when removing common stains from different types of fabrics.

REMOVING COMMON STAINS FROM FABRICS. Student's Manual. 1971, 38 pages, $.50, secondary.

This booklet is designed to help the student in removing common stains from different types of fabrics. The content of this publication includes types of stain removers, ways to start to remove stains, kinds and types of common stains, nongreasy stains in washable or nonwashable fabrics, greasy stains in washable or nonwashable fabrics, and combination stains in washable or nonwashable fabrics.

REMOVING COMMON STAINS FROM FABRICS. Teacher's Manual. 1971, 33 pages, $.50, secondary.

This is an instructor's guide designed to help the instructor teach stain removal. This part of the learning package includes description and use of the total package, a text of the scripts for the slides to be used, and a bibliography.

SOUTH CAROLINA

ORIENTATION TO TEXTILES. 1972, self-instructional unit consisting of cassette tape, 44-frame color filmstrip, teacher's manual, and reusable student booklet, $11.50 unit plus 20 student booklets, $19.50, secondary.

This was designed to be used as an individualized instructional unit; however, the unit may be used for group instruction if the instructor desires. The purpose of this teaching unit is to acquaint the students with the basic steps involved in making cloth by the "Cotton System," which is the most widely used system of manufacturing cloth in South Carolina.

TEXAS (TTU)

CLOTHING AND TEXTILES. (Reference List.) 1973, $3.00, available spring 1974.

CONSUMER EDUCATION: 09.0104

CALIFORNIA

THE BUY LINE. 1973, film, English or Spanish, 14 minutes--color $180, rental $15, additional teachers' manuals $2.00 each.

The film opens with a rapid montage of contemporary visual advertising. It examines each ad, telling about psychological seduction, disclaimers, false and misleading statements, and other aspects. It also examines good ads that provide decision-making information. Actual ads are presented (with product names masked) to illustrate ways they use fantasy appeals to power, sexuality, popularity, and status to persuade the consumer to buy the product. Finally, a group of typical consumers plus a consumer protection specialist from the Federal Trade Commission share their opinions about advertising and offer personal criteria for judging ads and their products.

FOOT IN THE DOOR. 1973, film, English or Spanish, 9 1/4 minutes--color $140, rental $15, additional teachers' manuals $2.00 each.

During the dramatized situation, a potential victim of consumer fraud describes the way a door-to-door salesman tried to sell her a color TV at her home. She was aware of fraud because as a resident of a low-income housing project she had been victimized by a similar pitch a year earlier. Her alertness in the present

case results in the arrest of the salesman. The film continues with a police lieutenant, familiar with fraud, who describes several pitches that can entrap people (home improvement frauds, magazine sales, and other pitches), and lists basic questions to ask one's self before signing a contract. Finally, a baby picture saleswoman describes sales methods and some of her psychological tricks. The film closes as the door opens and the baby picture saleswoman begins to "pitch" the viewing audience.

MAGICAL DISAPPEARING MONEY. 1973, film, English or Spanish, 11 minutes--color $145, rental $15, additional teachers' manuals $2.00 each.

A cheerful, slightly scatterbrained "food expert witch" appears in a supermarket and works her magic to draw the customers around her. Item by item she explains, with accompanying magic, the reasons certain purchases by the customers are unwise. Sugarcoated cereal? Goodness no--it costs twice as much as unsugared. "But I like the sugar," says the boy with his mother. "Oh," says the witch. "Well--then add your own sugar." Instant oatmeal? It too costs twice as much. Already-prepared, seasoned rice dishes? They cost four times as much as regular rice which one can season one's self. Milk? Use powdered milk whenever possible. It costs only a fourth as much as regular milk and it is just as good. Pudding cups? Frozen foods? Fancy packaging? She has worked her magic and the wiser consumers return to their shopping.

ON YOUR OWN. 1973, film, English only, 23 1/4 minutes--color $300, rental $30.

This realistic, provocative film explores a wide range of instruction: a teacher and student group visit a supermarket to learn about pull dates on perishable foods; community studies on renting versus home ownership; tire purchases and automobile repairs; careers in child development and fashion merchandising; community consumer research projects; a classroom on wheels; family relations; exploring goals and values; and the decision-making process. The film offers an overview of consumer and homemaking education curriculum and is interesting and appealing to both boys and girls.

READ BEFORE YOU WRITE. 1973, film, English or Spanish, 6 1/4 minutes--color $100, rental $10, additional teachers' manuals $2.00 each.

A young couple considers a typical installment purchase (a TV set). The film follows them from their obvious enchantment outside the store window to a new awareness as they learn to carefully examine a contract before they sign it. Inside the store, the couple is about to sign a contract as a consumer education program appears on the TV. It explains the items a properly drawn installment contract should include: specific description of the purchase, written confirmation of special aspects of the sale, details on interest and other charges, ways to renegotiate the contract, and other important points. The salesman winces as the couple listens. Their final decision to shop for better credit terms is made after the wife's arithmetic shows the high cost of low payments.

THERE IS A LAW AGAINST IT. 1973, film, English or Spanish, 8 minutes--color $115, rental $10, additional teachers' manuals $2.00 each.

Four familiar consumer problems are introduced in this film: garnishment of wages, unauthorized auto repair work, payment demanded for a debt already paid, and

a housewife pressured into signing a purchase contract by a door-to-door salesman. The film then dramatizes ways new consumer laws in one state (California) protect the consumer in each case. It explains provisions of the laws, responsibilities of the businesses involved, and the steps the consumer should take. The film ends by emphasizing that it is the consumer's responsibility to take advantage of these laws; no law can protect the consumer from himself.

THIS IS FRAUD! 1973, film, English or Spanish, 8 1/4 minutes--color $115, rental $10, additional teachers' manuals $2.00 each.

A car advertised on TV has "just been sold" and the customer is steered to more costly buys--the old "bait and switch" technique. A door-to-door vacuum cleaner salesman secretly spills additional dirt on the floor to make his machine seem better. A woman reminds a contractor that he said his stucco job would last "as long as the house"--he says there is nothing like that in the contract she signed. The methods of recourse for such common consumer fraud cases are described--e.g., trade association offices, small claims court, licensing bureau, district attorney's office, legal aid society, and other organizations. Using three of the cases dramatized, the film underscores ways certain danger signals in each case could have helped stop the fraud before it happened. Narrator for the film is Herschel Elkins, head of the Consumer Protection Division, State Attorney General's Office, State of California.

TOMMY'S FIRST CAR. 1973, film, English or Spanish, 11 minutes--color $145, rental $15, additional teachers' manuals $2.00 each.

Tommy is ready to buy his first car. At the used car lot, his father shows Tommy locations to look for clues that can indicate the car's condition and possible necessary repairs--tires, seat springs, foot pedals, shock absorbers, lights, and other parts. Obtaining the salesman's permission to have their own mechanic check out the car, the father on the way shows Tommy methods to properly test the car's brakes, steering, and general condition of the engine. Finally, their mechanic inspects the car and gives them an estimated cost of necessary immediate repairs and the probable life of such items as the battery, brakes, and other parts. Tommy now has the facts, costs, and understanding to make an intelligent decision.

YOUR RIGHT TO A HEARING. 1973, film, English or Spanish, 9 1/2 minutes--color $130, rental $10, additional teachers' manuals $2.00 each.

The film opens by stressing the debtor's right to a hearing before creditor actions are taken, such as repossessions and garnishment of wages. The film then shows the hearing of an 18-year-old unable to complete payment on a purchase. The case is used to emphasize the pressures and confusion of sales techniques, the responsibilities inherent in the new legal status of the 18-year-old, and the help he is given at the hearing by a young neighborhood legal services attorney.

INDIANA

RESOURCE GUIDE FOR CONSUMER EDUCATION FOUNDATIONS IN THE CONSUMER AND HOMEMAKING EDUCATION PROGRAM. 1971, 880 pages, $6.00, junior high and high school.

This resource guide and file is designed as a semester course focusing on foundations of consumer education. Eight units are included: youth as consumers, factors which

affect the management of resources, factors affecting buymanship, management of expenditures, influence of individual and family expectations on the consumer, the family as a productive unit, factors influencing purchasing power, and elements determining financial security. Each unit contains the objective level, subconcept and supporting framework, learning experience examples, and generalizations.

MISSISSIPPI

HOME ECONOMICS CONSUMER EDUCATION. Curriculum Guide. 1970, 211 pages, $2.00.

This is a resource unit in consumer education for high school instruction in home economics. The units have been divided into concepts and objectives, learning activities (including problems and projects), and teaching aids.

NEVADA

CONSUMER EDUCATION CURRICULUM GUIDE. 1971, 203 pages, free.

This guide provides individual units of instruction which may be adapted for junior high through adult levels. Although developed and piloted by home economics teachers, it is quite usable in social studies and business education. Units are entitled: Introduction, The Consumer in Our Society, Consumer Decision Making, Money and Democracy in Home Management, Consumer Credit and Borrowing Money, Food Shopping at Home and in the Market, Family Clothing Management, Family Transportation, Buying Health Care and Services, Buying Protection, Saving and Investments, Consumer Protection, A Home for Your Family, Furnishings for the Home, and Recreation-Leisure. It is an extensive media. A bibliography is also included.

NEW JERSEY

THE BUDGET - WHAT IT IS - HOW IT CAN HELP. 1971, 27 pages, $.50, secondary.

This student booklet is divided into three areas: government budgets, family budgets, and personal budgets. Chapter quizzes and a unit test are also provided.

ECONOMICS - WHAT IT IS - HOW IT CAN HELP. 1972, 22 pages, $.50, secondary.

This is a student booklet containing three chapters. Areas covered are self-sufficiency, trade and money, dependent people, and goods and services. Also included are chapter quizzes and unit questions.

INSTALLMENT BUYING. 1972, 14 pages, $.50, secondary.

This student booklet is an easy-to-read publication designed to assist the student in learning about installment buying. Mathematical problems, other problems, and a vocabulary list are included.

OHIO

CONSUMER EDUCATION CURRICULUM GUIDE. 1970, 164 pages, $2.50 plus $.40 shipping.

This curriculum guide provides units of instruction for grades K-12. The guide offers opportunity for versatility in teaching a number of consumer education

concepts of fundamental importance in real life situations. Treated in the guide are such broad areas as units for elementary grades, units for students in grades 7-12, and consumer education for educable mentally retarded and the socioeconomically disadvantaged. In addition to a bibliography selected for each of the topics listed above, there is an extensive bibliography for consumer education in general.

CONSUMER EDUCATION CURRICULUM GUIDE FOR OHIO GRADES K-12. Teacher's Guide. 1970, 102 pages, $1.25 plus $.40 shipping.

The guide deals with concepts, suggested learning experiences, evaluation experiences, and suggested resources.

GRADES K-12 RESOURCE SUPPLEMENT TO CONSUMER EDUCATION CURRICULUM GUIDE FOR OHIO. 1971, 263 pages, $2.40 each plus $.40 shipping, K-12th grade.

This supplement is a composite of learning experiences pertinent to the area of home economics: the economic system; income procurement; consumer alternatives; consumer behavior determinants; roles, rights, and responsibilities; and community resources. Each section contains an overall objective, concepts, grade level, suggested learning and evaluation experiences, and suggested resources.

HOME ECONOMICS FOR FAMILIES WITH LIMITED INCOME RESOURCE SUPPLEMENT TO CONSUMER EDUCATION CURRICULUM GUIDE FOR OHIO. 1971, 46 pages, $2.40 each plus $.40 shipping, K-12th grade.

This publication was developed as a specialized supplement to the Consumer Education Curriculum Guide for Ohio, Grades K-12. Curriculum sections provided are the economic system, income procurement; consumer behavior determinants; consumer alternatives; roles, rights, and responsibilities; and community resources. Included in each section are concepts, generalizations, suggested learning and evaluation experiences, and resources.

HOME ECONOMICS JOB TRAINING RESOURCE SUPPLEMENT TO THE CONSUMER EDUCATION CURRICULUM GUIDE FOR OHIO GRADES K-12. 1971, 53 pages, $2.40 each plus $.40 shipping, secondary or post secondary.

This supplement is developed to be used by the job training teachers in any of the five job training areas: child care services, fabric services, food services, community and home services, and the multi-area. The learning experiences are designed to be used as an integral part of the related instructional program of the job training curriculum. Overall objectives, concepts, suggested learning and evaluation experiences, and suggested resources are included.

HOME ECONOMICS SUPPLEMENT TO CONSUMER EDUCATION CURRICULUM GUIDE FOR OHIO GRADES K-12. 1970, 80 pages, $2.40 plus $.40 shipping.

This resource guide for teachers of consumer education in the elementary school contains general objectives, concepts and understanding to be developed, and some suggested learning experiences and resources. Also provided is a glossary of consumer education terms and a selected bibliography. [redacted] of films and filmstrips

and suggestions for illustrative materials are included.

MANUAL OF OPERATION. Teacher's Manual. 1970, 49 pages, $1.25 plus $.40 shipping.

Prepared primarily for teachers, administrators, and supervisors, the content covers the operation of secondary, post secondary, and adult level consumer education programs. Topics include such items as consumer and homemaking education program initiation and expansion, job training, adult education programs, and technical programs at the post high school level.

SOCIAL STUDIES RESOURCE SUPPLEMENT TO CONSUMER EDUCATION CURRICULUM GUIDE FOR OHIO. 1971, 108 pages, $2.40 each plus $.40 shipping, K-12th grade.

This resource supplement is designed to be used in addition to the Consumer Education Curriculum Guide for Ohio. Sections contain overall objectives, concepts, suggested learning and evaluation experiences, and suggested resources.

SOUTH CAROLINA

MEASURING, WEIGHING, VALUING, CONSUMER AND HOME ECONOMICS EDUCATION. Teacher's Guide. 1970, 150 pages, $2.50.

The guide provides criteria helpful in effective evaluation in the teaching and learning process. The purposes of the guide are to provide an increased understanding of evaluation, to provide ideas for evaluating home economics programs, and to provide increased understanding of evaluation as a means of making teaching more effective.

TENNESSEE

CONSUMER EDUCATION CURRICULUM GUIDE - WORK COPY. 1970, 108 pages, $2.00, secondary.

This curriculum guide was developed to reflect consumer education needs in our society. It is intended to serve as a work copy for teachers and may be adapted to local needs and situations. Included in each of three sections are concepts and generalizations, learning experiences and evaluations, and resources. A bibliography, references for classroom use, and a large appendix of related materials are also provided.

A CURRICULUM GUIDE FOR TEACHING CONSUMER EDUCATION. 1970, 132 pages, $2.50, junior high or secondary.

This guide is intended for teachers of consumer and homemaking education in junior and senior high schools. Each of the eight sections contains concepts, objectives, supporting generalizations, learning experiences, and resources. A detailed list of references is also provided.

TEXAS (TTU)

CONSUMER EDUCATION FOR FAMILIES WITH LIMITED INCOME. Teacher's-Student's Manual. 1971, 360 pages, $8.00.

The manual is designed as an aid for teaching adults with limited incomes. The content is presented in three sections. Section one is an overview for preparing

the teacher to handle the content in teaching consumer education to disadvantaged adults. Section two includes units in ten areas of consumer education. The material is designed for use with groups having fourth to sixth grade educational levels. Section three should aid the teacher in working on a one-to-one basis with families. It includes guidelines for person-to-person instruction and many more items.

CONSUMER EDUCATION, PART ONE. Teacher's-Student's Manual. 1971, 161 pages, $6.50.

The manual is part one of a two part bulletin arrangement designed for a one semester course for boys and girls at the 11th and 12th grade levels. The parts contain four sections: allocation of resources, consumer buying, consumer citizenship, and the consumer in the economy. Both parts are closely interrelated and supplement each other. Behavioral objectives are stressed throughout the manual.

CONSUMER EDUCATION, PART TWO. Teacher's-Student's Manual. 1971, 306 pages, $6.50.

This is a companion piece to the consumer education publication designed for boys and girls. The publication is well illustrated. It also is divided into four sections with several teaching-learning units in each section. Included are material suggestions for transparencies, skits, posters, case studies, simulated games, tests, programmed instruction, crossword puzzles, and cartoons.

VIRGINIA

GUIDE FOR CONSUMER AND HOMEMAKING EDUCATION. 1973, 205 pages, $4.00, 6th - 12th grade.

This curriculum guide has been designed to give maximum assistance to consumer and homemaking teachers within the broad scope of the field of home economics and its place in the pattern of human living. The four family living areas which form the structure for this guide are consumption of goods and services in the family, cultural development in the family, individual development in the family, and management in the family. The units within these areas contain objectives, generalizations, content, and some suggested learning and evaluation experiences.

WISCONSIN

CONSUMER EDUCATION SUGGESTED GUIDE. An Interdisciplinary Course for Diploma and Associate Degree Students. 1973, 79 pages, $1.00 (200 copies available at this cost - if second printing necessary, cost may be higher), post secondary.

This suggested guide for consumer education is designed as a credit course for the Diploma and Associate Degree Programs. It can be adopted for use in the adult high school program, in adult or continuing education classes, seminars, conferences, or for other purposes. There are eight instructional units which are designed to stand alone: the consumer and the economy, money and family relationships, consumer information, consumer credit, consumer buying, consumer security, consumer protection, and ecology. Each unit contains suggested behavioral objectives, ideas for activities and evaluation, generalizations, and sources of information. A listing of resources is also included.

FAMILY HEALTH: 09.0105

SOUTH CAROLINA

FAMILY HEALTH. Teacher's Resource. 1973, 20 transparencies, $2.75.

This resource guide contains a set of 20 transparencies concerning family health factors, major health problems, and safety measures in the home.

FAMILY RELATIONS: 09.0106

ALASKA

GUIDELINES FOR HOME EXPERIENCES. Instructor's Guide. 1967, 53 pages, free.

The guide has been developed to assist instructors in initiating a program of home learning experiences related to home and family problems. These experiences are planned and carried out in the home of the student under supervision of the instructor and with the cooperation of the family.

ARKANSAS

HUMAN DEVELOPMENT AND THE FAMILY. Teacher's Guide. 1968, 201 pages, $5.00.

The guide has been prepared to provide pertinent information for the teacher in the area of human development and the family. Objectives and learning experiences are suggested to assist in developing units of study. Resource materials and drawings are included to assist the teacher in making maximum use of the guide.

INDIANA

RESOURCE GUIDE FOR FAMILY MANAGEMENT. 1972, 350 pages, $3.00, 11th and 12th grade.

This resource guide is designed to be used as an in-depth semester course in the consumer and homemaking education program and is centered around a series of 15 concerns of consumers throughout the family life cycle. Each of the 5 units contains the objective level, subconcept and supporting framework, learning experience examples, and generalizations. Additional instructional materials are also provided.

RESOURCE GUIDE FOR INTERPERSONAL RELATIONS FOUNDATIONS. 1972, 296 pages, $2.50, secondary.

This publication is a resource guide for teaching interpersonal relations foundations in the consumer and homemaking education program. The four sections included are: elements affecting relationships, formation of relationships, conditions which foster cooperation in a relationship, and outcomes. Each section contains behavioral objectives, generalizations, learning experiences, and resources. Many other instructional materials are provided.

MISSOURI

PERSONAL CULTURE. Instructor's Guide. 1973, 102 pages, $4.00 plus postage and handling, secondary.

This is a resource guide for teachers including topics related to personal psychology, mental health, personality development, social behavior and charm, cultural roles,

appropriate attire and grooming, and the development of skills and habits contributing to employability. Included within the guide are additional evaluation devices, bulletin board ideas, individual instruction sheets, and supplementary suggestions for student activities.

SOUTH CAROLINA

FAMILY LIFE. Teacher Resource. 1973, 33 transparencies, $4.00,

Basic human needs, factors relating to family satisfaction and success, and areas in marriage which may require adjustment are identified in this set of 33 transparencies.

TENNESSEE

A CURRICULUM GUIDE FOR TEACHING FAMILY RELATIONS. 1970, 78 pages, $1.50, junior and senior high school.

This guide is intended for teachers of consumer and homemaking education in junior and senior high schools. It is designed as resource material for the teacher and its content is to serve as a basis for interpreting basic concepts. This guide was developed so as to allow the individual teacher to choose and select activities and experiences which are adaptable to the particular need or situation. The three sections on self, family, and society each contain concepts and generalizations, experiences and evaluations, and resources. Behavioral outcomes, bulletin board ideas, and a bibliography are also included.

TEXAS (TTU)

FAMILY LIVING. (Reference List, 20 pages.) 1972, 336 pages, $3.00, 9th - 12th grade.

The subject area guide is written with behavioral objectives. This provides instruction for all secondary levels plus a semester course in home and family living. Included in this guide are concepts, subconcepts, generalizations, and learning and evaluation experiences. In addition, a unit is included in each sequence level in the semester course relating family living to career and job opportunities. A reference list for family living is provided.

FOODS AND NUTRITION: 09.0107

ARKANSAS

FOODS AND NUTRITION. Teacher's Guide. 1969, 327 pages, $5.00.

This guide has been prepared as a resource for the selection of subject matter and learning experiences for home economics. Its content emphasizes the importance of good nutrition and helps students gain an understanding of factors to consider while buying foods, planning, preparing, and serving family meals. The content will be helpful to the homemaker in the dual role of wage earner and head of a family in meeting the basic needs of good nutrition.

INDIANA

RESOURCE GUIDE FOR FOOD AND NUTRITION. 1972, 660 pages, $4.00, junior high and secondary.

This resource file for food and nutrition is both a product and a process which is designed and arranged to facilitate use. The five units included are: factors which

influence variance in family food planning decisions, provisions for securing food as related to management, care of food and food equipment as related to management, food preparation as related to satisfaction of family needs, and factors which influence variance in family food decisions. Columns of information include the objective level, subconcept and supporting framework, learning experience examples, and generalizations.

TENNESSEE

A CURRICULUM GUIDE FOR TEACHING FOODS AND NUTRITION. 1970, 94 pages, $2.00, secondary.

This curriculum guide was designed for teachers of consumer and homemaking education. Included in this material are concepts and generalizations, learning experiences and evaluations, and resources. A large bibliography is also included.

TEXAS (TTU)

FOOD AND NUTRITION (Reference List, 19 pages.) 1973, 248 pages, $3.00, secondary.

The purpose of this subject area guide is to present food and nutrition in the perspective of family living and to relate food and nutrition to a variety of family life styles. Sections are provided for Homemaking I, II, IIi, IV, and a semester course. Included are concepts to be taught, subconcepts and generalizations, behavioral objectives, and learning and evaluation experiences. A very complete reference list is also included.

HOME MANAGEMENT: 09.0108

TEXAS (TTU)

HOME MANAGEMENT AND CONSUMER EDUCATION. (Reference List, 13 pages.) 1972, 377 pages, $3.00, 9th-12th grade.

This subject area guide is one of six guides being developed for use in high school homemaking programs. In addition to behavioral objectives, concepts, sub-concepts, and generalizations, learning and evaluation experiences are included for all secondary levels. In this guide are materials for semester courses in home management and consumer education. A unit on job and career opportunities in these areas is included in each sequence course. A complete reference list of various types of materials for home management and consumer education is provided.

HOUSING AND HOME FURNISHINGS: 09.0109

IOWA

HOUSING AND HOME FURNISHING EQUIPMENT. Curriculum Guide 1969, 231 pages, mimeo, $2.75.

The guide is prepared for three levels of instruction, early adolescence, middle adolescence, and late adolescence. Emphasis is on the individual in early adolescence, on family in middle adolescence, and on the community in late adolescence. The appendix includes visual, discussion, and evaluative materials. There are check sheets that may be used for field trips, home experience, or classroom discussion.

TEXAS (TTU)

HOUSING AND HOME FURNISHINGS. (Reference List, 14 pages.) 1973, 363 pages, $3.00, 9th-12th grade.

This subject area guide is written with behavioral objectives. Also included are concepts, subconcepts, and generalizations in areas of housing to be taught at all secondary levels as well as for a home furnishings semester course. To assist in teaching, suggested learning and evaluation experiences are included. A reference list of printed materials, audiovisual materials, and other resources for housing and home furnishings is included.

HOMEMAKING, OTHER: 09.0199

NEW JERSEY

GUIDELINES FOR HOME ECONOMICS EDUCATION IN SECONDARY SCHOOLS. Teacher's Guide. 1968, 144 pages, $2.50.

The first part of this teacher's manual deals with the fundamental aspects of home economics curriculum planning. The second part contains detailed guides for developing teaching plans for foods, housing and home furnishing equipment, textiles and clothing, home management, and family and child care. The guides are all aimed at the middle and late adolescent student.

HOMEMAKING IN THE ELEMENTARY SCHOOLS. 1964, 308 pages, $3.00.

The author has created this as a reference for planning and conducting homemaking programs in the elementary schools. Most of the teaching material is presented in a four-column tabular style. The column headings are Some Basic Understandings, Some Suggested Experiences, Integration Possibilities, and Some Suggested Resources. The planning information is presented by grade or age level.

OHIO

IN-BETWEENS. Curriculum Guide. 1969, 119 pages, $3.25 plus $.40 shipping.

This is a curriculum guide for home economics teachers of students with special learning needs. It presents examples of the kinds of activities which will give these students concrete experiences in the basic skills most needed to become a socially mature individual capable of functioning successfully in an adult society. Treated in the guide are such appropriate areas as personal and family development, housing, home care, food and nutrition, clothing, and games for learning.

SOUTH CAROLINA

CAREER OPPORTUNITIES. Teacher Resource. 1973, 35 transparencies, $4.25.

This set of 35 transparencies deals with interests inventories; personal abilities, assets, and attitudes; careers in home economics; and steps in locating and securing a job.

TEXAS (TTU)

CONCEPTUAL FRAMEWORK FOR HOMEMAKING EDUCATION IN TEXAS. 1972, 92 pages, $1.50, secondary.

This publication has been developed for the purpose of providing guidance to teachers for local program planning and a basis from which subject area guides

can be developed to enable homemaking education to meet the challenges of legislation, changes affecting the family, and the new role of homemaking education in the total education program. It includes general information regarding homemaking education; a summary of homemaking scope and sequence by level and subject area; and conceptual outlines for Homemaking I, II, III, and IV with detailed suggestions for content and time allocations. Outlines are also included for semester courses in child development, consumer education, home and family living, home furnishings, home management, and home nursing.

OCCUPATIONAL PREPARATION: 09.02

CARE AND GUIDANCE OF CHILDREN: 09.0201

MAINE

SUGGESTED GUIDE FOR THE TRAINING OF CHILD CARE AIDES. 1973, 103 pages, post secondary.

This guide is designed for training for employment opportunities related to the care and guidance of children. Twelve units are included, and each contains performance objectives, learning experiences, references, and evaluation. Also provided are a list of sources of material, an index of publishers, and an appendix of other related information.

NEW YORK

CHILD CARE SERVICES TRAINING GUIDE. Teacher's Guide. 1969, 100 pages, $.75.

The content includes establishing the child care services training program, developing the local course of study, orientation to the world of work, development of competencies in child care service occupations, and a selected resource list.

PARAPROFESSIONAL WORKERS IN EDUCATIONAL SETTINGS - CHILD CARE SERVICES, Instructor's Guide. 1972, 68 pages, $.50, post secondary.

This guide is designed to assist directors of occupational education and adult education and supervisors and teachers of home economics in organizing training programs for paraprofessional workers. The publication is organized into three sections, an appendix, and a selected bibliography.

SOUTH CAROLINA

CHILD CARE JOB TRAINING CURRICULUM. Teacher's Guide. 1973, 66 pages, $2.75, secondary.

The materials presented in this publication are intended for use as a guide to the teacher in organizing and teaching a job training program. Each of the two parts, orientation to child care employment and developing job skills for work as a child care aide, contains major concepts, behavioral objectives, generalizations, learning experiences, and teaching resources. A large list of references is also included.

TENNESSEE

CARE AND GUIDANCE OF CHILDREN. 1971, 166 pages, $2.75.

This is a guide to be used by teachers of occupational home economics education. Included in this guide are concepts and generalizations, experiences and evaluations (activities, methods, techniques), and resources. A large list of educational materials is also provided.

TEXAS (TTU)

CHILD CARE AIDE. Student's Manual. 1969, 296 pages, $6.50.

This manual contains 12 units with lessons within each unit providing objectives, references, activities, questions, and assignments for students training for the role of child care aide.

CHILD CARE AIDE. Course of Study. Teacher's Copy. (Cooperative Training.) 1969, 510 pages, $10.00.

This course of study consists of an overview and job description, a job analysis, a course outline, instructional materials for student use, unit tests, and a list of references required for use with the course of instruction. The instructional materials for student use cover such areas as the child care aide as a member of a team, the child and his family, children's food and eating habits, children's play, and many more areas of child development.

WISCONSIN

CURRICULUM: RELATED INSTRUCTION FOR DAY CARE APPRENTICESHIP PROGRAM. 1972, 25 pages, free, secondary and post secondary.

This curriculum guide lists the competencies to be attained by the apprentice in this area. In addition, other materials included are the curriculum, some suggested methods of instruction, staff qualifications, information about supervision and evaluation, and a glossary.

CLOTHING MANAGEMENT, PRODUCTION, AND SERVICES: 09.0202

NEW JERSEY

MATHEMATICS 1 - NEEDLE TRADES. 1968, 237 pages, $2.50.

The general mathematics, so essential and yet so unappreciated, are taught through the medium of the trade. Whole numbers are taught using estimating and billing; ratios are taught with fullness and allowance problems. In this way the usual general mathematics units are included, as well as a unit on accounts. There is an achievement test at the end of each unit and a trial examination at the back of the book.

PATTERNMAKING AND DESIGN - I. Student's Manual. 1967, $2.50.

This manual covers the basic year content of flat patternmaking in the occupation of dressmaking and design relating to women's garments. The content is divided into ten units: introduction to patternmaking and design, slopers, waists, necklines, closing and extensions, collars, sleeves, skirts, pockets, and belts. The units are broken down into 62 lessons. A test for each unit and a bibliography are included.

POWER SEWING. Student's Manual. 1967, 261 pages, $2.00.

This manual was prepared for a specific occupational training need to teach power sewing to deaf students. The material is well illustrated. The content is divided into eight units entitled: Let Us Learn About the Power Sewing Machine, The Single-Needle Lockstitch Projects, The Zig-Zag Machine, Two-Needle Lockstitch Machine, Special Machines, and Odds and Ends. The units are broken down into a total of 75 lessons each of which contain specific objectives and assignments.

WHEN YOU GO TO WORK. Student's Manual. 1968, 200 pages, $2.00.

This is a very basic book designed primarily for the needle trades to prepare students with limited vocabulary for the world of work. Each concept is humorously illustrated. There is a vocabulary section at the beginning of each lesson. The six unit headings are: The Factory, A Good Worker, The Job, Shop Mathematics, Clothing for Women, and Clothing for Men.

SOUTH CAROLINA

CLOTHING AND TEXTILES. Teacher's Resource. 1973, 17 transparencies, $2.75.

This set contains 17 transparencies and overlays pertaining to selection of clothing, social and psychological aspects of clothing, and construction techniques.

TEXAS (TTU)

CLOTHING ASSISTANT. Course of Study. (Cooperative Training.) 1969, 488 pages, $10.00.

This course of study was made available to assist teacher-coordinators in promoting and/or teaching home economics cooperative education programs. The course is based upon a job analysis developed from interviews with employers and employees in alteration departments and dry cleaning establishments. Each topic of the instructional materials begins with the task to which the topic is related and a statement of behavioral objectives. Answer keys are provided to assist in assessing student performance.

CLOTHING ASSISTANT. Student's Manual. 1969, 260 pages, $6.50.

This manual contains 11 units covering repairing and altering clothing, working in dry cleaning establishments, guiding customers in fabric selection, and making garments for others.

CVAE (COORDINATED VOCATIONAL ACADEMIC EDUCATION), CLOTHING SERVICES. Available spring 1974.

VIRGINIA

HOME ECONOMICS EDUCATION GUIDE FOR INSTRUCTION PREPARATORY TO ENTERING CLOTHING SERVICE OCCUPATION. 1970, 16 pages, free, 11th and 12th grade.

This course of instruction is planned to prepare high school students for entering employment in clothing services occupations upon entering or leaving high school. Seven units are included, and each of these contains an overall objective, content, suggested experiences, and a list of references. An outline for analyzing a job is also provided.

FOOD MANAGEMENT, PRODUCTION, AND SERVICES: 09.0203

NEW JERSEY

BAKING - RELATED SCIENCE AND TRADE INFORMATION; PART I: INGREDIENTS. Student's Manual. 1967, 233 pages, $2.00, 9th - 12th grade.

This workbook is written as part of a method of learning rather than a collection of baking facts. Units include flour, yeast, salt, water, sugar, eggs, shortening, milk,

starches, chocolate and cocoa, and gums and stabilizers. Especially helpful are the glossaries in each unit. References and tests for each unit are provided.

COMMERCIAL FOODS MANAGEMENT AND PRODUCTION. 1971, 444 pages, $12.00, 9th grade - adult.

Each unit of instruction includes behavioral objectives, suggested activities for instructors and students, information sheets, assignment sheets, job sheets, tests, answers to tests, and transparency masters. The course of study is designed to instruct students in the personal qualities and job competencies necessary for entry level employment as a food service worker. The curriculum content is divided into nine areas each consisting of one or more instructional units. The areas include human relations, sanitation, safety, serving, equipment, menu planning, recipe use, and food preparation. Bibliographies of reference sources are included for each unit.

COMMERCIAL FOODS MATHEMATICS 1. 1968, 136 pages, $1.75.

This book presents addition, subtraction, multiplication, fractions, decimals, and record keeping. The material is presented as a series of practical problems; for example, addition and subtraction may be taught under the headings of stock records or checking daily bills. The publication is quite comprehensive in the application of mathematics to the foods trade.

FOOD SCIENCE. 1970, 220 pages, $2.00.

The publication relates the traditional sciences to the foods industry. Some of the major topics discussed are food tests and measurements, the body and food, food spoilage, and leavening agents. The information is presented in a daily lesson format. Each lesson presents new information, some suggested student activities, and an assignment.

HOW TO MAKE IT BAKERY BOOK. 1970, 129 pages, $2.00, secondary and post secondary.

This is an illustrated book of bakery make-up for the handcraft baker and is the beginning of an extensive project of illustrated how-to-make-it lessons aimed at teaching special skills. Units include information on pies, cookies, cakes, finishing and decorating, sweet yeast doughs, bread and rolls, and miscellaneous. A recipe section is also provided.

NUTRITION-PART I. Student's Manual. 1969, 196 pages, $2.00.

The content includes a general analysis of nutrition and dietetics designed to provide related information for vocational students in the foods occupations, practical nursing, and public health occupations. There are 10 units of basic nutrition. Included are information and examination questions on nutrition for pregnancy and lactation, and nutrition for infants, teenagers, adults, senior citizens, and others.

NUTRITION-PART II. 1969, 196 pages, $2.00.

Part II is a continuation of Nutrition - Part 1. This part contains the information relating to dietetics and home economics. Five units of study are contained in

this volume: food measurements and terms, special diets, economics of various foods, the food budget and meal planning, food fads and fallacies, and culture preferences. A bibliography and a set of unit tests conclude the volume.

NUTRITION-PART II. Student's Manual. 1969, 169 pages, $2.00, 9th - 12th grade.

This guide contains overall general objectives, related information, suggested activities, assignments, and evaluation methods for each unit. Units provided are food measurements and terms; special diets; economics of various foods; the food budget and meal planning; and food fads, fallacies, and culture preferences. A bibliography is also included.

OKLAHOMA

COMMERCIAL FOODS - MANAGEMENT AND PRODUCTION. 1972, 444 pages, $12.00, secondary.

The purpose of this curriculum guide is to aid the student in developing the knowledge and skills that will facilitate his work in the food production laboratory and prepare him for entry level employment in a variety of jobs. The materials are such that the student requires a minimum of teacher supervision while working on the units. Each of the nine areas consists of one or more units of instruction. Each instructional unit includes behavioral objectives, suggested activities for teacher and students, information sheets, assignment sheets, job sheets, visual aids, test, and answers to the test. Units are planned for more than one lesson or class period of instruction.

OREGON

FOOD SERVICE OCCUPATIONS. Curriculum Guide. 1970, 163 pages, $2.50, high school.

The curriculum guide outlines the basic skills and knowledge necessary for entry-level competencies in the broad field of food service occupations or for entry into post high school programs for advanced work. The guide is broken into five concepts: human relations and communication, sanitation and safety, serving foods, preparing foods, and managing. Each division contains objectives, subconcepts and content outline, suggested learning experiences, and evaluation and generalizations. A bibliography, list of equipment, teaching aids, and job descriptions are also included.

SOUTH CAROLINA

COST CONTROL IN FOOD SERVICE. Teacher Resource. 1972, 20 transparencies, $4.50.

This resource contains a set of 20 transparencies designed to teach concepts relating to cost and profit in the food service industry. The transparencies deal with factors affecting food costs and portion control.

TEXAS (TTU)

DIETITIAN AIDE. Course of Study. (Cooperative Training.) 1969, 422 pages, $10.00.

The course of study is based upon a job analysis which is included in the materials. The content was prepared by experienced home economists in cooperation with

cooperative education teacher-coordinators and subject matter specialists. Answer keys are available in this manual which is intended only for teacher-coordinator use.

DIETITIAN AIDE. Student's Manual. 1969, 226 pages, $6.50.

The student instructional materials have been prepared to provide part of the classroom instruction and are designed to give an increased understanding of the tasks performed on the job. Content relates to food services for patient care in hospitals, nursing homes, or other health care facilities. These are available in 9 units, including 39 individual lessons dealing with food services.

FOOD SERVICE EMPLOYEES. Course of Study. (Cooperative Training.) 1969, 488 pages, $10.00.

The course of study has been developed to be of assistance to those who prepare home economics cooperative education students for gainful employment in the food service operation of a restaurant, cafeteria, drive-in, specialty house, hospital, nursing home, industrial establishment, or educational institution. The content relates the tasks to the general objectives and competencies needed by students to perform effectively on the job. The competencies listed as "abilities" are gained primarily from on-the-job training, while those listed as "understandings" are to be gained from classroom experiences.

FOOD SERVICE EMPLOYEES. Student's Manual. 1969, 260 pages, $6.50.

This manual contains nine units of instructional material dealing with such topics as sanitation, safety, commercial kitchen equipment, techniques of food preparation, table service techniques, and procedures for receiving and storing foods.

HOME FURNISHINGS, EQUIPMENT, AND SERVICES: 09.0204

NEW JERSEY

DRAPERY MAKING - I. Student's Manual. 1970, 196 pages, $2.00.

This is an introductory text for students entering drapery making as a vocation. The text uses simple vocabulary and defines technical terms prevalent throughout the book. An assignment is given at the end of each lesson and an achievement test at the end of each unit. The content was designed for teaching deaf students.

TEXAS (TTU)

HOME FURNISHINGS AIDE. Course of Study. (Cooperative Training.) 1969, 570 pages, $10.50.

This teacher's copy of a course of study contains an overview and job description, a job analysis, a course outline, instructional materials for student use, unit tests, and a list of reference materials. The course, like others in the series, opens with a discussion of the career opportunities and the personal qualities and abilities of an aide.

HOME FURNISHINGS AIDE. Student's Manual. 1969, 354 pages, $7.00.

This student material contains lessons covering eight units helpful to those employed in interior design studios, department stores, and drapery or upholstery work rooms. A programmed unit on drapery construction is included in the material.

INSTITUTIONAL AND HOME MANAGEMENT AND SUPPORTING SERVICES: 09.0205

OREGON

OREGON CUSTODIAL TRAINING PROGRAM. 1970, 44 pages, $.80, adult education.

This manual is designed as an instructional aid in teaching custodial housekeeping methods and materials. Information concerning the tools, equipment, and chemicals used in daily or periodic housekeeping jobs is presented with the techniques of cleaning all areas and fixtures in a building.

TEXAS (TTU)

HOUSEKEEPING MANAGEMENT ASSISTANT. Course of Study. (Cooperative Training.) 1969, 322 pages, $9.50.

The course of study is based upon a job analysis developed from interviews with personnel in hotels, motels, hospitals, educational institutions, and private homes. Advisory committee meetings were held to edit and review the materials. Management is stressed throughout the content. Management of daily duties, management of occasional duties, and care of equipment and facilities are among the topics included. Answer keys are available in the teacher's manual.

HOUSEKEEPING MANAGEMENT ASSISTANT. Student's Manual. 1969, 164 pages, $6.00.

There are 8 units consisting of 33 individual lessons prepared to assist students in gaining needed information to successfully perform the assigned on-the-job tasks of the housekeeping management assistant.

OCCUPATIONAL PREPARATION, OTHER: 09.0299

NEW YORK

THE PHYSICAL LEARNING ENVIRONMENT FOR TEACHING. Teacher's Manual. 1969, 57 pages, $.75.

This publication provides guidelines for establishing and utilizing physical facilities for effective training in the various curriculum patterns available through home economics occupational education. Laboratory areas covered include child care services, clothing services, food services, health services, home furnishing services, housekeeping services, and management services.

OHIO

VOCATIONAL HOME ECONOMICS JOB TRAINING - MULTI-AREA CURRICULUM. 1971, 269 pages, $3.50 plus $.40 shipping, secondary.

This guide is designed for school administrators, supervisors, and teachers in planning and executing job training programs in their communities. It should stimulate creativity in teaching but may not meet the individual needs of each teacher. The curriculum program aids in training for occupations in child care services, food services, fabric services, and community and home services. It is a cooperative program combining classroom work with on-the-job experience. The inclusion of the resource units for these occupations was based upon a job analysis which defined skills needed for entry into the occupation. The program provides the skills listed as well as knowledge, suggested student learning experiences, and teaching aids.

PENNSYLVANIA

GUIDELINES FOR PROGRAM DEVELOPMENT. (Home Economics Education.) 1972, 21 pages, free, secondary.

This is a revision of an older bulletin, Education for Homemaking in the Secondary Schools of Pennsylvania. The purpose of this bulletin is to provide the guidelines for personnel in local school districts who have responsibility for leadership in establishing, redirecting, and developing programs in home economics education for girls, boys, and out-of-school youth.

TENNESSEE

OCCUPATIONAL HOME ECONOMICS FOR THE HANDICAPPED. 1972, 458 pages, $5.75, secondary.

This guide is designed as an aid in teaching occupational home economics for the handicapped. Included are operation sheets which contain behavioral objectives, job description sheets, and trainee assignment sheets. A bibliography is also provided.

PRE-OCCUPATIONAL EDUCATION. 1971, 141 pages, $2.50, 10th and 11th grade.

This curriculum guide is designed for teaching a course in preoccupational home economics. This is a nonprerequisite course which may be offered in grades 10-11 for any student preparing for a home economics related occupation. Objectives are not behaviorally stated. This is a three-column guide which includes concepts and generalizations, experiences and evaluation, and resources. It also includes an appendix and a bibliography.

TEXAS (TTU)

HANDBOOK FOR HOME ECONOMICS COOPERATIVE EDUCATION TEACHER-COORDINATORS. 1973 (Revised), 107 pages, $3.50, secondary.

This handbook is designed for teacher-coordinators of home economics cooperative education. This publication consists of credits and prerequisites, operating funds, facilities, advisory committee, selection of training stations, placement of students, instructional materials, and other information.

WEST VIRGINIA

SUGGESTED OUTLINE FOR WAGE EARNING COURSES INVOLVING HOME ECONOMICS KNOWLEDGE AND SKILLS. Instructor's Guide. 1970 (Revised), 149 pages, $1.50.

The guide contains suggested outlined courses of instruction for training the babysitter, child care services, child care center aides, clothing alterer, clothing maintenance specialist, repair and dry cleaning aide, seamstress or dressmaker, tailor, cook's helper, short order cook, speciality cook, waiter or waitress, housekeeping aide, visiting homemaker, drapery specialist, furniture refinisher, upholsterer, hotel and motel aide, and slipcover specialist. It also contains references for most of the courses.

OCCUPATIONAL RESOURCE MATERIAL

Materials that follow are general in nature, apply to all vocational areas, and are listed under the headings of Administrator's Resource, Career Education, Student's Resource, or Teacher's Resource. The Teacher's Resource material may prove helpful to supervisors and administrators as well.

ADMINISTRATOR'S RESOURCE: All Vocational Areas

OHIO

ORGANIZATION AND OPERATION OF A LOCAL PROGRAM OF VOCATIONAL EDUCATION. 1968, 86 pages, $1.00 plus $.40 shipping.

This publication deals with establishing, maintaining, and improving comprehensive programs of vocational and technical education. The publication should prove to be a valuable guide for administrators of vocational and technical education programs: superintendents of schools, directors, coordinators, or deans. The references at the end of each chapter provide added resource material, helpful to those who desire to pursue information in depth.

SUGGESTED SPACE AND EQUIPMENT COSTS FOR JOB TRAINING PROGRAMS. Planning Guide. 1967, 53 pages, $1.50.

This illustrated guide was prepared to assist school administrators, architects, home economics teachers, and others to plan and develop programs in high schools and joint vocational schools. Details for space and equipment have been developed at an optimum level. The facilities suggested would provide for self-contained work experience opportunities within the school. A bibliography is included.

PENNSYLVANIA

COOPERATIVE VOCATIONAL EDUCATION EVALUATION CRITERIA. 1972, 8 pages, free.

This manual is designed to be used in evaluating cooperative vocational education programs.

VERMONT

GUIDELINES COOPERATIVE VOCATIONAL EDUCATION IN VERMONT. 1972, 96 pages.

This manual provides guidelines for developing a cooperative vocational education program in Vermont. Part I includes cooperative vocational education programs in area vocational centers and Part II covers cooperative vocational education in other high schools.

CAREER EDUCATION: All Vocational Areas

ALABAMA

CAREER GUIDANCE HANDBOOK. 1973, 23 pages.

This handbook briefly explains a career guidance program, what it is, and ways to do it. It lists components of a career guidance program and responsibilities of the following persons for career guidance: guidance specialists, teachers, vocational educators, administrators, parents, and other community members.

ARIZONA

CAREER EDUCATION CLEARINGHOUSE BIBLIOGRAPHY AND INDEX. 1972, 350 pages.

This guide contains three major sections: an annotated bibliography of all materials, indexes to Arizona career education materials by career education element and grade levels, and indexes to other project and non-project produced materials by subject-matter area and grade levels.

COLORADO

COMMUNICATIONS AND MEDIA. 1972, 137 pages, $5.00, junior high and high school level.

This guide provides units of instruction in the following areas of the communications and media cluster: reading skill development, meeting the public, listening and following directions, parliamentary procedure, group discussion, public speaking, conversational skill, use of references, and mass media. It is suggested for use as a separate "mini" course or as part of an English class at the junior high or high school level.

DELAWARE

INTRODUCTION TO THE WORLD OF BUSINESS. Curriculum Guide. 1973, 90 pages, $1.25, 9th grade.

This curriculum guide provides instruction for a ninth grade course concerning career opportunities within the world of business. It is a three-column guide giving goals and objectives, procedures and activities, and resources and references. The units are designed to provide information as well as "hands on" experiences necessary to aid in career selection.

IOWA

AN INDIVIDUALIZED PROGRAM FOR COLLEGE AND CAREER. 1973, 100 pages, $20.00, high school and junior college level.

This is an individualized program designed to be used in a resource center or other independent study area under the direction of a student advisor. After a period of evaluation to determine the student's strengths and needs, the student selects the options on which he wishes to concentrate his efforts. The material does not include instructions for use. Anyone planning to use the system would need to obtain more information about it. Material is written with objectives and does include multimedia resources and books.

MAINE

CAREER EDUCATION IN MAINE BROCHURE. 1973, 23 pages.

This is a short brochure explaining general concepts of career education. Included is a short description of career education programs in Maine. It is designed to make teachers in Maine aware of career education and to provide insights, perspectives, and knowledge of ways career education can be planned and implemented in Maine schools.

CAREER EDUCATION IN MAINE CURRICULUM GUIDE. 1973, 268 pages.

This curriculum guide is designed to provide Maine educators with a model for developing concepts, activities, and resource materials that will introduce career education into the schools. It contains a short chapter on concepts and a chapter delineating the role of the teacher, the counselor, the administrator, the school board, the State Department of Education, the career education coordinator, and the guidance aide. The next four chapters provide examples of activities developed and tested in Maine schools for integration of career education into the classroom at elementary and junior and senior high school levels. This is a helpful publication for schools developing a career education program.

CAREER EDUCATION K-12 - SAD #9. 1973, 95 pages.

This is a final report of a research and development project in career education conducted under Part C of Public Law 90-576. The project was conducted for one year in School District Number 9, Farmington, Maine. The communities served by this district are mostly small and rural. A comprehensive report includes goals and objectives, procedures followed, results and accomplishments, conclusions, implications, and recommendations for the future.

MARYLAND

CALLING CAREERS. Television Series. 1973, 15 lessons.

Lesson #4 Medical Services I and Lesson #5 Medical Services II are segments of a career awareness series suitable for the intermediate grades. A teacher's manual and supplement are included. Produced by Division of Instructional Television, in collaboration with the Division of Vocational-Technical Education, Maryland State Department of Education, it is available for out-of-state telecast through the Eastern Educational Network. Direct inquiries to: Eastern Educational Network, Howard Spergel 381 Elliot Street, Boston, Massachusetts 02164.

MISSISSIPPI

TEACHER'S GUIDE FOR OCCUPATIONAL ORIENTATION: AN INTRODUCTION TO THE WORLD OF WORK. 1972, 452 pages, $7.50.

This guide is designed to help the teacher plan a course of study for a class in occupational orientation/career education. Ideas could be adopted by teachers in other classes who wish to integrate some career orientation. Topics covered include: the importance of work; understanding the world of work; what is success?; preparing for a career; and exploring service occupations, business contact occupations, organization occupations, technology occupations, outdoor occupations, general cultural occupations, and arts and entertainment occupations. Student materials are also available.

MISSOURI

JOB APPLICATION AND INTERVIEW. Instructor's Guide. 1973, 354 pages, $15.00 plus postage and handling, high school and adult basic education.

The instructor's guide is divided into nine instructional units: why work; career opportunities; occupational information; self-evaluation; letter of application and application blank; job interview, tests, and forms; money management; job success factors; and job promotion and advancement. Each instructional unit includes behavioral objectives, suggested activities for teacher and students, information sheets, visual aids, tests, and answers to the tests. Units are planned for more than one lesson or class period of instruction.

NEW JERSEY

AN AGE-GRADED MODEL FOR CAREER DEVELOPMENT EDUCATION. 1969, 41 pages, $2.50.

This is an invaluable aid in developing and implementing career education. It discusses the theoretical underpinnings of child development and constructs a model for career development on a K-12 continuum. It examines the practical applications of the theories of self-awareness, career awareness, and career decision making.

CAREER DEVELOPMENT - INCREASING THE VOCATIONAL AWARENESS OF ELEMENTARY SCHOOL CHILDREN. Guidebook for Teachers. 1969, 31 pages, $1.50.

This is a six-part volume. The first two parts introduce the problems associated with the development of vocational awareness and introduce a concept model for the systematic introduction of the concept. The third part provides material which may be used in classroom assessment of vocational awareness. Section four provides sample instructional units for increasing vocational awareness. Section five describes some commonly used social studies activities which enhance vocational awareness. Section six introduces several job families or clusters of occupations.

CAREER DEVELOPMENT - JOB PLACEMENT. 1969, 63 pages, $1.50.

The first thirty-four pages develop the concept of job placement. This development starts with a detailed identification of the nature of the problem and a rationale for handling the problem. Sections three and four provide specific, concrete suggestions for the initiation and operation of a job placement program. The last twenty-nine pages report some of the information gained in the operation of five experimental job placement programs.

INTRODUCTION TO VOCATIONS. Teacher's Guide. 1973, 450 pages, $7.50.

This manual contains material which may be used as a text by the teacher for student instruction. It is also intended to be used as a guide to assist the teacher and coordinator of the program. It contains the following cycles: know yourself, environment, health and environmental careers, mechanical contracting, science-engineering-technology, small business, textile, transportation, and the following mini-cycles: bookkeeping, beauty culture, business education, careers in advertising, florist-horticulture, graphic arts, measurement, police careers, and United States Coast Guard.

INTRODUCTION TO VOCATIONS FOR EDUCABLE MENTALLY RETARDED. 1972, 55 pages, $1.00.

This is a part of career development for a special group. It is designed to aid the teacher and covers the following: general plans, the student as a member of society, economic aspects of living, exploratory units on occupation employment information, bibliography, information form, occupational interest form, and jobs for the retarded.

PHYSICS AND CHEMISTRY FOR AUTOMOTIVE TRADES. 1972, 243 pages, $2.50, 11th and 12th grade.

This manual contains units on introduction to physical science, matter and its properties, mechanics, heat, electricity, sound, and light. Each unit consists of related information, illustrations, and experiments.

NEW YORK

IDENTIFYING OPPORTUNITIES FOR EMPLOYMENT. Instructor's Guide. 1973, 84 pages, $.50.

This publication is intended to expose the students in adult basic education programs to some possibilities for marketing their newly acquired skills. The curriculum is sequenced as one unit in five phases, but any one of the sections could be used for individual guidance, for small group instruction, or for mini-seminars. Sections covered are: evaluating interest and abilities, preparing for employment, exploring the world of occupations, planning and preparing for interviews, and getting the job.

OHIO

OCCUPATIONAL WORK EXPERIENCE STUDENT HANDBOOKS. 1973, $8.00 plus $.40 shipping, available only as complete set, one set per student.

This is a set of 32 individual student handbooks designed for students enrolled in the Occupational Work Experience program in the Ohio Public Schools. This program is to provide an opportunity for students who are not intending to go to college or to a technical school to learn a trade so they can be employed immediately after high school. It consists of a half-day school program and a half-day training on the job. The handbooks can be used for individual instruction on a variety of topics such as reasons to stay in school, safety, conducting a meeting, decision making, ways to apply for and get a job, personal budgeting, and personality.

OKLAHOMA

CAREER EXPLORATION - A GUIDE FOR TEACHERS. 1970, 101 pages, $1.75, 8th, 9th, and 10th grade.

This guide is designed for use by teachers to plan and implement a course in exploration of careers for grades 8, 9, or 10. Units included are: know yourself, world of work, use of occupational information, and career education planning. This guide is written in a four-column format with objectives, activities, evaluation, and resources. The objectives are not behavioral.

A GUIDE FOR DEVELOPMENTAL VOCATIONAL GUIDANCE. 1973, 173 pages, $2.00.

This resource guide is divided into four sections: grades K-3, grades 4-6, grades 7-9, and grades 10-12. Each section contains general goals of vocational guidance for that grade level, specific things which the student needs to know, suggested activities, instructional materials, and resources.

OREGON

CAREER EDUCATION IN OREGON. 1970, 8 pages, $.25.

This is a position paper developed by the Director of Career Education in Oregon to present recommendations for career education in Oregon. It could be interpreted as a statement of broad objectives to implement career education in Oregon.

ELECTRICITY-ELECTRONICS. Curriculum Guide. 1969, 88 pages, $2.50, 7th-12th grade.

This manual was developed for the Oregon Board of Education to be used as a guide to establish a career cluster program in the area of electricity-electronics. The suggested curriculum plan is for grade levels 7 through 12.

GUIDE FOR PLANNING CAREER EDUCATION IN OREGON'S SECONDARY SCHOOLS. 1970, 22 pages, free.

This guide is intended for use by administrators in developing long-range plans for career education in individual schools. It is divided into five major parts: community data, school data, master career education plan, factors of implementation, and long-range planning sheets.

TEACHER'S GUIDE TO SUTOE (SELF UNDERSTANDING THROUGH OCCUPATIONAL EXPLORATION). 1971, 183 pages, $3.00, junior high.

This is a teacher's guide for a year-long course combining occupational exploration and self-understanding. It contains objectives for each unit followed by suggestions for implementation. The units are entitled: Pupil Involvement in SUTOE, Self-Appraisal and Self-Understanding, Relating School to Occupational Planning, The Individual's Role in the Economic System, Preparing Students for In-Depth Career Study, Exploring Jobs, Evaluating Experiences, and Planning Ahead.

WORLD OF WORK. 1971, 68 pages, $1.00, K-12.

This is a curriculum guide which is not self-contained. It uses behavioral objectives and is designed to relate the social studies curriculum to the world of work. For each grade level there are suggested activities, resources, and evaluation suggestions for reaching the objectives. It also includes a bibliography of occupationally oriented books and some worksheets for teacher use in planning the units.

SOUTH CAROLINA

THE WORLD OF WORK - A UNIT IN PRE-VOCATIONAL INSTRUCTION. Teacher's Guide. 1971, 216 pages and 31 game cards, $5.00, 9th and 10th grade.

This guide is designed for a course of instruction for 9th and 10th grade students. The guide contains 20 major activities or units each with objectives, student worksheets, and transparency masters.

TENNESSEE

CHARLES LIVES AND WORKS. 1970, 32 pages, $1.00, high school.

This is a short individualized instructional unit in job hunting, banking, and budgeting for use in vocational improvement programs. It could be used in math, English, or social studies classes at the high school level.

VIRGINIA

INDUSTRIAL ARTS CURRICULUM GUIDE. 1972, 109 pages, $2.50, secondary.

This guide has been designed as a professional resource for the secondary industrial arts teacher. The guide gives specific direction to the broad content courses in industrial arts and provides supplementary direction to the general unit-type courses. It includes a series of approaches to teaching industrial arts curriculum, ways to use educational television, a resource index, and transparency masters.

WASHINGTON

GUIDELINES FOR CAREER AWARENESS PROGRAMS FOR THE ELEMENTARY SCHOOL - PART 3: WHAT ABOUT VOCATIONAL EDUCATION? 1974 (Revised), 62 pages, free.

This is a resource guide to provide suggestions to elementary teachers in developing career awareness programs. For each grade level it includes goals, concepts and objectives, suggested activities, and learner's expectations. An appendix with resources for career awareness programs is also included.

SUGGESTED GUIDELINES FOR CAREER EDUCATION WORKSHOPS. 1973, 29 pages, free.

To develop continuity in the career education effort, this guide is designed to propose suggested content, methods, and techniques for in-service workshops that will assist teachers in integrating career education into their classrooms.

STUDENT'S RESOURCE: All Vocational Areas

ILLINOIS

APPLYING FOR A JOB. Student's Guide. 1969, 12 pages, S.18.

Many questions confronting students are answered in this leaflet. It deals with such items as taking personal inventory, getting additional training, discovering what jobs are available, writing a letter of application, and being interviewed by a prospective employer.

MISSOURI

BASIC MATHEMATICS. Instructor's Guide. 1971, 88 pages, $1.50.

This guide is designed for vocational students. The concepts of number theory, whole number operations, fractions, decimal fractions, and applied geometry are all included. There are five topic units with eleven developed lessons.

NEW JERSEY

DICTIONARY. 1973, 21 pages, $.50.

This manual can be used by students and is designed to give information on ways to use a dictionary. There are sample problems to provide the learner with learning experience needed to use a dictionary.

ENGLISH AT WORK - VOLUME I. 1970, 248 pages, $2.50.

This is written for the high school student who plans to go to work upon graduation. The format and examples are designed to motivate the vocational student. The table of contents lists ten unit titles: The Role of Language, The Dictionary, The Sentence, Written Expressions, Common Mistakes, Reading, The Newspaper, The Library, Expressing Yourself, and Spelling.

ENGLISH AT WORK - VOLUME II. 1970, 472 pages, $2.50.

This volume, as an extension of Volume I, continues in the same vein with no change in philosophy. The general areas covered are listed as units XI through XVI. These units are entitled: Written Correspondence, Vocabulary Building, Punctuation, Straight Thinking, Industrial and Business Forms, and Job Planning.

FINDING A JOB. 1973, 56 pages, $.50.

The publication includes information needed for finding a job. Areas included are: where to look for a job, the interview, things to learn about the job, the application form, and the resume.

THE NEWSPAPER. 1970, 28 pages, $.50.

This publication was developed to help the student learn to read and use newspapers. Problems and quizzes are included.

OHIO

JOB METHODS FOR SUPERVISORY PERSONNEL. Handout Sheets. Leader's Resource Material. 1966, 15 pages, $1.00 plus $.40 postage and handling.

This portfolio of handout sheets is essential for students to illustrate important points. Each of the 15 sheets is keyed for use in the instructor's manual and should be given to learners and participants at the appropriate time.

SOUTH CAROLINA

LOCATING AND SECURING A JOB. Student's Manual. 1970, 29 pages, $.75.

The manual was prepared for high school students enrolled in vocational education courses. Addressed to the student, the manual takes him through a series of seven steps in securing a job. There are assignments and helpful illustrations which provide opportunity for the application of the ideas set forth in the text material.

TENNESSEE

VOCATIONAL RELATED MATH--BLAST OFF! 1971, 169 pages, $4.75.

This manual was designed for student use. At the beginning of each unit is a skill test. As long as the student successfully completes all the problems on these tests, he gets to disregard all of the assignments in that unit. The content includes the number system, addition, subtraction, multiplication, and division of whole numbers.

VOCATIONAL RELATED MATH--TOUCHDOWN! 1971, 125 pages, $4.25.

This publication is designed to help a student improve math skills. Related information sheets, skill practice sheets, assignment sheets, and evaluation (test) sheets are included. Vocationally related problems are used for skill practice and assignments.

TEXAS

YOUR ATTITUDE IS SHOWING. 1972, $3.90.

This reference manual has been prepared by Elwood H. Chapman and published by Science Research Associates, Chicago, Illinois. It is a part of a set of three manuals dealing with attitudes.

YOUR ATTITUDE IS SHOWING ANSWER BOOK. 1972, $1.25.

This manual contains suggested acceptable answers to the assignment questions. The material is helpful in assessing student understanding and comprehension.

YOUR ATTITUDE IS SHOWING ASSIGNMENT MANUAL. 1972, $1.00.

This publication contains 20 assignments based upon the reference manual described above. Assignments cover such items as fundamentals of good human relations, ways to compensate for youth and inexperience, and ways to make good first impressions.

TEACHER'S RESOURCE: All Vocational Areas

INDIANA

ADVISORY COMMITTEES FOR HOME ECONOMICS. 1969, 17 pages, $.20.

This bulletin was written to help teachers with the organization and implementation of an advisory committee. The contents of this publication are: a description guideline for establishing a committee, steps in organizing and implementing the advisory committee, the meeting, purposes of the committee, a sample letter to members, constitution or guidelines, and a bibliography.

MAINE

IDEAS FOR TEACHERS. 1973, 77 pages.

This booklet was developed to help teachers motivate the disadvantaged, but could be valuable in working with all students. It is a teacher's guide giving suggested teaching activities for such areas as entering the world of work, occupations, living with your job, managing more, mathematics, and other areas.

MARYLAND

A TENTATIVE COURSE OUTLINE FOR USE IN COOPERATIVE VOCATIONAL EDUCATION PROGRAMS THREE YEAR SEQUENCE. 1972, 69 pages.

This is a three-year course outline for cooperative vocational education. The outline includes lessons, suggested activities, and references.

MISSOURI

ORIENTATION TO EMPLOYMENT. 1973, 124 pages, $3.00.

This is designed to aid the teacher coordinators of cooperative education in teaching general employment information needed by young beginning employees. The instruction should be valuable to any young worker regardless of the occupation of the student. The study guide and instructor's manual are each attractively bound in a three-ring plastic binder.

TECHNIQUES OF THE COOP METHOD. Instructor's Guide. 1973, 118 pages, $4.00 plus postage and handling.

The job of the coordinator in cooperative education requires the mastery of many specific skills which are identified and explained in this publication. The performance of the coordinator's role calls for knowledge of concepts and principles which are also described. However, the difference between an outstanding coordinator and one who is only average is usually the application of tricks of the trade that normally are gained only by experience. In this handbook, the author relates the many little tricks that he has found to work from his years of rich experience as a coordinator, supervisor, administrator, and teacher-educator.

NEW JERSEY

STUDENT'S MANUAL FOR SUPERVISED TEACHING OF VOCATIONAL SUBJECTS. Student's Manual. 1970, 63 pages, $2.00.

This manual is prepared specifically for trainees enrolled in the course entitled "Supervised Teaching of Vocational Subjects." Responsibilities and requirements of teaching vocational subjects are stressed in the publication.

TIME. 1970, 65 pages, $.50.

This manual is about time, its importance, its use, zones, and other information. This manual also includes problems and tests.

THE WORKER IN MODERN SOCIETY. 1970, 287 pages, $5.00.

The units presented are: problems of labor and management, capitalism of its rivals, history of the labor movement, structure and function of trade unions, personnel responsibilities in modern industry, problem-solving techniques of labor and management, intra-labor problems, corrective legislation, the worker's responsibility, and forthcoming problems. Each unit is presented as a series of lessons, and each lesson provides various outlooks on the topic presented Thirty-nine pages of unit tests are included.

WORLD PROBLEMS FOR AMERICANS. 1969, 106 pages, $2.00.

The author intended this book as a guide to be used in exploring contemporary problems. There is no attempt to give final answers. The major areas explored are nationalism, war, rule by force, population, and religions.

NEW MEXICO

PERSONAL GROWTH CURRICULUM FOR ADULT BASIC EDUCATION. Curriculum Guide. 1970, 157 pages, free.

The content is designed not only to provide skill development in mathematics, reading, and writing, but also to develop a new life perspective and an awareness of family and social responsibilities. It is intended to lift attitudes from defeatism and rejection to those of confidence and leadership. The guide contains six major divisions including an introduction, family life, health education, world of work, money management, and citizen government.

NEW YORK

EVERYMAN'S ESTATE PLANNING. Curriculum Guide. 1971, 56 pages, $.50.

This is an instructor's guide for teaching an adult course in estate planning. There are six lessons and a case-problem analysis for planning an estate.

OHIO

A BRIEF GUIDE TO ELECTRONIC ALARM SYSTEMS. 1972, 25 pages, $1.50.

This 25-page summary of various types of alarm systems for retail security was prepared by Mosler Safe Company without bias for their own products. It details the advantages and disadvantages of various alarm systems to aid in the improvement of security.

CREATIVE THINKING. Teacher's Guide. 1969, 100 pages, $3.00.

This guide defines creativeness and presents ways to contribute creatively through an interplan of attitudes, aptitudes, resources, and planning. The unit can be used with high school students, post high school students, and adults. It is intended to provide an introductory study of the principles of creative thinking and to suggest ways and means by which individual and group creativity may be increased.

D.C.T. REFERENCE MATERIALS. 1970, 71 pages, $.50 plus $.40 shipping.

This is a listing of instructional materials for the teaching of prominent vocational subjects. These materials have been chosen by committee for their general excellence and are comprised of publications from most states active in vocational education. Also listed with the title of each publication are the reference materials with the address from which they may be obtained.

GETTING THE RIGHT JOB. Teacher's Guide. (Cooperative Training.) 1970, 54 pages, $1.50.

The content is organized into five units ranging from planning your career objective to the interview. The material is designed to aid the student in locating job sources, applying for employment, and successfully completing the interview. Teaching suggestions helpful in handling the content are included along with some instructional aids for teacher use.

INDUSTRIAL ARTS RESOURCE SUPPLEMENT TO CONSUMER EDUCATION CURRICULUM GUIDE FOR OHIO. 1971, 116 pages, $2.40 each plus $.40 shipping, 9th-12th grade.

This guide has been developed for the purpose of assisting industrial arts instructors in teaching consumer education as an integral part of their program.

MANPOWER TRAINING RESOURCE SUPPLEMENT TO CONSUMER EDUCATION CURRICULUM GUIDE FOR OHIO. 1971, 80 pages, $2.40 each plus $.40 shipping.

This is a teacher's guide for presenting consumer "know how" to the MDTA trainees. It contains concepts, suggested learning and evaluation experiences, and suggested resources.

OCCUPATIONAL WORK ADJUSTMENT RESOURCE SUPPLEMENT TO CONSUMER EDUCATION CURRICULUM GUIDE FOR OHIO. 1971, 63 pages, $2.40 each plus $.40 shipping, K-12.

This guide was developed for occupational work adjustment programs in Ohio. It is a teacher's guide including objectives, concepts, and suggested learning and evaluation experiences. Some areas included are the economic system, the job, ways to apply for a job, the paycheck, budgeting, money, banking, and credit.

OCCUPATIONAL WORK EXPERIENCE INSTRUCTOR'S MANUAL. 1973, 121 pages, $4.00 plus $.40 shipping.

This instructor's manual was developed for occupational work experience program use. It covers such areas as safety education in driving, using the telephone, decision making, ways to apply for and get a job, what the employee wants, and other work experience information.

PATHWAYS TO SELF-IMPROVEMENT. 1972, 83 pages, $2.50.

This is a course outline for developing attitudes about a student's personality, personal appearance, and ability to communicate. It includes measurable objectives, teaching content, and projects which will help the student learn to be more successful. Each project has objectives, step-by-step directions, and evaluation rating factors for the coordinator.

THINKING ABOUT YOUR FUTURE. 1971, 2 pages, $.04.

This is a handout used by most coordinators to gauge initial reaction in mass recruiting assemblies. It has a fill-in blank on the back cover for indication of interest in the program.

TRAINING PLANS FOR COOPERATIVE OFFICE EDUCATION. Teacher's Manual. (Cooperative Training.) 1970, 47 pages, $1.00.

This manual contains training plans for a variety of office occupations suitable for a high school cooperative education program.

AN UNDERSTANDING OF ECOLOGY FOR TOMORROW'S BUSINESS LEADER. 1972, 31 pages, $2.00.

A subject of national concern is presented in this teaching outline with the objective of incorporating outside projects to acquaint students with ecological problems in their own community. Several related films are listed as well as many printed references.

OKLAHOMA

COOPERATIVE VOCATIONAL EDUCATION - A BASIC COURSE OF STUDY. 1972, 553 pages, $10.00

This color-coded publication is a basic course of study for cooperative vocational education. Topics covered are: orientation, employment, personal development, employee relations, communications, financial management, and insurance. The self-contained units include performance objectives, suggested activities for teacher and students, information sheets, transparency masters, assignment sheets, tests, and answers to tests.

HANDBOOK FOR COOPERATIVE PROGRAMS. 1972, 51 pages, $1.25.

This publication is to serve as a handbook for teachers of cooperative programs in vocational education. Topics included are: purposes of vocational education, types of programs, responsibilities of the teacher-coordinator and the advisory committee, legal regulations, selection of students and training stations, evaluation, and sample forms to be used in the program.

VOCATIONAL RELATED ENGLISH. Curriculum Guide. 1972, 778 pages, $12.00, 8th, 9th, and/or 10th grade.

This color-coded publication developed for the disadvantaged includes six areas which relate English to the occupational clusters of construction, general mechanical trades, and home and community services. Each self-contained instructional unit includes performance objectives, suggested activities for teacher and students, information sheets, assignment sheets, transparency masters, tests, and answers to the tests. Areas cover general vocational, capitalization, punctuation, parts of speech, the sentence, and usage.

VOCATIONAL RELATED MATH. Curriculum Guide, 1972, 908 pages, $12.00.

This curriculum guide includes seven areas, each consisting of one or more units of instruction. Each instructional unit includes behavioral objectives, suggested activities for teacher and students, information sheets, assignment sheets, visual aids, tests, and answers to the test. Units are planned for more than one lesson or class period of instruction. There are a total of 39 units of instruction covering the following areas: measurement, whole numbers, fractions, decimals, percent, consumer education, and geometry.

VOCATIONAL RELATED SOCIAL STUDIES. Curriculum Guide. 1972, 546 pages, $10.00, 8th, 9th, and/or 10th grade.

This color-coded publication developed for the disadvantaged relates social studies to the vocational clusters of construction, general mechanical trades, and home

and community services. The four areas included are general vocational, government, social studies, and industry in Oklahoma. Each self-contained unit includes performance objectives, suggested activities for teacher and students, information sheets, assignment sheets, transparency masters, tests, and answers to the test.

PENNSYLVANIA

COOPERATIVE VOCATIONAL EDUCATION GENERAL RELATED THEORY CLASS OUTLINE. 1972, 45 pages, free.

This is a teacher's guide for use in cooperative vocational education general related theory class. There are eight units and included in each unit are objectives, class activities; suggested references, and films. Some of the units are: employer and employee relationship, human relationship, consumer education, and career and job exploration. This guide is appropriate for any cooperative class.

A GUIDE FOR TEACHING BASIC READING SKILLS TO ADULTS (A RIGHT TO READ PROGRAM). 1973, 100 pages, free.

This is a teacher's guide for teaching basic reading skills to adults. Worksheets are included in the manual for student use.

RESOURCE MATERIALS FOR HOME ECONOMICS EDUCATION IN PENNSYLVANIA SCHOOLS. 1970, 32 pages, free, secondary.

This bulletin is the introduction to the series of bulletins which constitute the resource materials for home economics education in Pennsylvania. It explains the terminology and curriculum structure which were used as the basis for developing the resource materials in each curriculum area.

SOUTH CAROLINA

FOOD DISTRIBUTION, THE SUPERMARKET ENTRY OCCUPATIONS. Teacher's Guide. 1971, 49 pages, $1.25, secondary; also available 19 transparencies, 1971, $2.75.

This publication was developed to assist coordinators of distribution and marketing to improve and expand instruction activities in preparing high school students to enter and progress in the area of food distribution. The manual contains activities and tests and includes areas such as history of the supermarket, store organization, major departments, channels of distribution, and other related information.

LOW-COST TEACHER-MADE OVERHEAD TRANSPARENCIES. Teacher's Manual. 1969, 63 pages, $1.00.

This printed, well-illustrated booklet contains a thorough discussion of the merit and potential of one material that can be used in the production of overhead transparencies. The material, known as three Mil Trycite, has been selected because it is economical, versatile, very transparent, and can be obtained in a pre-cut size useful in teaching. It can be utilized without expensive equipment or processing materials. The publication provides the "how to do it" of transparency production in excellent detail.

TENNESSEE

BASIC REMEDIAL EDUCATION. 1968, 289 pages, $5.25.

This handbook offers a suggested course outline, sample lesson plans, lists of instructional materials, and aids for basic-remedial education. It was designed to be used by MDT teachers.

BUILDING ENGLISH SKILLS - COMMUNICATIONS - LEVELS II and III. 1971, 335 pages, $4.25, secondary.

The material was prepared for use by instructors and students in vocational advancement programs in secondary schools. A student may begin at his own achievement level and progress at his individual rate under the instructor's guidance. Level II materials are written for students whose reading level ranges from grades 2-5; Level III materials are for grades 4-8. The English skill areas are divided into units which are made up of several lessons. The units cover the parts of speech and the sentence.

TEACHER'S GUIDE - VOCATIONAL RELATED TRAINING FOR SPECIAL STUDENTS. 1972, 225 pages, $4.25.

This teacher's guide was designed for use with the secondary disadvantaged, handicapped, or regular vocational student. There are four major sections covering equipment and materials, suggested instructional units, suggested grading standards, and references. Most of the guide deals with suggested instructional units such as personality, human relations, consumer education, and health.

TENNESSEE COOPERATIVE COORDINATOR'S HANDBOOK. 1972, 144 pages, $3.00.

The handbook provides suggestions for organizing and operating a cooperative vocational program. The manual includes most aspects of all cooperative programs. Some of the areas that are included are advantages of cooperative vocational education, school administrators' responsibility, establishing a program, and duties of coordinators.

WASHINGTON

DIVERSIFIED OCCUPATIONS UNITS OF INSTRUCTION. 1973, 150 pages, $7.50.

This publication was developed for diversified occupations coordinators but could be used by other cooperative education teachers. Some of the units of instruction are business math, human relations, job orientation, and career exploration.

WYOMING

WYOMING MATHEMATICS CURRICULUM GUIDE. Teacher's Manual. 1970, 34 pages, free, 7th-12th grade.

Through the program of mathematics the student should become aware of the influences a command of figures can make in his continuing occupational and personal development. The content can be summarized as an attempt to: emphasize the "why" just as much as the "how," teach mathematics as a structure, allow students to discover relationships for themselves whenever possible, and teach the social utility or practical applications of mathematics and of arithmetic computation.

INSTRUCTIONS FOR ORDERING CURRICULUM MATERIALS

Orders for materials should be sent to the address of the appropriate State source. Specific ordering information is indicated where applicable. Prices are subject to change without notice. (An asterisk indicates that whether or not items are listed in this publication, a list of instructional materials from that source is available upon request.)

ALABAMA

For agriculture publications:

Mr. A. H. Halcomb, Subject Matter Specialist, Agribusiness Education, 101 Petrie Hall, Auburn, Alabama 36830.

For career education and home economics publications:

Division of Vocational Education, State Department of Education, State Office Building, Montgomery, Alabama 36104.

A catalog with instructions on how to obtain technical education and trade and industrial publications is available upon request from: Instructional Materials, Trade and Industrial Education, P.O. Box 2847, University, Alabama 35486.

ALASKA

Division of Vocational Education, Pouch F, Alaska Office Building, Juneau, Alaska 99801.

ARIZONA

Division of Career and Vocational Education, Arizona Department of Education, 1535 West Jefferson, Phoenix, Arizona 85007.

ARKANSAS

Division of Vocational, Technical, and Adult Education; State Department of Education; State Education Building; Little Rock, Arkansas 72201.

CALIFORNIA*

For vocational agriculture films, filmstrips, manuals, and other materials:

A catalog with instructions on how to obtain materials is available upon request from: Vocational Education Productions (VEP), California Polytechnic State College, San Luis Obispo, California 93401.

For health publications:

University of California, Division of Vocational Education, Allied Health Professions Projects, 12016 Wilshire Boulevard, Los Angeles, California 90025.

For home economics publications:

Film Fair Communications, 10900 Ventura Boulevard, Studio City, California 91604.

For fire service training manuals:

California State Department of Education, Business Services Section, Textbook and Publication Sales, 721 Capitol Mall, Sacramento, California 95814.

For apprentice and peace officer training materials:

California State Department of Education, Fiscal Office--Order Section, 721 Capitol Mall, Sacramento, California 95814. A separate price list is available upon request for police officer reference material and training films from: Officer of Procurement-Stores, Department of General Services, P.O. Box 20191, Sacramento, California 95820.

For peace officer training materials:

When ordering this material, officers should state their rank and the department with which they are connected. The order should be addressed to Documents and Publications, Office of Procurement-Stores, Department of General Services, P.O. Box 20191, Sacramento, California 95820. Sales tax of 5% must be added to all orders originating in California. Over-the-counter sales are made at the Publications Center, State Office Building No. 9, 744 P Street, Sacramento, at the public counter in the lobby.

Check or money order must be made payable to the state of California. NO ORDERS CAN BE FILLED C.O.D.

COLORADO

Center for Career Development, Dissemination Division, Room 318, Department of Vocational Education, University of Northern Colorado, Greeley, Colorado 80639.

CONNECTICUT

Angelo J. Tedesco, Consultant; Bureau of Vo-Tech Schools; Curriculum Center; Division of Vocational Education; State Office Building, Room 336; Hartford, Connecticut 06115. Publications are free and are sent postpaid. Requests must be made on official school system stationery.

DELAWARE

Dr. Burton Braverman, Supervisor; Curriculum and Research; Department of Public Instruction; John G. Townsend Building; Dover, Delaware 19901. Checks should be made payable to the State Board of Education.

GEORGIA

State Department of Education, Office of Instructional Services, State Office Building, Atlanta, Georgia 30334.

IDAHO

Idaho State Board for Vocational Education, 506 North 5th, Boise, Idaho 83720.

ILLINOIS*

Vocational Agriculture Services, University of Illinois, 434 Mumford Hall, Urbana, Illinois 61801. Terms of sale for ordering purposes are:

If orders are billed for payment, postage is added to the prices listed.

If payment is sent with the order, the following amounts should be added for postage and handling:

Orders up to $10 - add $.50
Orders $10 to $20 - add $.75
Orders over $20 - add $1.00

INDIANA

Instructional Materials Laboratory, T.A.W. Building, Indiana State University, Terre Haute, Indiana 47809.

IOWA

For agriculture publications:

Information and Publication Services Section, Department of Public Instruction, Grimes State Office Building, Des Moines, Iowa 50319.

For home economics publications:

University Book Store, Ames, Iowa 50010.

For occupational resource publications:

North Iowa Area Community College, Attention: Mariestelle Brown, 500 College Drive, Mason City, Iowa 50401.

MAINE

Department of Educational and Cultural Services, Augusta, Maine 04330

MARYLAND

For health publications:

Publication Sales; American Association for Health, Physical Education, and Recreation; 1201 16th Street N.W.; Washington, D.C. 20036. Stock #244-2570.

For all other vocational publications:

P.O. Box 8717, Friendship International Airport, Baltimore, Maryland 21240.

MASSACHUSETTS

For career education publications:

Available for out-of-state telecast through the Eastern Educational Network. Direct inquiries to: Eastern Educational Network, Howard Spergel, 381 Elliot Street, Boston, Massachusetts 02164.

MISSISSIPPI

Curriculum Coordinating Unit, Mississippi State University, P.O. Drawer DX, Mississippi State, Mississippi 39762. Orders accompanied by payment will be sent postpaid. Billing for all other orders will have postage added.

MISSOURI*

Send requests for 1973-74 price list and order form to: Amon Herd, Director; Instructional Materials Laboratory; 8 Industrial Education Building; University of Missouri-Columbia; Columbia, Missouri 65201. A specific form provided from the above address must be used when ordering all materials. A check or money order for the total amount must accompany orders unless an official purchase order is furnished. Schools MUST attach official purchase order. Descriptions of the listed materials may be found in the 1973-74 Instructional Materials Laboratory Catalog.

NEVADA

State Supervisor, Home Economics Education, Department of Education, Carson City, Nevada 89701.

NEW HAMPSHIRE

Department of Education, Vocational-Technical Division, 105 Loudon Road, Concord, New Hampshire 03301.

NEW JERSEY*

New Jersey Vocational-Technical Curriculum Laboratory, Rutgers University, 4103 Kilmer Campus, New Brunswick, New Jersey 08903. All school orders should be made on official school purchase order form and sent to the above address. In addition to the price of the materials, you will be billed for postage or shipping charges. Individuals may order materials by including a check or postal money order for the amount of the materials plus $.30 per book postage. Please make all checks payable to: Vocational Curriculum Laboratory-Rutgers.

NEW MEXICO

Department of Education, Education Building, Santa Fe, New Mexico 87501.

NEW YORK

The State Education Department, Bureau of Finance, Publications Distribution Unit, Albany, New York 12224. Single copies only sold to education institutions outside the state. No "on approval" copies will be sent. Prices given are net and include book rate postage.

Orders, with remittance, should be sent to: The Publication Distribution Unit, State Education Department, Albany, New York 12224.

State education departments, colleges, or curriculum laboratories having similar materials to exchange should make arrangements with the Bureau of Secondary Curriculum Development, Albany, New York 12224. Copies of New York State curriculum materials are available through the microfiche services of The ERIC System.

OHIO

For agriculture publications:

Ohio Agricultural Education, Curriculum Materials Service, The Ohio State University, Room 254, 2120 Fyffe Road, Columbus, Ohio 43210.

For all other vocational publications:

Instructional Materials Laboratory, The Ohio State University, 1885 Neil Avenue, Columbus, Ohio 43210. Ohio schools or other Ohio public agencies should deduct 20 percent from price quoted. On out-of-state quantity orders of 26 to 100 copies of the same manual, a 10 percent discount is granted; on 101 or more copies, a 20 percent discount applies.

Statements will be rendered on receipt of official purchase orders; otherwise, remittance must accompany orders. All checks and money orders must be made payable to the Ohio State University. Postage must be included at the following rates: single copy--$.40; 2 to 12 copies--$.35 each; 13 or more copies--$.25 each. A catalog with order forms is available on request.

OKLAHOMA

The Curriculum and Instructional Materials Center, State Department of Vocational and Technical Education, 1515 West Sixth Avenue, Stillwater, Oklahoma 74074. Checks in the amount of order made payable to the Curriculum and Instructional Materials Center must accompany the order. Publications are postpaid.

OREGON

For health publications:

Documents Clerk, Oregon Board of Education, 942 Lancaster Drive NE, Salem, Oregon 97310.

For all other vocational publications:

Division of Community Colleges and Vocational Education, Oregon Board of Education, Public Services Building, Salem, Oregon 97310.

PENNSYLVANIA

Pennsylvania Department of Education, Office of Information and Publications, P.O. Box 911, Harrisburg, Pennsylvania 17126. Check or money order in the proper amount, made payable to the Commonwealth of Pennsylvania, must accompany each order.

SOUTH CAROLINA

Vocational Education Media Center, 109 Freeman Hall, Clemson University, Clemson, South Carolina 29631.

TENNESSEE

Vocational Curriculum Laboratory, Box 1114, Murfreesboro, Tennessee 37130. All orders must be:

1. On official purchase order properly signed by an official of the organization. Invoices will be rendered at list price plus postage.

2. Accompanied with check for full amount of materials plus postage and handling based on the following scale:

   single copy - $.50
   2 to 10 copies - $.35 each
   11 or more copies - $.25 each

   Make checks payable to State of Tennessee. Because a limited number of each item was printed, examination copies cannot be furnished. All sales are final--materials cannot be returned.

TEXAS

(A&M) Vocational Instructional Services Center, F.E. Box 182, Texas A&M University, College Station, Texas 77843. A school purchase order and check or money order must accompany each order and be made payable to Texas A&M University. A catalog is available upon request.

For home economics publications:

(TTU) Texas Tech University, Home Economics Instructional Materials Center, P.O. Box 4067, Lubbock, Texas 79409. Total payment or official purchase order must accompany order. Official purchase order terms are net 30 days. Make checks payable to Home Economics Instructional Materials Center. Prices include postage. Mailing will be insured only if insurance is requested when order is placed.

(UT) Industrial Materials Development (Industrial Education), Division of Extension, The University of Texas, Austin, Texas 78712. A school purchase order and check or money order must accompany each order and must be made payable to the University of Texas. Catalogs are available. A 2 percent state sales tax or tax exemption certificate is required in addition to prices listed.

VERMONT

State of Vermont, Department of Education, Montpelier, Vermont 05602.

VIRGINIA*

Mr. Harry Smith, Director of Public Information and Publications, State Department of Education, P.O. Box 6-Q, Richmond, Virginia 23216.

WASHINGTON

For career education publications:

Richard R. Lutz, Supervisor; Career Education; Old Capitol Building; Olympia, Washington 98504.

For teacher's resource publications:

LeRoy McCartney, Director; Distributive and Office Education; 216 Old Capitol Building; Olympia, Washington 98504.

WEST VIRGINIA

Coordinator of Curriculum Development; Bureau of Vocational, Technical and Adult Education; Room B-243, Building 6, Capitol Complex; Charleston, West Virginia 25305. Make checks payable to Vocational Curricula Material Funds for the amount of the order.

WISCONSIN

Mr. Clifford Zenor, Vocational Education Consultant--Instructional Services; Wisconsin Board of Vocational, Technical, and Adult Education; 4802 Sheboygan Avenue; Madison, Wisconsin 53702.

WYOMING

State Department of Education, Division of Public Information, Capitol Building, Cheyenne, Wyoming 82001.

NOTE; Request for specific material contained in this annotated listing should be sent to the appropriate State source.

ACCESSION NUMBER: VT101457

PUBLICATION DATE: DEC73

TITLE: OCCUPATIONAL AWARENESS THROUGH DRAMATIC PLAY. A CURRICULUM GUIDE FOR PRIMARY GRADES. PARTS I & II.

PERSONAL AUTHOR: *COLDEN, LORETTA

DESCRIPTOR: *CURRICULUM GUIDES; *SOCIAL STUDIES; *ELEMENTARY GRADES; *DRAMATIC PLAY; *CAREERS; PERCEPTION

IDENTIFIER: FRANK PORTER GRAHAM CHILD DEVELOPMENT CENTER

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ABSTRACT: THIS CURRICULUM GUIDE DESCRIBES THE EDUCATIONAL ACTIVITIES IN AN OCCUPATIONAL AWARENESS/SOCIAL STUDIES PROGRAM DEVELOPED FOR SECOND GRADE IN TWO SCHOOLS IN THE CHAPEL HILL-CARRBORO SCHOOL DISTRICT. THIS GUIDE CAN EASILY BE ADAPTED TO KINDERGARTEN, FIRST AND THIRD GRADES. SEVEN TOPICS ARE STUDIED IN DEPTH--WORKING AT THE POST OFFICE, WORKING IN THE SUPERMARKET, WORKING AT THE AIRPORT, WORKING IN THE BANK, WORKING IN THE POLICE DEPARTMENT, WORKING IN THE HOSPITAL, AND WORKING IN THE FIRE DEPARTMENT. EIGHT TOPICS ARE STUDIED VERY BRIEFLY--WORKING IN THE SERVICE STATION, WORKING IN THE CONSTRUCTION COMPANY, WORKING IN TRAFFIC COURT, WORKING ON THE NEWSPAPER, WORKING IN THE LIBRARY, WORKING IN THE DEPARTMENT OF PUBLIC WORKS, WORKING IN THE DEPARTMENT OF MOTOR VEHICLES, WORKING AS THE MAYOR AND MEMBER OF CITY COUNCIL. AT THE BEGINNING OF EACH SECTION ON A PARTICULAR OCCUPATION, THERE IS A LIST OF DRAMATIC PLAY ACTIVITIES, A LIST OF PROPS, SUGGESTED CLASSROOM LESSONS AND ACTIVITIES, SOURCES OF INFORMATION AND COMMENTS, SPELLING WORDS, CHARTS ON FILMS, SAMPLE QUESTIONS, AND A BIBLIOGRAPHY. (AUTHOR/KB)

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OCCUPATIONAL AWARENESS THROUGH DRAMATIC PLAY

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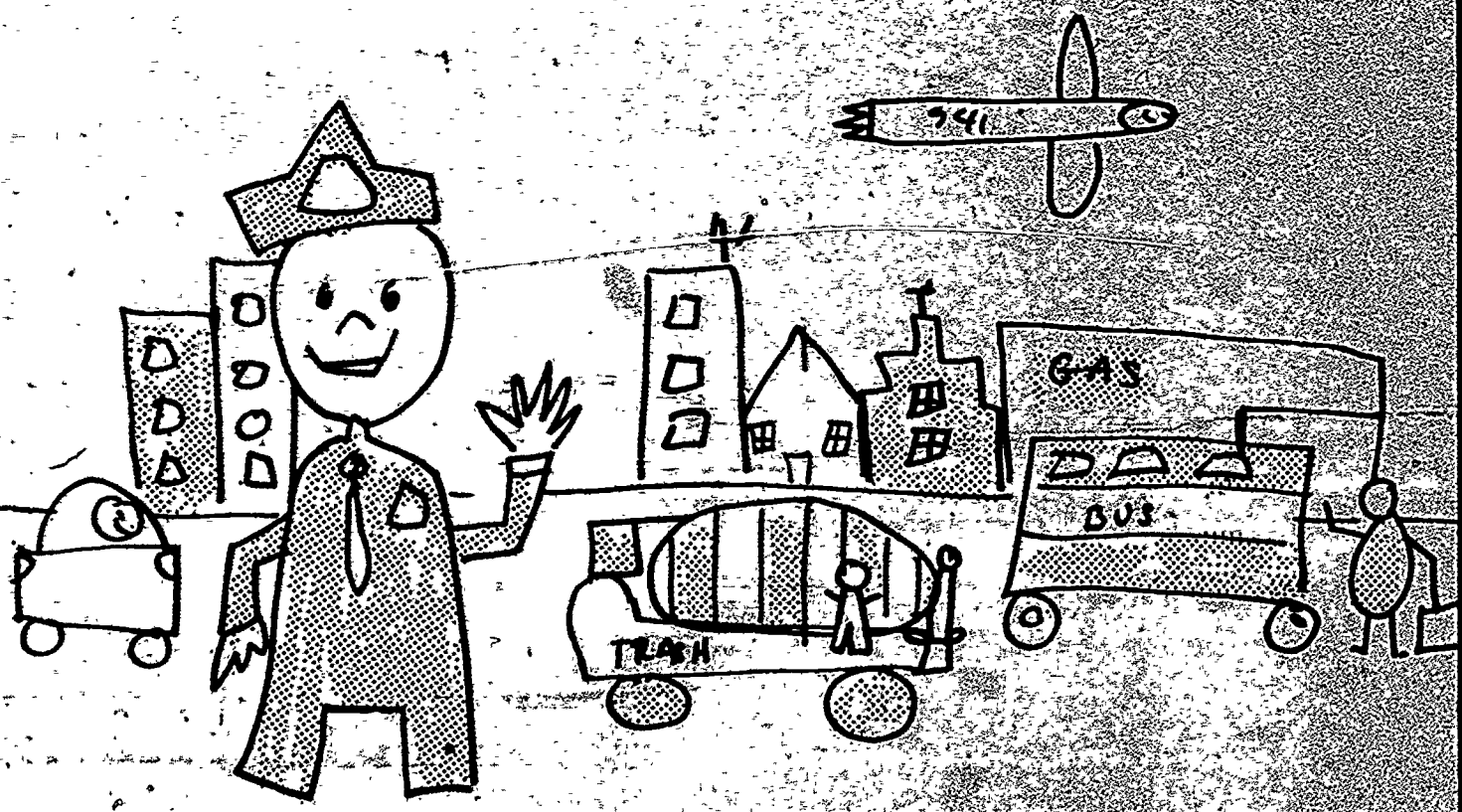

A CURRICULUM GUIDE FOR PRIMARY GRADES

by Loretta Golden

Frank Porter Graham Child Development Center

PART I

- 101 457

OCCUPATIONAL AWARENESS THROUGH DRAMATIC PLAY

A Curriculum Guide for Primary Grades

PART I

by LORETTA GOLDEN

Frank Porter Graham Child Development Center

December, 1973

Chapel Hill, North Carolina

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DRAMATIC PLAY and RELATED LESSONS in an OCCUPATIONAL AWARENESS PROGRAM

OBJECTIVES OF AN OCCUPATIONAL AWARENESS PROGRAM USING DRAMATIC PLAY

1. To develop an awareness of the interdependence of various workers in a community.
2. To develop positive attitudes toward work and workers in all fields.
3. To teach facts and develop concepts related to the various occupations in a community.
4. To promote productive thinking concerning various occupations in the community.
5. To develop an awareness of the many career opportunities available to adults in a community.
6. To develop an understanding of the concept of community.
7. To develop an awareness of self in relation to various occupations.
8. To supplement other aspects of the total curriculum by providing mathematics, reading, and language lessons related to the dramatic play.

THE USE OF DRAMATIC PLAY TO PROMOTE OCCUPATIONAL AWARENESS

Theory of Dramatic Play

Children are not passive learners. They do not learn by just sitting and listening. They are active learners who need to explore and manipulate concrete objects and to use all of their senses--taste, sight, smell, touch, hearing. Piaget says that the elementary school child is in the stage of concrete operations, that he learns through the use of concrete materials.

Children learn through their play. The child's play is serious to him. The child's play is work to him. Anthropologists have found that children in various cultures imitate adult activities in their play. Teachers and parents will agree that elementary school pupils often participate in dramatic play in the backyard or playground after school, dramatizing adult activities they have observed. For example, they play school, or dramatize the work of policemen and firemen. Since this after-school play is not often enriched by new information, ideas, or props, children usually tire of it, and drop the dramatic play after a few days. The same thing could happen to the dramatic play in school, except that the teacher guides the play and plans lessons to give pupils new information and ideas. Also, she continually adds new props to the dramatic play centers.

The teacher can use the children's natural desire to play, to explore, and manipulate concrete objects to reach academic ends--to teach reading, writing, arithmetic, and social studies facts, to develop thinking, and problem-solving skills.

Dramatic Play in an Occupational Awareness Program

Teachers will find many opportunities to use dramatic play in an occupational awareness program. The purpose of dramatic play in this program is to create an environment which will stimulate children to explore various occupations. Dramatic play helps pupils identify emotionally as well as intellectually with workers.

As pupils dramatize a job, they usually become very interested in it and feel the need for more information on that occupation. For example, exactly what does an air controller say to a pilot? What do policemen do inside the police station? What does a fireman do when there is no fire? The teacher will plan field trips and lessons with books, filmstrips, and films to give children information they need for their dramatizations. As a teacher uses dramatic play extensively, she will reexamine the information presented through films, books, filmstrips, records, and field trips. The teacher will always ask herself, "How can pupils use this information in their dramatic play? What props must I put out so that pupils will be able to dramatize this information?" The use of dramatic play will cause children to need much detailed information not usually included in a primary grade curriculum. For example, they will need to know about charging taxes in their store, and about making deposits and cashing checks in a bank.

Dramatic Play in the Social Studies Program

The dramatic play and related lessons discussed in this curriculum guide take place during the social studies period. Since social studies in the primary grades includes a study of community helpers, an occupational awareness program can be easily incorporated into it. The teacher will plan one or two dramatic play lessons a week during the social studies period. The remainder of the time spent on social studies that week will be devoted to lessons related to the dramatic play (e.g., pupil research lessons or related problem-solving, skill, construction, or art lessons).

The Development of a Community

In most studies of community helpers in the primary grades, only one job is studied and dramatized at a time. However, as pupils participate in dramatic play, they begin to experience the interdependence of jobs. Usually the entire class participates in the dramatic play at one time. If the class is too large or the

space is limited, half the class may play at one time, while the other half participates in an independent activity that needs no teacher supervision. There must be no pupil audience, for an audience situation can stifle the spontaneity of the play.

Each class should be creative in developing the dramatic play community in its own way. At the beginning of the school year, the community should include only a few structures, such as a home, store, and post office. As the pupils play in the community, there will be a need for more facilities and buildings. (For example, with the study of the post office and airmail, there will be the need for an airport. A hospital will be added when there are airplane crashes. Masking tape roads will be put on the floor as small cars and trucks are added to the community. A Department of Motor Vehicles will be added since pupils need drivers' licenses to "drive" in the community. A police department will be needed to regulate traffic and help in accidents.) The community continues to develop as the pupils, with teacher guidance, realize the need for more buildings and services. By the end of the study, the community usually includes a bank, traffic court, fire station, school, restaurant, and newspaper office, as well as other places of business.

This development of an entire community is the unique feature of the use of dramatic play in an occupational awareness program. As pupils participate in the dramatic play, they begin to realize that every job is needed and is important, if the community is to function effectively.

Procedures in the Use of Dramatic Play

The use of dramatic play in the study of occupations includes the following procedures:

1. The teacher sets up an arranged environment to stimulate interest in a particular job and related occupations. (One section of this guide is devoted to the discussion of an arranged environment.)

2. Children explore the arranged environment and are permitted to participate in dramatic play, using the props. The teacher observes the play. After this first dramatic play the teacher leads a discussion in which children share their satisfactions and dissatisfactions with the play. The teacher guides them to see the need for more information and props.

3. The teacher plans a series of research lessons to give pupils information needed in the play. The following are examples of research lessons:

a. Looking at films

b. Looking at filmstrips and slides

c. Looking at flat pictures

d. Talking to resource people (e.g., policemen, firemen)

e. Taking field trips

f. Reading books

g. Reading teacher-prepared charts and stories

h. Listening to the teacher read stories

4. The teacher plans lessons in which pupils construct props needed in the play, or the teacher collects props from some outside sources. Pupils also participate in art lessons in which they make murals as a background for the dramatic play.

5. Some problems arising in dramatic play result in problem-solving lessons. For example, pupil storekeepers may complain that there are few customers coming to the store. The teacher uses this dissatisfaction to plan problem-solving lessons in which pupils discuss and try out ways of attracting customers to the store (e.g., making advertisements, having sales).

Other problems arising in dramatic play result in related skills lessons. For example, pupils may complain that they don't get the correct change in the store or restaurant, and the teacher plans related math lessons. Or, the teacher may

observe that the ticket agent at the airport does not fill out the airplane ticket correctly because he can't read it, and the teacher plans related reading lessons. Or, the pilots may not know how to use maps to tell the passengers which states they are flying over, and the teacher plans related map lessons.

6. Pupils have further dramatic play. As a result of the research, problem-solving and skills lessons, the dramatic play becomes more accurate and involves more interrelationships with other occupations.

7. Each dramatic play session throughout the study results in new problems and new needs for information and props.

8. With additional research, problem-solving, construction, and skills lessons, the dramatic play proceeds on higher levels throughout the study of occupations. (See Figure 1.)

Parts of a Dramatic Play Lesson

1. Pre-play discussion--around 10 minutes. The teacher lists on the blackboard the jobs needed in dramatic play that day, and pupils choose their jobs.[1] Some teachers organize their class into groups and make a rotational plan in which every group regularly has a chance to choose the jobs first for dramatic play.

2. Dramatic play--between 5 and 20 minutes. Beginning play may last only five minutes, because the pupils have little information about their jobs. The teacher observes the play and can stop it at any time, if it is too confused, or if too many children become disruptive. For example, if too many cars and trucks are crashing together, the teacher has a good idea that children don't have enough information on what to do in their particular jobs.

3. Post-play discussion--between 5 and 15 minutes. The length of this discussion depends on the age of the primary pupils and the quality of play that day.

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[1] Some teachers prefer to have pupils choose their jobs the day before dramatic play.

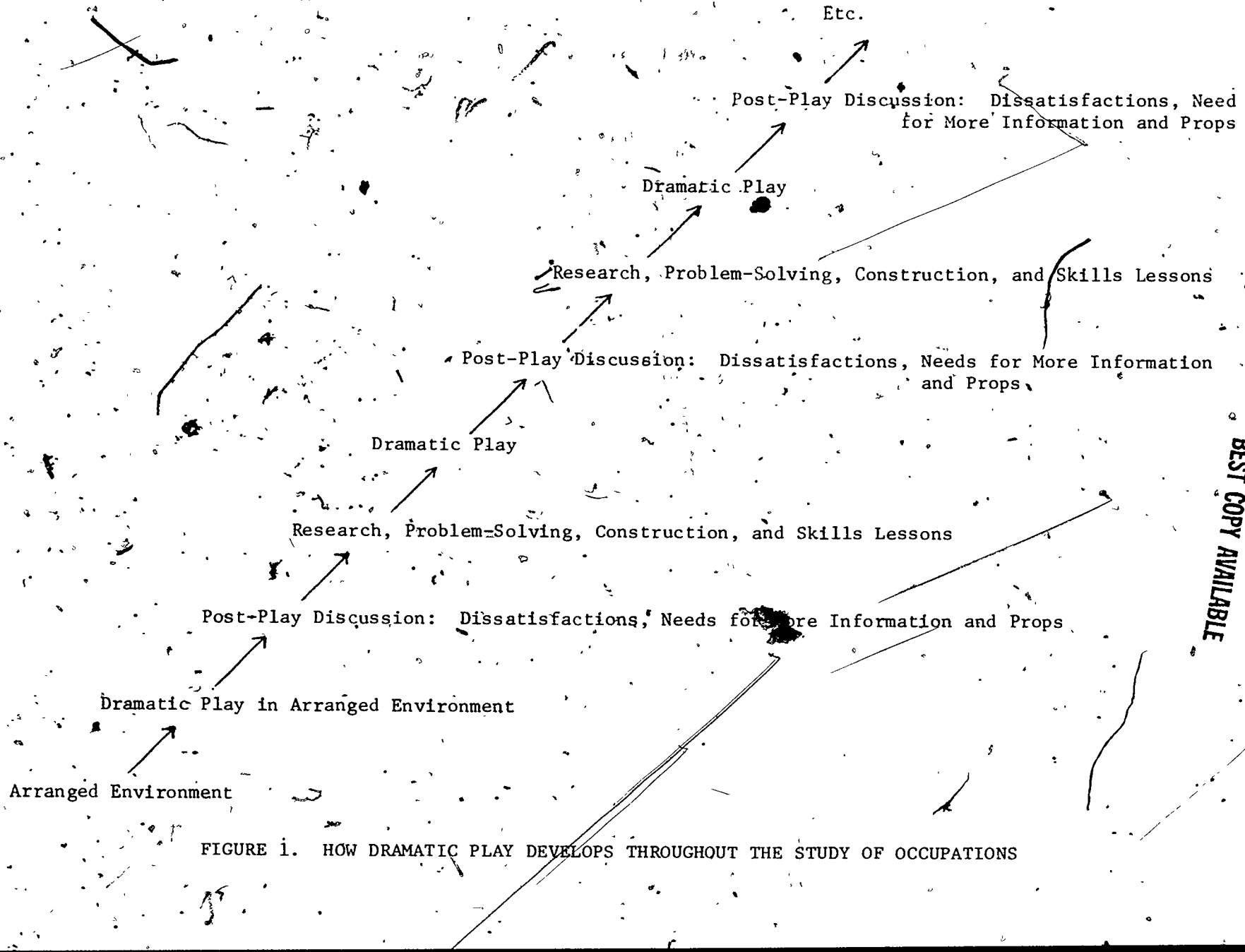

FIGURE 1. HOW DRAMATIC PLAY DEVELOPS THROUGHOUT THE STUDY OF OCCUPATIONS

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In the post-play discussion the pupils tell what they did in dramatic play. The teacher guides the discussion so that children see the need for more information and props, and for related skills, construction, and research lessons.

Suggested Props

The teacher must carefully set the environment for dramatic play. It is extremely important that the teacher give much thought to the kinds of props needed for effective play.

The teacher should let the play develop. In other words, for the first play she should not put out all the props the children will ever need in a particular center. She should put out enough props to stimulate play, but as the play proceeds children will think of other props they need. They will come up with ideas the teacher did not anticipate. Some nonstructured materials (such as flat boards and blocks) are especially useful, since they can be used to represent different objects in various centers. For example, a wide flat board can be used as a tray in the restaurant, or a runway in the airport. Other nonstructured materials such as floor blocks, hollow blocks, steering wheels, and old earphone sets can be used interchangeably in many centers as props for various occupations.

In selecting props the teacher should analyze which materials are needed in a certain center to stimulate dramatic play. Hats are always valuable, for they quickly put the child into the role.

In the store the following props will stimulate beginning play:

Cash register

Empty cartons, boxes, and containers obtained from a supermarket or grocery store

Wooden boxes for shelves

Toy money

Toy telephone

In subsequent play in the store, children will need paper for making sale signs, labels for shelves, tax charts, and other props.

In this guide, lists of suggested props are included in the sections on various occupations.

The Teacher's Role during Dramatic Play

The dramatic play is spontaneous and is not directed by the teacher. However, the teacher has the important role of observing the play. She should not assign the pupils to dramatic play and then go off to do other schoolwork. If the teacher does not observe the dramatic play, she will not be able to guide the post-play discussion, nor will she be able to plan related social studies lessons. Thus the play will lose its educational value. As the teacher observes the play, she makes notes on the following:

1. Children who have accurate concepts about the jobs and are dramatizing them correctly. Teachers will particularly note pupils who are doing jobs correctly after misconceptions were evidenced in previous play. (For example, a child uses a truck to take mail to the airport; in previous play a child just carried the mail in his arms to the airport.)

2. Children who use information from a research lesson. For example, a pupil pilot tells the passengers on the plane what part of the country they are travelling over. The pupils saw pilots doing this in a film.

3. Children who have misconceptions and misinformation. For example, a pupil stewardess brings the food for passengers onto the plane instead of letting the driver of the food truck from the airport kitchen do this job. A clerk in the post office gives incorrect change.

4. Pupils who have problems in their jobs. For example, some pupil drivers refuse to take tickets issued by the policemen, and the policemen don't know what to do.

5. Pupils who need more props. For example, the postal clerk runs out of stamps to sell.

6. Pupils who are silly. The rule in the community is to be serious and to dramatize the jobs authentically. It may be necessary for a teacher to remove a child from dramatic play for a few minutes if his silliness persists, in order that he does not spoil the play for the entire class.

The Teacher's Role during the Post-Play Discussion

In the discussion following dramatic play the teacher refers to her notes. She should always be positive and never cause a child to feel he is doing a poor job in the play. Dramatic play should be fun and rewarding to pupils. If there are many problems in the dramatic play on a particular day, the teacher can still say, "I saw some interesting things happen today," or "Tell me what you did today." She should emphasize needs for more information and props, not pupils who were performing their jobs incorrectly. The following are suggested teacher comments and questions for the post-play discussion.

1. "Alec, what happened in the _____ (bank, post office, store, etc.) today?"
2. "Mary, tell me what you did as bank teller today."
3. "John, did you have many customers in the service station? What can we do to get more customers?" (The teacher would ask these questions if she observed that John had few customers during the dramatic play.)
4. "Sally, you were very busy on your job in the post office. What happened that was good in the post office? Did you have any problems?" (It is important that the teacher and pupils mention the good things that happened in dramatic play. When a child mentions a problem with a particular person, the teacher should try to find something positive to say about that person. For example, "Yes, but I noticed that Bob was very serious in his job, and

that he worked very hard." The teacher should de-emphasize personal criticism and emphasize problems in the performance of jobs, and the need for more information and props. She should try to get pupils to say "someone," rather than to mention a person's name when discussing a problem.)

5. "I noticed there were many accidents in the dramatic play today. What happens in a real community if a driver has too many accidents? What do we need in our dramatic play community for drivers who get tickets, but say they're not guilty?"

6. "Bob, you were working in the post office. What did you run out of?" (The child ran out of stamps.) "Children, we'll have to make some stamps in a lesson soon."

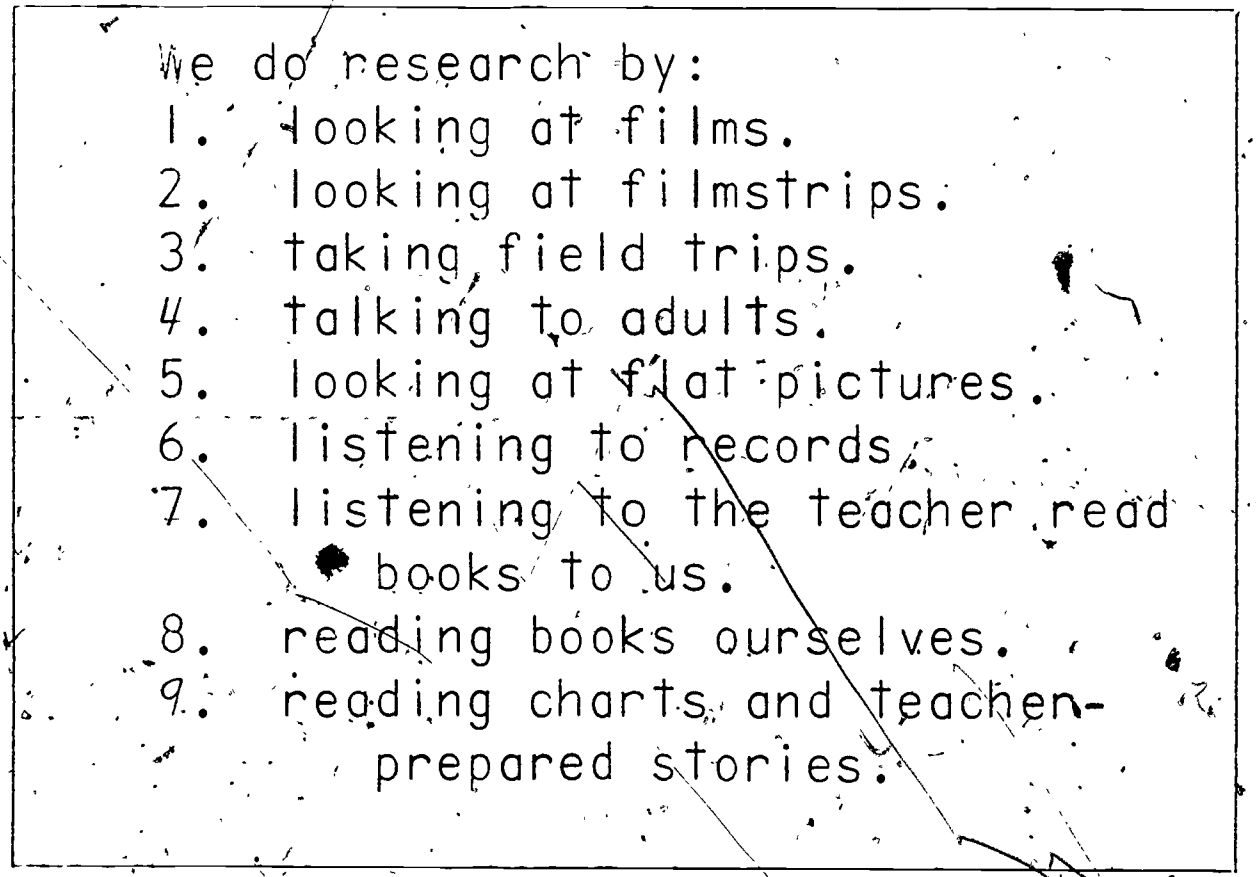
As she guides the discussion, the teacher helps the pupils see the need for more information, props, and for problem-solving and skills lessons, so that they can have better dramatic play.

Summary

Through the use of dramatic play in an occupational awareness program, pupils portray the roles of various workers in a community and "live" the interdependence of these workers. The teacher uses the dramatic play to help pupils see the need for related classroom lessons, so that they can have more authentic play.

RESEARCH LESSONS RELATED TO DRAMATIC PLAY IN AN OCCUPATIONAL AWARENESS PROGRAM

The rule in dramatic play is to be authentic. For example, when a child dramatizes the work of the policeman or postman or air controller, he must be as accurate as possible. In order to have authentic dramatic play, it is necessary for pupils to gain information through research. There are many ways of doing research in the primary classroom. The teacher can prepare the following chart for pupils to read before a research lesson:



Procedures in a Research Lesson

1. The teacher discusses the need for research with her pupils. For example, she tells them that since they are participating in dramatic play of postal workers, they need information on what really happens in a post office and on what postal clerks and postmen do.

2. The pupils do the research. Some research lessons, such as taking field trips or looking at films, do not necessarily involve reading. However, whenever possible, the teacher should plan one or more reading experiences related to these research lessons, such as reading a chart or looking at books.

3. After the pupils do research, the teacher leads a discussion. The teacher guides the pupils to tell how they might use the new information in their dramatizations and in setting up the various dramatic play centers.

4. Pupils actually use the information gained in the research lessons in their dramatic play.

The following sections include a general discussion of some of the research lessons related to dramatic play:

Reading a Chart

There are many needs for charts in an occupational awareness program using dramatic play. In this section only one use of the chart will be discussed--how it is used in a research lesson to give pupils information needed in dramatic play. Some primary pupils can gain information by reading books. However, many of the topics--such as taxes, mayor, and city council--studied in relation to the dramatic play community, are discussed in books that are too difficult for most primary pupils to read. Therefore, it will often be necessary for the teacher to prepare charts with the needed information.

The following is an example of the kind of chart the teacher can prepare. Since many primary pupils are not able to read books on the bank, the teacher can prepare a chart on the work of the teller.[1] Such a chart will give pupils ideas

[1] The charts included in this section are examples of charts the teacher can prepare for her pupils. The teacher will need to change some words to fit the reading levels of her pupils. Sometimes pupils will dictate the charts to the teacher.

for dramatizing a teller. Before reading this chart the teacher should remind the pupils that this is a research lesson to give them information needed in their dramatic play.

A Teller

1. cashes checks.
2. cancels checks.
3. takes deposits.
4. keeps records.
5. keeps money neat and in order.
6. counts money.
7. puts money in the vault.

Some teachers may say that their primary pupils will not be able to read the words on this chart, such as "check" or "deposit." Children will be able to read many of the words, if they participate in concrete learning experiences related to the bank. The teacher should make labels such as "vault" and "bank" for the dramatic play center, and should put a sign "teller" on pupils working in the bank. Children will have many opportunities to practice reading the words related to the bank, as they make deposits and cash checks in dramatic play.

Films

Teachers should use films as one way of doing research, as a means of giving pupils information needed in the dramatic play. The teacher should lead a discussion with the pupils before showing the film. The purpose of this discussion is to create a set, so that the pupils will know why they are viewing the film. Whenever possible

in the discussion, the teacher should relate the film to the dramatic play. Often a film will be used as a means of answering questions which have come up in the play, such as "What does the air controller say to the pilot?" or "What does a stewardess do?" Before showing the film, the teacher should go over these questions with the pupils.

Sometimes the teacher will write a chart for the pupils to read before viewing the film. The chart should include information which the teacher particularly wants her pupils to gain from the film. Whenever possible, the teacher should include a sentence in the chart which relates the film to the dramatic play. Some teachers may believe that preparing such a chart structures the lesson too much. However, since the film is used as a research lesson, the teacher will want to create a set in the pupils to gain certain information needed in dramatic play.

Film: What is a Map?[1]

A map is like a picture.

Betty makes a map of her room.
This map is a plan of the room.

Do we need a map of our community in our dramatic play police station?
What will we put on the map?

[1]This film may be rented from the Audiovisual Bureau at the University of North Carolina in Chapel Hill.

Field Trips

The teacher should guide pupils to approach the field trip as a research lesson to gain information for dramatic play. There should be much preparation for the field trip. For example, before the trip the pupils can view films and filmstrips, read books, and listen to the teacher read stories. Often the teacher or pupils will prepare a chart for the class to read before the trip. If possible, the teacher should include a sentence in the chart relating the trip to dramatic play.

The Bank

We are going to visit a bank.
We will see a teller cash checks.
We will see people deposit money.
We will see the vault where money is kept.
We will see safe deposit boxes.
What do we need in our bank in dramatic play?

Field trips are often such complex experiences that it is difficult for pupils to pay attention to the tour guide. The teacher may find it helpful to give each child a checklist to take on the trip. On this list the teacher includes the names of objects and workers she wants the pupils to particularly notice for their dramatic play.

The following is an example of a checklist the pupils might use on a trip to the bank:

TRIP TO BANK

1. teller _____
2. cashing a check _____
3. making a deposit _____
4. cancelling a check _____
5. vault _____
6. safe deposit boxes _____
7. bookkeeping department _____
   (where accounts are kept)
8. bags of money _____
9. office for loans _____
10. switchboard _____

This checklist has been used with second graders in the Frank Porter Graham Project. If the teacher finds this checklist too difficult for her primary pupils to take on a trip, she can put the checklist on a chart and go over it with the pupils before the trip. When they return from the field trip, the teacher and pupils can discuss the checklist and what they have learned on the trip that they can use in their dramatic play.

The following sections include a discussion of some research lessons related to dramatic play of postal workers, policemen, and workers in the Department of Motor Vehicles.

Examples of Research Lessons Related to the Post Office

In their first dramatic play of postal workers, primary pupils often take the letters from the mailbox, put them in a mailbag, and immediately deliver them to the pupils. In order to have authentic dramatic play, the teacher needs to plan research lessons so that pupils will learn the answers to the following questions:

What happens to a letter in a post office?
How are stamps cancelled?
How are letters sorted?
How does the postman know when to pick up the letters from a mailbox?

The teacher can plan many kinds of research lessons to give pupils the information needed for dramatic play of postal workers. Pupils can look at flat pictures, take a trip to the post office, read books and charts, view filmstrips and films. In this section, two ways of doing research will be discussed--looking at a film, and reading a chart.

1. Viewing a Film on the Post Office. The teacher should tell the pupils that when they see the film they will be doing research to gain information for their dramatic play of postal workers. The following is an example of a chart the teacher can prepare for pupils to read before they see the film A Letter to Grandmother. Note that the chart includes sentences about activities in the film that pupils can include in their dramatic play of postal workers. After viewing the film, the class should distuss the question at the end of the chart. The pupils may decide to add an "Hours of Collection" card to the mailbox in dramatic play. They may decide they need parcel post in their post office. It is important that the pupils actually use the information that they have learned from viewing the film.

FILM: A Letter to Grandmother[1]

A girl mails a letter.
See the card on the mailbox.

Hours of Collection Daily except Sat., Sun., and Holidays	
A.M.	P.M.
10:00	
11:15	1:30

The mailman puts the letters in a truck.
The truck takes the letters to the post office.
The stamps on the letters are cancelled.
The letters are sorted.

The mail goes on a train to a town near Grandmother.
The mail is sorted at the post office in that town.

Grandmother gets the letter.
Grandmother sends a parcel post package to the girl.

What do we need for our dramatic play of postal workers?

[1]This film may be rented from the Visual Aids Service at the University of Illinois.

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2. Reading a Chart on Stamps. If the pupils set up a post office in dramatic play, they will need to make stamps to sell. Here is another opportunity for the teacher to plan a research lesson, so that pupils will learn about the different kinds of stamps and where they are made. Since it is often difficult to find up-to-date information on stamps in primary books, the teacher needs to prepare a chart on the reading level of her pupils. The following is an example of such a chart.

Stamps

There are many kinds of stamps.

See the 8¢ stamp.

See the airmail stamp.

Are there other kinds of stamps?

Stamps are made in the U.S. Government Printing Office.

We will make stamps for our post office.

After reading this chart, pupils can pretend they are working in the United States Government Printing Office and make stamps to be sold in their post office.

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Examples of Research Lessons Related to Policemen

Pupils need information in order to participate in dramatic play of policemen. All of the ways of doing research listed in the first part of this paper apply to research on policemen. In this section only two ways of doing research will be discussed: (1) a lesson in which pupils listen to the teacher read a book; (2) a lesson in which some pupils read books and others look at a filmstrip.

1. Listening to the Teacher Read a Book. Squad Car 55 by Cynthia Chapin includes much information on policemen which pupils can dramatize.[1] The teacher might choose to read this book to the class as a research lesson. Even though the pupils are not actually reading the book themselves, they are gaining the concept that an individual goes to a book to gain needed information. This concept gives primary pupils one reason for learning to read.

The following is some of the information included in Squad Car 55 which pupils might dramatize:

a.) Policemen walk beats at night and check that shops are locked.

b.) Policemen go to the scene of an accident and give first aid.

c.) Policemen use their two-way radios to talk to the dispatcher in the police station.

d.) Policemen help a lost boy find his mother.

e.) Policemen give tickets to drivers.

f.) Policemen direct traffic.

After listening to the teacher read this book, pupils can dramatize the work of policemen. This is not the spontaneous dramatic play that should regularly take place during the occupational awareness/social studies program. This dramatization is guided by the teacher and is part of the research lesson. This dramatization can take the place of the discussion phase of the

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[1] Cynthia Chapin. Squad Car 55. Chicago: Albert Whitman and Co., 1966.

research lesson, in which pupils discuss the new information they have learned.[1]

The teacher should let the pupils decide which parts of the book they will dramatize, and which tables or desks will represent the police station, homes, and stores in the community. The teacher should also set out some props which might be needed.

While the rest of the class serves as an audience, the teacher invites several pupils to use some of the props and dramatize one phase of the policeman's work discussed in the book. For example, a mother uses a toy telephone and calls the dispatcher in the police station to report a lost child. The dispatcher relays this message to a policeman who is patrolling with a toy police car. The policeman finds the lost child and takes him to the police station to wait for his mother.

The teacher should invite other children to participate in several other enactments of the work of policemen discussed in the book. Such dramatizations can also follow the viewing of a film or a filmstrip. These dramatizations are excellent ways of reviewing and "discussing" the information learned in the research lesson. As mentioned above, these guided dramatizations in no way take the place of the spontaneous dramatic play which frequently occurs in the dramatic play community.

2. Reading Books and Looking at Filmstrips during a Research Lesson. In most first grade classes the pupils will read charts and listen to the teacher read books during the research lessons. These activities will continue in second and third grades. However, in most second and third grade classes there are some pupils who can read books themselves in the research lessons. In the

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[1] See number 3 in "Procedures in a Research Lesson" on page 15 of this guide.

same classes there are usually some children who are unable to read any books independently. These children can look at filmstrips on policemen.

The following steps are suggested for this research lesson:

a.) The teacher goes to the library and finds books on policemen on the reading levels of her pupils. The following are some books which can be read independently by some primary children:

Chapin, Cynthia. Squad Car 55. Chicago: Albert Whitman and Co., 1966.

Greene, Carla. I Want to Be a Policeman. Chicago: Children's Press, 1958.

Greene, Carla. What Do They Do? Policemen and Firemen. New York: Harper and Row, 1962.

Lattin, Anne. Peter's Policeman. Chicago: Follett Publishing Co., 1958.

Lenski, Lois. Policeman Small. New York: Henry Z. Walck, Inc., 1962.

Miner, Irene. The True Book of Policemen and Firemen. Chicago: Children's Press, 1954.

Robinson, Barry, and Dain, Martin J. On the Beat, Policemen at Work. New York: Harcourt, Brace and World, Inc., 1968.

Shapp, Charles, and Shapp, Martha. Let's Find Out about Policemen. New York: Franklin Watts, Inc., 1962.

The teacher may also find stories on policemen in some basal readers.

b.) If she has time, the teacher writes questions on each book to serve as a guide for the pupil research. In preparing the questions the teacher thinks of what the pupils might do in dramatic play. Therefore, she focuses the questions on activities of policemen. The following are examples of questions the teacher can write on the books:

What Do They Do? Policemen and Firemen
by Carla Greene

1. What does a traffic policemen do? (pages 15, 16, 17)
2. What does a policeman give a driver who goes too fast? (page 19)
3. What do police do in accidents? (pages 23, 24, 25)

Policeman Small by Lois Lenski[1]

1. Name 3 things a policeman does.
2. What does Policeman Small do when a car goes too fast?
3. What does Policeman Small do when there is an accident?

[1] In some books the pages are not numbered. The teacher can put markers in these books to help primary pupils find the pages with the answers.

If the teacher does not have time to write questions on each book, she should write general questions on the blackboard, such as:

What does a policeman do on his job?

What tools and equipment do policemen need in the police station and in their work outside of the police station?

c.) Before the lesson begins, the teacher and pupils discuss the need for research on policemen, since they need information for their dramatic play and for setting up their police station.

d.) The teacher distributes the books and questions to the pupils. This group can include pupils of various reading abilities. If the teacher has been able to find two or more copies of the same book, she asks pupils who are reading these books to sit together. Some slow readers can sit by fast readers and receive help with reading the books and answering the questions.

e.) The teacher asks other pupils to watch one or more filmstrips. This filmstrip group can include some pupils of average or fast reading ability as well as slow readers. The better readers can help in reading the captions on the filmstrips. One child can run the projector.

f.) If she has time, the teacher can prepare a checklist for the pupils in the filmstrip group. This checklist should include items related to the dramatic play community. The pupils will mark the items as they see them in the filmstrip.

g.) The teacher moves about the room helping readers as well as supervising the filmstrip group.

h.) The teacher plans 15 or 20 minutes for the research. Some pupils will not finish answering the questions in this time, but they will have read enough to participate in the discussion. Pupils who finish early can draw pictures of some of the activities of policemen.

i.) The teacher leads a discussion in which children share what they have learned from the books and filmstrips. The teacher guides the discussion by asking questions which relate the information to dramatic play. She might ask questions such as the following:

> What does a policeman do on his job? Can we do this work in our police station?
>
> Who saw some pictures in the filmstrips or books of some tools and equipment we need in our police station?
>
> (child's name), you read the book Peter's Policeman. How does a policeman help children?
>
> (child's name), you read the book Policeman Small. What does a policeman do if there is an accident?

As the teacher relates the information to the dramatic play of policeman, she is helping pupils to understand the need for the research lesson and to develop the attitude that reading is important.

An Example of a Research Lesson Related to the Department of Motor Vehicles

As pupils drive cars and trucks in dramatic play, there is a need for a Department of Motor Vehicles to issue drivers' licenses and license tags. There is little or no information on the Department of Motor Vehicles or on drivers' licenses and license tags in primary books. Therefore, the teacher will need to prepare charts and stories for her pupils to read.

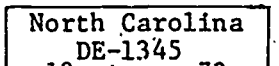
The following is an example of a story which the teacher can prepare on license tags. The teacher can duplicate this story and distribute it to her pupils for their research lesson. Many second and third graders will be able to read this story with teacher help, especially if they have some concrete experiences with license tags before they read it. The teacher should bring an old license tag for the pupils to examine, and the children should go outside to look at license tags on cars in the school parking lot. These concrete experiences will help the pupils bring meaning to the reading of this story.

After pupils read this story, they can make license tags for the cars and trucks in dramatic play. These tags can be sold in the Department of Motor Vehicles during dramatic play.

LICENSE TAGS

If you have a car; you must buy a license tag. You have to buy a new license tag each year.

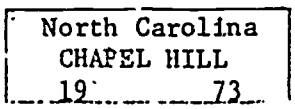
We looked at license tags on cars. On the back of each car, there is a tag:



The name of the state is on the license tag. The year 1973 is on the license tag. Letters and numbers are on the license tag.

Each person has different letters and different numbers on his tag. In Raleigh there is a record of the numbers and letters on each tag. Why?

On the front of the car, there is a tag with the name of the city in which the person lives.



We need license tags for our cars. Where will we buy the license tags in dramatic play?

OTHER LESSONS IN AN OCCUPATIONAL AWARENESS PROGRAM

In addition to the pupil research lessons described on the preceding pages, there are other activities related to dramatic play. Teachers can plan the following lessons and activities:

1. Art lessons. Pupils can make items needed in the play, such as menus for the restaurant, papier mache or clay produce and sale signs for the supermarket.

There will also be art lessons in which pupils make murals on topics related to the dramatic play. Some murals will serve as a background for the play.

2. Construction lessons. Pupils can make props out of wood that are needed in dramatic play (e.g., airplanes, mailboxes). There are many values in having pupils build the props themselves. For example, as pupils draw the plans for the props, they will need to use rulers, and the teacher can integrate many math lessons into the construction experiences.

Some teachers do not have the skills to help pupils make props out of wood, or they do not wish to have construction lessons with wood as part of their social studies program. These teachers can ask parents or older pupils in the junior or senior high school to make the props.

3. Math lessons. There will be the need for many math lessons related to dramatic play (e.g., giving change in the restaurant, supermarket, and post office; knowing how much to charge for various quantities of stamps in the post office, and for multiple items of the same stock in the supermarket; knowing how much to charge for several items ordered from the menu in the restaurant).

4. Story writing lessons. The many concrete experiences pupils have in dramatic play and on related field trips can serve as a basis for story writing lessons. Teachers who use the language-experience approach in their reading or

language arts program, will find that pupils get many ideas from dramatic play for writing stories and "books."

5. Reading experiences. Reading experiences with charts and books are described in the preceding section on "Research Lessons Related to Dramatic Play." The teacher should also plan a free reading program, and bring to the classroom many library books related to dramatic play. Children can browse through these books when they have free time. Each week the teacher should set aside some time for sharing the books (i.e., giving book reports). The following are some ways of giving book reports: drawing a picture, telling about the book, reading part of the book into a tape recorder. As pupils give these reports, the teacher should guide them to relate the information in the books to their dramatic play.

Some teachers use the self-selection reading method as one approach to the teaching of reading. These teachers should include social studies books related to dramatic play as some of the books pupils can select in this reading program.

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EXPLANATION and USE of the CURRICULUM GUIDE

GENERAL EXPLANATION OF THE GUIDE

Frank Porter Graham Project

Since the program described in this guide was developed at the Frank Porter Graham Child Development Center, the program is referred to as the Frank Porter Graham Project. When the term "Frank Porter Graham Project" is used in this guide, the author is referring to the program as conducted in both a self-contained classroom and a separate open facility especially used for dramatic play.

A Social Studies Program for the Primary Grades

This curriculum guide describes the educational activities in an occupational awareness/social studies program developed in second grades in two schools in the Chapel Hill-Carrboro City Schools. However, dramatic play should be used in all primary grades, and the program in this guide can easily be adapted to kindergarten, first and third grades. Indeed, the author used this program in Durham in 1969-1970 with two multi-age classes consisting mainly of second and third graders, but including a few first graders.[1] Also two teachers in Cliffside, North Carolina, are now using this program with kindergarten and first grade multi-age classes.

Primary teachers should be creative in adapting this guide to their particular pupils and grade level.

Kindergarten and First Grade. The teachers at Cliffside School are using many of the ideas in this guide and are finding that multi-age classes of kindergarten and first grade pupils can develop a dramatic play community and dramatize many jobs at one time. In the summer of 1972, a Headstart teacher at Frank

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[1]These pupils were enrolled in the Education Improvement Program, a Ford Foundation project for low income pupils in Durham City and County, North Carolina.

Porter Graham School set up a dramatic play community in her self-contained classroom. She too found that five year old pupils were able to dramatize many jobs at one time.

The author realizes that some kindergarten and first grade pupils are not ready for the kinds of cooperative play needed in a dramatic play community with many jobs. Teachers should help these pupils choose a job where they can work independently (e.g., a job using blocks), without disrupting the cooperative play of the other children.

Kindergarten and first grade teachers will get many ideas from this guide. Their pupils can participate in many of the dramatic play centers described in this guide, such as the post office, supermarket, airport, construction company, service station. Some of the centers, such as the Department of Motor Vehicles, the newspaper, the mayor and city council are too advanced for pupils of this grade level to dramatize. Also, some of the lessons and activities are too advanced for these children. Teachers should choose the lessons and activities best suited for their particular pupils, modify other lessons, and be creative in adapting the guide to their classes.

There are two main concepts that kindergarten and first grade teachers should remember in using this guide: (1) the interdependence of occupations, and (2) the necessity for planning systematic lessons to give pupils information for dramatic play.

1. Interdependence of jobs. The interdependence of occupations in a community is the most important concept for teachers to remember. Many kindergarten and first grade teachers set up one dramatic play center at a time, such as a supermarket, or a big airplane, or a house, or a post office. Since no job exists in isolation in a community, the teacher should set up at least two or three related

centers at one time, even if she does not want to develop an entire community as described in this guide. For example, if there is a post office, there could also be a small airport for airmail and a house for delivery of the mail. With a supermarket center there might be a bank and a house. Or with the supermarket center there might be a farm, a wholesale market, and a house.

2. Need for information. Many kindergarten and first grade teachers let children play in dramatic play centers, but few teachers systematically plan lessons to give pupils information they can use in this play. Even though most kindergarten and many first grade pupils cannot read informational books, the teachers can use all of the other ideas for pupil research lessons described in this guide (e.g., taking field trips, looking at films, filmstrips, and flat pictures, reading simple charts, and listening to stories read by the teacher). As teachers plan lessons to give pupils information, they will find that the dramatic play is expanded and that pupils become more creative in developing new ideas in their play.

Third Grade. As noted above, the author used this program with two multi-age second and third grade classes. Although the community will continue to need some of the basic structures and services (e.g., houses, a supermarket, post office, bank) used in dramatic play with younger primary pupils, the third grade teacher will want to expand the community and introduce new information, props, and centers that are meaningful and challenging to her pupils. In the present guide the newspaper, mayor, city council, and traffic court are included in the dramatic play community set up for second graders. Third graders will be

able to expand these centers and do a more thorough job in the dramatic play. For example, the newspaper is quite difficult for many second graders, but third graders will be able to dramatize more jobs at a newspaper office. Third graders will also be more detailed in dramatizing the mayor, members of city council, and workers in the court. These pupils may want to dramatize other government workers (such as health department workers, building inspectors, and workers in county government). Pupils in this grade will also enjoy detailed dramatic play of the workers in the harbor. In addition, third grade teachers and pupils will think of other centers to add to the dramatic play community.

In the third grade social studies program the children also study other communities (e.g., an Indian community, or a community in Japan, or a pioneer community). The teacher should use the dramatic play community as a reference point in the study of these other people. Children will be able to compare and contrast the basic human activities in the other communities with the basic human activities in the dramatic play community. All people everywhere carry on these activities:[1]

1. educating (e.g., schools, libraries)[2]
2. transporting goods and people (e.g., automobiles, airplanes, trains, trucks)
3. producing, exchanging, and consuming goods and services (e.g., farms, factories, stores, shops)
4. protecting and conserving health, life, property, and resources (e.g., fire protection, police protection, health services)

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[1]Paul R. Hanna, Genevieve Anderson Hoyt, and Clyde F. Kohn, Living and Learning in the Third Grade in the Teacher's Edition of In City, Town, and Country (Chicago: Scott, Foresman, and Co., 1959), pp. 38-40.

[2]After each basic human activity the author has listed in parentheses some of the ways this activity might be evidenced in dramatic play communities.

5. communicating (e.g., newspapers, telephone, television, radio)
6. providing recreation (e.g., theatres, playgrounds)
7. governing (e.g., rules, traffic laws, city council, mayor, and other government workers)
8. worshipping and expressing aesthetic impulses (e.g., churches, art work, music, dance)
9. creating new tools and techniques (e.g., making play equipment, book-cases)

The ways in which people carry on these basic human activities depend on their values, history, climate and geography, level of technological advancement, and rate of cultural change. In studying the other communities, the teacher should constantly refer her pupils to their concrete experiences in dramatic play. For example, she might ask, "How do we communicate in our dramatic play community?" (e.g., through the post office, newspaper, television) "How do people in _____ community communicate? Are their ways of communicating the same as ours? Different? Why are they different?" The teacher should ask similar questions about all the basic human activities in the other communities.

Too often in the study of another community teachers focus on <u>different</u> customs and traditions. Children are apt to get a "tourist's view" of the other community, focusing on exotic and unusual differences rather than on similar basic human activities. By using the dramatic play community as a point of reference, pupils should be able to understand that all people in all communities carry on the same basic activities, but the ways in which they carry them on sometimes differ.

<u>Project in a Self-Contained Classroom or in Space Separate from the Classroom</u>

This program has been used for two and a half years in two second grade classes in Frank Porter Graham School. The teachers teach the lessons and activities related to dramatic play in their regular self-contained classrooms.

Dramatic play is held in a separate open classroom facility at the Frank Porter Graham Child Development Center on the same campus as the school. At Cliffside Elementary School, the kindergarten and first grade teachers also hold dramatic play in a classroom separate from their regular classrooms. Related lessons are held in the regular self-contained classrooms.

The complete program has been used in a self-contained classroom at Estes Hills School in Chapel Hill. Both the dramatic play and related lessons are held in this regular classroom. Elementary school teachers in California also use dramatic play in their self-contained classrooms.

The same occupational awareness program can be developed in the self-contained classroom as in the space separate from the regular classroom. In the self-contained classroom pupils set up the community before dramatic play and take it down after dramatic play. Desks and tables can be used for the centers. For example, the bank, post office, newspaper office, fire station, police station can be set up on desks or tables. Flat top desks are needed rather than desks with arm rests. The flat top desks can be pushed together to form tables.

Pupils who participate in dramatic play in the self-contained classroom will find many ways to use the outdoor space adjoining this classroom. For example, at Estes Hills School, most of the dramatic play centers are set up inside the room, but the outdoor space is used for the farm, wholesale market, train station, harbor, and for the road test for the driver's license issued by the Department of Motor Vehicles.

Storage of props can be a problem in the self-contained classroom. Some props, such as the mailbox and mail trucks, can be stored under a desk or table. Props for many centers (e.g., the police station, bank, fire station, newspaper

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office, airport) can be put in labeled boxes. These boxes can be put in a storage cabinet or other storage space in the classroom. In California some parents have built a shed outside the classroom for the storage of dramatic play props.

In the self-contained classroom the teacher needs to spend time teaching the children where the props for the different dramatic play centers are stored. Since children choose different jobs for each dramatic play session, each child needs to know where all the props are located. Then at the beginning of the dramatic play, the pupils get the props and set up the centers in which they will be working. At the end of the play, the pupils clean up their centers and store the props.

There are advantages to developing the community in a space separate from the regular classroom. The community can be left up between dramatic play sessions. Teachers on different grade levels can share the same space. In some schools there will not be a separate classroom available for the development of the dramatic play community. Perhaps space on the stage or in the multi-purpose room can be used.

The Sharing of Space for the Development of a Community

If primary teachers in a school share a space separate from their classrooms for the development of a dramatic play community, the teachers will need to decide which topics and dramatic play centers will be introduced at different grade levels. Some "Lessons and Activities" sections of this guide are written in great detail. Therefore, the teachers may decide to teach some lessons on a particular occupation, such as "Working in the Post Office," in kindergarten and first grade, some lessons in second grade, some in third. Some occupations, such as "Working on a Newspaper," will not be introduced until second or third grade. Some of the basic centers (such as the houses, supermarket, bank, post

office, police station, fire station) should, if possible, be left up at all times in the separate space. Props for other centers (e.g., for a court, newspaper, wholesale market, farm) which are not used by all classes, can be put in boxes and stored between dramatic play sessions. Then the classes using these props can set up these centers at the beginning of dramatic play and take them down at the end of the play.

Teachers in Communities Other Than Chapel Hill

Since the program described in this guide was developed in two schools in Chapel Hill, the guide describes the development of a dramatic play community in an urban area. Teachers who live in rural communities in North Carolina will need to adapt many of the lessons and activities to the realities of their own communities. For example, this guide does not describe the way mail is delivered or the way the fire department operates in a rural community.

Each teacher should help her pupils develop a community like the one in which they live. Pupils living on the coast of North Carolina will enjoy spending much time dramatizing the activities of workers in a harbor. Each teacher should explore her own community, learn the facts about the various occupations therein, and then make the necessary modifications in the dramatic play activities and lessons suggested in this guide.

Outdated Information

If dramatic play is to be more than play and result in the learning of facts and concepts, it is imperative that teachers present accurate information on occupations to their pupils. The author has spent much time researching various occupations in an effort to include authentic information in this guide. For example, she has interviewed firemen, policemen, workers in the wholesale market and in the Department of Public Works.

However, our society is rapidly changing. Teachers should read newspapers and magazines and keep up-to-date on the changes in various occupations. For example, many changes are being made by the U. S. Postal Service in the way mail is processed and transported. Changes are also being made at the airport. Therefore, teachers using this guide will find that some of the information suggested for lessons and activities will no longer be accurate, and they should plan lessons in accord with the new information.

DESCRIPTION OF THE VARIOUS SECTIONS IN THIS GUIDE

Occupations Included in This Guide

The occupations included in this guide are those occupations both studied and dramatized in the Frank Porter Graham Project. "Working in the home" and "working in school" are not included in the guide, since no systematic lessons were held on these topics, even though two houses and a school were included in the dramatic play community.[1]

In the Frank Porter Graham Project seven topics were studied in depth--working at the post office, working in the supermarket, working at the airport, working in the bank, working in the police department, working in the hospital, and working in the fire department. The seven sections on these occupations are written in detail in this guide.

Eight topics in the Frank Porter Graham Project were studied very briefly--working in the service station, working in the construction company, working in traffic court, working on the newspaper, working in the library, working in the

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[1]Since this project was developed with second grade pupils, the teachers felt that pupils had received sufficient information on the home and school in previous grades. However, kindergarten and first grade teachers using this guide will want to add lessons on these topics for their pupils.

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Department of Public Works, working in the Department of Motor Vehicles, working as the mayor and members of city council. The eight sections in this guide on these topics are very brief. Teachers will be able to think of ways to expand the study of these topics with their pupils.

Lists of Dramatic Play Activities

At the beginning of each section on a particular occupation, there is a list of dramatic play activities. This list is not intended to be all-inclusive. Teachers and pupils will think of other activities that can be included in the dramatic play of workers in various occupations.

Since each list specifies what the teacher hopes the pupils actually do in their dramatic play of each occupation, the items on each list are really behavioral objectives for the study of that occupation.

Each dramatic play session includes a post-play discussion in which pupils tell what they did in their play that day and describe their activities on the job. Therefore, the teacher has another behavioral objective: Pupils will be able to talk about the on-the-job activities (dramatic play activities) for each occupation.

Lists of Interactions among Workers in Various Occupations

The unique feature of the development of a dramatic play community is that pupils actually "live" the fact that the services of various workers are needed in a community, and that different workers depend on each other.

Each list of interactions specifies how a person in a particular occupation will interact with other workers in the community in the course of performing the duties of his job. If there is more than one worker on a particular job, some workers have the opportunity to take a break for a few minutes. So the list also includes other interactions that may occur when a worker is taking a break and goes out into the community (e.g., buys snacks at the supermarket), or when a

worker is off-duty (e.g., stops at the bank on his way to and from work). All of the interactions listed for a particular occupation may not occur in the first dramatic play sessions of that occupation. All of the listed interactions will occur only when the entire community is developed with workers in all of the centers.

The teacher has another behavioral objective--that pupils will be able to tell how workers in a particular occupation interact with workers in other occupations in the community.

Lists of Props

The teacher will not need to obtain every prop listed for the dramatic play of the various occupations. Each teacher should decide which props her particular pupils need in their dramatic play. Pupils will be able to bring some of the props from home.

Directions for the construction of some props are included in this guide. These props are quite inexpensive to make. If a district wishes to put the dramatic play program into effect, junior or senior high school classes might be asked to make the props. If some arrangement cannot be made with these classes, teachers might ask parents or other adults in the community to make props.

Suggested Classroom Lessons and Activities

Many of the sections on suggested classroom lessons and activities are written in much detail. No teacher is expected to teach all of the lessons and activities. Children will participate in dramatic play once or twice a week, and the teacher will plan some lessons and activities for the other days she has social studies. The purpose of these lessons is to give pupils information needed for effective play. Teachers should choose the particular lessons, activities, and materials they feel their pupils will need to prepare them for effective

dramatic play. As pupils gain more information their play will become more involved, and they will portray more of the activities of the various workers. The lessons will not necessarily occur in the sequence presented in this guide.

More books and films are listed than any one teacher will use. Detailed lists are included since many teachers will be unable to locate some of the books and films. Some of the books included as sources of information have unnumbered pages. In order to help the reader find particular information, the author has numbered the pages in these books. The first page which includes some printed text, if it is on the right side of the book, is referred to as page 1. If the first page of the book that includes some text is on the left side, it is referred to as page 2 (since pages on the left side in books have even numbers.

Sentences in italics precede some suggested lessons and activities. These sentences explain how the teacher may see the need for particular lessons while observing the pupils in dramatic play and related lessons. Sometimes the pupils themselves, during the dramatic play or post-play discussions, mention the need for certain lessons and activities.

Some dramatizations are suggested in the "Lessons and Activities" sections. These dramatizations are part of the social studies lessons to prepare pupils for dramatic play. They involve only a few pupils with the rest of the class observing. These dramatizations give pupils ideas for the spontaneous dramatic play in which every child has a job, and there is no audience.

Field Trips

A field trip is often suggested toward the end of the "Lessons and Activities" sections on various occupations. A field trip does not need to occur at the end of the study, but can occur any time the children have enough

background information to understand what they see on the trip.

It is even possible to take a field trip at the beginning of the study of a particular occupation. If the trip is taken then, the pupils will get many ideas for setting up the dramatic play center and for dramatizing the occupation. However, since field trips are often complex experiences, it is difficult for pupils to attend to all the stimuli and to get the most out of the trip, if they do not have sufficient background. Therefore, if the trip is taken to initiate the study of a certain occupation, it is often beneficial to take the trip a second time, when pupils have more background, and after they have dramatized the jobs related to the trip.

Sample checklists on various field trips are included in this guide. Checklists are included only for those trips taken by pupils in the Frank Porter Graham Project.

Spelling Words

Sample lists of spelling words are included at the end of the "Lessons and Activities" sections. Since children will have many concrete experiences in dramatic play and on field trips, these words should be very meaningful to them. The pupils will become familiar with reading the words as the teacher puts them on labels in the dramatic play centers.

If the teacher uses a spelling book, she can add these words to the regular lists. It should be interesting for teachers to observe how well pupils of varying abilities can learn the spelling words related to dramatic play experiences.

Charts on Films

This guide includes charts on all the films listed in the "Lessons and Activities" sections. These charts were read by second graders in the Frank Porter Graham Project before they saw the films. Teachers will need to rewrite these charts for their own pupils.

These charts will give the teacher information on the content of each film. The teacher can discuss the film with the pupils before they view it, even if she does not want them to read the chart. In any case, she can help pupils regard the film as one way of doing research to get information needed in their dramatic play.

Further information on the use of charts on films is found in the section on "Research Lessons Related to Dramatic Play."

Other Sample Charts

Sometimes teachers will need to prepare informational charts for their pupils to read. A few sample charts are included in this guide that were used with pupils in the Frank Porter Graham Project. The author encourages teachers to rewrite these charts to fit their particular pupils and their experiences in dramatic play. As much as possible, the teacher should ask the pupils to dictate their own charts.

Sample Questions on Books and Sample Checklists on Filmstrips

In the Frank Porter Graham Project the teachers prepared questions and checklists for research lessons in which some pupils read books and others viewed filmstrips. (See the description of this kind of lesson in the section on "Research Lessons Related to Dramatic Play.") Sample questions on books and a few sample checklists on filmstrips are included in this guide.

It was not possible for the teachers in this project to find enough books that second graders could read on certain occupations (e.g., workers in the supermarket and bank). Therefore, the teachers could not plan this kind of research lesson, and no sample questions or checklists are included in this guide for these occupations.

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Bibliographies

In the bibliographies books are divided into two categories--"easy reading level" and "more difficult reading level." The purpose of this classification is to help primary teachers identify books which may be easy enough for some of their pupils to read. Books were arbitrarily assigned to these two categories by the author and a second grade teacher at the Frank Porter Graham School. A book was assigned to the "easy reading level" if the teacher and author judged the book to be on either the instructional or independent reading level of pupils in a 2.1 reader. Books judged to be above the 2.1 reading level were assigned to the "more difficult" category. It was very difficult to make this classification of some books, and some teachers will disagree with the categories in which the books were placed. In the last analysis each teacher will need to look at the books and decide which ones her particular pupils can read.

There are additional films, filmstrips, tapes, and pictures which could have been included in the bibliographies. Many of the listed books and audio-visual materials were used in the Frank Porter Graham Project. The rest of the materials were suggested by interested librarians and teachers in the Chapel Hill-Carrboro City Schools.

THE SEQUENCE OF OCCUPATIONS INCLUDED IN THIS GUIDE

In this guide the occupations are placed in a sequence to roughly correspond to the way centers were added to the community in the Frank Porter Graham Project. There are many ways the community could have developed. Teachers using this guide are urged to let their pupils be creative in the development of their dramatic play community.

Although each occupation is in a separate section in this guide, the teacher should remember that while one occupation is being studied in the classroom, that particular occupation and additional occupations are being dramatized during dramatic play.

The following is a description of the sequence in which occupations were introduced into dramatic play and lessons were held in the classroom in the Frank Porter Graham Project:

At the beginning of the year, the community included only two houses, a supermarket, post office, service station, and construction company. During the first two or three dramatic play sessions only one half of the class participated while the other half worked at their desks on an unsupervised activity. Soon "artists" were added to the community, and all pupils in the class could participate in the dramatic play. The artists drew pictures and placed them in an art gallery where the pictures were sold to other citizens of the community. The artists were also customers in the post office, service station, and supermarket.

"Working in the post office" was the first topic studied in the social studies lessons. This topic was studied for two or three weeks, although in dramatic play during that time, pupils were not only working in the post office but were taking roles in the supermarket, houses, service station, and construction company; some pupils were working as artists. A U.S. Government Printing Office was added when more stamps were needed in the post office. As pupils processed airmail in the post office, an airport with small planes was added to the community.

Since the pupils needed money to purchase stamps in the post office and groceries in the supermarket, the teacher soon added a bank, although she did

not plan an in-depth study of the bank until two months had passed. When the bank ran out of play money, a U.S. Mint was added to the community.

From the time the dramatic play community was started, it included a supermarket. However, the supermarket was not studied in social studies lessons, until after the study of the post office. As the supermarket was studied in depth, the question arose concerning the sources of produce in this store. A small farm and wholesale market were added to the dramatic play community, with a few social studies lessons on these topics. The farm and wholesale market were never studied in depth in the Frank Porter Graham Project, but only in relation to how produce got to the supermarket.

A few pupils chose to be children in the houses during dramatic play. There was soon a need to set up a school for these "children" in the community.

From the beginning of dramatic play, there were a few cars and a masking tape road. As pupils "drove," additional streets and roads were needed, and the old roads were in need of repair. A Department of Public Works was soon added.

As pupils continued to use small airplanes to fly airmail, they decided to add a second airport at which the pilots could land and leave the airmail. A ticket counter and large airplane for trips were included. After a field trip to the airport, a restaurant and airport kitchen were added.

The first roads in the community were made of one strip of masking tape. There were no two lane roads. Many accidents occurred, and a police station was added. As policemen gave traffic tickets, there was a need for a traffic court. With the many accidents there was also a need for a doctor's office. Gradually as the need for medical services increased, the doctor's office was expanded into a hospital.

As pupils continued to drive, the teacher introduced the need for drivers' licenses, and a Department of Motor Vehicles was set up.

As pupils studied about different occupations, they learned that most jobs require special training. Schools for stewardesses, for pilots, and for policemen were added.

As pupils continued to study about the supermarket, they decided to add a train station and harbor to the community, so that trains and shops could bring produce from other states and countries.

In their study of policemen, pupils learned that policemen and firemen work together, so a fire station was added. Then a newspaper was needed to report the fires, accidents, and other news in the community.

The teacher introduced the need for a mayor and city council when the topic of government was studied during social studies.

As pupils participated in dramatic play, they mentioned that they needed recreational facilities. The teacher and pupils decided to include a library in the community as well as a night school class in weaving.

The following schedule shows when the various centers were introduced in dramatic play and when lessons on various topics were held in the Frank Porter Graham Project. In this project dramatic play was held once a week, and pupil research lessons were held three or four times a week during social studies. Teachers must not view this schedule as a model. Rather it is one way of developing a dramatic play community.

DRAMATIC PLAY	RELATED LESSONS DURING SOCIAL STUDIES
Started Middle of October	Started Middle of October
1. Beginning community included houses, post office, supermarket, service station, construction company 2. Added U. S. Government Printing Office, artists, bank, farm	1. Studied post office in depth 2. Began study of supermarket
November	November
1. Continued same centers as above 2. Added U. S. Mint, wholesale market, school, Department of Public Works, small airport	1. Studied supermarket in depth 2. Had some lessons on farm and wholesale market in relation to supermarket 3. Had a few lessons on service station and construction company 4. Began study of airport
December	December
1. Continued same centers as above 2. Added second airport which included big airplane and ticket counter	1. Studied airport in depth 2. Had a few lessons on construction company and Department of Public Works
January	January
1. Continued same centers as above 2. Added airport kitchen and restaurant, school for pilots 3. Added police station	1. Continued study of airport, including a few lessons on airport kitchen, restaurant, and school for pilots

DRAMATIC PLAY	RELATED LESSONS DURING SOCIAL STUDIES
	January (continued) 2. Studied bank in depth 3. Began study of police department 4. Had a few lessons on license tags for cars 5. Had a few lessons on a problem in the supermarket (i.e., how to attract customers to this store)
February 1. Continued same centers as above 2. Added doctor's office, Department of Motor Vehicles, school for stewardesses	February 1. Studied police department in depth 2. Studied driver's licenses and the tests a person must pass in order to get a license 3. Had a few additional lessons on post office and restaurant 4. Began study of doctor's office and hospital
March 1. Continued same centers as above 2. Expanded doctor's office into hospital 3. Added court and school for police	March 1. Studied doctor's office and hospital in depth 2. Began study of fire department and court

DRAMATIC PLAY	RELATED LESSONS DURING SOCIAL STUDIES
	March (continued) 3. Had a few additional lessons on police department, service station, supermarket
April 1. Continued same centers as above 2. Added fire department, mayor and city council 3. Added small harbor for ships bringing produce from other countries, and train station for trains bringing produce from other states	April 1. Studied fire department in depth 2. Continued study of court 3. Began study of mayor and city council 4. Studied ways of transporting produce from other states and countries to the supermarket
May 1. Added newspaper office, library, and night school class in weaving	May 1. Continued study of mayor and city council 2. Studied newspaper, library, and weaving

Some centers were introduced in dramatic play before they were studied in the classroom. The teacher got ideas for lessons as she observed the pupils playing in the new centers.

Some occupations, such as the post office, were studied in depth for two or three weeks during social studies. During this time the pupils were

dramatizing postal workers and many other jobs in the community. Then after a couple of months had passed, and other occupations had been dramatized and studied in classroom lessons, the teacher often held a few more lessons on the post office. The teacher reintroduced a topic when she observed in the dramatic play that pupils needed more information on that topic.

If a teacher has less time to spend on social studies lessons than the teachers in the Frank Porter Graham Project, the community will develop more slowly. The most important thing for the teacher to remember is that in order to keep dramatic play interesting to pupils, she must continually add new props and new centers, and plan lessons to give pupils new information and ideas for their play.

An INITIATION of the STUDY of WORKERS in the COMMUNITY

AN INITIATION OF THE STUDY OF WORKERS IN THE COMMUNITY

An Arranged Environment to Initiate the Study

The arranged environment is an arrangement of books, pictures, and objects that will stimulate pupils to dramatize, explore, and inquire about a particular occupation or group of related occupations. The teacher should include the following in the arranged environment:

Books on the reading levels of the pupils, or books with pictures that suggest occupational activities that can be dramatized.

Pictures of occupations arranged on bulletin boards or placed in a picture file. The teacher should choose pictures that suggest activities that pupils can dramatize, such as a postman sorting letters, or a postman delivering mail, or a mother setting the table or cooking, or a grocer weighing produce. Such pictures portraying activities are more productive in stimulating dramatizations than pictures of buildings in a community, or pictures of community helpers standing still, posed in their uniforms.

If the teacher has arranged the pictures on bulletin boards or on the wall, she should include tagboard captions. The captions should focus on activities that can be dramatized, such as:

"What is the man doing with the letters in the post office?"

"Where does the mail truck go?"

Objects and equipment (props) for children to manipulate and use in dramatizing occupations.

In initiating the community unit with the study of a particular occupation, the teacher should consider related occupations and community services that might be included in the arranged environment. No occupation exists in isolation

in a community. For example, there cannot be a supermarket without a farm that grows produce; there cannot be a police station without some kind of court. There cannot be a post office without workers in the home and businesses to mail and to receive letters. One of the important understandings to be developed in the study of any occupation is that people depend on each other, and that any occupation in a community is dependent on other occupations for its successful functioning. In the arranged environment the teacher should put out a few pictures and props suggesting these related occupations. THE OCCUPATION CHOSEN FOR BEGINNING STUDY SHOULD BE ONE WHICH READILY LEADS TO THE STUDY OF OTHER OCCUPATIONS IN THE DEVELOPMENT OF THE DRAMATIC PLAY COMMUNITY.

An Example of an Arranged Environment Leading to the Study of Postal Workers

One way to initiate the study of the community in second grade is to arrange an environment with props in a house, post office, and supermarket centers. Most pupils will find the house and supermarket centers familiar, since they have usually had dramatic play in such centers in pre-school, kindergarten, or first grade. Many pupils have also had some dramatic play in a post office center in earlier grades, but they have not experienced the detailed study of the post office presented in this guide.

To initiate the study the teacher sets up an arranged environment either in an open space or in the self-contained classroom. The following is a description of the arranged environment set up at Frank Porter Graham Child Development Center (open space separate from the classroom) and at Estes Hills School (self-contained classroom) in Chapel Hill, North Carolina.[1] This arranged

[1] Except where otherwise noted, the same props can be used in the open space and in the self-contained classroom.

environment led to the study of postal workers.[1]

POST OFFICE CENTER	Tagboard sign "Post Office"
	Table or desks to represent a post office (In the open space a large wooden or cardboard frame can be constructed for the post office.)
	Mailbag
	Hats
	Mail trucks
	Mailbox containing letters addressed to pupils in the class
	Some letters addressed to pupils and placed on the post office table
	Stamps made from office addressing labels
	Sorting unit (box with compartments obtained from a liquor store)
HOUSE CENTER (open space)	Tagboard sign "House"
	Child-size furniture for the house (e.g., sink, stove, refrigerator, table); table set with dishes and silverware; play dough for making food, and several empty food cartons and containers obtained from a store
	Crib with doll in it
	Dresses, jackets, hats, high heel shoes to try on and wear
HOUSE CENTER (self-contained classroom)	Tagboard sign "House"
	Wooden or cardboard box to represent a house (doll house size)

[1]This is not the only way to initiate a study of workers in the community. Teachers could start with an arranged environment leading to the study of airplanes and workers in the airport, or workers in other means of transportation. Gradually an entire dramatic play community could be developed around these means of transportation. Creative teachers will be able to think of other ways of initiating the study of community workers.

	Small furniture made out of match boxes or wood
	Small pipestem cleaner figures or rubber people
	Small car in front of the house
	ALSO, IN SELF-CONTAINED CLASSROOM:
	Props for a big house: a round table or desks set with dishes, silverware, and play dough food; stove, broom, mop; dolls
SUPERMARKET CENTER	Tagboard sign "Supermarket"
	Table or desks for the counter (In the open space a large wooden or cardboard frame can be constructed for the store.)
	Bookcases, other shelves, or boxes to contain groceries and other items
	Empty containers, cartons, bottles for groceries, arranged in a disorganized way on the shelves
	Cash register, play money
	Scale
	Paper bags
ROADS	Strip of masking tape or a painted road about six feet long, with a small car on it
SERVICE STATION[1]	Tagboard sign "Service Station"
	A wooden or cardboard box with gas pumps made out of dowel rods, and with rubber tubing for the hose

[1]Most of the props are placed in the house, post office, and supermarket centers. The service station and construction company are included mainly to give more pupils an opportunity to participate in dramatic play. The bulletin board and books included in the arranged environment focus mainly on the house, post office, and supermarket centers.

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CONSTRUCTION COMPANY
(BLOCK CORNER)

Tagboard sign "Construction Company"

Floor blocks of various sizes and shapes for making buildings, bridges, and other structures

LIBRARY CENTER

Pictures:

Picture file with pictures of workers in the post office, home, and supermarket

Books:

An attractive arrangement of books mainly on the post office, supermarket, and home, with a few books on the service station and building trade. For example:

Baker. I Want to Be a Gas Station Attendant

Bendick. The First Book of Supermarkets

Carlisle. The True Book of Bridges

Colonius. At the Post Office

Goodspeed. Let's Go to a Supermarket

Greene. I Want to Be a Postman

Greene. I Want to Be a Storekeeper

Hastings. About Postmen

Lenski. The Little Family

Miner. The True Book of Our Post Office and Its Helpers

Shay. What Happens When You Mail a Letter

BULLETIN BOARDS
(If possible, these bulletin boards should be put near the appropriate props.)

Bulletin Board on Post Office:

Caption: "What are these workers doing with the mail?"

Pictures from S.V.E. set, Postal Helpers:

1. Postal worker picking up mail from the mailbox
2. Postal worker sorting letters inside the post office
3. Mailman delivering mail

Bulletin Board on Supermarket:

Caption: "What do workers in the supermarket do?"

Pictures from S.V.E. set, Supermarket Helpers:

1. Supermarket worker weighing produce for the customer
2. Supermarket workers putting prices on the cans, and the cans on the shelves
3. Checker checking out a customer; stock boy putting groceries in bag

Bulletin Board on Home:

Caption: "What do you do to help at home?"

Pictures from magazines and other sources on family activities in the home (for example, pictures of members of the family cooking, setting the table, eating, doing dishes, cleaning, bathing the baby, rocking the baby, reading to younger children)

It should be noted that the teacher has put objects in the environment that children can put on (hats), that children can manipulate (cars, trucks, pipestem cleaner dolls, blocks), and that children can look at (books and pictures).

The teacher should not put out all the props in the arranged environment that children will ever need in their dramatic play of a particular occupation. She should put out just enough props to stimulate beginning play. As the play develops in subsequent lessons, the children and teacher will think of other props they need.

Example of a Lesson to Explore the Arranged Environment

The following are suggested procedures for the lesson in which pupils explore the arranged environment:

1. As the pupils come in, the teacher asks them to notice what is different in their classroom or in the open space. After a brief discussion, she divides the pupils into two or three groups to explore the arranged environment. Some children are asked to stay in their seats and color or do other work

that the teacher does not need to supervise. For example, pupils can make pictures of what they want to be when they grow up. Other children are allowed to move about the room, looking at pictures and books, and touching and playing with the objects.

2. The teacher observes the pupils as they explore the arranged environment. She takes notes on their activities during the dramatic play and their needs for more information and props. For example, she may note that a child picks up letters from a mailbox and immediately delivers them to other pupils. Another child pushes a mail truck back and forth on the masking tape road without taking the truck to any particular destination. Some children want to buy stamps at the post office for their letters, but they do not have any money. A worker at the supermarket gives incorrect change to a customer. The teacher also takes notes on the pupils' comments as they look at the pictures and books.

The teacher lets the first group explore the environment for a few minutes. Then she asks these pupils to take their seats and color pictures. She then asks another group to explore the room environment and she again moves around the room observing the pupils and taking notes.

3. After all the pupils have had the opportunity to explore the environment, the teacher leads a discussion. She asks some pupils to share the pictures, books, and objects they found interesting. She comments on the items they share and on what she has observed in their dramatic play. She asks questions which suggest the need for more information. In formulating the questions, she refers to the notes she made while observing the pupils. The following are examples of questions she might ask:

"Mark, I noticed you bought some groceries. How much did they cost? Are there prices on the food? Did you get change?"

"Barry, you were working at the service station. What were you doing? What else does a service station attendant.do?"

"Mary, you were busy playing with a doll and setting up the house. Do you have everything you need to set up the house?"

"John, I noticed you were having fun driving the mail truck. Where were you going with the truck? Where else does a mail truck go?"

"Fred, I noticed you did a good job taking letters from the mailbox and delivering them to pupils. Does anything happen to the letters in the post office before the letters are delivered? We will need to find out so we will know what to do in dramatic play."

Usually the dramatic play during the arranged environment lesson does not proceed too smoothly. The play lasts only a few minutes, since pupils have little information about the jobs. Since there are not enough props, children often have many problems which they will bring up in the post-play discussion. The teacher should be positive in discussing the dramatic play. She should never say anything which causes a child to feel he did a poor job.

The teacher's main goal in setting up the arranged environment and in leading the post-play discussion is to stimulate pupils to see the need for more information and props on a particular occupation. If the teacher has been skillful in choosing the props, pictures, and books for the arranged environment, she can anticipate with a high degree of certainty many of the pupils' responses. In the arranged environment lesson at Frank Porter Graham Child Development Center and at Estes Hills School, pupils showed great interest in driving the mail truck and in delivering letters. In the post-play discussion the teacher put much emphasis on the dramatic play she had observed in the post office, and helped pupils see the need for more information. Few pupils had detailed

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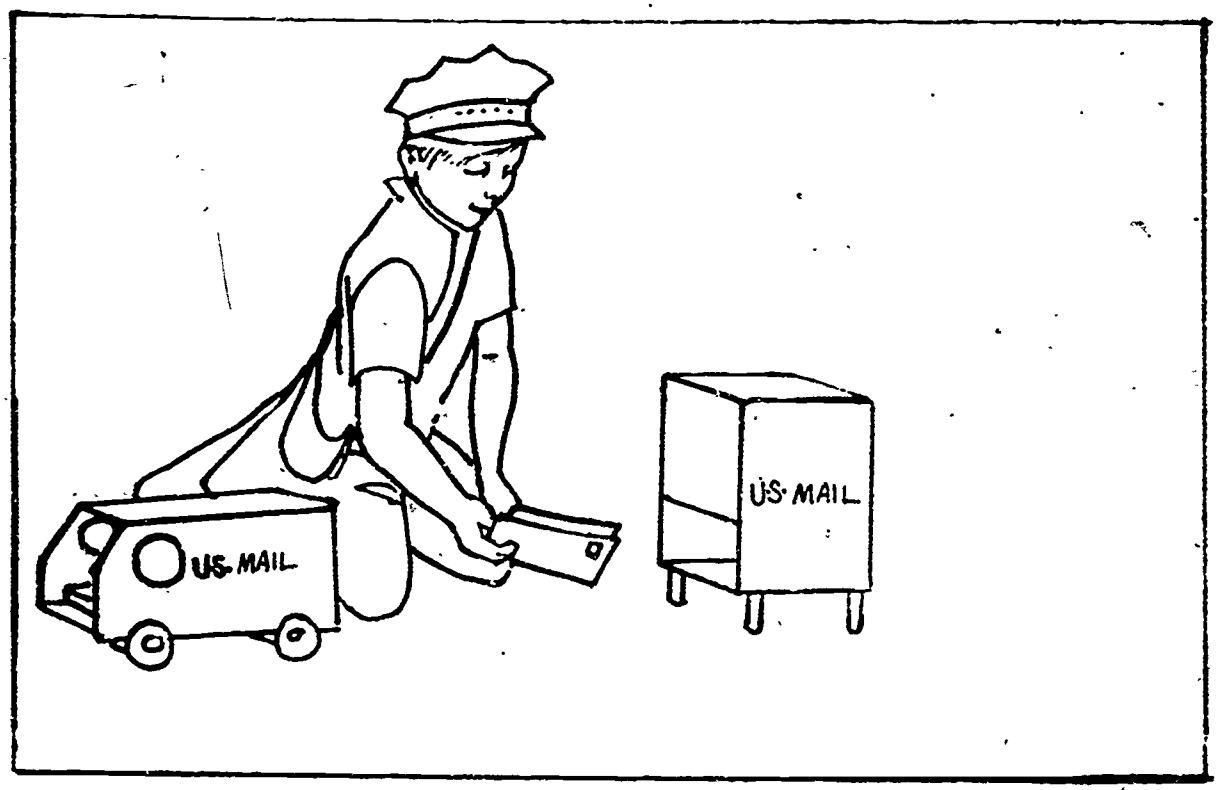
information on exactly what happened to letters inside the post office. By the time the arranged environment lesson ended, the pupils were excited about the dramatic play community they were going to develop, and the teacher had gained many ideas from their responses for future lessons. During social studies in the next several weeks, she presented lessons on the activities of postal workers and on what happens to a letter after it is mailed. She also kept her notes about the dramatic play, pupil problems and needs in the house, supermarket, service station, and construction company, so she could obtain props and plan lessons on these topics in the future.

WORKING at the POST OFFICE



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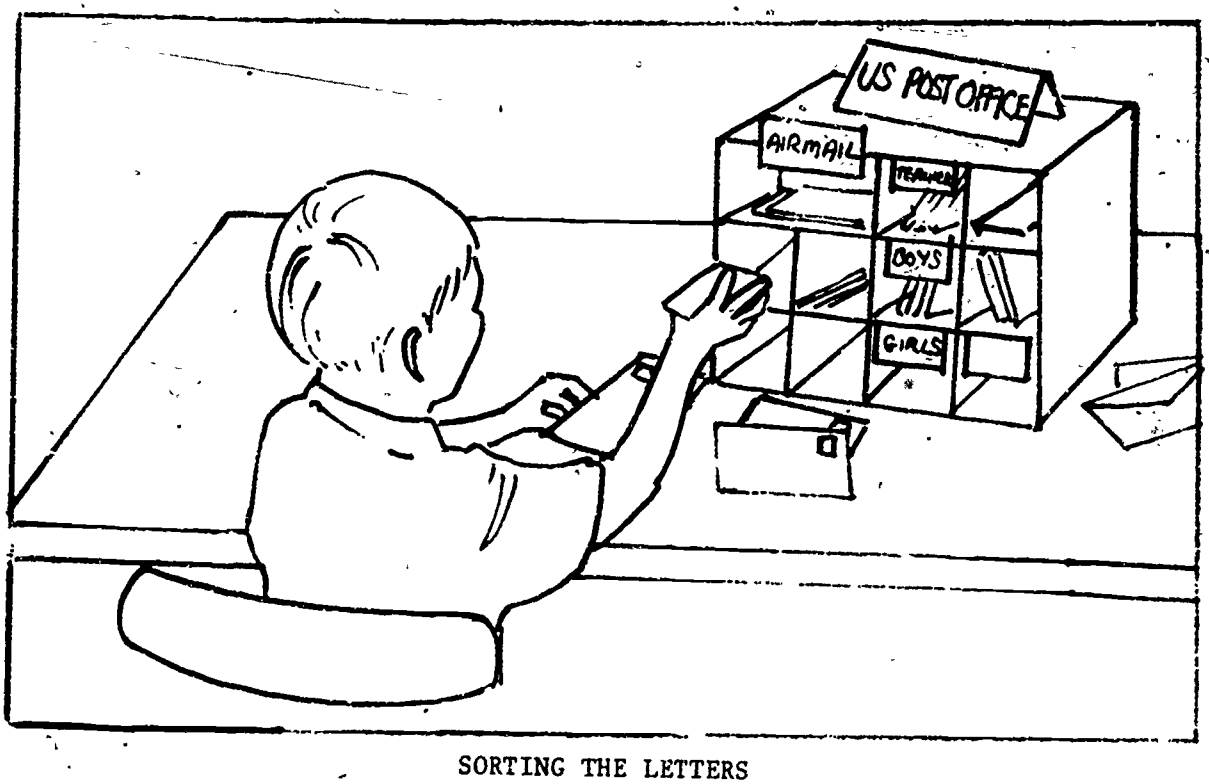

SORTING THE LETTERS

DRAMATIC PLAY OF POSTAL WORKERS AND OF A RELATED OCCUPATION

Dramatic Play of Postal Workers

1. Driving a truck to mailboxes; taking mail out of the boxes
2. Driving a truck back to the post office and leaving the mail there
3. Cancelling stamps and putting postmarks on letters
4. Sorting letters
5. Putting letters in bundles
6. Weighing parcel post on a scale
7. Weighing letters on a scale
8. Sorting stamps in preparation for selling them
9. Selling stamps; giving the correct change
10. Delivering mail to people in the community
11. Putting extra mail in storage boxes
12. Taking airmail in a truck to the airport

Dramatic Play of Workers in the U. S. Government Printing Office (as Related to the Post Office)

1. Making stamps of different denominations
2. Delivering stamps by truck to the post office

INTERACTION OF POSTAL WORKERS WITH WORKERS IN OTHER OCCUPATIONS IN THE COMMUNITY[1]

1. Postal workers deliver mail to workers in different occupations.
2. Postal workers wait on customers from different occupations in the post office.
3. Postal workers interact with workers in the airport as they leave airmail there.
4. Postal workers interact with firemen when there is a fire or fire inspection at the post office.
5. Postal workers deposit money, cash checks, and get change in the bank.
6. Postal workers buy gasoline at the service station.
7. Postal workers buy groceries and other items in the store.
8. Postal workers take trips on the airplane.
9. Postal workers go to the restaurant.
10. Postal workers send their children to school.
11. Postal workers get physical examinations at the hospital.
12. Postal workers use police services.
13. Postal workers go to traffic court if they get a ticket.

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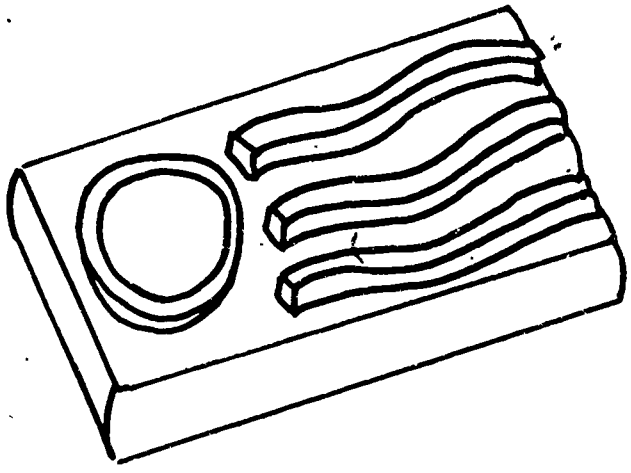
[1]Some of these interactions take place when the postal workers are on duty. Other interactions (e.g., items 7, 8, 9, 10) take place when a postal worker is on a break from his job or is off duty.

PROPS FOR DRAMATIC PLAY OF POSTAL WORKERS AND A RELATED OCCUPATION

Postal Workers

1. Mailbox
2. Letters
3. Mail truck
4. Hand canceller (made from an eraser and used with an ink pad)



5. Sorting boxes
6. Mailbag
7. Stamps (made from office addressing labels)
8. Scale
9. Slots for mailing letters inside the post office
10. Box for dead letters
11. Storage box
12. Hats
13. Play money
14. Pencils and paper
15. Rubber bands or straps for putting letters in bundles
16. Toy telephone

NOTE

Each teacher will not need to obtain every prop listed here. Each teacher should decide which props her particular pupils need in their dramatic play. Some pupils will be able to bring some of the props from home. Directions for constructing a mailbox and mail truck are found in this section of the guide.

Workers in the U. S. Government Printing Office

1. Office addressing labels for making stamps
2. Crayons and pencils
3. Truck

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SUGGESTED CLASSROOM LESSONS AND ACTIVITIES RELATED TO DRAMATIC PLAY OF POSTAL WORKERS

The post office is one of the centers set up in the arranged environment. As the teacher observes the pupils exploring the environment and playing in the post office center, she notices that most pupil postmen pick up letters from the mailbox and immediately deliver them to pupils to whom the letters are addressed. The teacher observes that pupils need information on what happens to a letter in the post office.

Lessons and Activities	Sources of Information and Comments
1. To find out what happens to a letter after it is mailed in a mailbox and taken to the post office	
Reading charts on films	Charts in this section of guide
Looking at one or more films that show how stamps are cancelled and letters are sorted in the post office; learning that there is a cancelling machine, and that in modern post offices there is even a sorting machine (shown in film Modern Post Office)	A Letter to Grandmother The Mailman A Modern Post Office Our Post Office Postman...Rain or Shine Where Do Our Letters Go?
Looking at one or more filmstrips	The Mailman Our Post Office
Looking at flat pictures	Postal Helpers. S.V.E. pictures "Mailbox Pickup," "Cancelling Stamps," and "Sorting Mail"
Reading books or listening to the teacher read one or more books on what happens to a letter after it is mailed in a mailbox; looking at pictures in books	Colonius. At the Post Office, pp. 13-17, 20-21 Greene. I Want to Be a Postman, pp. 16-19

(continued)

NOTE

No teacher is expected to teach all of the lessons and activities nor use all of the films and books included in this section. EACH TEACHER WILL CHOOSE THE LESSONS AND MATERIALS HER PARTICULAR PUPILS NEED. These lessons precede or follow the dramatic play. The children will participate in dramatic play at least once a week, and the teacher will plan some lessons and activities for the other days she has social studies. The purpose of these lessons is to give pupils information needed for effective play. As pupils gain more information their play will become more involved, and they will portray more of the activities of postal workers. The lessons will not necessarily occur in the sequence presented here.

Lessons and Activities	Sources of Information and Comments
Learning that the driver of the mail truck picks up the letters from the mailbox and takes them to the post office; that in the post office letters are cancelled and sorted; that letters for the same city or town are tied into bundles and put into mail sacks[1]	Greene. Where Does a Letter Go? pp. 26-30 Miner. The True Book of Our Post Office and Its Helpers, pp. 17-22 Pope. Your World, Let's Visit the Post Office, pp. 22-24 Preston. Greenfield and Far Away, pp. 112-115 Shay. What Happens When You Mail a Letter, pp. 1-19
Discussing how letters are sorted; noticing that there are labels on the sorting boxes in the pictures	Pictures listed above
Deciding which labels to put on the sorting boxes in the dramatic play post office	
Bringing in envelopes with cancelled stamps; noticing the information included in the postmark	
Making a chart of envelopes with cancelled stamps	
Discussing why stamps are cancelled--so that they cannot be used again	
Pretending they are postal clerks and cancelling stamps by filling in a teacher-prepared ditto of an addressed envelope; putting lines through the stamp and writing the date, time, and state in the circle part of the postmark	
Looking at a "hand canceller" the teacher has made out of an eraser, by cutting out lines and a circle from the eraser for the postmark	
Watching the teacher demonstrate how to use the eraser and an ink pad to cancel stamps in dramatic play	

[1] In the Frank Porter Graham Project, cancelling and sorting were the two processes emphasized inside the post office in dramatic play. The details of facing, primary sorting, secondary sorting and other processes described in books were not emphasized in the lessons, since they were not acted out in the dramatic play.

Lessons and Activities	Sources of Information and Comments
Dramatizing what happens to letters after the postman takes them out of the mailbox (i.e., taking letters in a truck to the post office; cancelling the stamps; sorting the letters; delivering letters to pupils in class)	Suggested props: mailbox, letters, mail truck, "hand canceller" eraser, sorting boxes, mail bag

As pupils have dramatic play in the post office, they regularly say they need more letters.

2. Writing letters and addressing envelopes for dramatic play

Listening to the teacher read a book about a boy who wants to get a letter	Beim. Country Mailman
Learning to use the correct form in writing letters	See language books used in local district.
Learning to use the correct form in addressing envelopes; learning that the post office can't deliver the letters if the address isn't correct	Pope. Your World, Let's Visit the Post Office, p. 21
Learning about the zip code	Colonius. At the Post Office, p. 19 Greene. Where Does Your Letter Go? p. 16 Henroid. I Know a Postman, pp. 14-15 Shay. What Happens When You Mail a Letter, p. 15

As children continue to have dramatic play in the post office, they sell all of the stamps to customers, and they mention in the post-play discussion that they need more stamps.

3. Learning about stamps

Looking at stamps the teacher and pupils bring to school	

NOTE

The dramatizations in this section are part of the social studies lessons to prepare pupils for dramatic play. They involve only a few pupils with the rest of the class observing. These dramatizations give pupils ideas for the spontaneous dramatic play in which every child has a job and there is no audience.

Lessons and Activities	Sources of Information and Comments
Reading a teacher-prepared chart on stamps; learning which kind of stamp is used for first class letters that travel by train or truck; learning that an airmail stamp is put on letters that travel by airplane	Chart "Stamps" in this section of guide
Reading on the chart "Stamps" that workers in the U.S. Government Printing Office make stamps	
Pretending that they are workers in the U.S. Government Printing Office making stamps of different denominations for dramatic play	Using office addressing labels on perforated paper to make stamps
Looking at a classroom map of the United States; pointing to and naming different cities and states; discussing how much it would cost to send a first class letter by truck or train or by airplane to various places in the United States	
Discussing what the post office does with money from selling stamps; learning that the money pays for the postmen and for postal services	Information in film Postman... Rain or Shine, and on back of flat picture "Serving Customers" from S.V.E. Postal Helpers picture set
Looking at stamp collections brought in by primary pupils or by older pupils in other classes	
Discussing the fact that in dramatic play the postal clerks often don't know how much money to charge for various quantities of stamps	
Learning the arithmetic involved in buying and selling stamps of various denominations: How much should be charged for various quantities of stamps? What coins should the customer give to the postal clerk? How much change should be given?	
Making charts for the post office center showing the cost of various quantities of stamps of different denominations (e.g., one 11 cent stamp costs 11 cents; two 11 cent stamps cost 22 cents; three 11 cent stamps cost 33 cents; four 11 cent stamps cost 44 cents)	

Lessons and Activities	Sources of Information and Comments
Dramatizing postal clerks selling stamps to pupil customers	Suggested props: stamps made by pupils, play money

As children continue to make stamps of different donominations, the teacher plans lessons on airmail and the different ways mail travels.

4. Learning how letters travel by airplane and by other means of transportation

Looking at parts of one or more films that show the different ways mail travels	A Letter to Grandmother The Mailman Modern Post Office Our Post Office Postman...Rain or Shine Where Do Our Letters Go?
Looking at parts of filmstrips that show how mail travels	The Mailman Our Post Office
Looking at a flat picture	Postal Helpers. S.V.E. picture "Loading Mail at Airport"
Reading or listening to the teacher read one or more books about the ways that mail travels; looking at pictures in books	Colonius. At the Post Office, pp. 22-25, 28-29 Greene. Where Does a Letter Go? pp. 31-37 Miner. The True Book of Our Post Office and Its Helpers, pp. 23-26, 28-33 Preston. Greenfield and Far Away, pp. 117-118 Pope. Your World, Let's Visit the Post Office, pp. 29-30 Shay. What Happens When You Mail a Letter, pp. 20-23
Learning that mail travels by truck, van, train, airplane, bus, helicopter, ship[1]	
Learning that drivers of mail trucks take mail sacks from the post office to the train station and load the mail onto trains	
Learning that mail trucks take sacks of mail to the airport where they are loaded onto planes; that after the airplane flies to its destination and lands, the airmail is taken from the plane to a post office; that in this post office the letters	

(continued)

[1] The way of transporting mail is changing. More mail is being transported by airplane and less by train. Teachers should read the newspapers, keep up-to-date on the changes in the postal service, and teach pupils accordingly.

Lessons and Activities	Sources of Information and Comments
are sorted and delivered, or put in sacks to travel by train or truck or another airlines to the letters' destination	
Deciding that in the pupils' post office letters with airmail stamps will be loaded onto mail trucks, taken to a dramatic play airport and loaded onto small planes; that the small planes will take the airmail to a second airport in another part of the classroom; that there will be a small post office with a sorting box at this airport where the letters will be sorted and delivered[1]	
Discussing the location in the dramatic play area of the airport and airport post office	
Dramatizing what happens to airmail as described above; choosing a driver of the mail truck, a pilot, air controllers, a postman at the airport post office	Suggested props: letters with airmail stamps, mail truck, small airplane, round parts of old earphones for pilots and air controllers, sorting box for airport post office
Making a mural on the different ways that mail travels	

As the children continue to have dramatic play, they discuss the need for more than one mailbox in the dramatic play community.

5. Learning about mailboxes

Looking at a flat picture of two mailboxes--a box for mailing letters and a storage box; noting the different colors of the boxes; noting the Hours of Collection card on one box	Postal Helpers. S.V.E. picture "Mailbox Pickup"

[1] In dramatic play in the Frank Porter Graham Project, the letters were picked up from mailboxes and put in mail trucks, taken to the post office where they were cancelled and sorted, and then delivered to pupils; only the airmail was not immediately delivered but was taken to the airport. No mail was put on trains or other means of transportation, although a primary teacher could plan to have some mail travel by train and ship in the dramatic play.

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Lessons and Activities	Sources of Information and Comments
Listening to the teacher read about the Hours of Collection card; looking at pictures in books of an Hours of Collection card	Schloat. Adventures of a Letter, p. 8 Shay. What Happens When You Mail a Letter, pp. 5, 8-9
Noticing the Hours of Collection card in a film	A Letter to Grandmother
Reading a chart on a trip to a mailbox	Chart in this section of guide
Taking a walking trip to look at mailboxes; looking at the color of mailboxes; looking at the Hours of Collection cards	
Returning to class and coloring pictures of mailboxes; discussing the fact that some mailboxes in the real community have recently been repainted and are not exactly like the mailboxes pictured in books and the S.V.E. picture	Picture and books listed above.
Constructing mailboxes of cardboard or wood for the dramatic play community; painting the mailboxes to look like the boxes in the local community	
Making an Hours of Collection card for the mailboxes in the dramatic play community	
Deciding where to put the mailboxes in the dramatic play community	

In observing the dramatic play the teacher notes that the postmen are often not very busy. In questioning the pupils, the teacher realizes that they don't know all the duties of postmen.

6. Learning about the duties of a postman

Looking at part of a filmstrip which shows a postman sorting and delivering mail and a truck bringing mail to a storage box for the postman	Our Post Office
Looking at flat pictures of a postman sorting and delivering mail, and of a postal driver loading a sack of extra mail onto a truck to be taken to a storage box for the postman	Postal Helpers. S.V.E. pictures "Sorting Mail," "Delivering Mail," and "Loading Relay Trucks"

Lessons and Activities	Sources of Information and Comments
Reading or listening to the teacher read one or more books about the duties of a postman	Hastings. About Postmen (entire book) or parts of: Colonius. At the Post Office, pp. 5, 17 Greene. I Want to Be a Postman, pp. 10-13 Greene. Where Does a Letter Go? pp. 38-40 Henroid. I Know a Postman, pp. 5-12, 16-28, 31-35 Miner. The True Book of Our Post Office and Its Helpers, pp. 35-40 Pope. Your World, Let's Visit the Post Office, pp. 13-16
Learning that the postman is also called a carrier	
Learning that the postman or mail carrier goes to the post office, sorts the mail for his route, delivers the mail; that on his route he gets extra mail to deliver from a storage box	
Deciding that in the dramatic play the postman will perform the above duties and also do the job of the postal driver: picking up mail from the mailboxes and taking it in a truck to the post office; bringing extra mail in a truck from the post office to the storage box; taking airmail in a mail truck to the airport	
Coloring pictures of postmen	
7. Learning that people need to have special qualifications and training to be postal workers.	
Reading or listening to the teacher read one or more books about the qualifications and training of postmen	Greene. I Want to Be a Postman, pp. 6-9 Hastings. About Postmen, p. 4 Miner. The True Book of Our Post Office and Its Helpers, pp. 10-11
Learning that postal workers must be healthy; they must be able to read and write, to make change, to know numbers, to pass a test	
Deciding that the postal workers in dramatic play will get regular checkups from the doctor	
Dramatizing a postal worker getting a checkup from the doctor	

Lessons and Activities	Sources of Information and Comments
When the teacher puts a scale in the post office center, she notices that children do not know how to use it correctly.	
8. Learning to use a scale	
Weighing letters; learning how to read the scale; figuring out the cost by the ounce	
Learning that packages are called parcel post	
Looking at a flat picture of a parcel post window in the post office	Postal Helpers. S.V.E. picture "Serving Customers"
Reading or listening to the teacher read one or more books about parcel post	Colonius. At the Post Office, p. 9 Greene. Where Does a Letter Go? pp. 20-21 Hastings. About Postmen, p. 20 Pope. Your World, Let's Visit the Post Office, p. 7
Bringing empty packages to school to be used as parcel post; weighing the parcel post; figuring out how much it costs to send the parcel post in dramatic play	Teacher makes chart of cost per pound or/and ounce of sending parcel post in dramatic play
9. Taking a field trip to the local post office	
Listening to the teacher read a book	Pope. Your World, Let's Visit the Post Office
Writing letters and bringing them on the trip to mail at the post office	
Noticing the U. S. flag outside the post office	
Noticing slots for mailing letters inside the post office, the cancelling machine, the sorting boxes, the mail sacks, the scales, parcel post	Checklist for trip in this section of guide
Noticing the dead letter box	
Noticing the different kinds of stamps, including postage-due stamps	

Lessons and Activities	Sources of Information and Comments
On return from the field trip, writing thank-you letters or stories, making postage-due stamps, putting a flag by the post office center	
10. Deciding to make slots in a box for mailing letters inside the classroom post office	
Reading or listening to the teacher read about slots in one or more books; looking at pictures in books	Buchheimer. Let's Go to a Post Office, p. 15 Colonius. At the Post Office, p. 11 Greene. Where Does a Letter Go? p. 24 Pope. Your World, Let's Visit the Post Office, p.19
Noting that in the post office they visited and in the pictures in the books, there is a slot for "airmail and special delivery," for "out-of-town mail," for "local mail"	
Deciding which slots they will have (e.g., one slot for "airmail," one slot for "in class," one slot for "out-of-class")	
11. Deciding to have a dead letter box in the post office	
Remembering the dead letter box the class saw on the field trip	
Reading or listening to the teacher read about the dead letter box; learning that the dead letter box is for letters that are not addressed completely, and that do not have a return address	Buchheimer. Let's Go to a Post Office, p. 26
12. Participating in a research lesson by reading books or viewing a filmstrip	Procedures for this lesson on pp. 24-28 of this guide
Discussing the need for this research lesson to determine if pupils are correctly portraying postal workers in their dramatic play	
Reading books and answering questions or looking at a filmstrip; if they finish early, drawing a picture of postal workers	Questions on books in this section of guide

Lessons and Activities	Sources of Information and Comments
Sharing what they have read in books or viewed in the filmstrip; deciding if there is anything new to add to the post office or to do as postal workers in dramatic play	

SAMPLE SPELLING WORDS

1. letter
2. stamp
3. mailbox
4. mail
5. truck
6. post office
7. slot
8. cancel
9. postmark
10. sort
11. mailbag
12. mailman
13. postman
14. airmail
15. airplane
16. train

NOTE

Throughout the study of postal workers, pupils have listened to the teacher read books, and many individual pupils have independently looked at books in their free time. This is the first research lesson on postal workers in which many pupils are reading books in a teacher-directed lesson. The teacher should not plan this lesson until pupils have participated in dramatic play and had many concrete experiences on the post office. These concrete experiences will help them bring meaning to the printed page in books and to the text on the filmstrips.

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Sample charts to be
read before films

Film: A Letter to Grandmother

A girl mails a letter.
See the card on the mailbox.

Hours of Collection Daily except Sat., Sun., and Holidays	
A.M.	P.M.
10:00	
11:15	1:30

The mailman puts the letters in a mail truck.

At the post office the letters are put in the cancelling machine.
The machine prints the postmark and makes lines on the stamp.
The letters are sorted.

The mail goes on a train to a town near Grandmother.
The mail is sorted at the post office in that town.

Grandmother gets the letter.
Grandmother sends a parcel post package to the girl.

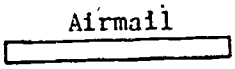
What do we need in our post office?

Film: The Mailman

We will see a mailbox.
We will see parcel post.
We will see the cancelling machine.
We will see mailmen sorting letters.

The mailman is called a carrier.
The mailman has a key to open the mailboxes.
The mailman puts some letters in a storage box.

We will see a girl mail a letter in the "Airmail" slot in the post office.



Some mail travels by truck.
Some mail travels by helicopter.
Some mail travels by airplane.
Some mail travels by car.

What do we need in our post office?

Sample charts to be read before films

Film: The Modern Post Office

The mailman picks up letters from a mailbox.
He puts the mail in a sack.
He takes the mail in a truck to the post office.

In a modern post office much work is done by machine.
Stamps are cancelled by a machine.
The cancelled stamp cannot be used again.
In this post office some mail is sorted by machine.

Some mail travels by train or bus or truck.
Some mail travels by air.
Airmail is the fastest way to send letters.

Film: Our Post Office

A boy and a girl mail a letter in the "Out of Town" slot.
They do not send money in the mail.
They send a postal money order.

Letters are cancelled and a postmark is put on them.
Letters are sorted.
Letters are tied in bundles.
The bundles of letters are put in mail pouches.

Some mail pouches are put on trains.
Some mail pouches are put on airplanes.
Parcel post can go by train, plane, or truck.

Sample charts to be
read before films

Film: Postman...Rain or Shine

Some postmen walk to deliver mail.
Some postmen drive trucks.

Bob and Betty send a letter to Grandmother.
Grandmother writes a letter.
She puts the zip code on the envelope.
What else is on the envelope?

Grandmother buys a stamp and mails the letter.
Some of the stamp money pays for the postman.

There are slots in the post office.

in town	out of town	airmail

The stamps are cancelled.
The letters are sorted.
Trucks, airplanes, and trains carry the mail.

The postman sorts the letters for his route.
He delivers Grandmother's letter to the children.

Film: Where Do Our Letters Go?

Mother and Carol send invitations to the birthday party for Jerry.
They put the address and a stamp on the envelope.
What do they forget to put on the envelope?

Carol mails the invitations in a mailbox.
The invitation to Billy is going out of town.
A mailman in a mail truck picks up the invitations from the mailbox.
The mailman takes the invitations to the post office.

In the post office the stamps are cancelled.
The letters are sorted.
The invitation to Billy is put on a train.
The mailman delivers the invitations.

Aunt Margaret sends a parcel post package to Jerry.
She sends it airmail.

Jerry has a happy birthday party.

Sample charts prepared by the teacher or dictated by pupils

Stamps[1]

What kind of stamps are there?

This stamp is an 8¢ stamp.

If you mail a letter to Chapel Hill, you use an 8¢ stamp.
An 8¢ stamp is for first class mail that travels by train, truck, or van.

This is an airmail stamp.

It costs 11¢.
Why does an airmail stamp cost more than a stamp for a letter that travels by train or by truck?
A letter with an airmail stamp will go by airplane.
Airmail goes faster than mail with 8¢ stamps.

Stamps are made in the U. S. Government Printing Office.

We need stamps for our post office.

Trip to the Mailbox

We will go to look at the mailbox near the school.
We will notice the color of the mailbox.
We will see the words "U. S. Mail" on the box.

We will see a card with "Hours of Collection" on it.
The card gives the times the mailman will pick up the mail from the box.
We need a card with "Hours of Collection" on our mailbox.
We must decide the hours of collection of mail in our mailbox.

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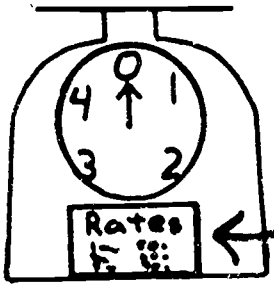
[1] As there continue to be changes in the U. S. Postal Service, the teacher may need to rewrite this chart. More and more first class mail with 8¢ stamps is being sent by airplane, if there is available space.

TRIP TO U.S. POST OFFICE

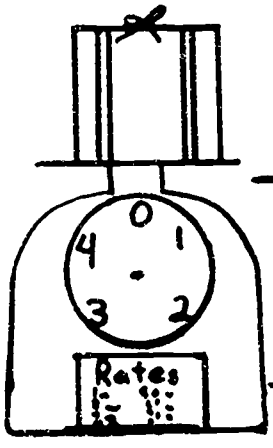
1. flag _____
2. mailbox _____
3. hours of collection card _____
4. slots for letters _____
5. cancelling machine _____
6. sorting boxes _____
7. scale _____
8. mail pouches _____
9. parcel post _____
10. postage-due stamp _____
11. mail truck _____
12. dead letter box _____

Sample Math Problems in Post Office

In our post office we will weigh packages for parcel post. We will use a scale. Put an X where you put the package.

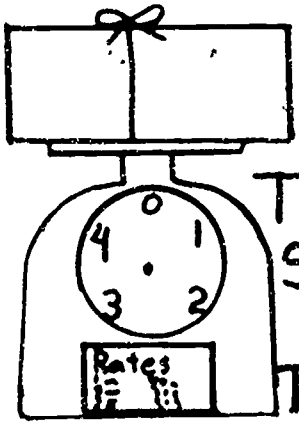


1 lb.	50¢
2 lbs.	55¢
3 lbs.	60¢
4 lbs.	65¢



This package weighs 1 pound (1 lb.). Show where the arrow points.

This package will cost _____¢ to mail.



This package weighs 3 pounds (3 lbs.). Show where the arrow points.

This package will cost _____¢ to mail.

Sample letters teacher writes
to pupils for dramatic play

Date

Dear _____,[1]

We have a police station.
We have a communications division.
We have a dispatcher.
We have police cars.
We have fingerprinting.

Your friend,
Miss Golden

Date

Dear _____,

Bank tellers cash checks.
Bank tellers take deposits.
Bank tellers count money.
Want else do they do?

Your friend,
Miss Golden

Date

Dear _____,

We will go to the post office.
We will see the cancelling machine.
We will see how letters are sorted.
What else will we see?

Love,
Miss Golden

Date

Dear _____,

We went to the hospital.
We saw a nurse bathing a baby.
We saw the physical therapy room
We saw a dietician.
We went into the pharmacy.

Your friend,
Miss Golden

[1] The teacher duplicates each letter and fills in the names of the pupils in her class.

Sample questions on books
for pupil research lesson

Barr, Jene. Mr. Zip and the U. S. Mail[1]

1. What window did Mother go to with her package?
2. Why did the clerk weigh the package?
3. Name some ways mail is carried.
4. Read Mr. Zip's Picture Dictionary. Draw a stamp. Cancel it.

Colonius, Lillian. At the Post Office

1. Why was the mail clerk happy with Mrs. Allen's package? page 9
2. Where does Roger drop his letter? page 11
3. What does the cancelling machine do? page 15
4. What is brought to the airport from other post offices? page 29
5. Look at the sorting boxes on page 17. Draw sorting boxes.

Greene, Carla. I Want to Be a Postman

1. What does a postman need to know?
2. Where does the postman put the mail he can't carry in his bag?
3. What happens to Hank's letter after he puts it in the mailbox?
4. What does the machine put on the stamps?
5. What are 5 ways the mail travels?

Miner, Irene. The True Book of Our Post Office and Its Helpers

1. What do clerks do with letters? page 18
2. What does a machine do to stamps? page 20
3. Where is airmail taken? page 23
4. How does mail travel? pages 24, 25
5. What does the mailman do with the letters at his desk? page 37
6. What goes by parcel post? page 42

Shay, Arthur. What Happens When You Mail a Letter

1. How does the mailman open the mailbox?
2. What does a cancelling machine do?
3. What is the fastest way to send a letter to New York?
4. Look at the other pictures in the book

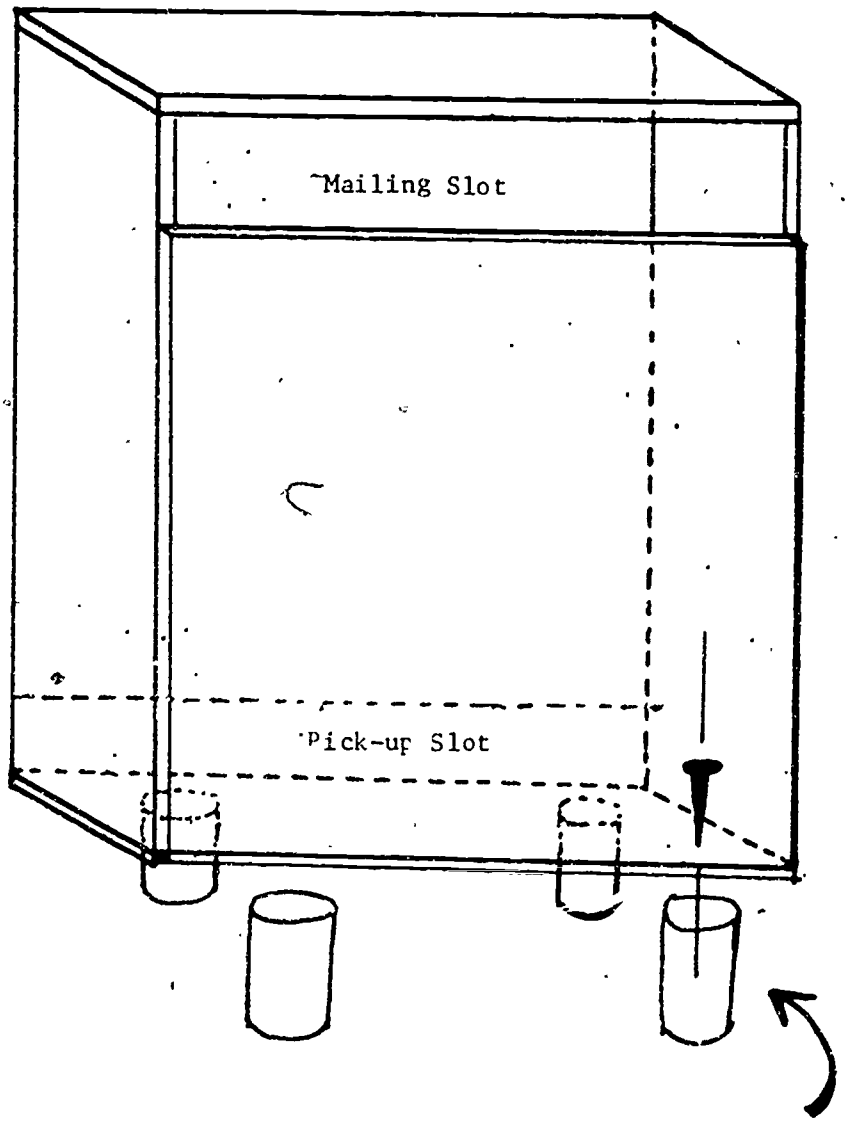
[1] In some books the pages are not numbered. The teacher can put markers in these books to help children find the pages with the answers.

CONSTRUCTION OF A MAILBOX

1. Make a tall rectangular box approximately 8" x 12". In order that mailing and pick-up slots may be included, cut the front and back pieces of wood 2 inches shorter than the sides.

2. Nail the front piece of wood low, thus leaving a slot at the top for mailing.

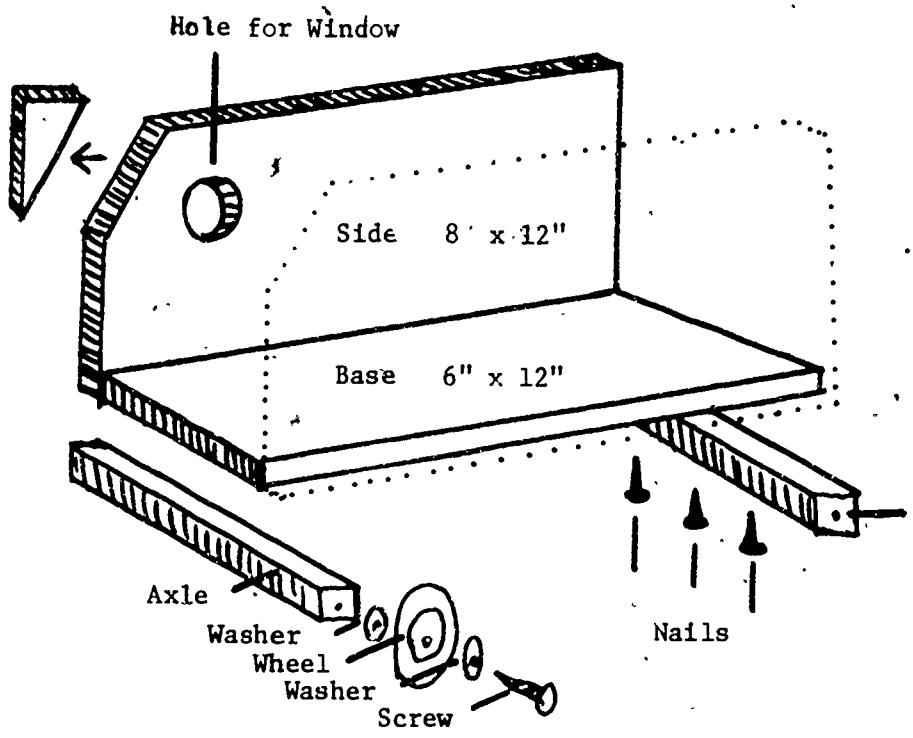
3. Nail the back piece of wood high, thus leaving a slot at the bottom for picking up mail.



4. Nail dowel legs through the bottom piece of wood before assembling the entire unit.

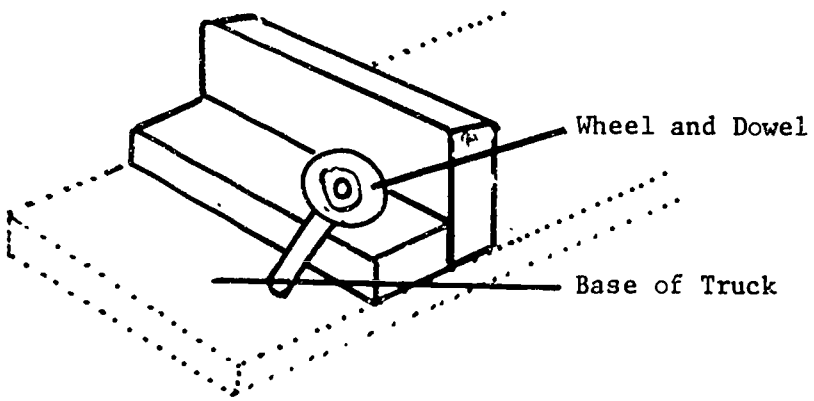
CONSTRUCTION OF A MAIL TRUCK

1. For the base of the truck cut a piece of 1" stock 6 inches by 12 inches. For the sides cut two pieces of 1/4" plywood 8 inches by 12 inches. Cut an angular corner from each of the side boards. The three boards will form the main body of the truck. Drill window holes before assembling. Use brads and glue to assemble this unit.



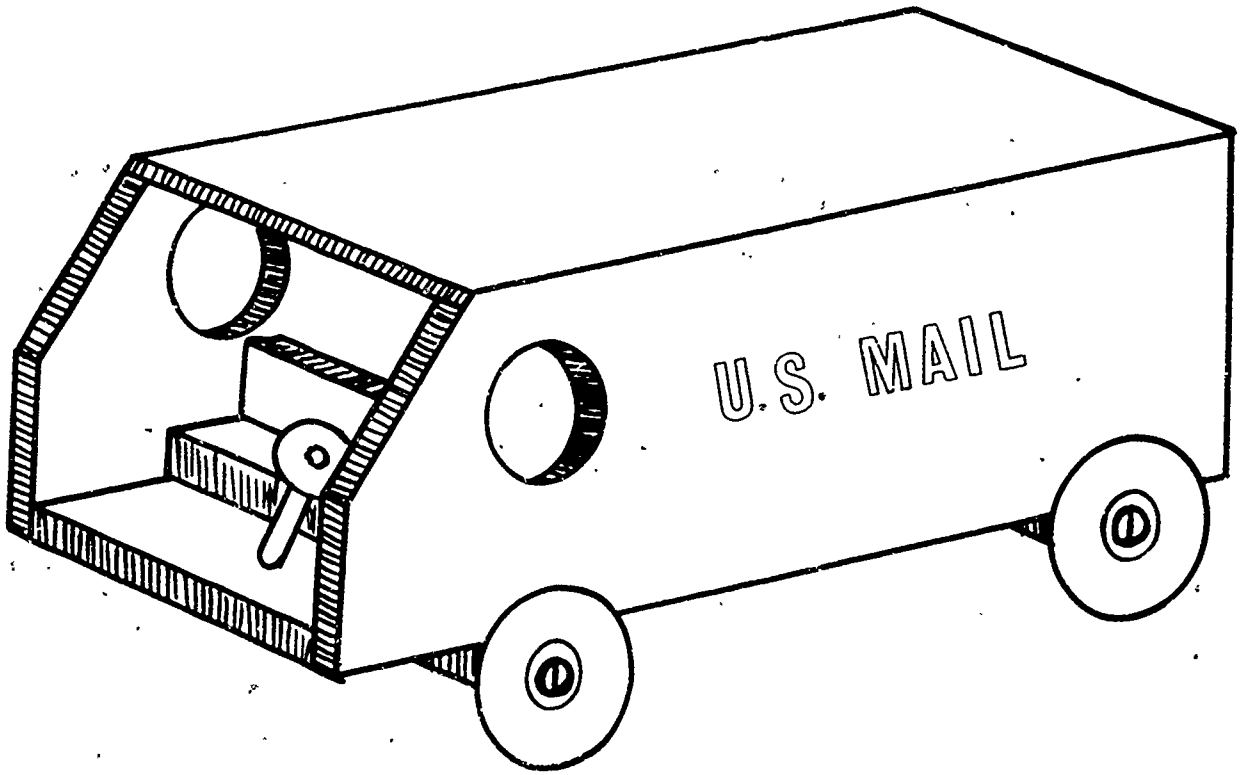
2. Cut two axles from 1" by 1" stock.

3. Make the seat of the truck from two pieces of 1" by 2" nailed edge to edge. For the steering wheel drill a 1/4" hole in the floor of the truck. Drive a piece of 1/4" dowel into this hole. Attach a button mold to the dowel for the steering wheel.



4. For the top of the truck cut a piece of 1/4" plywood 6 1/2 inches by 10 inches. Use brads and glue to attach the top to the sides of the truck. For the back door attach a piece of wood with leather or metal hinges.

5. The finished truck looks like this:



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Greene, Carla. I Want to Be a Postman. Chicago: Children's Press, 1958.

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Shay, Arthur. What Happens When You Mail a Letter. Chicago: Reilly and Lee Co., 1967.

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Available: U. of Ill. $3.40.

The Mailman. 2d ed. Encyclopaedia Britannica Educational Corporation, 1964. 11 min., sd., color, 16 mm.
Available: U. of Ill. $4.05.

The Modern Post Office. Film Associates of California and Wandia Visuals, 1967. 12 min., sd., color, 16 mm.
Available: U. of Ill. $4.65.

Postman...Rain or Shine. 2d ed. Charles Cahill and Associates, Inc., 1953. 14 min., sd., color, 16 mm.
Available: U. of Ill. $4.25.

Our Post Office. Encyclopaedia Britannica Educational Corporation, 1956. 11 min., sd., bw., 16 mm.
Available: Indiana U. $3.15.

Where Do Our Letters Go? Coronet Instructional Films, 1956. 11 min., sd., color, 16 mm.
Available: U. of Ill. $4.05.

FILM LOOPS

The Postman. Popular Science Publishing Co., Inc., 1967. 4 min., color, 8 mm. (Community Workers Series).

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Mr. Zip and the U. S. Mail. New York Times Book and Educational Division, Educational Enrichment Materials, Inc., 1969. 34 fr., color, and phonodisc part of 1 s., 12 in., 33 1/3 rpm., 5 min. (Community Helpers).

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WORKING in the SUPERMARKET

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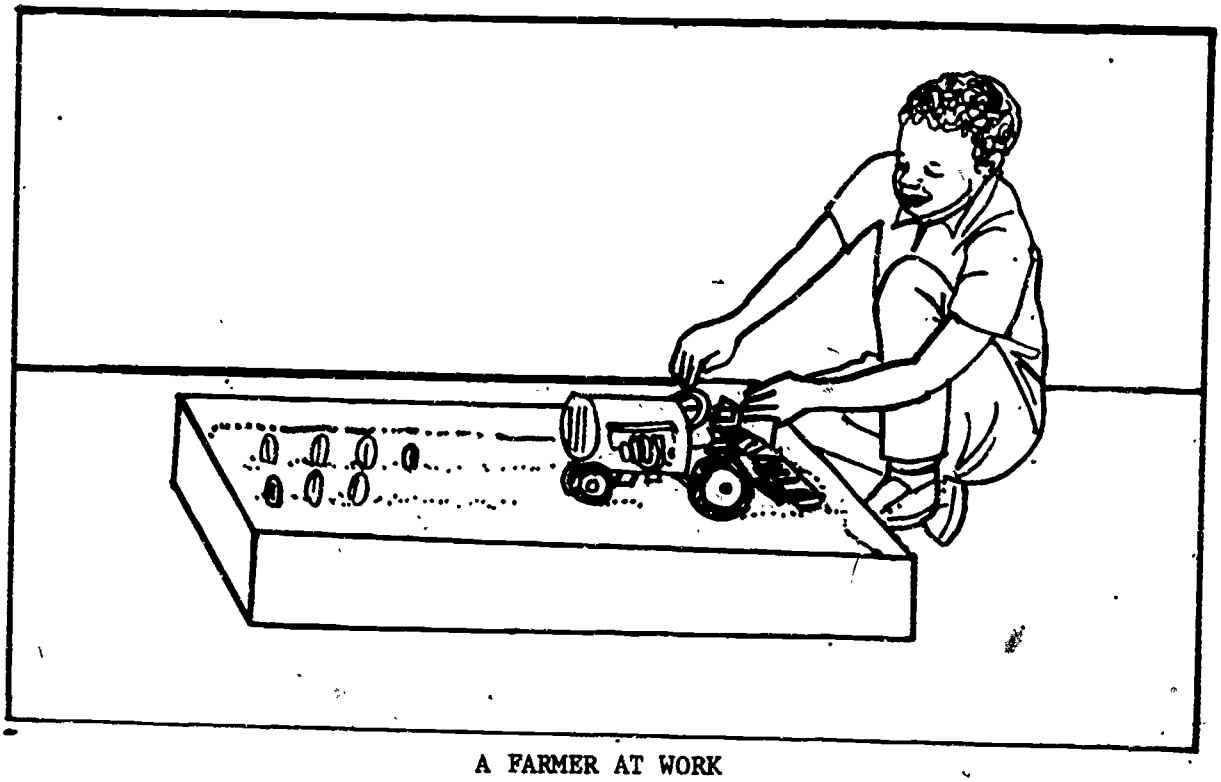
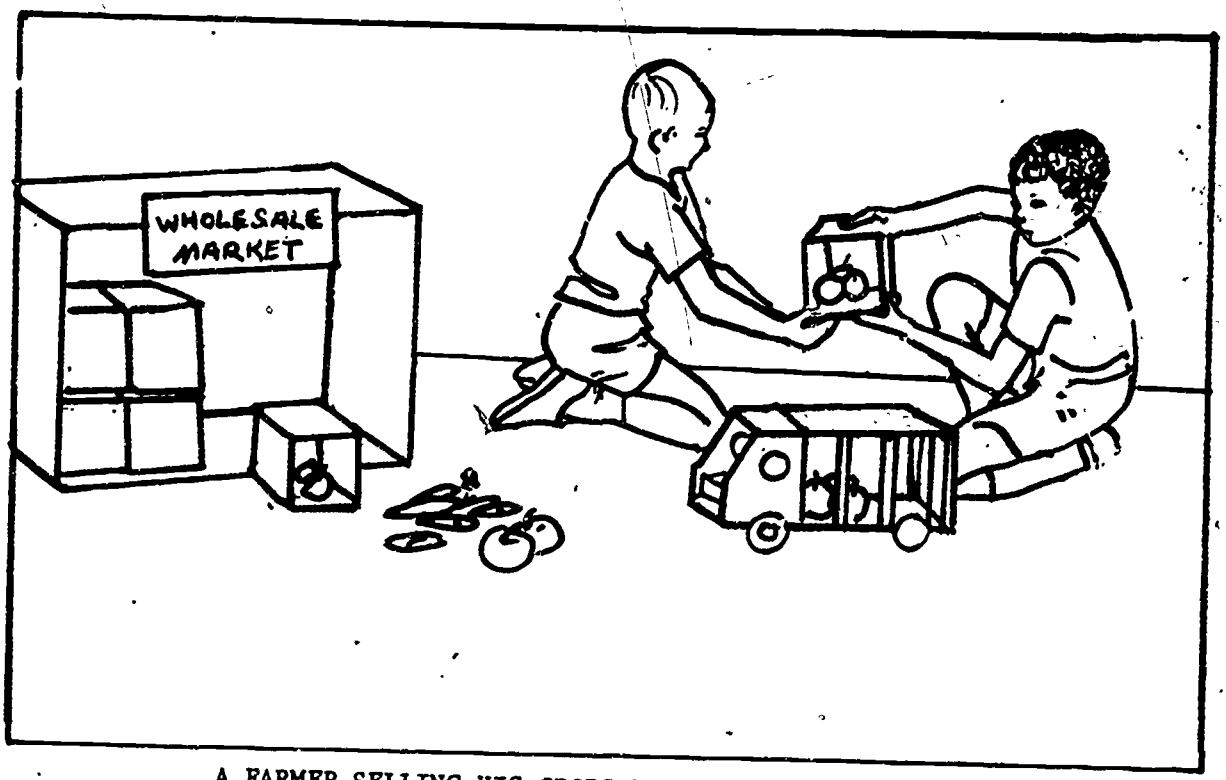


A FARMER AT WORK



A FARMER SELLING HIS CROPS TO THE WHOLESALE MARKET

DRAMATIC PLAY OF WORKERS IN THE SUPERMARKET AND IN RELATED OCCUPATIONS

Dramatic Play of Workers in the Supermarket

1. Bringing produce from the wholesale market
2. Helping truck drivers unload produce from trucks at the back of the supermarket; checking the produce
3. Sorting groceries, meat, produce, and other items; putting them in the right departments
4. Weighing produce on a scale
5. Wrapping produce and putting prices on the produce packages (i.e., using cardboard produce trays pupils have brought from home; wrapping the trays with saran wrap; writing a price on a strip of masking tape on each tray)
6. Weighing meat on a scale
7. Wrapping meat and putting prices on the meat packages (i.e., using cardboard meat trays pupils have brought from home; drawing pictures of meat, cutting out the pictures and pasting them on the trays; wrapping the trays with saran wrap; writing a price on a strip of masking tape on each tray)
8. Putting prices on other items sold in the supermarket
9. Making attractive displays of food
10. Selling groceries and other items to customers (i.e., adding up the total amount of the purchase, charging tax, making change)
11. Delivering food to customers
12. Depositing money from the supermarket in the bank
13. Making signs advertising items sold in the supermarket; putting the signs in the front of this store

Dramatic Play of Workers in Occupations Related to the Supermarket (i.e., the Truck Farm, the Wholesale Market, and Transportation Industries

1. Growing crops on the farm; planting seeds (pretend seeds) on paper or cloth soil on the floor or in a container filled with sand or dirt; using toy tractors, plows, and other toy farm machines on the "soil" (farmer)[1]

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[1] The teacher can have pupils plant real seeds in soil as part of the science experiences related to this study. However, in dramatic play pupils cannot wait for the crops to grow, so they use play produce to take to the wholesale market.

2. Loading crops onto a truck; driving the truck to the wholesale market (farmer)[1]
3. Selling produce to the wholesale market (farmer)
4. Using ships, trains, airplanes, trucks to get produce from other states and countries; bringing the produce in trucks or trains to the wholesale market (workers in transportation industries)
5. Inspecting produce in the wholesale market; throwing away produce that is not good (worker in the wholesale market and the U. S. Government Inspector)
6. Selling produce to buyers from supermarkets (worker in the wholesale market)
7. Loading produce onto trucks; driving trucks with produce to the supermarket (worker in the wholesale market)[2]

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[1]This list of dramatic play activities describes what was done in the Frank Porter Graham Project. Details vary from community to community concerning the following: (1) whether the farmer sells his crops at a roadside stand or directly to the wholesale market; (2) whether buyers from the wholesale market and/or supermarket come directly to the farm to buy the produce, or whether the farmer himself takes his produce to the wholesale market to sell it; (3) which workers load and unload the trucks at the wholesale market and supermarket; (4) which worker transports the produce from the wholesale market to the supermarket: whether it is a worker in the wholesale market or a worker in a trucking company. Each teacher will need to find out what happens at the farms, wholesale markets, and supermarkets in her community, so that the dramatic play will be authentic.

[2]The dramatic play of the related occupations could be much more detailed. However, in the Frank Porter Graham Project the main focus was on the supermarket. The related occupations were studied and dramatized briefly. For example, the farm and wholesale market were studied mainly as sources for the produce in the supermarket. Through the lessons and dramatic play, the teachers tried to develop the concept that produce is grown on farms, transported to the wholesale market, and from there to the supermarket and the consumer. Various intermediate sources, such as frozen food plants, fruit packing houses, and canneries, were not studied or dramatized in this project.

In the lessons preparing them for dramatic play, pupils were not taught the details about the various workers in each occupation related to the supermarket. For example, only one pupil was chosen to work in the wholesale market during dramatic play. This pupil did all the jobs associated with this market. Pupils were not taught about all the different workers in the wholesale market, such as the manager, buyer, loader, jobber, swamper. In a dramatic play project focusing mainly on the wholesale market, a different child could be chosen for each of these jobs.

INTERACTION OF WORKERS IN THE SUPERMARKET WITH WORKERS IN OTHER OCCUPATIONS IN THE COMMUNITY[1]

1. Workers in the supermarket wait on customers in various occupations in the community.
2. Workers in the supermarket interact with workers in the wholesale market who deliver produce to them.
3. Workers in the supermarket deliver food to customers in various occupations.
4. Workers in the supermarket interact with firemen when there is a fire or fire inspection in the supermarket.
5. Workers in the supermarket deposit money, cash checks, and get change in the bank.
6. Workers in the supermarket buy gasoline in the service station.
7. Workers in the supermarket take trips on the airplane.
8. Workers in the supermarket go to the restaurant.
9. Workers in the supermarket send their children to school.
10. Workers in the supermarket get physical examinations at the hospital.
11. Workers in the supermarket buy stamps, mail letters and packages in the post office.
12. Workers in the supermarket use police services.
13. Workers in the supermarket go to traffic court if they get tickets.

PROPS FOR DRAMATIC PLAY OF WORKERS IN THE SUPERMARKET AND IN RELATED OCCUPATIONS

Supermarket

1. A table or desks, bookcases or boxes for setting up the supermarket.
2. Empty containers, cartons, bottles, cans
3. Play fruit and vegetables (brought by pupils or purchased in a toy store)
4. Papier-mache or clay produce
5. Saran wrap, empty cardboard meat and produce trays
6. Paper, crayons, magic markers for making signs
7. Masking tape, magic markers for putting prices on items sold in the supermarket.
8. Scale
9. Cash register
10. Play money
11. Toy telephone
12. Delivery truck

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[1]Some of these interactions take place when supermarket workers are on duty. Other interactions (e.g., items 7, 8, 9, 10, 11) take place when a supermarket worker is on a break from his job or is off duty.

Workers on the farm, in the wholesale market and transportation industries also interact with other workers in the community, when they are on the job and when they are off duty. It is not necessary to specifically enumerate these interactions, since the above list is an example of the kinds of interactions that take place in the dramatic play community.

Farm

1. Play fruit and vegetables
2. Seeds
3. Dirt or sand in a large flat container; or paper or cloth on the floor to represent soil
4. Toy tractor, plow, and other toy farm machines
5. A few toy farm animals
6. Farm truck
7. Barn

Wholesale Market

1. Box to represent the wholesale market
2. Small containers, such as strawberry boxes, for the play produce
3. Truck
4. Play money

Transportation Industries

1. Ship
2. Blue paper on the floor for the harbor
3. Truck
4. Train
5. Airplane
6. Tagboard signs for various states and countries
7. Play produce

NOTE

Each teacher will not need to obtain every prop listed here. Each teacher should decide which props her particular pupils need in their dramatic play. Pupils will be able to bring some of the props from home. Directions for constructing a delivery truck, a farm truck, and a barn are found in this section of the guide.

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SUGGESTED CLASSROOM LESSONS AND ACTIVITIES RELATED TO DRAMATIC PLAY OF WORKERS IN THE SUPERMARKET AND IN RELATED OCCUPATIONS

The supermarket is one of the centers set up in the arranged environment to introduce the study of the community. The teacher uses desks or a table, bookcases or boxes to set up this market. She arranges empty containers, cartons, and bottles in a disorganized way on the shelves or boxes. As the children play in the market, some of them begin to organize the food into departments. When the teacher introduces lessons on the supermarket into the social studies program, she begins with more information on departments.

Lessons and Activities	Sources of Information and Comments
1. Learning about departments in the supermarket	
Looking at flat pictures which show different departments in the supermarket (e.g., frozen foods; snacks and candy; meat; dairy; produce)	Supermarket Helpers. S.V.E. pictures "Customer Service," "Packaging Produce," "Preparing Meat," "Store Dairy Manager"
Reading charts on films	Charts in this section of guide
Looking at films which show different departments in the supermarket	The Food Store Behind the Scenes at a Supermarket
Looking at filmstrips which show different departments in the supermarket	The Grocer Supermarket Workers
Looking at pictures in books of different departments	Pictures throughout these books: Bendick. The First Book of Supermarkets Goodspeed. Let's Go to a Supermarket Pope. Your World, Let's Go to the Supermarket

NOTE

No teacher is expected to teach all of the lessons and activities nor use all of the films and books included in this section. EACH TEACHER WILL CHOOSE THE LESSONS AND MATERIALS HER PARTICULAR PUPILS NEED. These lessons precede or follow the dramatic play. The children will participate in dramatic play at least once a week, and the teacher will plan some lessons and activities for the other days she has social studies. The purpose of these lessons is to give pupils information needed for effective play. As pupils gain more information, their play will become more involved, and they will portray more of the activities of workers in the supermarket and related occupations. The lessons will not necessarily occur in the sequence presented here.

Lessons and Activities	Sources of Information and Comments
Deciding which departments to put in the dramatic play supermarket (e.g., frozen foods; coffee and tea; cookies, crackers, and snacks; canned soups; meat; dairy; produce; soap); making labels to put on shelves for these departments	
Bringing in more empty containers, boxes, bottles, cans, and cartons for the supermarket; sorting them into various categories or departments found in the supermarket	
Bringing in cardboard meat trays; drawing pictures of meat and pasting pictures onto the trays for the meat department; wrapping meat trays with saran wrap	
Discussing items other than food sold in the supermarket (e.g., soaps, magazines, cooking utensils, dishes, sewing supplies, paper supplies, cosmetics)	
Looking through magazines; cutting out pictures of various foods and items sold in the supermarket; categorizing the pictures into departments and making a mural or book of various departments in the supermarket	
Cutting our pictures on teacher-prepared dittos of foods and other items sold in the supermarket; sorting the pictures and pasting them on papers divided into sections representing different departments in the supermarket	
Drawing pictures of the different departments in the supermarket	

As pupils set up the departments in the supermarket, they complain that they don't have any produce.

2. Making produce for the supermarket

Looking at real produce and deciding which produce to make	

Lessons and Activities	Sources of Information and Comments
Making papier-mache produce; putting rocks inside the papier-mache produce so that it can be weighed in the market in dramatic play	
Making clay produce instead of papier-mache produce (if firing is not possible, mixing glue in clay before making fruits and vegetables)	
Painting produce	
In addition to papier-mache or clay produce, bringing in play fruits and vegetables purchased at toy stores	
Learning that produce buyers in the real supermarket buy some produce directly from nearby farms and orchards and some produce from wholesale markets in the area	Goodspeed. Let's Go to a Supermarket, pp. 18-19 Information on back of flat picture "Packaging Produce," from Supermarket Helpers. S.V.E. picture set
3. Learning about farmers growing vegetables and fruits[1]	
Looking at one or more films that show the process whereby the farmer grows fruits and vegetables	Food for the City: Produce Truck Farm From Truck Farm to Store
Learning that airplanes dust the crops	
Learning that trucks and trains take some fresh fruit and vegetables to other parts of the country	
Learning that some farmers take their crops by truck to the wholesale market	
Looking at one or more filmstrips on farms	The Story of Fruits and Vegetables Truck Farming Living on a Farm
Learning that some farmers sell their crops at a roadside stand; looking at a	

[1] In the Frank Porter Graham Project a small farm and wholesale market were set up in dramatic play mainly to show pupils the sources of the produce in the supermarket. Only a few books, filmstrips, and films on the farm and wholesale market are listed in this guide, since these topics were studied only briefly in this project. This curriculum guide does not include an entire unit on the farm and wholesale market. The teacher can obtain complete curriculum guides on these topics, if she wishes to teach more about them.

Lessons and Activities	Sources of Information and Comments
picture of a roadside stand in a book and in the filmstrip Living on a Farm	Lenski. The Little Farm, p. 32
Learning about the machines the farmer uses	
Listening to the teacher read about machines on the farm (e.g., tractor, manure spreader, plow, harrow, cultivator); looking at pictures of machines in books	Lenski. The Little Farm, pp. 18-25 Nathan. I Know a Farmer, pp. 21-23, 30-31 Sootin. Let's Go to a Farm, pp. 17-24
Bringing in toy tractors, plows, and other farm machines for use in the dramatic play farm	
Learning about animals on the farm[1]	
Looking at a film and a filmstrip	Farm Animals (filmstrip) One Day on the Farm (film)
Reading or listening to the teacher read one or more books on the farm	See books listed in the bibliography in this section, and other books on the farm found in the library.
Deciding to set up a farm and a wholesale market in dramatic play	
Putting dirt or sand in a large flat container for crops in dramatic play; bringing some "seeds" to plant in dramatic play; using toy farm machines brought by the children; using play food for crops, either purchased in toy stores or brought by children; adding a truck and a barn with a few toy farm animals	
Setting up a box for the wholesale market with small containers for the produce	

(continued)

[1] In the Frank Porter Graham Project, the dramatic play farm mainly featured the growing of vegetables. A barn and a few animals, for the farmer's personal use, were included as props in dramatic play. The Frank Porter Graham Project did not include the study of the dairy, although the teacher could, if she wishes, include a dairy in the dramatic play community, and teach about dairy workers and the process of getting milk to the supermarket.

Lessons and Activities	Sources of Information and Comments
brought by the farmer; adding a truck and play money	
4. Learning about the wholesale market	
Learning that the farmers bring fresh vegetables and fruits in trucks to the wholesale market	
Looking at films which show farmers bringing fresh vegetables and fruits in trucks to the farmers' market or the wholesale market	Food for the City: Produce Truck Farm From Truck Farm to Store The Story of the Wholesale Market
Learning that not all produce is obtained locally; that much produce comes to the wholesale market from other states and countries and is brought by truck, train, ship, and airplane (e.g., potatoes from Idaho, apples from Washington, bananas from Central America, oranges and other citrus fruit from Florida)	Greene. I Want to Be a Storekeeper, pp. 12-15, 22 Goodspeed. Let's Go to a Supermarket, pp. 19-21 Henroid. I Know a Grocer, pp. 38-39
Looking at pictures in books of ships, trucks, and trains that carry produce from other states and countries	Cameron. The Big Book of Real Trains, pp. 20-21 Hamilton. The First Book of Trains, p. 8 Talmadge. Let's Go to a Truck Terminal, p. 29 Zaffo. The Big Book of Real Boats and Ships, p. 8
Looking at parts of filmstrips which show that fresh fruits, vegetables, and other food come from long distances on trucks, trains, and airplanes	Our Food and Clothing The Story of Fruits and Vegetables

In dramatic play pupils can dramatize getting produce from other states and countries. Pupils can pretend that different places inside or outside of the classroom dramatic play area represent different countries or states. The teacher or pupils can make tagboard signs of the names of countries and states, and place these signs on the wall with play produce in front of them. For example, the teacher or pupils can place play apples by the tagboard sign "Washington;" play oranges and lemons by the sign "Florida;" play bananas by the sign "Guatemala;" play pineapples by the sign "Hawaii." Pupils can put blue paper to represent harbors on the floor or ground, and the toy ships can bring produce from Guatemala and Hawaii back to the harbor in the United States. At the harbor pupils can load a truck with pineapples and bananas, and the truck can take this produce to the wholesale market.

Lessons and Activities	Sources or Information and Comments

Pupils can also dramatize a truck or train getting apples from Washington and citrus fruit from Florida and taking them to the wholesale market. (In Raleigh trains go right by the wholesale market.) Pupils can also dramatize an airplane getting produce from different areas, and landing at the home airport. At the airport pupils can load a truck with the produce and take it to the wholesale market.

Learning from a film that sometimes the U. S. Government Inspector looks at produce in the wholesale market to make certain it is not diseased	The Story of the Wholesale Market
Making a form for the inspection of produce in the dramatic play wholesale market	Sample form in this section of guide
Learning that grocers and buyers from the supermarket come to the wholesale market and buy produce	Bendick. The First Book of Supermarkets, p. 9 Greene. I Want to Be a Storekeeper, p. 22

5. Learning more about various trucks which bring produce, groceries, and other items to the supermarket

Looking at pictures of trucks in filmstrips	The Grocer Supermarket Helpers
Looking at pictures of trucks in books	Bendick. The First Book of Supermarkets, pp. 10-11 Goodspeed. Let's Go to a Supermarket, p. 31 Greene. Truck Drivers, What Do They Do? pp. 32-33 Henroid. I Know a Grocer, pp. 16, 23, 31 Preston. Greenfield and Far Away, pp. 37-38
Noting pictures in Preston of workers unloading a truck at the rear of the supermarket	
Deciding to load a truck with produce at the wholesale market in dramatic play, and to unload this truck at the rear of the supermarket	

As pupils play in the supermarket, the teacher notices that they don't know how much to charge for the various items.

6. Learning about prices of food and other items sold in the supermarket

Lessons and Activities	Sources of Information and Comments
Looking at a flat picture of a clerk putting prices on stock	Supermarket Helpers. S.V.E. picture "Stocking Shelves"
Looking at a picture in a book of a stock clerk marking prices on boxes of cereal	Pope. Your World, Let's Go to the Supermarket, p. 24
Bringing in local newspaper advertisements of food; noting prices on food	
Noting prices when they go to the supermarket with their mother or another adult	
Discussing some of the factors the store manager considers in deciding prices (e.g., prices charged by the competition; prices needed to make a profit; prices as means of attracting customers)	
Deciding on prices of food and other items in the supermarket in dramatic play; using a magic marker and masking tape strips to put prices on containers, bottles, cartons, and cans in the supermarket	

As pupils put prices on items in the supermarket, some pupils mention charging tax.

7. Discussing tax

Looking at a film which shows the use of taxes in the community (e.g., paying for the police station, street lights, parks and playground equipment)	What Our Town Does for Us
Discussing workers in the community paid with tax money (e.g., policemen, firemen, librarians)	
Reading a teacher-prepared chart on tax	Chart in this section of guide
Deciding to charge tax in the supermarket in dramatic play; deciding to charge 2 cents tax on every item[1]	

[1] The teachers in the Frank Porter Graham Project decided not to introduce a tax table, since it was too difficult for many primary pupils.

Lessons and Activities	Sources of Information and Comments
Dramatizing a customer buying an item in the supermarket; paying the price marked on the item plus two cents tax; choosing a cashier and customer	Suggested props: some cartons and containers from the supermarket; play money, cash register

As the teacher observes the dramatic play, she notes that the pupils have difficulty making correct change.

8. Learning about making change

Looking at a flat picture of a checker at the cash register	Supermarket Helpers. S.V.E. picture "Checking Out an Order"
Looking at pictures in books of a checker or cashier at the cash register	Bendick. The First Book of Supermarkets, p. 33 Henroid. I Know a Grocer, p. 46 Pope. Your World, Let's Go to the Supermarket, p. 29
Learning how to use the toy cash register	
Learning about various coins; participating in arithmetic lessons on making change	Using play money in lessons; referring to lessons on money in arithmetic books used in local school district
Dramatizing a customer buying an item in the supermarket, paying for it and receiving change; choosing a clerk and a customer	Suggested props: some containers and cartons from the supermarket; cash register, play money

9. Learning about various workers in the supermarket

Looking at workers pictured in films	Behind the Scenes at a Supermarket The Food Store
Looking at workers pictured in a filmstrip	Supermarket Helpers
Looking at flat pictures of various workers	Supermarket Helpers. S.V.E. pictures "Checking Out an Order," "Packaging Produce," "Preparing Meat," "Serving Produce Customers," "Stocking Shelves," "Store Dairy Manager," "Unloading Products"

Lessons and Activities	Sources of Information and Comments
Reading or listening to the teacher read about workers in one or more books; looking at workers pictured in books (e.g., manager, stock clerk, price marker, checker or cashier, bagger, carryout boy, butcher)	Bendick. The First Book of Supermarkets, pp. 14-16, 38-39 Workers pictured throughout these books: Goodspeed. Let's Go to a Supermarket Pope. Your World, Let's Go to the Supermarket
Deciding which workers they need in their supermarket (e.g., manager, stock clerk, cashier, delivery boy, meat cutter, meat wrapper); discussing the duties of the different workers; deciding that since the dramatic play store is small, one person will have several jobs	
Learning that at night the store manager deposits the money from the cash registers in the bank	Bendick. The First Book of Supermarkets, p. 39

As the teacher observes the dramatic play, she notices that most pupils do not know how to use the scale and that some pupils are weighing boxes and jars on the scale.

10. Learning about measurement in the market and how to use a scale

- Viewing part of a film	Measurement in the Food Store (This film is for intermediate grades, but primary pupils can understand the first part of it.)
Learning that produce is weighed on the scale; learning how to use the scale	
Looking at a flat picture of a produce manager weighing produce on a scale	Supermarket Helpers. S.V.E. picture "Serving Produce Customers"
Weighing real produce; figuring out the cost by pound	
Weighing papier-mache and clay produce in the dramatic play supermarket; figuring out the cost by pound	

Lessons and Activities	Sources of Information and Comments
Looking at pictures of pint, quart, and gallon milk cartons	Supermarket Helpers. S.V.E. picture "Store Dairy Manager" Pope. Your World, Let's Go to the Supermarket, pp. 18-19
Bringing in milk cartons of various sizes, and learning about half pints, pints, quarts, half gallons, and gallons	
11. Taking a trip to the supermarket	
Listening to the teacher read a book before the trip	Pope. Your World, Let's Go to the Supermarket
Discussing various parts of the supermarket, such as the checkout counter, storeroom, unloading platform, and different departments	
Reading a chart before the trip	Sample chart in this section of guide
Taking the trip and looking at various departments in the store; noting sale signs, scales, prices, cash registers, various workers; looking at the storeroom and, if possible, watching workers unload food from trucks	Sample checklist in this section of guide
On return from the trip, writing thank-you letters or stories; making pictures or a mural	
Discussing the supermarket trip in terms of what they need in their dramatic play supermarket	
In the post-play discussions pupils often complain that few customers come to the store.	
12. Solving the problem of how to attract customers to the dramatic play supermarket	
Making hypotheses concerning what will attract customers to the dramatic play supermarket (e.g., having sales; making sale signs; giving food stamps; advertising)	Sample chart in this section of guide
Testing the hypotheses (e.g., making signs and advertisements for the supermarket; checking if these signs and advertisements result in more customers)	Sample pictures of signs in Goodspeed, pp. 4-7

SAMPLE SPELLING WORDS

1. market
2. supermarket
3. store
4. manager
5. classify
6. department
7. meat
8. produce
9. candy
10. scale
11. checker
12. cash register

Sample charts to be read before films

Film: Behind the Scenes at a Supermarket

Trucks bring food to the back of the supermarket.
The produce truck brings vegetables and fruit.
Vegetables and fruit are cleaned in the store.

A truck brings canned foods.
Canned foods are kept in a storage room.
Prices are put on cans before they are put on shelves.

A truck brings frozen food.
Frozen food is kept in a cold room.

Meat is kept in a cold room.
Meat is cut in the meat cutting room.
Meat is wrapped and weighed.

Who works in the market?
- A manager
- A cashier or checker
- Stock clerks
- Meat cutters

Signs are made for sales.
What do we need in our supermarket in our community?

Film: Food for the City: Produce

Fruits and vegetables are called produce.

The farmer plants seeds.
When it is time, the farmer harvests his crops.
The farmer takes much of his fresh produce to the wholesale market.

Sometimes produce, such as carrots, are taken to a processing plant.
At the processing plant, some of the carrots are washed and sliced.
They are frozen and sealed bags.
Some of the whole fresh carrots are put into bags.
The carrots in the bags are weighed.
The processing company sends the carrots in bags to the wholesale market.

Buyers from large grocery stores come to the wholesale market.
They buy produce to sell in their stores.

Sample chart to be read before film

Film: The Food Store

A boy and girl go shopping with their mother.
They have a shopping list.
They go to the canned food department.
There are prices on the shelves.
There are prices on cans.

They go to the dairy department.
What can they buy in the dairy department?

They go to the meat department.
There is a storage room for the meat.
The grocer weighs the meat.
He wraps it in plastic and puts a price on it.

They go to the produce department.
The grocer weighs the produce.
He wraps it in plastic and puts a price on it.

They go to the frozen food department.
Do they go to other departments in the store?

The cashier or checker checks out the food and makes change.
Who else works in the store?

Outside the store there is the sign "parcel pick-up."
Where else do we use the word "parcel" in our community?

We need a meat department.
We need prices.
We need to weigh our produce.
What else do we need in our store?

Sample charts to be read before films

Film: Measurement in the Food Store[1]

Mother, Father, Jim, and Sue go to the store.
See the signs in the store.
Jim and Sue are going to have a party.

They weigh the produce.
They see if the melons are large or small.
They weigh the potatoes.
They use a scale and find out how many pounds the potatoes weigh.

They buy oranges by the dozen.
How many oranges are there in a dozen?
Sometimes they buy oranges by the pound.

Film: One Day on the Farm

Daisy the cow is missing.
Kenny goes to look for Daisy.
Daisy is going to have a calf.

Father milks the cows with an electric milking machine.
The milk truck comes to pick up the milk to take to the city.
Milk is bottled, made into ice cream and cheese in the city.

The cows go back to the pasture.
Mrs. Lane feeds the chickens and gathers eggs.

Farmer Lane takes hay to the pasture.
Corn is cut to feed the cows during the winter.

Daisy has her calf.

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[1]This film is for intermediate grades, but primary pupils can understand the first few minutes of it. This chart refers only to the first part of the film.

Sample charts to be read before films

Film: The Story of the Wholesale Market

All night big trucks bring produce from the farm to the city.
These trucks take produce to the wholesale market.
Very early in the morning trucks bring tomatoes, corn, lettuce, potatoes, apples, and other produce to the wholesale market.
The U. S. Government Inspector looks at the produce to make sure it has no disease.

Men come from grocery stores to buy the produce.
Trucks are loaded with produce for the grocery stores.
Ice is put on the produce to keep it cold.

The wholesale market has its own sanitation department to clean the market.

Film: The Truck Farm

Vegetables are raised on a truck farm.
Work begins early in the morning.
The farmer milks the cow.

A tractor is the most important machine on the truck farm.
It gets the soil ready for planting vegetables.
The farmer uses the tractor to fertilize the soil.
He dusts crops with chemicals.

Plants need water and sunshine.

The farmer harvests his vegetables.
He takes fresh vegetables to the farmers' market.
The farmers' market is another name for a wholesale market.
Grocers buy fresh produce there.

Some fresh vegetables travel by truck and train to other parts of the country.
Some vegetables are made into canned foods.
Some vegetables are made into frozen foods.

Sample charts to be read before films

Film: From Truck Farm to Store

A truck farm grows fruits and vegetables.

The farmer plows the soil.
He puts in fertilizer.
He plants seeds and small plants.
He puts water on the plants.
He sprays the plants to protect them from disease.
Some airplanes dust crops.

Fruits and vegetables are put on trucks and trains.
They are taken to the wholesale market.

Trucks take fruits and vegetables to the stores.
People buy the fruits and vegetables.

Film: What Our Town Does for Us

The government makes money by taxing people.

Billy pays $1.00 for a license tag for his bike.
The $1.00 is a tax.
We all pay taxes.
Where do we pay taxes in our community?
We pay taxes in the supermarket in our community.

Taxes pay for cleaning streets.
Taxes pay for repairing streets and putting in new streets.

Taxes pay for all the fire equipment.
Taxes pay for the firemen.

Taxes pay for water pipes.
Taxes pay for street lights.

Taxes pay for policemen.
Taxes pay for the police station.

Taxes pay for parks.
Taxes pay for repairing swings and for other playground equipment.

Taxes pay for the mayor.

Sample charts prepared by the
teacher or dictated by pupils

Our Trip to Byrd's Food Center

We will see signs in front of the store.
We will see four cash registers and scales at the checkout counters.

What departments will we see?

We will see these departments:

1. produce (apples, lettuce, tomatoes, carrots, etc.)
2. canned juices
3. canned soups
4. cookies, crackers, and snacks
5. dairy (milk, eggs, cheese, butter, etc.)
6. frozen foods
7. coffee and tea
8. meat
9. candy
10. school supplies

Are there other departments we will see?

Problem: What Can We Do to Get More Customers in Our Store?[1]

1. We can have a big sale--Laurin
2. We can advertise in a newspaper--Wade
3. We can make some signs such as:

BIG SALE or STORE AHEAD --Jonathan

4. We can make arrows to the store--Michael

[1]This chart was produced in a problem-solving lesson.

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Sample chart prepared by the
teacher or dictated by pupils

Tax

We will pay tax at our store.
We will pay 2¢ tax when we buy food and other things at the store.
Frozen orange juice costs 10¢.
Tax is 2¢.
How much will we pay for the orange juice?

We will pay 2¢ tax at the restaurant.
We will pay 2¢ tax at the service station.
We will use the tax money to pay for the mayor, the librarian, the policemen, and the firemen.

Sample checklist
for field trip

TRIP TO THE SUPERMARKET

1. signs _____
2. prices _____
3. scale _____
4. produce department _____
5. dairy department _____
6. meat department _____
7. frozen food department _____
8. candy department _____
9. coffee, tea department _____
10. cookies, crackers department _____
11. stock clerk _____
12. cashier _____
13. manager _____
14. trucks _____
15. storeroom _____

Form to be used
in dramatic play

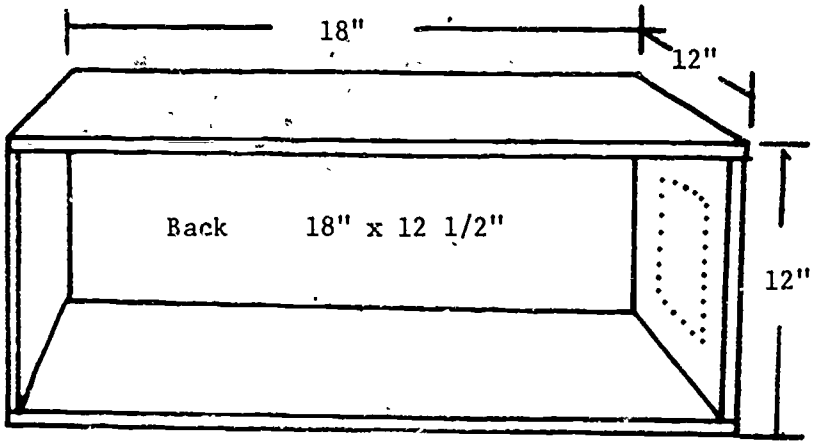
WHOLESALE MARKET[1]

	Good	Bad
1. apples		
2. carrots		
3. onions		
4. beans		
5. potatoes		
6.		
7.		
8.		
9.		

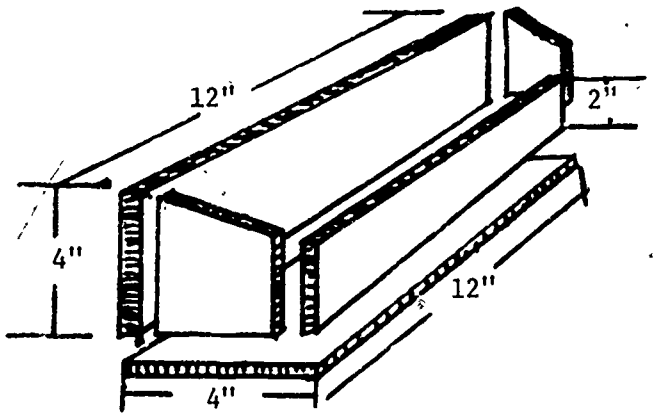
[1]In dramatic play a worker in the wholesale market or the U. S. Government Inspector inspects the produce, and then marks whether it is "good" or "bad" on this form.

CONSTRUCTION OF SMALL STORE WITH COUNTER SPACE[1]

1. Use 1/4" plywood to make a box with one side open. When making the back end, always allow for the thickness of the top and bottom boards, since the back end is nailed over these boards. Therefore, the back end will be 12 and 1/2 inches rather than 12 inches in height, since the top and bottom boards are each 1/4" thick.

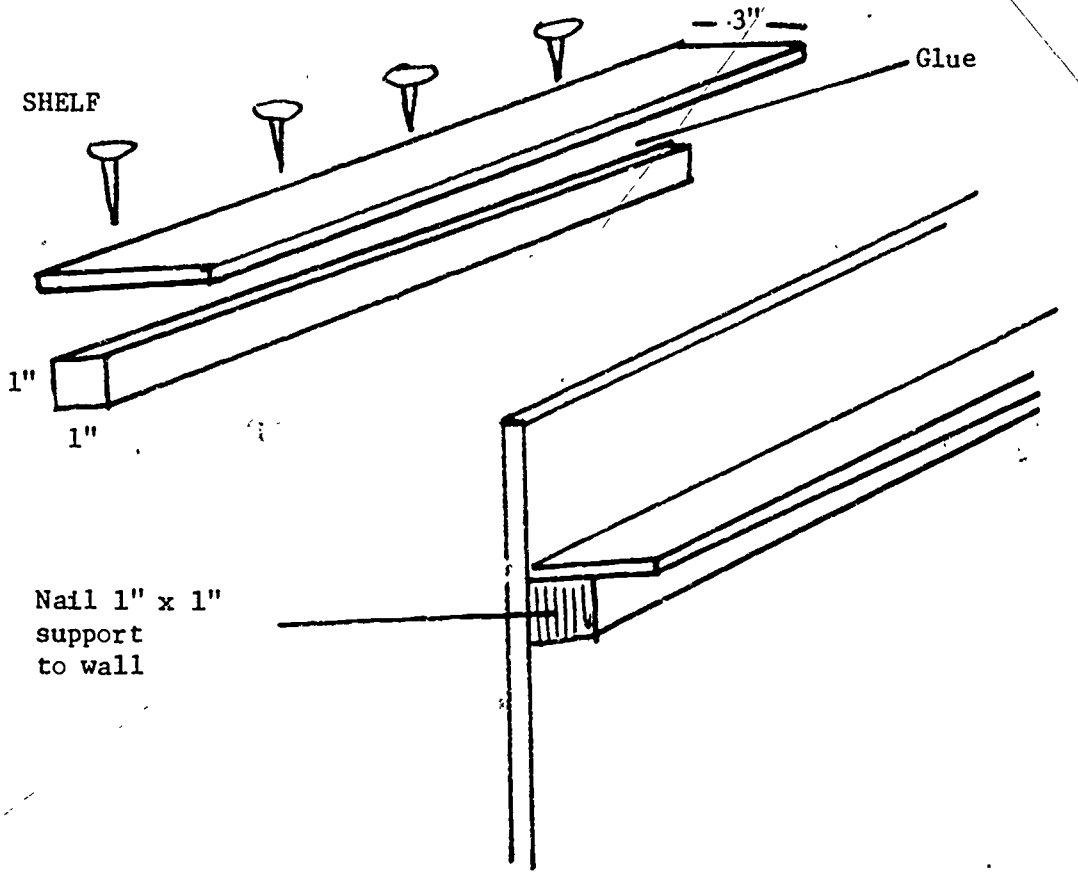


2. Make three counters. The size of these counters should conform to the dimensions of the store. Put one counter at each short end and the third counter at the back of the store.

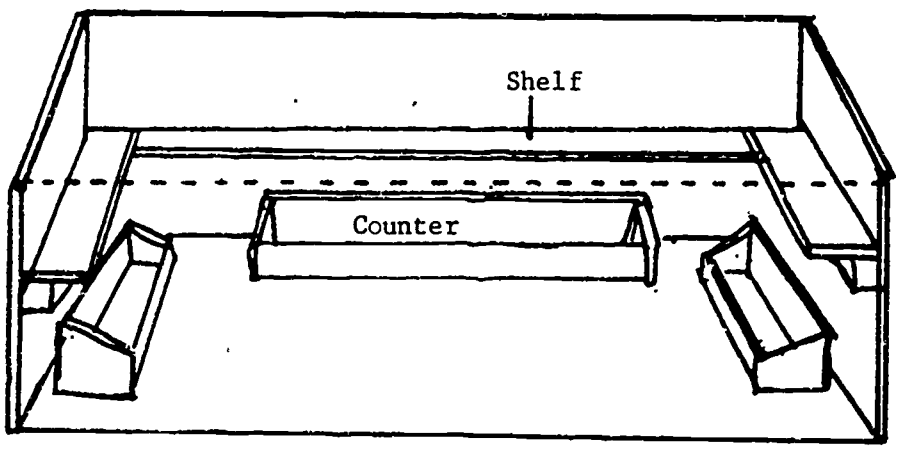


[1] If there is not room for a large store for dramatic play in the self-contained classroom, this small store can be constructed.

3. Make a row of shelves on the inside three walls. To make each shelf use a piece of 1/4" plywood, cut 3 inches wide and the length of the inside wall to which it will be attached. Nail each shelf to a piece of 1" x 1" of the same length. Nail each 1" x 1" to a wall as a support for the shelf.



Top can be left off.



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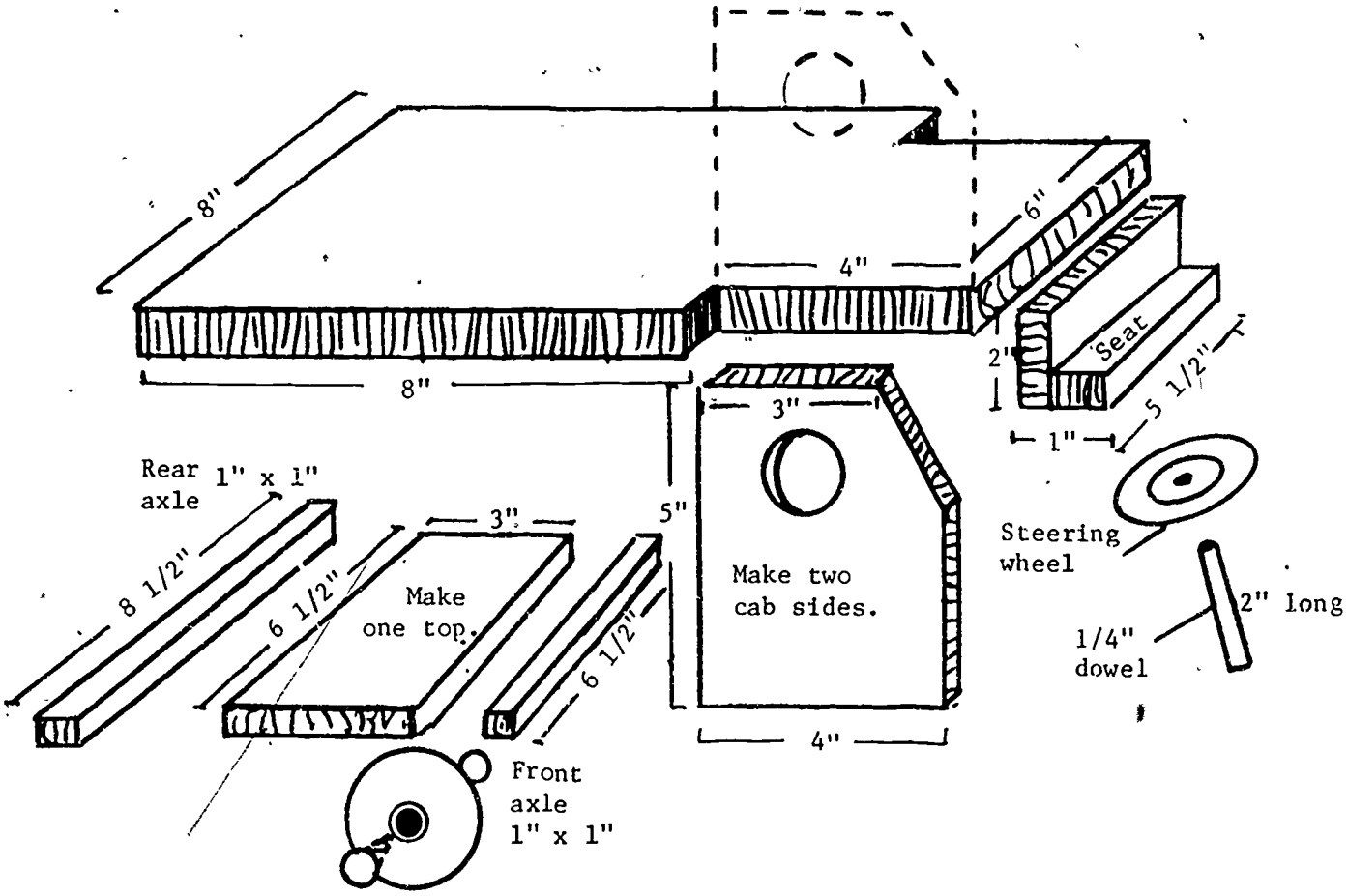
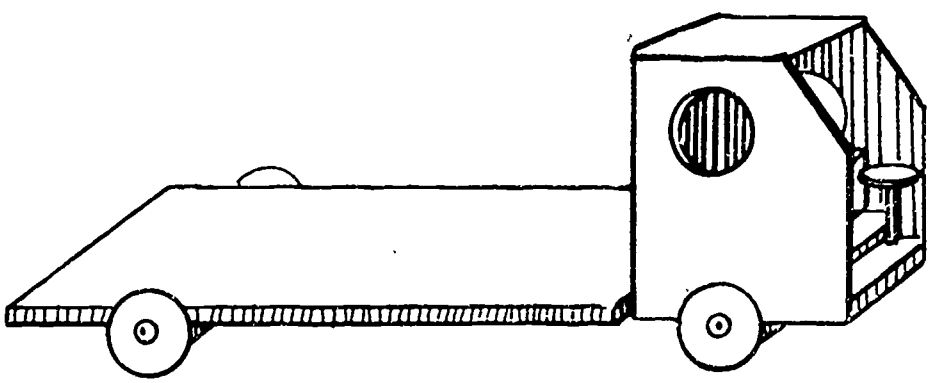
CONSTRUCTION OF A DELIVERY TRUCK

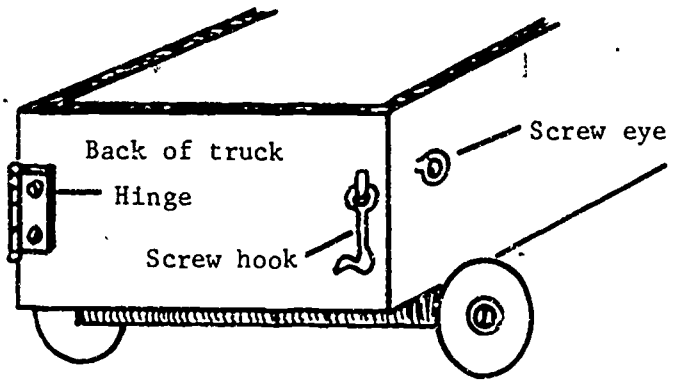
1. Make the bed and cab first. Cut a piece of 1" x 8" wood 12 inches long. At one end of this board cut out a section 1" x 4" from each side, leaving the end 6 inches wide. The cab will be put at this end. The sides and top of the cab are made of 1/4" plywood.

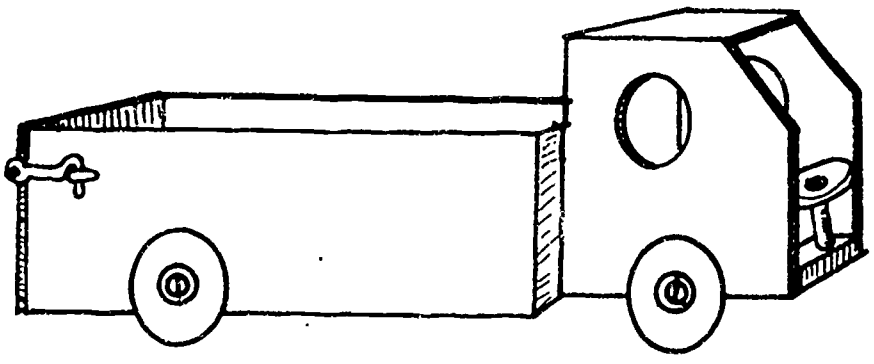


2. The assembled bed and cab of the truck look like this:



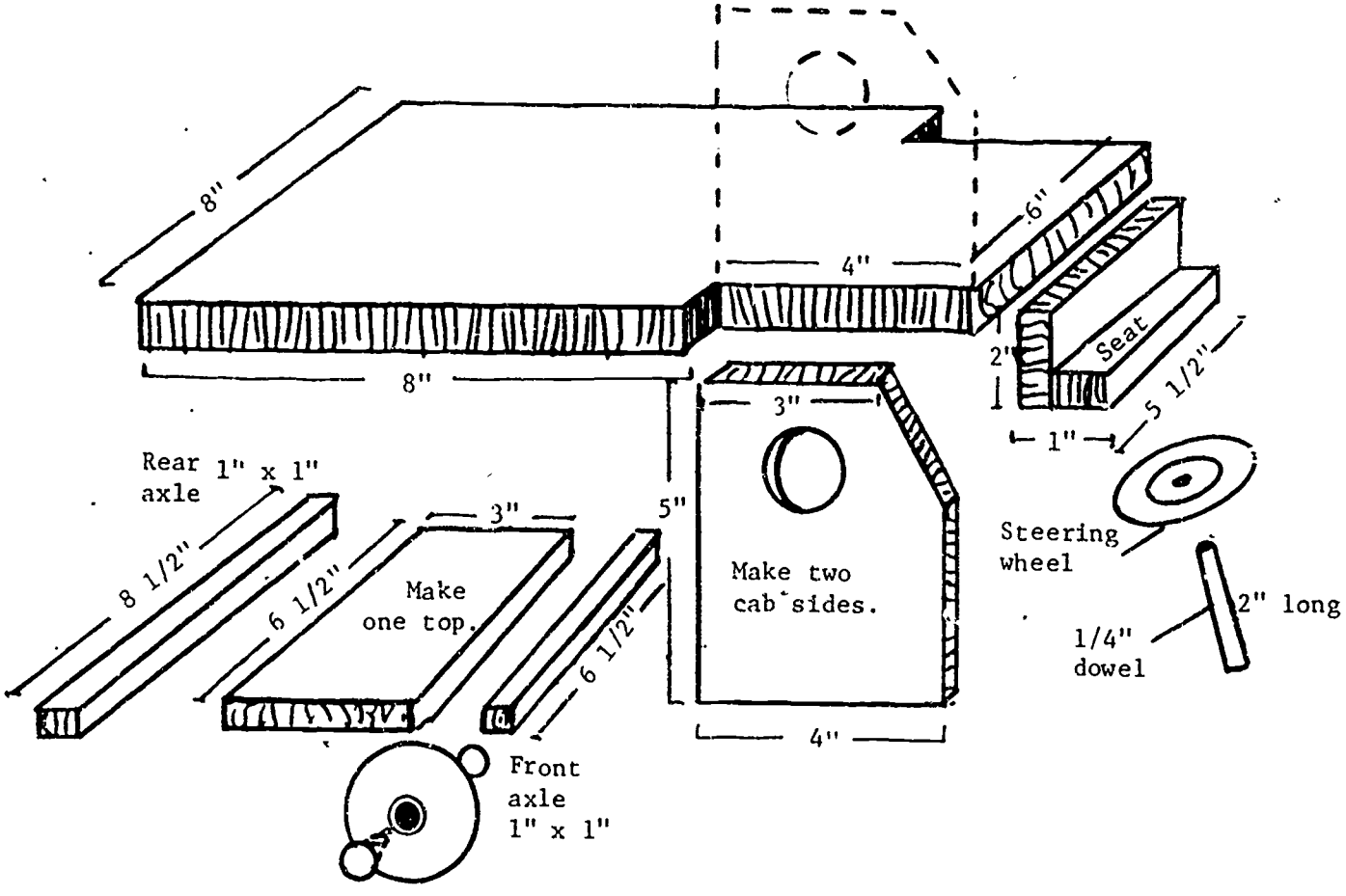
3. Make the sides of 1/4" plywood. Cut this plywood 8 inches long and 4 inches wide. Nail the sides to the bed of the truck. Glue before nailing. Make the back door of 1/4" plywood. Attach the door with leather or metal hinges. Attach a screw eye and hook to close the door.



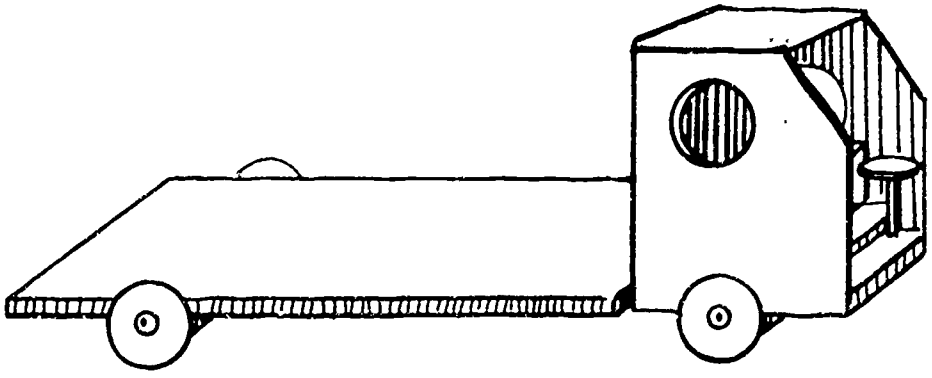


CONSTRUCTION OF A FARM TRUCK

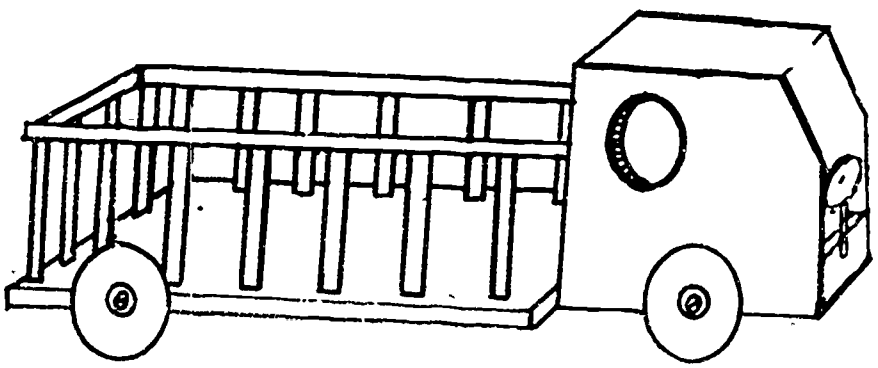
1. Make the bed and cab first. Cut a piece of 1" x 8" wood 12 inches long. At one end of this board cut out a section 1" x 4" from each side, leaving the end 6 inches wide. The cab will be put at this end. The sides and top of the cab are made of 1/4" plywood.



2. The assembled bed and cab of the truck look like this:



3. Make the sides and back end of 1/4" dowel rods. The top rail is made of 1" x 1" cut to the proper dimensions. Drill holes 1 inch apart in the top rail. Hammer in the 1/4" dowel rods. Then drill holes 1 inch apart in the bed of the truck and hammer in the dowel rods which have been attached to the top rail.



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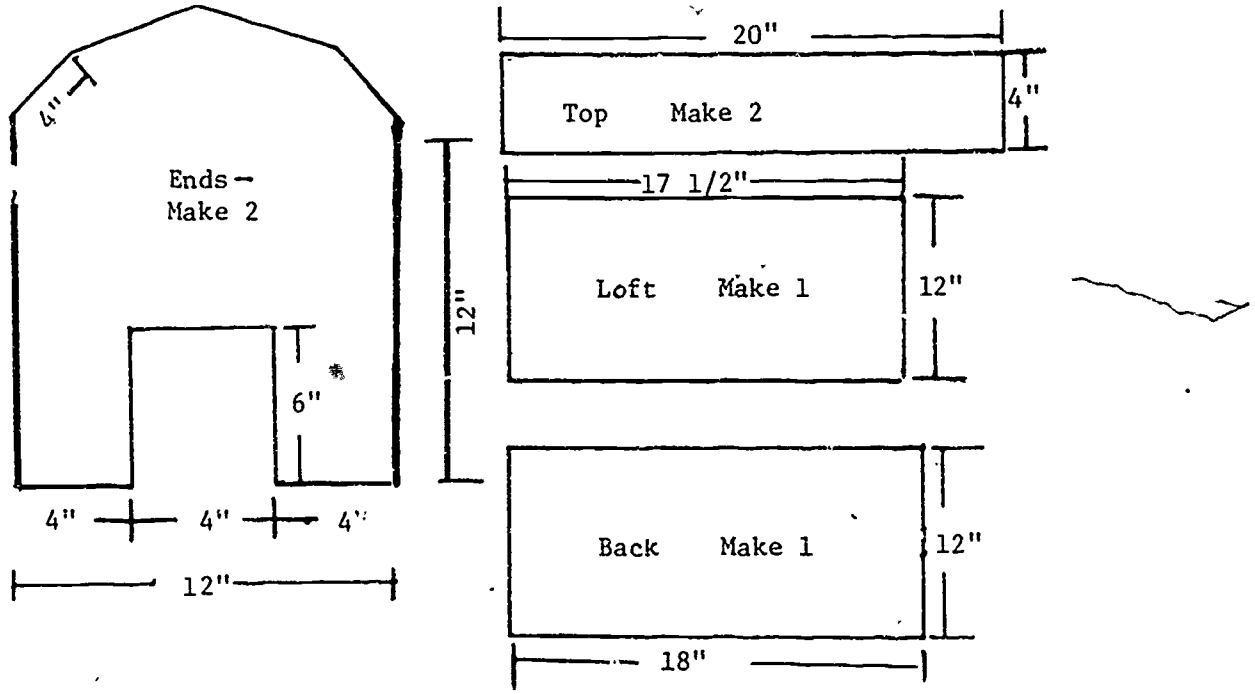
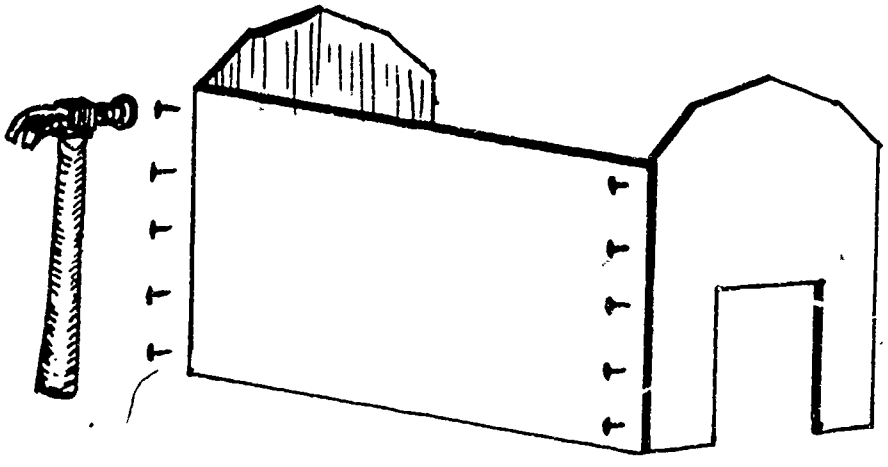
CONSTRUCTION OF A BARN

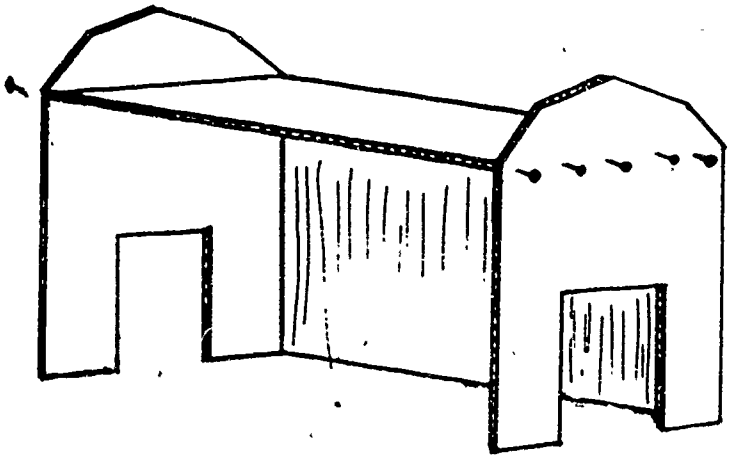
1. Cut out the pieces as described below from 1/4" plywood:



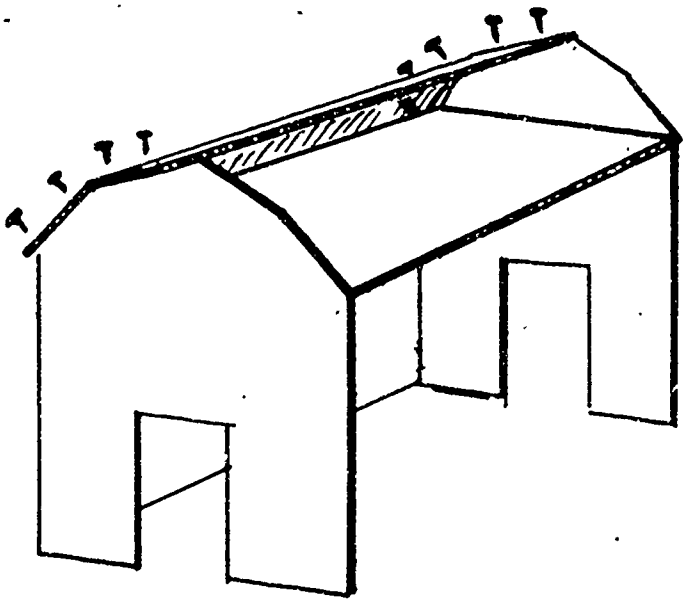
2. Nail the back to the two ends. Make sure to glue the seams before nailing.



3. Nail in the loft flush with the top edge of the back of the barn.



4. To make the roof, nail the two top pieces to the ends with one inch overhang at each end. Leave half of the loft open.



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Available: U. of Ill. $2.60.

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The Story of Fruit and Vegetables. Society for Visual Education, 1965. 48 fr., color. (How We Get Our Foods).

Truck Farming. Eye Gate House, Inc., n.d. color. (The American Farmer and Our Food Supply).

PICTURES

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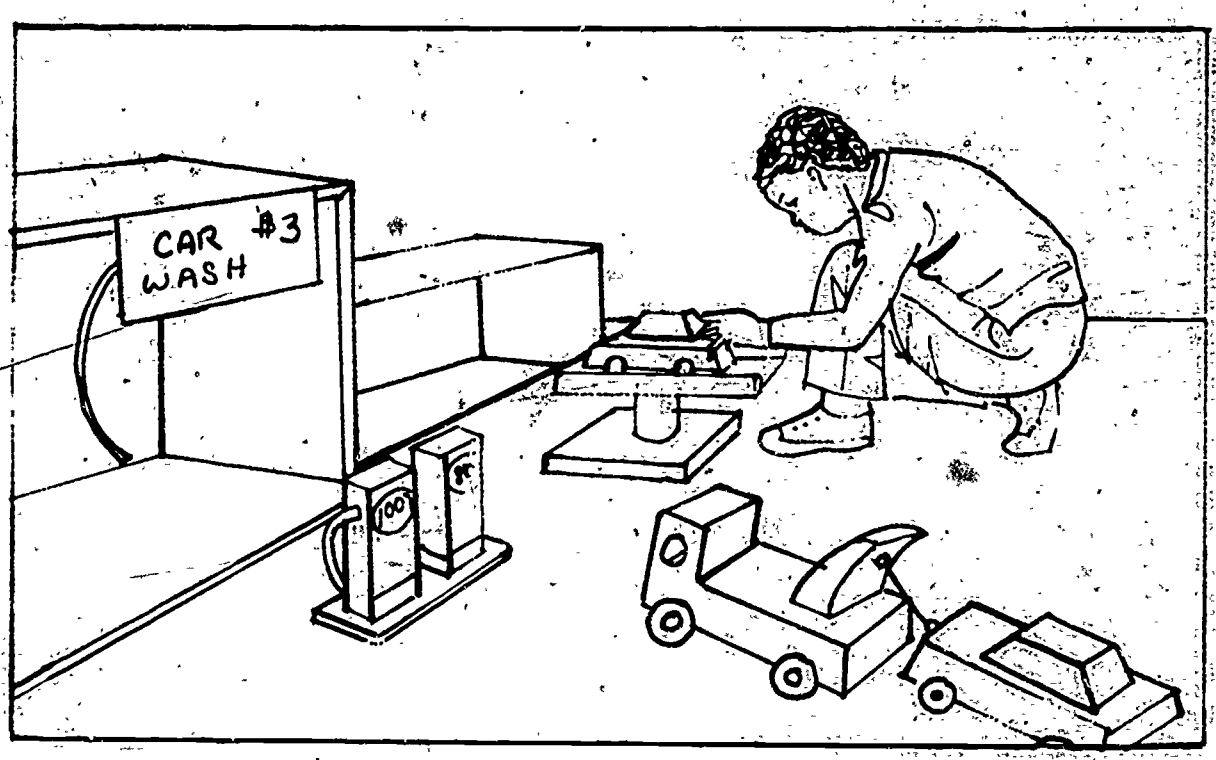
Supermarket Helpers. Chicago: Society for Visual Education, 1965. 8 color pictures, 15 x 21 in.

Farm

Farm and Ranch Animals. Chicago: Society for Visual Education, 1963. 8 color pictures, 13 x 18 in.

WORKING in the SERVICE STATION



DRAMATIC PLAY OF WORKERS IN THE SERVICE STATION

1. Selling "gasoline" and "oil"
2. Changing "tires" (i.e., hammering new wooden wheels onto the small cars to replace old wheels)
3. Selling new "tires"
4. "Putting air" in the tires
5. Washing cars
6. Towing cars into the service station
7. Putting cars on the lift; using a hammer, screw driver, wrench, and pliers to repair the cars
8. Giving directions to drivers on how to get to various places in the dramatic play community

INTERACTION OF WORKERS IN THE SERVICE STATION WITH WORKERS IN OTHER OCCUPATIONS IN THE COMMUNITY[1]

1. Workers in the service station interact with workers in various occupations who bring their cars into the station.
2. A service station attendant may interact with policemen at the scene of an accident, when the attendant comes to tow the car away.
3. Workers in the service station interact with firemen when there is a fire or fire inspection at the station.
4. Workers in the service station deposit money, cash checks, and get change in the bank.
5. Workers in the service station buy stamps, mail letters and packages in the post office.
6. Workers in the service station buy groceries and other items in the supermarket.
7. Workers in the service station go to the restaurant.
8. Workers in the service station get physical examinations at the hospital.
9. Workers in the service station use police services.
10. Workers in the service station go to traffic court if they get a ticket.
11. Workers in the service station take trips on the airplane.

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[1]Some of these interactions take place when the workers in the service station are on duty. Other interactions (e.g., items 6, 7, 8, 9, 10) take place when a worker in the service station is on a break from his job or is off duty.

PROPS FOR DRAMATIC PLAY OF WORKERS IN THE SERVICE STATION[1]

1. A small building to represent the service station
2. Gasoline pumps and an air pump (made out of dowel rods attached to a plywood base, with rubber tubing for the hose)
3. Lift
4. Tow truck
5. Tools (e.g., wrench, screw driver, pliers, hammer)
6. Rags
7. Tagboard, pencils, magic markers to make signs
8. "Tires" (i.e., wooden wheels to put on cars)[2]
9. Play money
10. Passenger cars

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[1]Directions for constructing a service station, lift, and tow truck are found in this section of the guide. Directions for constructing a passenger car are found in the "Department of Motor Vehicles" section.

[2]Wooden wheels in various sizes may be purchased from the King Wood Turning Company, 5416 Alhambra Avenue, Los Angeles, California, 90032.

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SUGGESTED CLASSROOM LESSONS AND ACTIVITIES RELATED TO DRAMATIC PLAY OF WORKERS IN THE SERVICE STATION

The service station is one of the centers set up in the arranged environment to introduce the study of the community. As the teacher observes pupils working in this center, she notices that they often don't know what to do between customers for gasoline. The pupils need more information on the duties of workers in the service station.

Lessons and Activities	Sources of Information and Comments
1. Reading a chart on a film	Chart in this section of guide
Looking at a film which shows what a service station attendant does	The Service Station
2. Looking at a filmstrip which shows the duties of a service station attendant	Service Station Attendant
3. Listening to the teacher read or paraphrase one or more books about work in the service station (including the garage); looking at pictures in books of men at work	Baker. I Want to Be a Service Station Attendant, entire book Barr. Ben's Busy Service Station, entire book Beim. Country Garage, entire book Goodspeed. Let's Go to a Garage, paraphrase parts of books particularly applicable to activities in dramatic play Preston. Greenfield and Far Away, pp. 26-30 Williams. I Know a Garageman, paraphrase parts of books particularly applicable to dramatic play
Learning about the duties of a service station attendant (e.g., sells gasoline; puts water in the radiator; checks the oil; uses rags to clean the windshield and headlights; lubricates cars; puts air in tires, changes tires, and sells new tires; gives directions to drivers; sends a tow truck out for cars in need of repair)	
Learning that some service stations include a garage, and that a mechanic works in the garage; learning that the mechanic puts the car on a lift to give the car a checkup and to repair it	

NOTE

In the Frank Porter Graham Project pupils made only a brief study of workers in the service station. Consequently, this section is one of the eight sections of the guide written in brief form. Teachers will think of other lessons and activities needed to prepare their pupils for dramatic play in the service station.

Lessons and Activities	Sources of Information and Comments
4. Discussing the service station in the dramatic play community	
Deciding to have a garage and car wash in this service station	
Deciding to make signs (e.g., "garage" and "car wash," and signs about the prices of gasoline and tires)	
Deciding which tools and equipment are needed in dramatic play	
Looking at pictures of tools and equipment used by a service station attendant and a mechanic	Pictures of tools and equipment in books listed above
Looking at props which can be used as tools and equipment in the service station in dramatic play (e.g., gasoline pumps and air pump with hose; lift; pliers, wrench, screwdriver, hammer, rags; tow truck); learning to use the correct names to identify the tools and equipment	List of props in this section of guide
5. Discussing what the workers in the service station can do during dramatic play; deciding that they can do the following:	
Change "tires" and sell new "tires"[1]	
Sell "gasoline" to customers	
"Put air" in "tires"	
Give directions to drivers	

[1]Since the pupils don't have rubber tires for the wooden cars and trucks used in dramatic play, they will use wooden wheels as "tires." The pupils will use a hammer and nails to change these "tires."

Lessons and Activities	Sources of Information and Comments
Put a car on a lift and use a wrench and screwdriver to "repair" it[1]	
Use rags to wash cars	
Drive the tow truck and tow cars in need of repair into the service station	
6. Participating in a lesson to make a map of the dramatic play community for the service station attendant to use in giving directions	
7. Dramatizing an accident in which a citizen or policeman calls the service station attendant who tows the car in for repair; choosing the roles of a worker in the service station, a policeman, and drivers of cars	Suggested props: passenger cars, traffic signs, masking tape roads; police car, police hat; telephones, tow truck; lift, wrench, screwdriver for repairing cars
8. Learning that a tank truck brings gasoline to the service station, and that the gasoline is stored in big underground tanks; looking at pictures in books of a tank truck and of a hose from the truck putting gasoline into an underground tank	The Service Station (film) Barr. Ben's Busy Service Station, pp. 22-25 Goodspeed. Let's Go to a Garage, pp. 12-13
9. Dictating an experience chart on what workers in the service station can do in dramatic play	

NOTE

The dramatization in this section is part of a social studies lesson to prepare pupils for dramatic play. It involves only a few pupils with the rest of the class observing. This dramatization gives pupils ideas for the spontaneous dramatic play in which every child has a job and there is no audience.

[1]In the Frank Porter Graham Project the teachers asked a carpenter to cut small pieces of thin plywood into shapes such as rectangles and hexagons. Then the teachers nailed two or three of these small pieces of plywood onto the bottom of each car used in dramatic play. Pupil mechanics used wrenches to turn these pieces of wood in "repairing" the cars. The teachers also put two or three screws on the bottom of each car, and the pupil mechanics used screwdrivers in "repairing" the cars.

Lessons and Activities	Sources of Information and Comments
10. Discussing the energy crisis and the need to conserve gasoline; discussing ways people can conserve gasoline (e.g., walk; use car pools, buses, trains, bikes) Deciding that in dramatic play each pupil will not have his own car, but that two or three pupils will share the same car	

SAMPLE SPELLING WORDS

1. gasoline
2. service
3. station
4. car
5. lift
6. repair
7. change
8. tire
9. tow
10. truck

Sample chart to be
read before film

Film: The Service Station

Long ago there were few service stations, because there were few cars.
Today there are many service stations, because there are many cars and trucks.

Big tank trucks bring gasoline to the service station.
There are big storage tanks underground where the gasoline is kept.
The underground tanks hold enough gasoline for many cars.

The service station attendant sells gasoline.
He checks under the hood of the car.
He checks the oil.
He uses a water hose to put water in the radiator.

The service station attendant uses an air guage to check the air in the tires.
He puts air in the tires.

The service station attendant uses a rag to wash the windshield.

The service station attendant needs to get under the car to lubricate the car.
He puts the car on a rack or lift that raises the car.
He lubricates the car with a grease gun.

What tools and equipment does the service station attendant need?

What will the service station attendant in our dramatic play community do?

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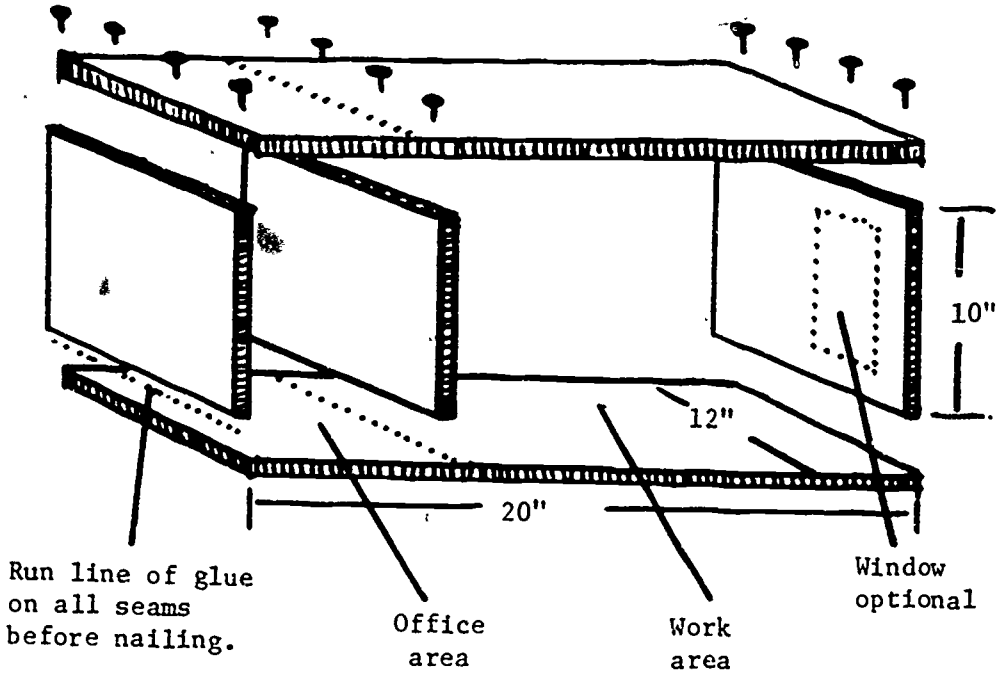
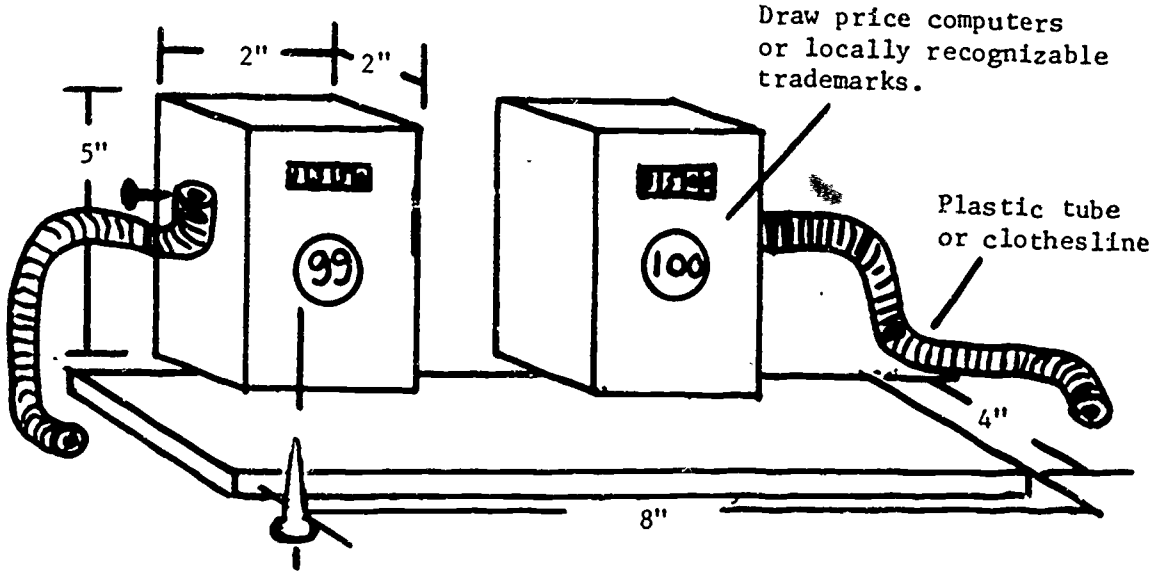
CONSTRUCTION OF A SERVICE STATION

1. Make building of 1/4" or 1/2" plywood. Use Elmer's Glue on seams and nail with 3/4" brads (for 1/4" plywood) and 1" brads (for 1/2"plywood).

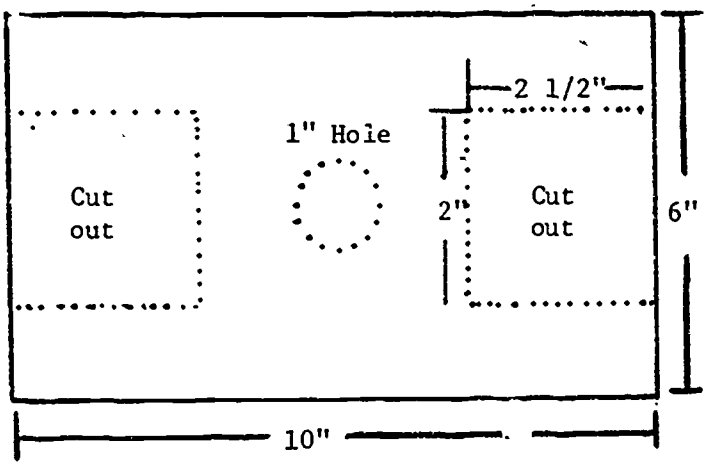


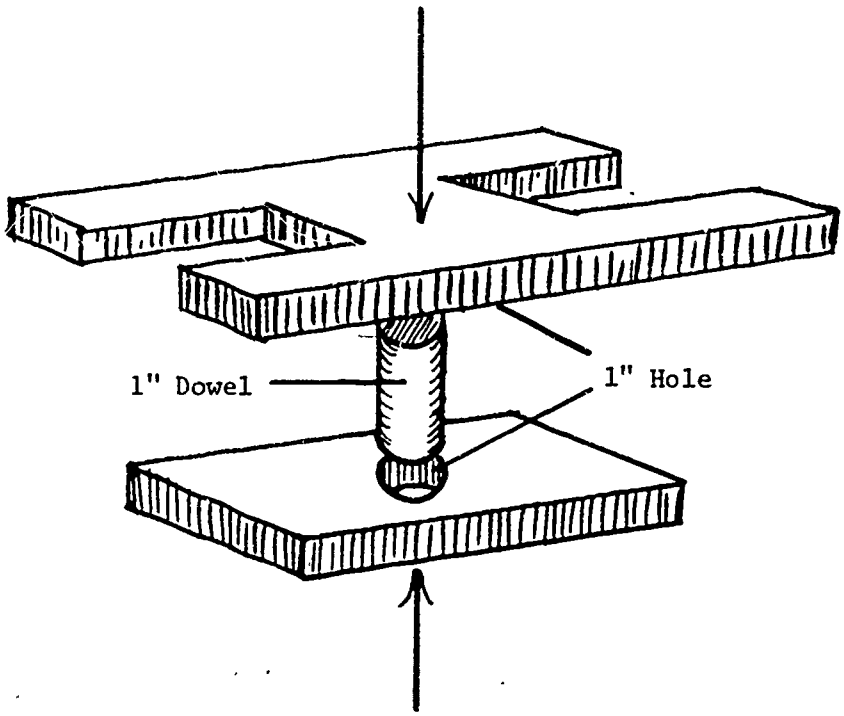
2. Use 2" x 2" wood in making pumps.



CONSTRUCTION OF A LIFT FOR AUTO REPAIR AT THE SERVICE STATION

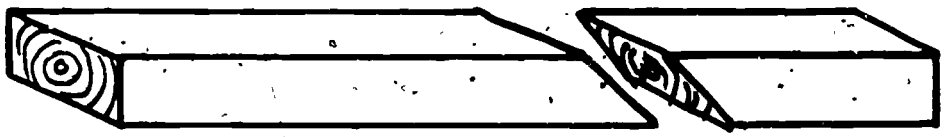
1. Cut a 1" thick board 10 inches by 6 inches. Cut out a section 2 1/2 inches by 2 inches from each end. Drill a 1" hole halfway through the middle of the board. Also drill a 1" hole halfway through the center of a 1" thick board which has been cut 4 inches by 4 inches and which will serve as the base of the lift. Cut a piece of 1" dowel 4 inches long, and nail and glue it into these two holes.



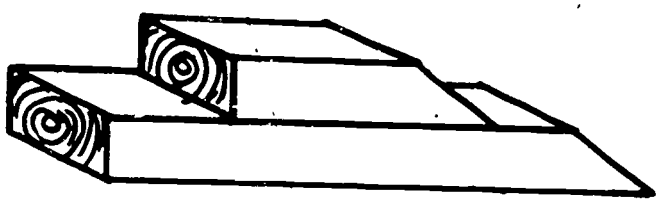


CONSTRUCTION OF A TOW TRUCK

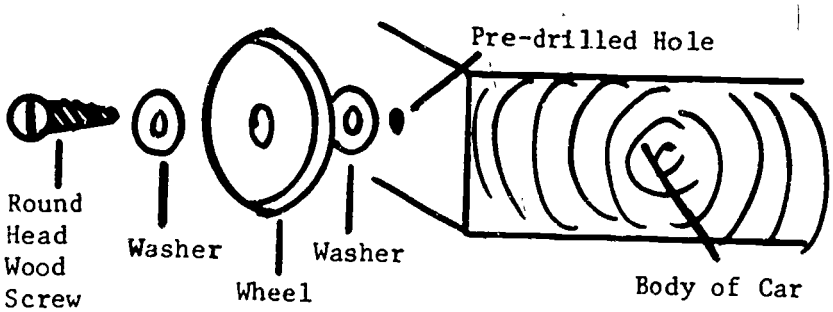
1. Take a 2" x 4" board approximately 11 inches long. Cut off about 3 inches with an angular cut.



2. Glue the smaller piece of wood on top of the larger piece so that the angles from the cut slant in the same direction. Nail them together.

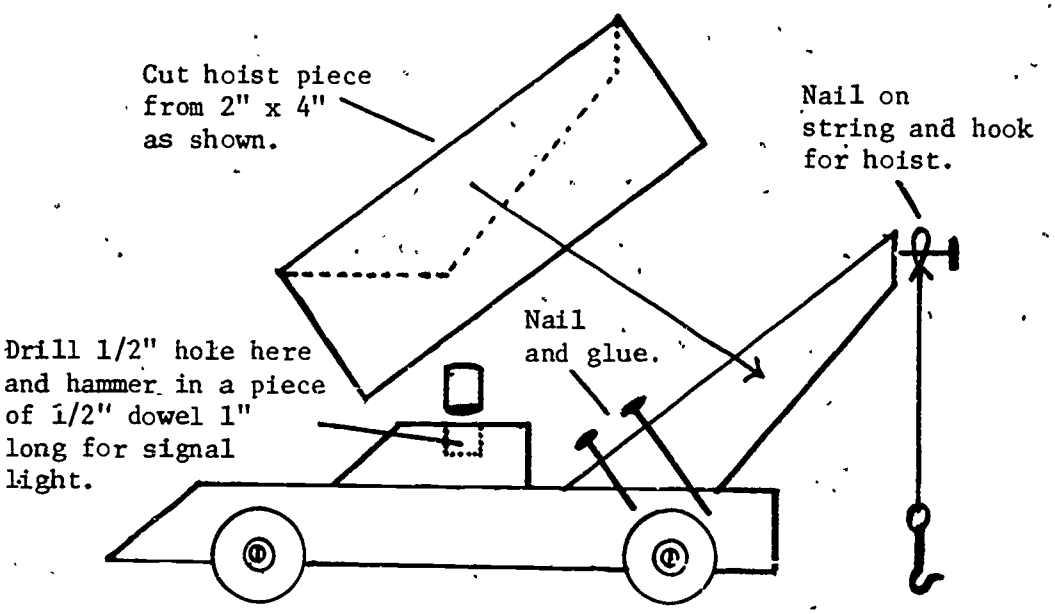


3. Put on the wheels with a round head wood screw with two washers.

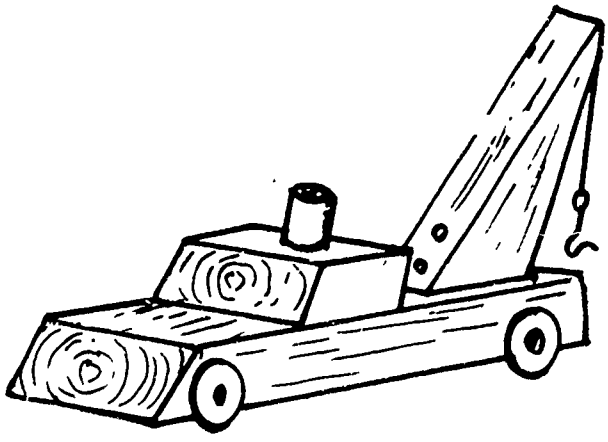


4. For the rear hoist cut a 6 inch 2" x 4" board. Cut the 6 inch piece so that it is tapered toward one end. Nail and glue this piece to the rear end of the truck.

Put a signal light on top of the truck. Cut a piece of 1/2" dowel about 1 inch long. Glue and hammer the dowel on top of the tow truck.



Finished Tow Truck



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The Service Station. Pat Dowling Pictures, 1957. 11 min., sd., color, 16 mm. Available: U. of Ill. $3.85.

FILMSTRIP

The Service Station Attendant. McGraw-Hill Book Co., Inc., 1959. 42 fr., color. (Community Helpers Set Two).

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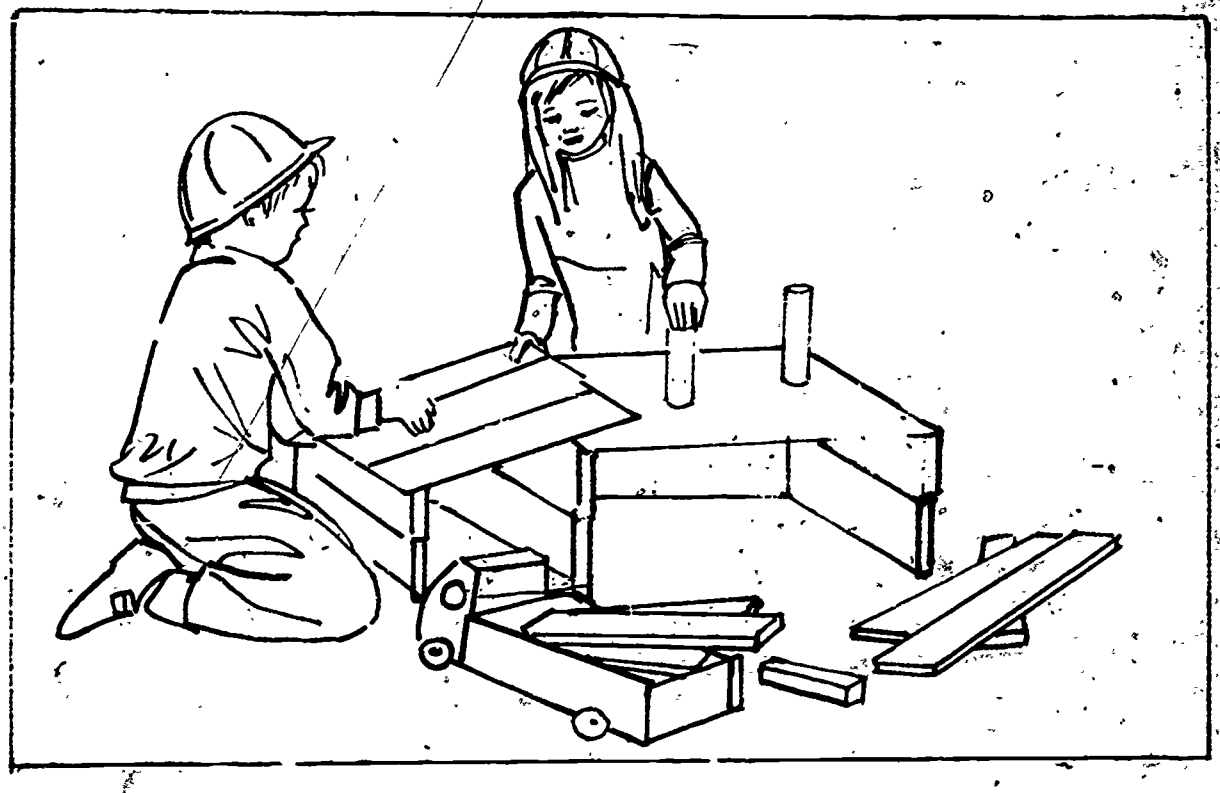
WORKING in the CONSTRUCTION COMPANY



DRAMATIC PLAY OF WORKERS IN THE CONSTRUCTION COMPANY AND IN A RELATED OCCUPATION[1]

Dramatic Play of Construction Workers

Using blocks to build structures in the dramatic play community

Dramatic Play of an Architect[2]

Pretending to be an architect and making a rough drawing to plan each structure before it is built

INTERACTION OF WORKERS IN THE CONSTRUCTION COMPANY WITH WORKERS IN OTHER OCCUPATIONS IN THE COMMUNITY[3]

1. Construction workers may interact with people in other occupations who watch them build the various structures.
2. Construction workers interact with firemen when there is a fire or fire inspection at the construction company.
3. Construction workers deposit money, cash checks, and get change in the bank.
4. Construction workers buy gasoline at the service station.
5. Construction workers buy groceries and other items in the supermarket.
6. Construction workers take trips on airplanes.
7. Construction workers go to the restaurant.
8. Construction workers send their children to school.

(continued)

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[1]The term "construction company" was used broadly in the Frank Porter Graham Project to refer to builders and to a company that builds houses, stores, bridges, and all kinds of different structures. The pupils who used blocks to build structures in dramatic play were called "construction workers."

[2]In the Frank Porter Graham Project some pupils held two jobs and were both an architect and a construction worker in dramatic play.

[3]The architect also interacts with other workers in the community. It is not necessary to specifically enumerate these interactions, since the above list is an example of the kinds of interactions that take place.

9. Construction workers get physical examinations at the hospital.
10. Construction workers use police services.
11. Construction workers go to traffic court if they get a ticket.
12. Construction workers buy stamps, mail letters and packages in the post office.[1]

PROPS FOR DRAMATIC PLAY OF WORKERS IN THE CONSTRUCTION COMPANY AND IN A RELATED OCCUPATION

1. Clipboard, paper, pencil, magic marker, and ruler for the architect to use in drawing plans of various structures
2. Building blocks
3. Hats for construction workers
4. Trucks for transporting blocks to the area where the construction workers are building

[1]In the Frank Porter Graham Project most of the interactions took place when an architect or construction worker was on a break from his job or was off duty. While they were working on the job, there were few interactions of the architect and construction workers with other workers in the community. Unlike the real community, in this project individuals usually did not come to the architect and construction workers during dramatic play to ask that certain buildings be constructed. Sometimes in the post-play discussions pupils would mention that they needed a bridge, a bakery, or another structure in the community. So in the next dramatic play the architect and construction workers would build these structures. Usually, however, the architect and construction workers would decide what to build at the beginning of each dramatic play.

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SUGGESTED CLASSROOM LESSONS AND ACTIVITIES RELATED TO DRAMATIC PLAY OF WORKERS IN THE CONSTRUCTION COMPANY AND IN A RELATED OCCUPATION

The construction company is one of the centers set up in the arranged environment to introduce the study of the community. As the teacher observes the pupils build with blocks, she notes that they need more ideas on the different kinds of buildings in a community. She also notes that no child makes a plan before building.

Lessons and Activities	Sources of Information and Comments
1. Looking at flat pictures and pictures in books of different buildings in a community	Pictures which the teacher has collected from magazines and other sources Urban Panorama Kit. National Dairy Council full-color panel of a city Pictures in these books: Curren. This Is a Town Pitt. Let's Find Out about the City Stanek. How People Live in the Big City Tresselt. Wake Up, City!
2. Listening to the teacher read one or more books about an architect	Baker. I Want to Be an Architect Rowe. City Workers, p. 28
Learning that the architect draws plans for buildings	
Learning that the architect must like to draw and like math	
3. Deciding to have an architect in dramatic play who will make rough plans of structures before building them	
Learning to use a ruler	
Participating in a lesson in which the pupils practice drawing simple plans; using the plans in constructing buildings in dramatic play	

NOTE

In the Frank Porter Graham Project pupils made only a brief study of workers in the construction company. Consequently, this section is one of the eight sections of the guide written in brief form. Teachers will think of other lessons and activities needed to prepare their pupils for dramatic play in the construction company.

Lessons and Activities	Sources of Information and Comments
4. Reading or listening to the teacher read one or more books about construction workers	Greene. I Want to Be a Carpenter Pope. Your World, Let's Build a House Shay. What Happens When You Build a House Wilkinson. Come to Work with Us in House Construction
5. Taking a walking trip in the community Looking at the buildings they pass Remembering that an architect planned each building before it was built If possible, observing a building under construction On return from the trip, drawing pictures of different buildings in the community Making a "book" of their pictures, or making a mural of buildings in the community	
6. Looking at and discussing different structures pupils build with blocks in dramatic play; praising well built and/or original structures	

SAMPLE SPELLING WORDS

1. construction
2. build
3. building
4. blocks
5. architect
6. draw
7. plan
8. clipboard

BIBLIOGRAPHY ON WORKERS IN THE CONSTRUCTION COMPANY AND RELATED OCCUPATIONS

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More Difficult Reading Level, Construction Company

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Shay, Arthur. What Happens When You Build a House. Chicago: Reilly and Lee Books, 1970.

Books with Pictures of Buildings

Corcos, Lucille. The City Book. New York: Golden Press, 1972.

Curren, Polly. This Is a Town. Chicago: Follett Publishing Co., 1957.

Pitt, Valerie. Let's Find Out about the City. New York: Franklin Watts, Inc., 1968.

Stanek, Muriel, and Johnson, Barbara. How People Live in the Big City. Chicago: Benefic Press, 1964.

Tresselt, Alvin. Wake Up, City! New York: Lothrop, Lee and Shepard Co., Inc., 1957.

PICTURES

Urban Panorama Kit. Chicago: National Dairy Council, 1973. 1 color panel of a city, 35 1/2 x 41 1/2 in.

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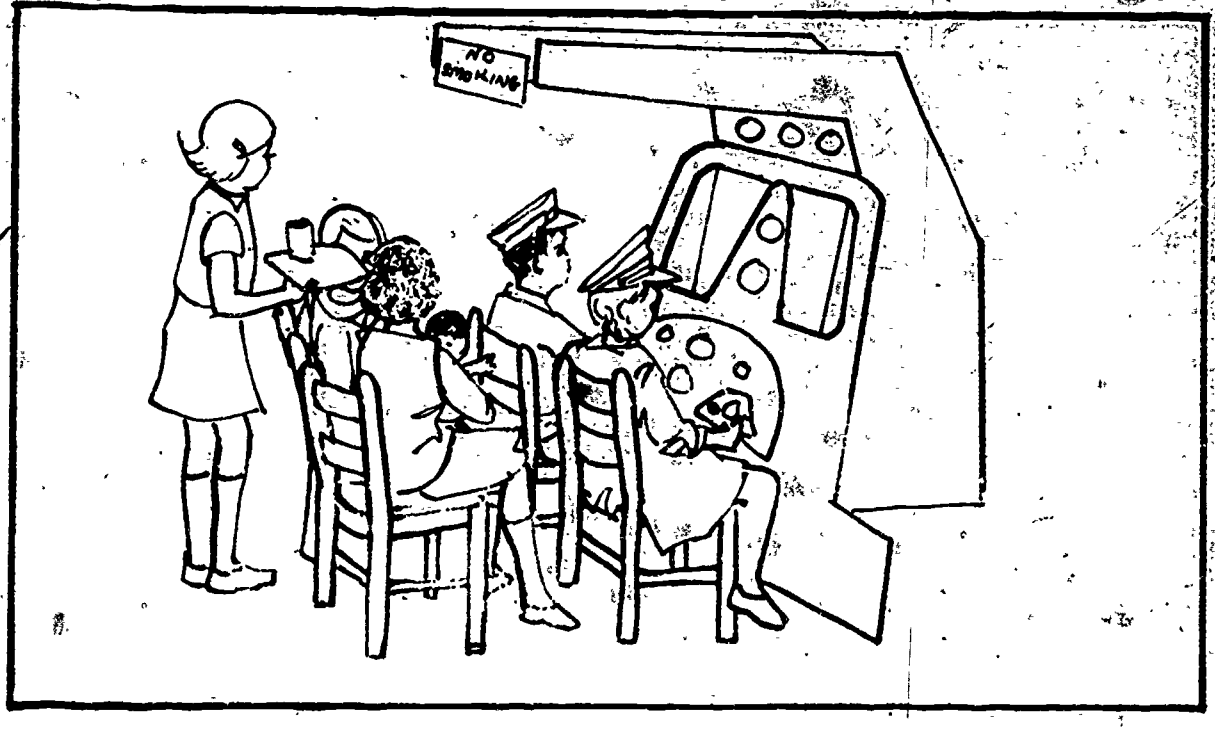
WORKING at the AIRPORT



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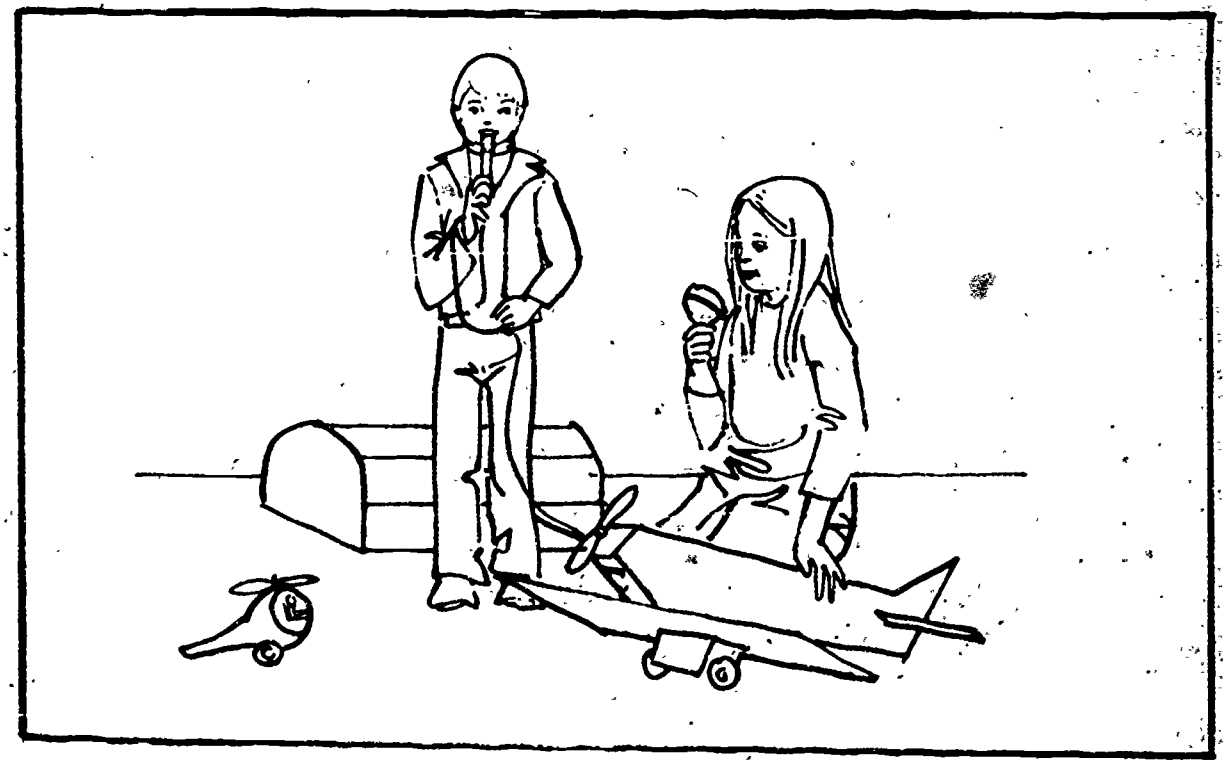

A WORKER IN THE CONTROL TOWER GIVING DIRECTIONS TO A PILOT

DRAMATIC PLAY OF AIRPORT WORKERS

Dramatic Play of Workers in the Control Tower

1. Giving permission to pilots to taxi, take off, and land
2. Telling pilots to circle the airport if other planes are the first to land
3. Telling pilots which runway to use
4. Telling pilots how high to fly
5. Giving pilots information about the speed and direction of the wind
6. Directing tugs and trucks on the ground; telling them when to clear the airfield
7. Calling emergency vehicles such as fire trucks, when there is a fire at the airport
8. Getting a checkup from the doctor

Dramatic Play of the Pilot and Co-Pilot of the Big Airplane

1. Meeting with the crew and making flight plans; looking at a map of the U. S. and discussing the airplane's destination, and where it will stop en route; tracing the airplane's flight on the map and naming the states it will fly over
2. Speaking to workers in the control tower; asking permission to taxi, to take off, and land
3. Speaking to the passengers: welcoming them to the flight, telling them the altitude the airplane is flying, the speed of the plane in miles per hour, the parts of the country the plane is flying over
4. Flying the airplane: turning the steering wheel and moving the dials, knobs, and switches in the cockpit
5. Getting a checkup from the doctor
6. Participating in the "school for pilots" as a student or teacher

Dramatic Play of Pilots of Small Airplanes

1. Asking permission from the control tower to taxi, land, and take off
2. Flying airplanes to the other airport (i.e., walking to the other airport, holding the small airplane high in the air)
3. Flying airmail to the other airport
4. Spraying crops (flying the airplane over the farmer's crops)
5. Rescuing a person (rubber doll) who has fallen in the water (blue paper on the floor)
6. Getting a checkup from the doctor
7. Participating in the "school for pilots" as a student or teacher

Dramatic Play of Workers at the Ticket Counter

1. Giving information to passengers
2. Filling out and selling tickets
3. Writing flights on the departure board
4. Weighing baggage
5. Announcing flights

Dramatic Play of Stewardesses

1. Meeting with the crew to discuss flight plans
2. Preparing the airplane for passengers (making the cabin neat, straightening seat belts, magazines)
3. Greeting passengers as they enter the airplane
4. Checking that passengers put on their seat belts when the airplane takes off and lands; helping passengers with their seat belts
5. Demonstrating how to use the oxygen mask in case of an emergency (i.e., using a paper cup to represent the oxygen mask)
6. Serving food and magazines to passengers on the airplane
7. Helping mothers with babies
8. Helping sick people
9. Telling passengers not to smoke when the airplane takes off and lands
10. Saying "good-bye" to passengers as they leave the airplane
11. Participating in the "school for stewardesses" as a student or teacher

Dramatic Play of Workers in the Airport Kitchen

1. Preparing play dough food in the airport kitchen to put on the airplane
2. Putting food on the truck; driving the truck to the airplane and loading food onto the airplane
3. Preparing food for the restaurant at the airport[1]
4. Buying play dough and other needed items at the supermarket in the community

Dramatic Play of Workers in the Restaurant at the Airport

1. Setting the table
2. Taking customers' orders
3. Serving food to the customers
4. Clearing the table

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[1]The "cooks" in the airport kitchen can also serve as "cooks" for the restaurant, since the airport kitchen is usually located right by the restaurant in the dramatic play community.

5. Washing the dishes
6. Buying napkins, paper plates, and other needed items in the supermarket in the community

Dramatic Play of Workers in the Ground Crew

1. Washing the planes in the hangar
2. "Repairing" and "servicing" the airplanes in the hangar
3. Loading mail and baggage onto tugs; driving tugs to the area where the airplanes are parked, and loading the mail and baggage onto the airplanes
4. Loading freight onto the airplanes
5. Driving the fuel truck to the place where the airplanes are parked, and putting fuel into the planes
6. Listening to the control tower and moving off the airfield when so directed

INTERACTION OF AIRPORT WORKERS WITH WORKERS IN OTHER OCCUPATIONS IN THE COMMUNITY[1]

1. Some airport workers (e.g., the stewardess, workers at the ticket counter and in the restaurant) interact with passengers who are in different occupations.
2. Some airport workers (e.g., pilots, workers in the control tower) get regular checkups from the doctor.
3. Airport workers interact with firemen when there is a fire or fire inspection at the airport.
4. Some ground crew workers interact with drivers of mail trucks who bring airmail to the airport.
5. Workers in the restaurant and airport kitchen buy needed items in the supermarket.
6. Some pilots of small planes interact with the farmer when he makes arrangements for spraying his crops.
7. Airport workers cash checks, make deposits, and get change in the bank.
8. Airport workers use police services.
9. Airport workers buy gasoline at the service station.
10. Airport workers buy stamps, mail letters and packages in the post office.
11. Airport workers send their children to school.
12. Airport workers go to traffic court if they get tickets.

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[1]Some of these interactions (e.g., items 9, 10, 11, 12) take place when airport workers are off duty.

PROPS FOR DRAMATIC PLAY OF AIRPORT WORKERS

General Airport Props

1. Small airplanes
2. Helicopters
3. Big airplane (cockpit prop for pilots, with chairs for passengers)
4. Masking tape runways
5. Hangar
6. Fuel truck
7. Tugs
8. Fire truck for fire station at the airport
9. "Wings" pins for workers (obtained from airlines)
10. Weather instruments and weather maps for the small weather station at the airport
11. Large maps of the U. S. for the area that represents the flight room at the airport

Workers in the Control Tower

1. Table for workers to sit on, to suggest that the control tower is the tallest building at the airport
2. Round parts of old earphones to represent two-way radios
3. Earphones
4. Flashlight to represent searchlight in the control tower
5. Toy field glasses
6. Toy telephone

Pilots of Big and Small Airplanes

1. Hats
2. Earphones
3. Round parts of earphones to represent two-way radios
4. Cockpit prop with steering wheel and dials, knobs, switches (for the big airplane)
5. Small airplanes and helicopters
6. Clipboards with outline maps of the U. S. for the pilot and co-pilot of the big airplane
7. Small rubber dolls for the pilots of small airplanes to rescue from the water (blue paper on the floor)
8. "Wings" pins

NOTE

Each teacher will not need to obtain every prop listed here. Each teacher should decide which props her particular pupils need in their dramatic play. Pupils will be able to bring some of the props from home. Directions for constructing a small cargo plane, helicopter, cockpit, fuel truck, hangar, tugs, and stove for the airport kitchen are found in this section of the guide.

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Workers at the Ticket Counter

1. Table
2. Blackboard, chalk
3. Tickets
4. Play money
5. Large maps of the U. S. and world
6. Toy telephone
7. "Wings" pins
8. Toy suitcases

Stewardesses

1. Play dough food, plates, cups, silverware
2. Dolls to represent "babies" who are passengers
3. Band-aids for first aid
4. Magazines
5. Paper cup to represent oxygen mask
6. Seat belts (may be obtained from Federal Surplus in Raleigh)
7. "Wings" pins

Workers in the Airport Kitchen and Restaurant

1. Play stove, sink
2. Play dough for food
3. Pots, pans
4. Dishes, cups, silverware, napkins
5. Truck to take food to the airplane
6. Table, chairs for the restaurant
7. Menus
8. Play money

Ground Crew

1. Hangar
2. Tugs
3. Fuel truck
4. Rags for cleaning planes
5. Rubber tubing to represent hose for "washing" airplanes
6. Round parts of old earphones to represent two-way radios
7. Baggage and air freight (made of burlap or other heavy cloth stuffed with filling) for small airplanes
8. Small boxes (Match boxes can represent freight and baggage in addition to the cloth baggage and air freight.)

SUGGESTED CLASSROOM LESSONS AND ACTIVITIES RELATED TO DRAMATIC PLAY OF AIRPORT WORKERS

In their study of the post office pupils soon have the need to deliver airmail. Thus pupils need to set up an airport.

Lessons and Activities	Sources of Information and Comments
1. Deciding what to do with airmail	
Looking at pictures of mail trucks which bring airmail from the post office to the airport	Jacobs. Airports, U. S. A., p. 31
Learning that some airports have post office branches	Bagwell. This Is an Airport, p. 15
Looking at a picture of airmail being loaded onto an airplane; deciding to set up a small airport	Colonius. At the Airport, p. 21
2. Setting up a small airport in the dramatic play area, so that mail can be sent by air	
Reading a chart on a film	Chart in this section of guide
Looking at a film which shows an airport and airmail being loaded onto airplanes	Airport Activities
Discussing the film; discussing the need for runways on which small planes can take off and land	
Looking at piccures of runways in books	Jacobs. Airports, U. S. A., p. 10 Lewellyn. The True Book of Airports and Airplanes, pp. 6-7

NOTE

No teacher is expected to teach all of the lessons and activities nor use all of the films and books included in this section. EACH TEACHER WILL CHOOSE THE LESSONS AND MATERIALS HER PARTICULAR PUPILS NEED. These lessons precede or follow the dramatic play. The children will participate in dramatic play at least once a week, and the teacher will plan some lessons and activities for the other days she has social studies. The purpose of these lessons is to give pupils information needed for effective play. As pupils gain more information their play will become more involved, and they will portray more of the activities of airport workers. The lessons will not necessarily occur in the sequence presented here.

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Lessons and Activities	Sources of Information and Comments
Reading or listening to the teacher read one or more books about the need for runways which run in different directions; learning that planes take off and land into the wind, and that the wind does not always blow in the same direction	Bowen. The Airport, Our Link to the Sky, pp. 34-35 Sootin. Let's Go to an Airport, pp. 30-31
Deciding to put masking tape runways in the dramatic play area--one runway which runs north to south, and one runway which runs east to west[1]	
Dramatizing a mail truck bringing airmail from the post office; loading mail onto a small plane; flying the plane; taking off and landing on a runway; choosing a driver of the mail truck and a pilot	Suggested props: envelopes for letters, mail truck; masking tape for runways, small airplane, pilot's hat

Pupil pilots continue flying small planes in dramatic play. In the post-play discussion, the teacher guides the pupils to see the need for some worker to direct the pilots in taking off and landing.

3. Learning about workers in the control tower (air controllers)

Looking at pictures of a control tower (a flat picture and pictures in books)	Airports. Realistic Visual Aids picture "Traffic Control Tower" Bagwell. This is an Airport, pp. 17, 19 Colonius. At the Airport, p. 30 Greene. Railroad Engineers and Airplane Pilots, What Do They Do? p. 54 Jacobs. Airports, U. S. A., pp. 20-21, 24-25 Lewellen. The True Book of Airports and Airplanes, p. 11 Sharp. Let's Find Out about Airplanes, pp. 42-43 Wilkinson. Come to Work in an Airport, p. 30
Discussing the pictures; learning why the control tower is the tallest building at the airport	
Noting the tools and equipment in the pictures of the control tower (e.g., lights, field glasses, radios, telephone, earphones, radar, microphones)	

NOTE

The dramatizations in this section are part of the social studies lessons to prepare pupils for dramatic play. They involve only a few pupils with the rest of the class observing. These dramatizations give pupils ideas for the spontaneous dramatic play in which every child has a job and there is no audience.

[1]In beginning dramatic play the airport includes only a few small airplanes and runways. Other props are added as needed.

Lessons and Activities	Sources of Information and Comments
Looking at one or more films which show the activities of the workers in the control tower	Busy Airport An Airplane Trip by Jet Airport Activities Airport in the Jet Age. Encyclopaedia Britannica Educational Corporation Airplanes Work for Us
Discussing what the air controllers tell the pilots in the films (e.g., when to taxi, when to take off and land, which runway to use, how high to fly)	
Discussing the meaning of the word "taxi" that the air controller uses in the film Busy Airport; looking in books to get the meaning of "taxi" and "taxiway"; learning that a "taxiway" is like a road on which the plane "taxis" between the runway and the unloading area near the terminal building	Bagwell. This Is an Airport, p. 20 Bowen. The Airport, Our Link to the Sky, p. 35
Dramatizing how a plane lands on a runway, and then taxis off the runway onto a taxiway between the runway and the terminal building	Suggested props: masking tape runway, small airplane; box to represent terminal building
Looking at a filmstrip with information on the control tower	Air Safety
Reading books or listening to the teacher read one or more books about the work of air controllers	Bagwell. This Is an Airport, pp. 17-20 Colonius. At the Airport, pp. 30-31 Greene. Railroad Engineers and Airplane Pilots, What Do They Do? pp. 54-55 Jacobs. Airports, U. S. A., pp. 20-25 Lewellen. The True Book of Airports and Airplanes, pp. 10-11 Shapp. Let's Find Out about Airplanes, pp. 42-43 Sootin. Let's Go to an Airport, pp. 19-22 Wilkinson. Come to Work in an Airport, pp. 30-31
Noting that on page 24, Jacobs describes air controllers as "air traffic policemen"; discussing why air controllers can be compared to policemen who work on the ground	
Dramatizing the job of the air controller (e.g., giving directions to the pilot to taxi, to land, to take off, to use a certain runway, to fly at a certain altitude;	Suggested props: earphones, and the round parts of old earphones to use as two-way radios; pilot's hat, small airplane; masking tape
(continued)	(continued)

Lessons and Activities	Sources of Information and Comments
giving information to the pilot on wind direction and speed); choosing an air controller and a pilot	runways; toy field glasses, a table on which the air controller sits[1]
Learning about workers other than pilots who get instructions from the control tower (e.g., workers who work with fire fighting equipment, drivers of tugs and trucks who drive near the terminal building and runways	Bagwell. This is an Airport, p. 20 Sootin, Let's Go to an Airport, p. 20
Dramatizing an air controller giving instructions to trucks, tugs, and emergency equipment	Suggested props: table on which air controller sits, earphones, and the round parts of old earphones to use as two-way radios; fire truck, tugs, fuel truck; masking tape runways, box for terminal building
After several dramatic play sessions, reviewing the work of air controllers by reading a teacher-prepared chart or by dictating an experience chart	Sample chart "Workers in the Control Tower" in this section of guide
Drawing pictures of air controllers at work	

Pupils continue to fly the small planes in dramatic play. During post-play discussion the pupils and teacher discuss the need for a second airport at which the pilots can land the planes and leave the airmail. The pupils decide to include a big airplane for passengers at this second airport.

4. Setting up a big airplane in the dramatic play area so pupil passengers can take a trip	
Looking at a film	An Airplane Trip by Jet
Listening to the teacher read one or more books about a trip on an airplane	Pope. Your World, Let's Take an Airplane Trip Shay. What Happens When You Travel by Plane
Deciding which workers are needed in a dramatization of a trip: pilots, air controllers, a stewardess, a worker at a ticket counter	

[1] The children in the Frank Porter Graham Project decided that the air controller should sit on top of a table in dramatic play, in order to suggest the fact that he works in the tallest building at the airport.

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Lessons and Activities	Sources of Information and Comments
Deciding which props are needed for the dramatization of a trip on a plane; dramatizing the trip	Suggested props: tickets, table for ticket counter; cockpit prop, chairs behind the cockpit for pilots and passengers; pilots' hats; magazines; table on which air controller sits, toy field glasses
Writing stories about a trip on an airplane	

In the discussion of the dramatic play on the big airplane, the teacher guides the pupils to see the need for more information on workers who operate the plane, and who work at the airport.

5. Learning more about pilots

Listening to the teacher read one or more books on pilots	Greene. I Want to Be a Pilot Greene. Railroad Engineers and Airplane Pilots. What Do They Do? Shay. What It's Like to Be a Pilot Stanek. I Know an Airline Pilot
Looking at pictures of pilots in the cockpit of the airplane	Colonius. At the Airport, pp. 24-25 Greene. A Trip on a Plane, p. 22 Jacobs. Airports, U. S. A., pp. 19, 23 Shay. What Happens When You Travel by Plane, pp. 12-13
Learning that pilots must know all about the controls, lights, and switches	
Looking at one or more films which show pilots at work	An Airplane Trip by Jet Airport Activities
Discussing the films; noting what the pilot says to the air controller and how the pilot tells passengers which part of the country the plane is flying over	
After viewing An Airplane Trip by Jet, studying a large classroom map of the U. S.; coloring different states on outline maps of the U. S., so that pupil pilots will know the names of the states they are flying over	

Lessons and Activities	Sources of Information and Comments
After viewing An Airplane Trip by Jet, listening to the teacher read one or more books about what the pilot tells the passengers (e.g., the altitude of the plane, the speed of the plane in miles per hour, the location of the plane)	Shay. What Happens When You Travel by Plane, p. 21 Stanek. I Know an Airline Pilot, pp. 37-38
Dramatizing how the pilot converses with the air controller and speaks to passengers; choosing a pilot, air controller, and passengers	Suggested props: cockpit prop, chairs in rows for pilots and passengers; pilot's hat; earphones, and the round parts of old earphones to use as two-way radios; an outline map of the U. S. on a clipboard for the pilot; table for the air controller, toy field glasses
Learning about the co-pilot and what he does (e.g., sits by the pilot, watches dials in the cockpit, watches the weather, sometimes flies the plane)	Greene. Railroad Engineers and Airplane Pilots, What Do They Do? p. 51 Greene. I Want to Be a Pilot, pp. 23-24
Listening to the teacher read about the flight plans that pilots must make before each flight	Bowen. The Airport, Our Link to the Sky, pp. 28, 44-47 Jacobs. Airports, U. S. A., p. 18
Learning what is in a flight plan (e.g., what route the pilot will fly, what stops he will make en route, how high he will fly, how much fuel he has, the times of arrival and departure, the weather forecast)	
Deciding to dramatize the making of flight plans (e.g., going to the flight room, getting the weather forecast, looking at a large map of the U. S., deciding where the plane will fly, and tracing the course of the flight on the map	Suggested props: table for flight room; weather map, map of the U. S.
Learning about the different kinds of work pilots do	
Looking at slides of different kinds of planes	Kinds of Airplanes

Lessons and Activities	Sources of Information and Comments
Reading or listening to the teacher read one or more books about the different kinds of work pilots do (e.g., flying over forests and reporting fires, bringing help where there has been a flood or storm)	Greene. Railroad Engineers and Airplane Pilots. What Do They Do? pp. 46-47 Stanek. I Know an Airline Pilot, pp. 22-25
Learning about the work of the pilot of a B747, the biggest passenger plane	Shay. What It's Like to Be a Pilot
Learning that some planes don't carry passengers, but carry cargo or freight	Bowen. The Airport, Our Link to the Sky, p. 32 Jacobs. Airports, U. S. A., pp. 28-32
Viewing films and learning about helicopter pilots and their work (e.g., spraying crops and trees with chemicals, putting in poles for power lines, patrolling traffic in cities, rescuing people who have fallen in the water, getting emergency equipment to the scene of accidents)	Airplanes Work for Us Billy's Helicopter Ride
Looking at a picture of a helicopter in a book	Shapp. Let's Find Out about Airplanes, p. 38
Learning about the qualifications of pilots	
Learning that pilots must be well and strong, and must get regular physical checkups from doctors	Greene. I Want to Be a Pilot, pp. 12-13 Stanek. I Know an Airline Pilot, pp. 14, 20
Dramatizing a pilot getting a physical checkup from a doctor	Suggested props: doctor's kit, including eye chart, stethoscope, and other instruments; paper and pencil for prescriptions
Learning that pilots and co-pilots must go to school	
Reading or listening to the teacher read about the school curriculum (e.g., information about weather, how to fly a plane, what to say to the air controller, how to use a two-way radio, how to read maps)	Greene. Railroad Engineers and Airplane Pilots. What Do They Do? pp. 40-46, 50-52 Stanek. I Know an Airline Pilot, pp. 15-17, 20

Lessons and Activities	Sources of Information and Comments
Deciding to start a school for pilots in dramatic play; discussing the props needed to dramatize a pilot's school	Suggested props: pilot's hats, small planes; cockpit prop and chairs for pilots: maps; earphones and round parts of old earphones to use as two-way radios; books on pilots and airports
Inviting a pilot to class to tell about his work and how he was trained; getting information needed for dramatic play; writing thank-you letters	
6. Learning about workers at the ticket counter	
Learning that the ticket counter is in the terminal building; looking at pictures in books of the flight schedule board	Colonius. At the Airport, p. 4 Shay. What Happens When You Travel by Plane, pp. 2-3
Looking at a slide of passengers buying tickets	Airport Workers. S.V.E. slide "Passenger Agents, Ticket Counter"
Looking at a filmstrip which shows a worker at a ticket counter	The Airport
Looking at a film which shows a worker selling tickets and weighing the baggage	Airport in the Jet Age. Encyclopaedia Britannica Educational Corporation
Looking at pictures in books of passengers buying tickets and of workers at the ticket counter	Bagwell. This Is an Airport, pp. 9-10 Colonius. At the Airport, p. 7
Making a form to be used for airplane tickets in dramatic play	Sample form in this section of guide
Listening to the teacher read about the flight schedule board; looking at pictures in books of the schedule board; learning that the board shows arrival and departure times of flights	Bagwell. This Is an Airport, p. 10 Colonius. At the Airport, pp. 4-5 Shay. What Happens When You Travel by Plane, p. 2
Filling in a ditto on a departure board, in preparation for writing departures	Sample form in this section of guide

(continued)

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Lessons and Activities	Sources of Information and Comments
on the blackboard during dramatic play; discussing A.M. and P.M. abbreviations[1]	
Looking at a large classroom map of the U. S. and deciding the destination of the flights in dramatic play	
Discussing the duties of workers at the ticket counter (i.e., giving information to passengers, writing flights on the departure board, filling in tickets, checking luggage, announcing the flights)[2]	
Dramatizing duties of workers at the ticket counter and passengers buying tickets	Suggested props: blackboard for departure board, map of U. S.; play money, tickets
Dictating an experience chart about the duties of the workers at the ticket counter	
/. Learning about the work of the stewardess	
Looking at a film which shows the activities of the stewardess	An Airplane Trip by Jet
Listening to the teacher read a book about a stewardess	Greene. I Want to Be an Airline Hostess, pp. 4-11, 14, 20-24
Learning about the duties of the stewardess (e.g., fastening seat belts, serving food, helping people who are sick)	
Looking at pictures of the stewardess in books; discussing what the stewardess is doing in the pictures	Bagwell. This is an Airport, p.29 Bowen. The Airport, Our Link to the Sky, p. 56 Greene. A Trip on a Plane, pp. 20, 37, 39, 45, 47 Pope. Your World, Let's Take an Airplane Trip, pp. 15-16, 21, 27

(continued)

[1] In dramatic play in the Frank Porter Graham Project, pupils bought tickets for flights "leaving" on the big plane, and they were not concerned with the arrival times of the plane. Therefore, pupils listed departures rather than arrivals on the blackboard, and this board was referred to as a "departure board."

[2] In a real airport the worker at the ticket counter does not announce the flights. However, announcing flights is not enough work to constitute a job by itself during dramatic play. Therefore, in the Frank Porter Graham Project, the worker at the ticket counter was given this duty.

Lessons and Activities	Sources of Information and Comments
	Shay. What It's Like to Be a Pilot, p. 22 Wilkinson. Come to Work with Us In an Airport, p. 24
Dramatizing the duties of a stewardess by placing chairs in two rows for an airplane, and choosing pupils for the following roles: passengers, stewardess, pilots	Suggested props: paper plates, play dough for food, magazines, doll to represent baby; tickets for passengers; earphones for pilots
Deciding to start a school for stewardesses in dramatic play; discussing the curriculum (e.g., information on the cockpit and other parts of the plane; how to serve food on the plane, to take care of sick people, and to help passengers in other ways; what to do in an emergency)	Greene. I Want to Be an Airline Hostess, pp. 12-16
Learning that to be a stewardess a girl must pass a health test: dramatizing the students in the school going to the doctor for a checkup	Suggested props: doctor's kit including eye chart, stethoscope, and other instruments; paper and pencil for prescriptions
Inviting an airline stewardess to the class to tell about her job; asking her about her training; writing thank-you letters	
Dictating an experience chart on the duties of a stewardess	Sample chart in this section of guide

The teacher observes that in dramatic play the pupil stewardess often "cooks" the food. The teacher decides that pupils need to set up an airport kitchen, and that they need information on workers who cook the food served on the airplane.

8. Learning about workers in the airport kitchen

Discussing how the stewardess does not cook the food, but serves it to passengers	
Looking at pictures in books of workers in an airport kitchen, of food trucks, and of food being loaded onto planes	Bowen. The Airport, Our Link to the Sky, p. 31 Colonius. At the Airport, p. 12 Jacobs. Airports, U. S. A., p. 16 Shay. What Happens When You Travel by Plane, pp. 6-7

Lessons and Activities	Sources of Information and Comments
Listening to the teacher read one or more books about the airport kitchen	Bowen. The Airport, Our Link to the Sky, pp. 31-32 Colonius. At the Airport, p. 13 Jacobs. Airports, U. S. A., p. 16
Learning that the food served on the airplane is not cooked on the plane; that the food is prepared in a kitchen and that sometimes the kitchen is located in the airport; that the food is loaded onto trucks and brought to the airplane	
Deciding to set up an airport kitchen, and to make food for the big airplane in dramatic play	
Participating in a lesson on making play dough food; using play dough of different colors; making a display in the classroom of different kinds of play dough food	
Reading a chart prepared by the teacher or dictated by pupils on the duties of workers in the airport kitchen in dramatic play	Sample chart in this section of guide
Discussing the need for a restaurant at the airport where passengers and their friends can eat, since sometimes the passengers have a long wait before they eat on the plane	
9. Setting up a restaurant at the airport; discussing people who work there	
Listening to the teacher read a book on a restaurant	Greene. I Want to Be a Restaurant Owner
Looking at a picture in a book of people eating at a restaurant in an airport	Bowen. The Airport, Our Link to the Sky, p. 16
Discussing the books; deciding they need a cook, waitress or waiter, and cashier to work in the restaurant; deciding they also need tables, chairs, play dough food, a play stove and sink, menus, and a table or counter on which to prepare the food[1]	

[1]The waitress or waiter will also serve as cashier, since there is not enough work for one child to be just cashier during the dramatic play.

Lessons and Activities	Sources of Information and Comments
Discussing the fact that men are often chefs in restaurants; looking at pictures of men chefs in a book	Greene. I Want to Be a Restaurant Owner, pp. 12-13, 22
Discussing the different kinds of food served in restaurants in which the pupils have eaten	
Participating in cooking experiences in the classroom, using a portable oven or the oven in the school cafeteria; making puddings, jello, applesauce, cookies, cake from mixes, and various other foods from simple recipes	
Learning to read recipes; learning the arithmetic involved in the recipes	
Discussing the fact that pupils won't really cook in the dramatic play sessions; making play dough food out of play dough of different colors	
Learning that the waiter or waitress sets the tables; learning to set tables correctly	
Making menus; discussing the different categories of food on a menu (e.g., beverages, soups, sandwiches, salads); deciding to make one general menu, although some pupils may choose to make a separate menu for breakfast, and a menu for lunch and dinner	
Weaving place mats out of paper or yarn for the restaurant in dramatic play	
Deciding to put flowers on the table in the restaurant; making flower holders out of orange juice cans covered with colored paper; making paper flowers	
Coloring or painting pictures for the restaurant walls in dramatic play	
Dramatizing passengers getting food at the airport restaurant; choosing the roles of cook, waitress or waiter, passengers; discussing why food must be served quickly at an airport restaurant[1]	Suggested props: menus; play dough food, dishes and silverware, napkins; play stove and sink

[1]In dramatic play in the Frank Porter Graham Project, the same "cooks" made food for the restaurant and for the airplanes. The airport kitchen was located by the restaurant and also served as the kitchen for the restaurant. There was not enough work for the airport kitchen cooks during dramatic play, if they just made food for the airplane.

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Lessons and Activities	Sources of Information and Comments
Sometimes pupil pilots crash during dramatic play. They complain that the planes are not operating correctly, or that they run out of fuel. The teacher decides to introduce lessons on the ground crew and other safety workers at the airport.	
10. Learning about the ground crew	
Looking at one or more films which show the activities of workers in the ground crew	Airplane Trip by Jet Airport Activities Airport in the Jet Age. Churchill Films Airport in the Jet Age. Encyclopaedia Britannica Films Busy Airport
Reading or listening to the teacher read about hangars in one or more books; looking at pictures of hangars in the books; learning about the work of mechanics who carefully check, repair, and service airplanes in a hangar (a garage for airplanes)	Airports. Realistic Visual Aids picture "Servicing Jet" Bowen. The Airport, Our Link to the Sky, pp. 23-28 Colonius. At the Airport, pp. 22-23 Greene. A Trip on a Plane, pp. 18-19 Jacobs. Airports, U. S. A., pp. 34-40 Sootin. Let's Go to an Airport, pp. 14-18
Learning about the air freight building and the workers who load freight onto planes	
Learning that boxes and packages are called air freight or cargo	Jacobs. Airport, U. S. A., pp. 26-32 Colonius. At the Airport, p. 27
Looking at a film which shows air freight	Airplanes Work for Us
Deciding to make air freight for small planes; sewing burlap or other heavy cloth together in 2" x 3", 2" x 4", 3" x 3", or 3" x 4" sizes; stuffing the cloth with cotton or other filling	
Looking at pictures and reading books about workers in the ground crew and their trucks	
Fuel trucks and workers putting fuel in planes	Bagwell. This is an Airport, pp. 22-23 Bowen. The Airport, Our Link to the Sky, p. 30 Colonius. At the Airport, pp. 10-11

Lessons and Activities	Sources of Information and Comments
Mechanics giving a quick inspection to the plane parked on the ramp (the concrete area beside the terminal building)	Bagwell. This is an Airport, p. 22 Jacobs. Airports, U. S. A., p. 36
Men scrubbing the planes parked near the terminal building	Bagwell. This is an Airport, p. 23 Sootin. Let's Go to an Airport, p. 13
Workers loading packages and boxes (air freight), and mail onto planes	Jacobs. Airports, U. S. A., pp. 26-33
Tugs	Sootin. Let's Go to an Airport, pp. 10-14
Pictures of many trucks around the parked airplane	Jacobs. Airports, U. S. A., p. 7 Airports. Realistic Visual Aids picture of "Ramp Crew"
Discussing how workers in the ground crew have two-way radios in their trucks; how they receive instructions from the control tower so there won't be any accidents with planes and other trucks moving on the airfield	Sootin. Let's Go to an Airport, p. 20
Dramatizing the work of the ground crew (e.g., washing and "servicing" planes in the hangar; putting fuel in the planes; bringing baggage, freight, and airmail in tugs and trucks, and loading them onto planes; receiving instructions from the control tower)	Suggested props: small airplanes; hangar, rags; tugs, fuel trucks; baggage and freight made of cloth, letters; round parts of old earphones to use as two-way radios; table for the air controller, field glasses
Making pictures or a mural of workers in the ground crew doing their jobs	
11. Discussing safety workers at the airport	
Describing mechanics in the ground crew and air controllers as safety workers	
Discussing the workers who help in an emergency at the airport--workers in the fire station, first aid service or airport doctor's office	Bagwell. This is an Airport, p. 20 Bowen. The Airport, Our Link to the Sky, p. 15 Sootin. Let's Go to an Airport, p. 44

Lessons and Activities	Sources of Information and Comments
Looking at slides of airport workers, and discussing other workers who might be considered safety workers	Airport Workers
Looking at a filmstrip and discussing safety workers; deciding that weathermen at the airport can be considered safety workers	Air Safety
12. Learning about the weather station at the airport and the weathermen who work there[1]	
Learning that in most big city airports there is a U. S. Government Weather Bureau where weathermen make weather forecasts, and weather maps of the entire country	Barr. What Will the Weather Be? p. 7 Bagwell. This is an Airport, pp. 24-25 Bowen. The Airport, Our Link to the Sky, pp. 39-43 Colonius. At the Airport, pp. 28-29 Sootin. Let's Go to an Airport, pp. 22-26, 30-31
Discussing why weather information is important to a pilot	
Learning why rain, fog, snow, and storms may be dangerous to the pilot	
Learning that when the pilot makes his flight plans, he studies weather maps and the weather forecast for the route he will fly; if a bad storm is predicted, he plans a safe course	Bowen. The Airport, Our Link to the Sky, pp. 44-45 Jacobs. Airports, U. S. A., p. 18
Learning that if a pilot unexpectedly runs into a storm en route, he cannot change his course until he gets permission from a control tower	Bowen. The Airport, Our Link to the Sky, p. 46
Learning that wind direction is important at an airport, because an airplane must take off and land into the wind	Sootin. Let's Go to an Airport, pp. 30-31

[1] This section is an example of how an occupational awareness program can correlate with the science program. Only a brief description of the lessons and activities are included here, since there are entire units on weather included in many science books and curriculum guides for primary grades.

Lessons and Activities	Sources of Information and Comments
Learning that there are wind indicator dials in the control tower at the Raleigh-Durham Airport; that the air controller gives pilots information on wind for taking off and landing; that the control tower has direct communication with the weather station	Pictures of wind indicator dials in Wolfe. Let's Go to a Weather Station, p. 19, and in Trip to the Weather Station (filmstrip)
Learning what the pilot must do to land in thick fog; learning about instrument landings	Greene. A Trip on a Plane, pp. 14-15 Sootin. Let's Go to an Airport, p. 36
Bringing in weather forecast maps from the daily newspaper; noting symbols for showers, rain, and snow used on the maps; making a chart or bulletin board of the maps	
Listening to the teacher read in one or more books about weather maps; looking at pictures of weather maps and weather symbols in the books	Baker. I Want to Be a Weatherman, pp. 11-19, 28, 29 Barr. What Will the Weather Be? pp. 22-23
Keeping a daily weather chart; deciding the symbols to use for rain, snow, sun, clouds, wind; using these weather charts at the airport in dramatic play	Sample chart in this section of guide
Learning about weather instruments: thermometers (measure temperature); barometers (measure air pressure); rain guages (measure quantity of precipitation); anemometers (measure wind speed); weather vanes (measure wind direction)	Bowen. The Airport, Our Link to the Sky, p. 41 May. Weather, pp. 9-10, 15 Williams. I Know a Weatherman, pp. 31-35 Wolfe. Let's Go to a Weather Station, pp. 13-19
Looking at a filmstrip on how to read thermometers	Thermometers
Looking at a filmstrip which shows weather instruments at the weather station	Trip to the Weather Station
Listening to a tape and doing a worksheet on weather instruments	Weather Instruments
Deciding to put weather instruments inside and outside the classroom (e.g., a barometer, an inside and an outside thermometer, a rain guage, and a weather vane); deciding to take daily readings of the instruments	

Lessons and Activities	Sources of Information and Comments
Participating in science lessons and experiments	
Participating in science experiments on air, wind, fog, clouds, rain; reviewing why knowledge of these topics is important to pilots, and how pilots get instruction on weather during their training	Experiments found in science books used in local districts
Looking at a filmstrip which gives information on clouds, wind, rain, fog	We Learn about the Weather
Talking to weathermen and visiting the weather station as part of the field trip to the airport[1]	See Number 14 in this section on the trip to the airport
Listening to the teacher read one or more books in preparation for visiting the weather station	Barr. What Will the Weather Be? Baker. I Want to Be a Weatherman Williams. I Know a Weatherman Wolfe. Let's Go to a Weather Station
Looking at filmstrips in preparation for the trip	Trip to the Weather Station What Will the Weather Be?
Taking the trip and noting the instruments in the weather station; obtaining old weather maps from the weatherman	
Noting the wind indicator dials in the weather station and in the control tower; noting that there is direct communication between the control tower and the weather station at the airport	
Noting the weather maps and weather forecasts in the flight room in the airport	
On return from the trip, deciding to set up a small weather station with weather maps	

(continued)

[1] In the Frank Porter Graham Project pupils briefly visited the weather station during their trip to the airport. There is an advantage in visiting the weather station as part of this field trip. Pupils will be able to see the relationship between the control tower, the flight room, and the weather station. However, some teachers may prefer to take a separate field trip to the weather station, so that pupils can spend more time there.

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Lessons and Activities	Sources of Information and Comments
and weather instruments in the dramatic play area; deciding to use paper plates to make wind dials for the weather station and control tower	Wind dials pictured in filmstrip, Let's Go to a Weather Station

As the pupils and teacher learn more about the different buildings and workers in the airport, the teacher realizes that an airport is so complex that entire dramatic play sessions could be devoted to dramatization of the activities therein.

13. Discussing buildings at an airport; learning that an airport is like a minature community

Reviewing what pupils have learned about a hangar, freight building, weather station, and terminal building

Listening to the teacher read in one or more books about the parts of an airport; looking at pictures in books

Bagwell. This is an Airport, pp. 8-12, 14-15
Bowen. The Airport, Our Link to the Sky, pp. 13, 14, 16-22
Jacobs. Airports, U. S. A., pp. 12-13
Shay. What Happens When You Travel by Plane, p. 10

Learning that many airports have a hotel or motel and a fire station

Learning more about the terminal building--the main building in an airport; learning that besides the ticket counters, the terminal building includes: rent-a-car companies, a gift shop, a restaurant, a first aid station, book and magazine stands, a waiting room; in a large city airport the terminal building may also include a barber shop, a doctor's office, a bank, a post office branch, and a police station

Deciding that in some dramatic play sessions the entire dramatic play community will be turned into an airport[1]

Suggested parts of the airport to include in dramatic play: a hotel or motel, fire station, weather station; a terminal building, including a waiting room, ticket counter, doctor's office, bank, post office, gift shop, newsstand, restaurant, airport kitchen, police station,

(continued)

[1] The dramatic play community should be near completion (e.g., include a fire station, police station, bank, doctor's office, post office), before it is turned into a large airport for a few dramatic play sessions.

Lessons and Activities	Sources of Information and Comments
	barber shop; an airfield with airplanes, runways, a fuel truck, food truck, and tugs; a hangar
14. Taking a field trip to study the different buildings, equipment, and workers at the airport	
Discussing the field trip as a research activity to get information for dramatic play	
Preparing for the field trip	
Viewing a filmstrip on the airport	The Airport
Viewing slides of workers at the airport	Airport Workers
As part of the preparation for the field trip, viewing filmstrips and listening to the teacher read books on the weather station	See p. 182 of the guide.
Taking the field trip and noting the buildings, equipment, and workers particularly relevant to dramatic play	Checklist on trip in this section of guide
On return from the field trip, discussing what needs to be added to the dramatic play airport; painting or coloring pictures of the trip to the airport	
15. Participating in a research lesson by reading books or viewing a filmstrip.	Procedures for this lesson on pp. 24-28 of this guide
Discussing the need for this research lesson to determine if pupils are correctly portraying airport workers in their dramatic play	

NOTE

Throughout the study of airport workers, pupils have listened to the teacher read books, and many individual pupils have independently looked at books in their free time. This is the first research lesson on airport workers in which many pupils are reading books in a teacher-directed lesson. The teacher should not plan this lesson until pupils have participated in dramatic play and have had many concrete experiences on airport workers. These concrete experiences will help them bring meaning to the printed page in books and to the text on the filmstrips.

Lessons and Activities	Sources of Information and Comments
Reading books and answering questions; looking at a filmstrip; if they finish early, drawing a picture of airport workers	Sample questions on books in this section of guide
Sharing what they have read in books or viewed in the filmstrip; deciding if there is anything new to add to the airport or to do as airport workers in dramatic play	

SAMPLE SPELLING WORDS

1. control tower
2. controller
3. airplane
4. hangar
5. terminal building
6. departure board
7. runway
8. tug
9. freight
10. cargo
11. pilot
12. stewardess
13. weatherman
14. weather station
15. airport

Sample chart to be read before film

Film: An Airplane Trip by Jet

A boy and girl go on a trip.
They go on Flight 801.

Mechanics look at the engine.
Men put fuel in the airplane.
Men put luggage and mail on the airplane.

A man in the traffic control tower talks to the pilot.
"Flight 801, take off on Runway 2."

The pilot and co-pilot are in the cockpit.
The pilot says, "Flight 801 ready to taxi."

An air controller says, "Taxi down Runway 2."

A man waves his arms for the plane to take off.

The stewardess greets the passengers.
The stewardess tells them how to use oxygen masks.
The stewardess tells them to use seat belts.

The pilot talks to the passengers.
"This is Captain Smith. The weather is clear. We are flying at an altitude of 28,000 feet. Our flying time is just under 6 hours."

The stewardess gives food and magazines to the passengers.
She takes care of the children.

The pilot says, "We are about to cross the Continental Divide. We are flying over 8000 feet."
The pilot says, "We are flying over Lake Tahoe at 28,000 feet."
The pilot asks the control tower if he can land.

An air controller says, "Flight 801, fly over Sacramento at 11,000 feet or over."
An air controller tells Flight 801 to land.

Sample chart to be
read before film

Film: Airplanes Work for Us

The pilot says, "Flight 23 waiting for instructions to land."
A worker in the control tower says, "This is International Airport. You are cleared to land on Runway 15. The wind is southwest."
The pilot says, "Flight 23 is approaching Runway 15."
A worker in the control tower says, "You are clear to land. Over."

Airplanes carry passengers.
Airplanes carry mail.
Airmail goes faster than other mail.
Airmail is taken off the planes and put on tugs.
Airmail is taken to a post office and sorted and delivered.

Airplanes carry freight.
A small birthday present, a large motor, a cat, and an elephant are all freight.

Some men fly small, private planes.
They must learn to use the switches and levers in the cockpit.

Helicopters fly over forests.
The pilots look for fires.
Men parachute from the helicopters to reach the fires quickly.

Helicopters can land in water.
They can rescue pilots whose planes have fallen in the water.

Airplanes go on weather patrols.
The pilots look for hurricanes and tornadoes.
They use radar to locate storms.
They report back to the weather bureau.

Helicopters can land almost anywhere.
Helicopters put in poles for power lines.

Airplanes dust crops.
They spray powder to kill insects.

Airplanes work for us.

Sample chart to be read before film

Film: Airport Activities

The pilot is the captain of the plane
The co-pilot helps the pilot to fly the plane.

A pilot says, "Los Angeles Control Tower. United Flight Number 18 is ready to take off."
An air controller says, "United Flight Number 18. This is the Los Angeles Tower. You may take off, captain."

When a pilot wants to land he says, "Los Angeles Tower, American Flight Number 15 requests to land."
An air controller says, "American Flight Number 15, it is clear to land on Runway 25 at 0930."
0930 means 9:30 o'clock.

When the pilot is going to land, an air controller tells him about the wind.
When the plane lands, luggage, mail, and cargo are taken off on a conveyor belt.

Some airmail is put on other airplanes.
Some airmail is taken to the post office in the city.
Since the letters have already been cancelled, the postman delivers them.

A tug pulls the big plane to the hangar.
A mechanic looks at the plane.
Some men wash the plane outside the hangar.

We need runways.
We need numbers on the runways.

We need to name the airlines that will fly at our airport.

Sample chart to be
read before film

Film: Airport in the Jet Age (Churchill Films)

Helicopters are air taxis.
Helicopters carry people to the airport.

Passengers buy tickets and check luggage in the terminal building.

A voice on the loudspeaker says that the flight will leave at Gate 2.

A passenger looks at a chart and chooses his seat on the jet.

A truck takes fuel to the plane.
Another truck takes food to the plane.
The food was prepared in the airport kitchen.

There is a weatherman at the airport.
He must find out the direction of the wind.
He must forecast the weather.

The pilot must know about the wind and the weather, and how high to fly.

Tugs pull the baggage out to the plane.

A worker in the control tower tells the pilot when he can take off. "United Flight 84, you can take off now."
A worker in the control tower is an air traffic policeman.

Many people work at the airport.
What workers do we need in our airport?

Sample charts to be read before films

Film: Airport in the Jet Age (Encyclopaedia Britannica Educational Corporation)

Mr. Stuart works in the control tower.
He is an air traffic controller.

Men in the control tower give pilots permission to taxi.
They give pilots permission to take off.
They give pilots permission to land.
"Winds southwest. Cleared to land on Runway 25."

Look at the equipment in the control tower.
Look at the lights.
Look at the earphones.
Look at the microphones.
What other equipment is in the control tower?

Many people work at the airport.
Fuel is put in the plane.
Mechanics check the jet engines.
A weather bureau sends out weather information.
Dinners are prepared in the airport kitchen for the airplanes.

The workers at the ticket counter sell tickets to passengers.
The workers at the ticket counter weigh the baggage.

Listen to the voice on the loudspeaker tell the passengers to get aboard the airplane.

The airport is a busy place.
Many people work there.

Film: Billy's Helicopter Ride

Helicopters do many different kinds of work.
Helicopters spray trees with chemicals.
Helicopters bring supplies to a barge on the ocean.
Helicopters lift telephone poles.
Police in helicopters patrol traffic in cities.
Helicopter pilots report fires to forest rangers.
What else do helicopters do?

Billy will take a ride in a helicopter.

Sample chart to be read before film

Film: Busy Airport

David visits a big airport.
We depend on airplanes for airmail and air parcel post.
A dog is sent to David by air freight.

See the terminal building.
See the restaurant at the airport.
See the ticket counters.

See the jet planes.
See the runways.
See the hangars.

A hangar is a garage for airplanes.
The mechanics check the airplanes.

Fuel is put into the plane.
Food is put on the plane.
The food comes from the airport kitchen.
Sacks of mail are put on the airplane.

See the pilot in the cockpit.
The pilot looks at a map.

See the control tower.
The man in the control tower tells the pilot when to land and when to take off.
The man in the control tower says, "Taxi to Runway 5."

Sample charts prepared by the teacher or dictated by pupils

Workers in the Airport Kitchen in Dramatic Play

The workers in the airport kitchen work hard.
The workers in the kitchen must get some food ready before dramatic play starts.
They must get food to the airplane before it takes off.
They must get food ready for the restaurant.
They make the food out of play dough.
They buy the play dough at the store in our community.

Workers in the Control Tower

The control tower is the tallest building at the airport.

The workers in the control tower are called air controllers.
The air controllers can see the airport below and the sky above.

The air controllers:
1. tell pilots to taxi.
2. tell pilots when to take off and which runway to use.
3. tell pilots when to land and which runway to use.
4. tell pilots about the wind and weather.
5. talk to drivers of tugs and trucks on the ground and tell them when to get off the field near the runways.
6. call fire trucks if there is an emergency.

The Work of the Stewardess

The stewardess checks that passengers put on their seat belts when the airplane takes off and lands.
She tells passengers not to smoke when the airplane takes off and lands.
She shows passengers how to use the oxygen mask.
She serves food and drink.
She gives magazines to passengers.
She helps mothers with babies.
She takes care of children flying alone.
She helps sick people.
After passengers get off, the stewardess makes the airplane neat for the new passengers.

Sample checklist for
field trip

TRIP TO THE AIRPORT

1. hangar _____
2. terminal building _____
3. ticket counter _____
4. weighing luggage _____
5. departure board _____
6. Eastern Airlines _____
7. United Airlines _____
8. waiting room _____
9. restaurant _____
10. bank _____
11. control tower _____
12. runways _____
13. tugs _____
14. mail bags _____
15. cargo _____
16. fuel truck _____
17. food truck _____
18. gasoline station _____
19. pilot _____
20. stewardess _____
21. weather station _____
22. weather instruments _____
23. weather maps _____
24. flight room _____

Sample form to be used in dramatic play

AIRPLANE TICKET

Name_____

Flight _____

You are going to _____.

The airplane will go at _____.

You will pay $_____.

DEPARTURES[1]

Flight 1 to New York Time 10 A.M.

Flight ___ to _____ Time _____

Flight ___ to _____ Time _____

Flight ___ to _____ Time _____

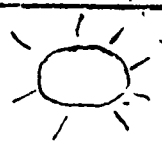
[1] In the lesson the pupils look at the large classroom map and decide on the destination of the big airplane in dramatic play. The teacher or a pupil writes the flights on the blackboard "departure board," while the rest of the class fills in this form.

WEATHER CHART

	What time is it?	Read the thermometer. What is the temperature?	What kind of day is it?
Monday			
Tuesday			
Wednesday			
Thursday			
Friday			

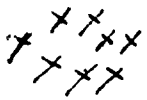
Key:

cloudy

 sunny

windy

rainy

 snowy

calm

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Sample questions on books
for pupil research lesson

Bagwell, Richard, and Bagwell, Elizabeth. This Is an Airport

1. What does the clerk at the ticket counter do? page 10
2. What do the big boards show? pages 10, 11
3. What is the tallest building? page 17
4. Name some equipment in the control tower. page 18
5. What do the men in the control tower do? pages 18, 19, 20
6. Look at the picture. What does the stewardess do? page 28

Colonius, Lillian, and Schroeder, Glenn W. At the Airport

1. What do the boys see on the big schedule board in the terminal building? page 5
2. How can people buy tickets? pages 6, 7
3. What trucks did John and Don see near the plane? pages 11, 13
4. What is done to the airplane in a hangar? page 23
5. How does the weather station help pilots? page 29
6. What do workers in the control tower do? page 31

Greene, Carla. I Want to Be an Airline Hostess[1]

1. Who takes care of Sue on the airplane?
2. What does the airplane hostess (stewardess) tell Sue to do with her seat belt?
3. What does the airplane hostess (stewardess) do on the plane?
4. What did Miss Kay learn at airlines school?
5. Why does Miss Kay get on the plane early?

Greene, Carla. I Want to Be a Pilot

1. What does Mike learn at the flying school?
2. Why does Mike go to the doctor?
3. What does Mike learn at the airline ground school?
4. Mike becomes a co-pilot. What does a co-pilot do?
5. Now Captain Mike is a pilot. What comes over the radio before take off?

Greene, Carla. Railroad Engineers and Airplane Pilots

1. What does a pilot learn in flying school? pages 40, 41
2. What does a flying forest ranger do? page 47
3. What does a co-pilot do? page 51
4. What do the men in the control tower tell Captain Smith? pages 55, 60
5. What does the pilot do? pages 60, 61

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[1] In some books the pages are not numbered. The teacher can put markers in these books to help pupils find the pages with the answers.

Sample questions on books
for pupil research lesson

Jacobs, Lou, Jr. Airports, U. S. A.

1. What is the tallest building at the airport? page 8
2. What must the crew do before take-off? page 18
3. Where do the traffic policemen for airplanes work? What are they called? page 20
4. What do the men in the control tower do? pages 8, 20
5. What does the controller ask the pilots to do if many planes are waiting to land? page 22
6. What do the controllers see on the radar screens? page 24
7. What is done to the plane in the hangar? pages 37, 38, 39, 40

Lewellen, John. The True Book of Airports and Airplanes

1. How long are some runways? page 7
2. What does the man in the control tower tell the planes? page 11
3. Look at the picture on page 12 and read page 13. What does the worker at the ticket counter do?
4. Look at the picture on page 17. What does the stewardess do?
5. Draw a picture of a worker at the airport.

Shapp, Martha, and Shapp, Charles. Let's Find Out about Airplanes

1. Do helicopters need runways? Explain. page 39
2. What do the men in the control tower tell the pilots? page 42
3. What do the pilot and co-pilot do? page 44
4. What does the stewardess do? page 46
5. Why does the pilot radio the control tower before landing? page 51

Shay, Arthur. What Happens When You Travel by Plane

1. What is in the airport kitchen?
2. What is in the airport?
3. What signs are inside the plane?
4. What does the stewardess do?
5. What happens when the plane lands?

Wilkinson, Jean, and Wilkinson, Ned. Come to Work with Us in an Airport

1. What does the porter do? pages 10, 11
2. What does the ticket agent do? pages 12, 13
3. Name some workers in the ground crew. pages 17, 19
4. What does a pilot do? pages 22, 23
5. What does a stewardess do? pages 24, 25
6. What does the air traffic controller do? pages 30, 31
7. What other kind of controller is in the control tower? page 33
8. What does the pilot learn from the weatherman? page 37

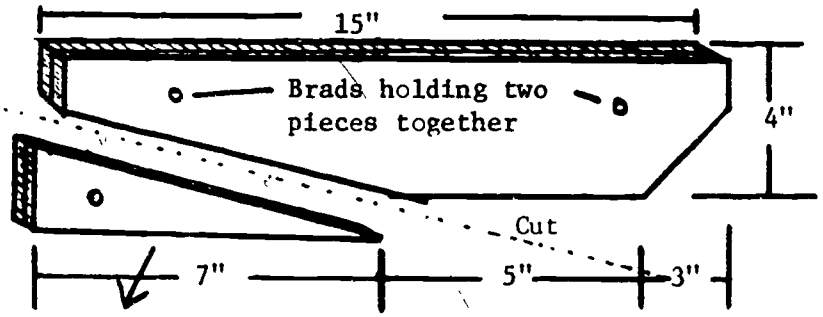
Sample checklist on filmstrip
for pupil research lesson

Filmstrip: The Airport

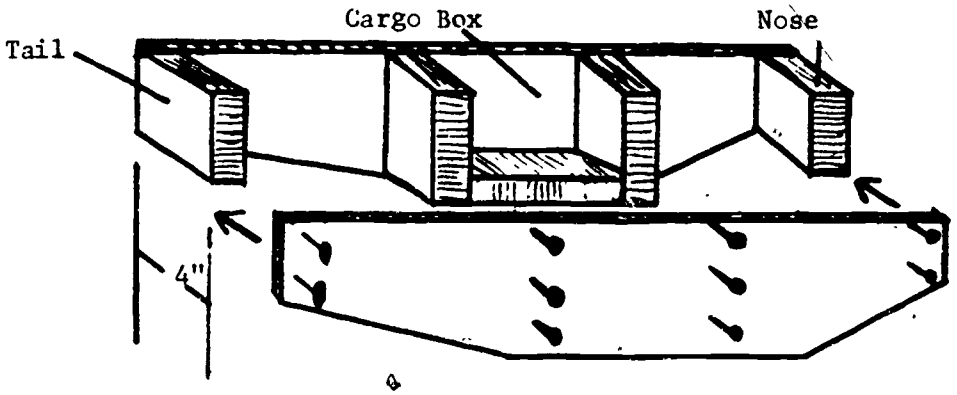
1. terminal building _____
2. ticket agent _____
3. departure board _____
4. airport store _____
5. airport restaurant _____
6. stewardess _____
7. pilot _____
8. ground crew _____
9. mechanic _____
10. weather maps _____
11. waiting room _____
12. control tower _____

CONSTRUCTION OF A CARGO PLANE

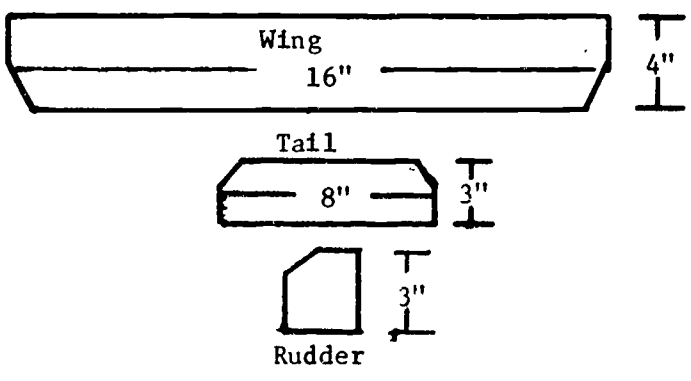
1. Take two pieces of 1/4" plywood approximately 15 inches long and nail them together with small brads. Cut them both at the same time to insure that both sides of the plane are equal in size and shape. Cut them in this manner:

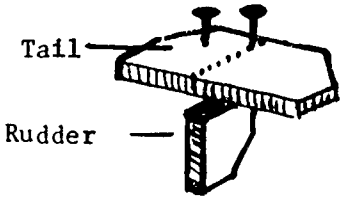


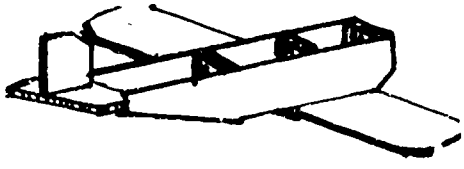
2. Remove the brads. Separate these two pieces of wood. They will form the main part of the body of the plane. The rest of the body is made by cutting short pieces of wood to form a cargo box between the sides of the plane. Also put two connector blocks at the nose and tail of the plane.



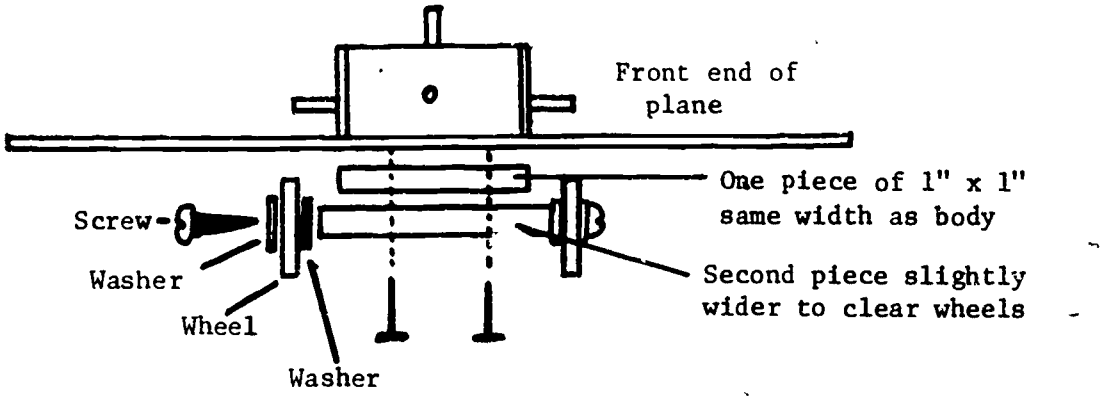
3. Cut the wing, tail, and rudder. Nail the rudder and tail together through the bottom of the tail. Nail the wings and tail onto the body of the plane.



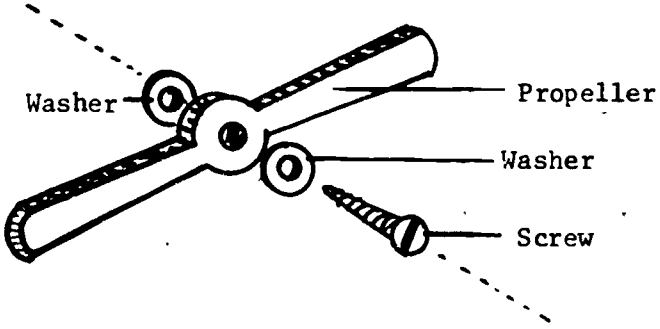




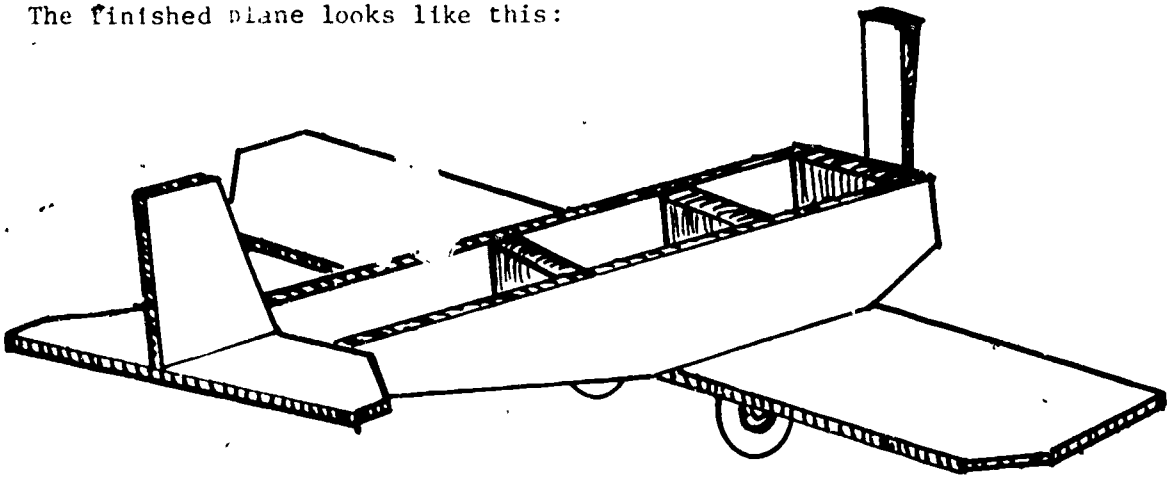
4. The wheels are attached by cutting two pieces of 1" x 1" stock to conform to the dimensions of the plane. Nail the pieces of 1" x 1" underneath the wing and attach the wheels. Always glue before nailing.



5. Make a propeller and attach to the front of the plane with a screw and washers.

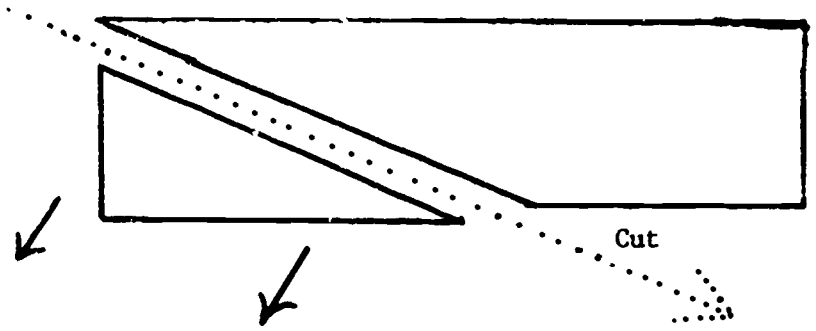


6. The finished plane looks like this:

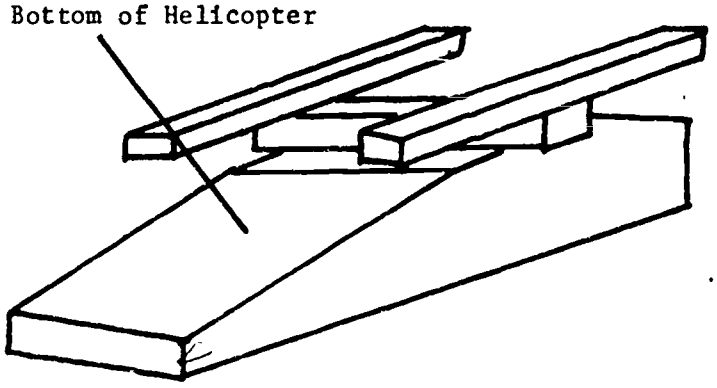


CONSTRUCTION OF A HELICOPTER

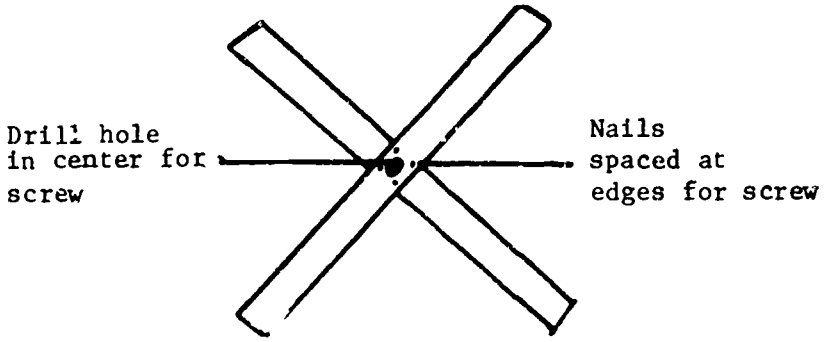
1. Cut a piece of 2" x 2" stock 10 inches long. Cut one end at an angle to make the body of the helicopter.



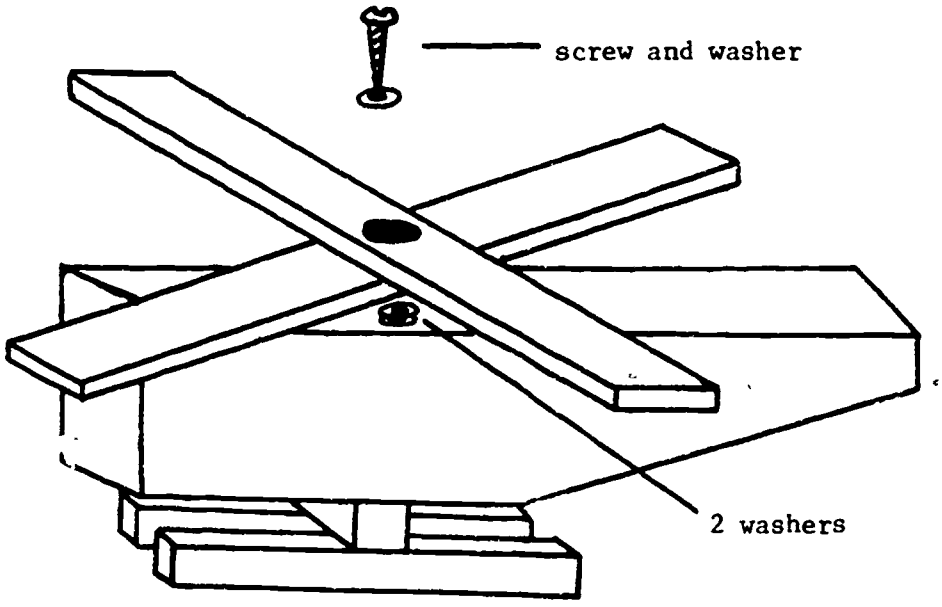
2. Using 1" x 1" stock, cut three pieces 4 inches long. Make an "H" with these three pieces. Then nail the center of this "H" to the bottom of the helicopter.



3. Cut two pieces of 1/4" plywood 1 inch wide and 10 inches long. Nail them together in an "X". This "X" will be the propeller, so leave a space for a screw in the middle.



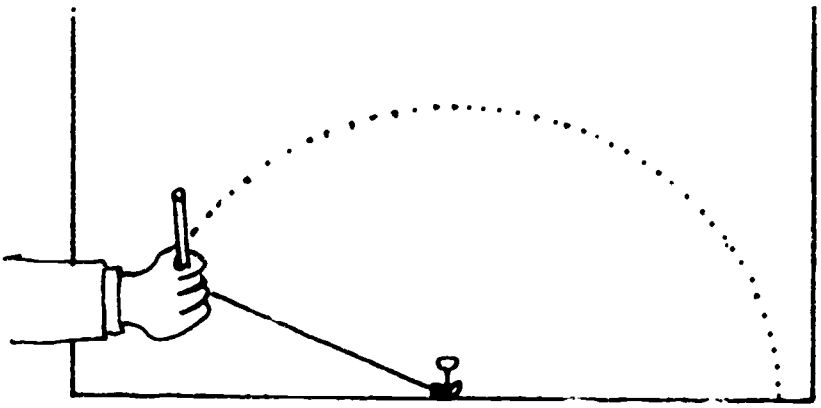
4. Screw this "X" onto the top of the helicopter. Put two or three washers between the "X" and the top of the helicopter to give the propeller clearance from the body, so that it can be turned.



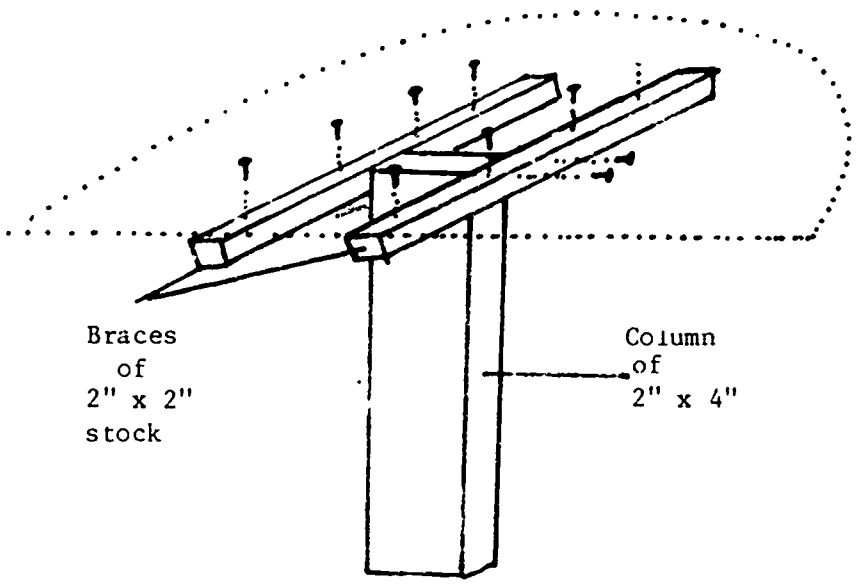
FINISHED HELICOPTER

CONSTRUCTION OF A COCKPIT OF AN AIRPLANE

1. Cut a half circle of plywood a yard wide. (A perfect half circle can be made by driving a small nail into the center point of one end of the plywood. Loop a string around the nail and swing a pencil in an arc at the other end of the string to make the half circle).



2. Cut out this half circle with a sabre saw. Nail it to a 2" x 4" column which has been cut at an angle and has braces attached. The length of this 2" x 4" column will determine the height of the airplane panel. The braces are made of 2" x 2" boards. The length of the braces is determined by the dimensions of the airplane panel.



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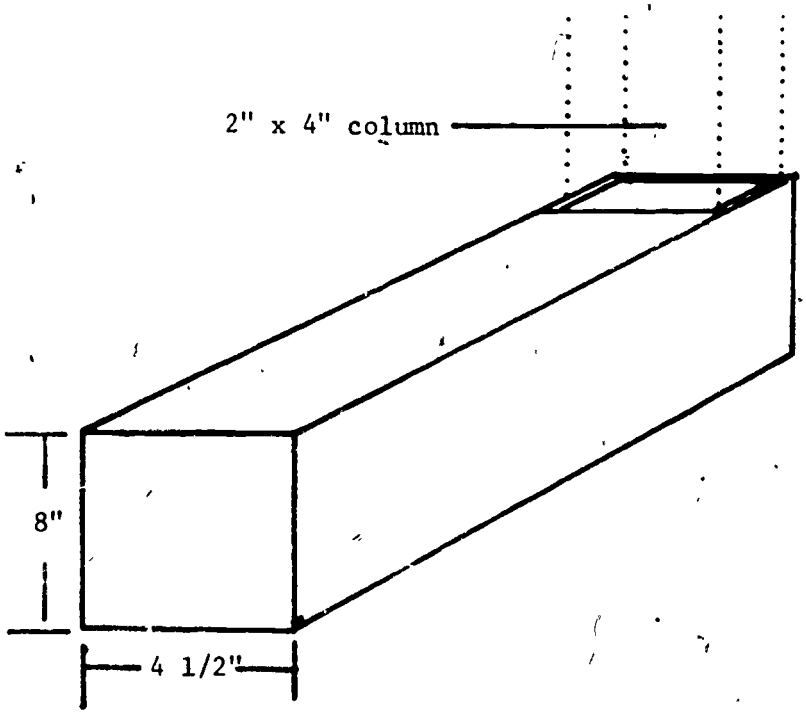
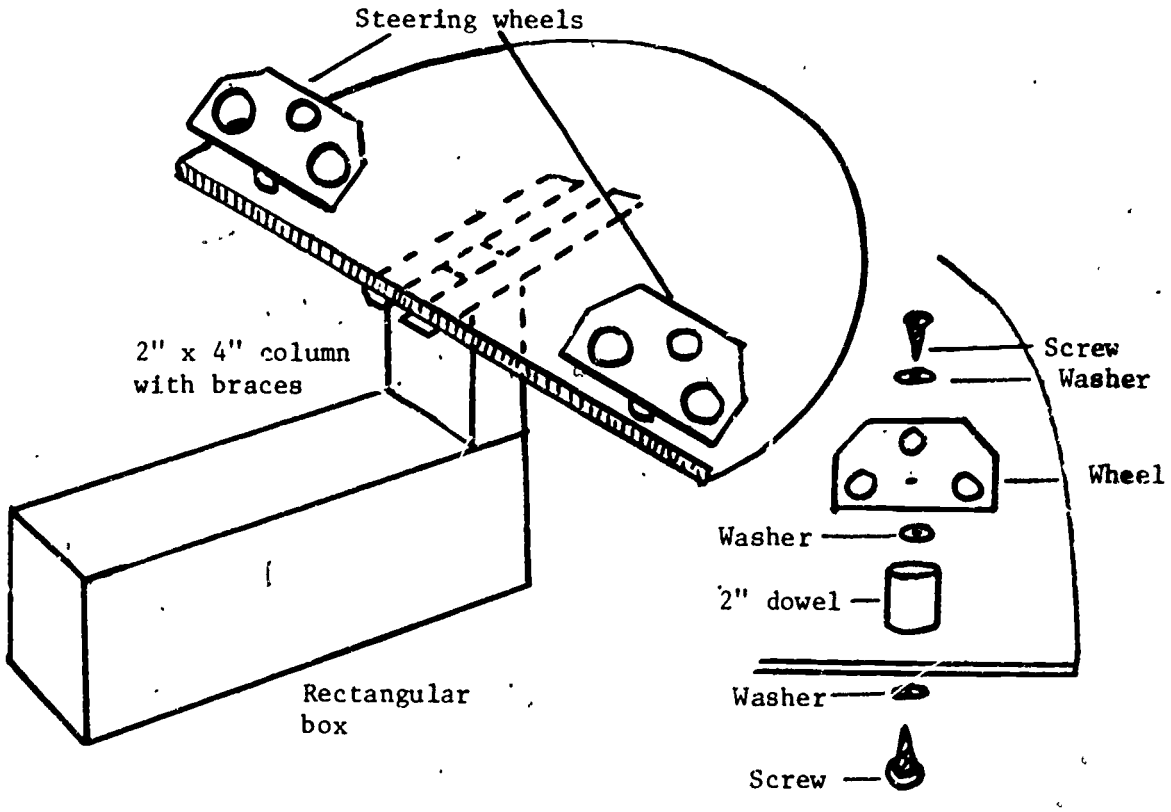
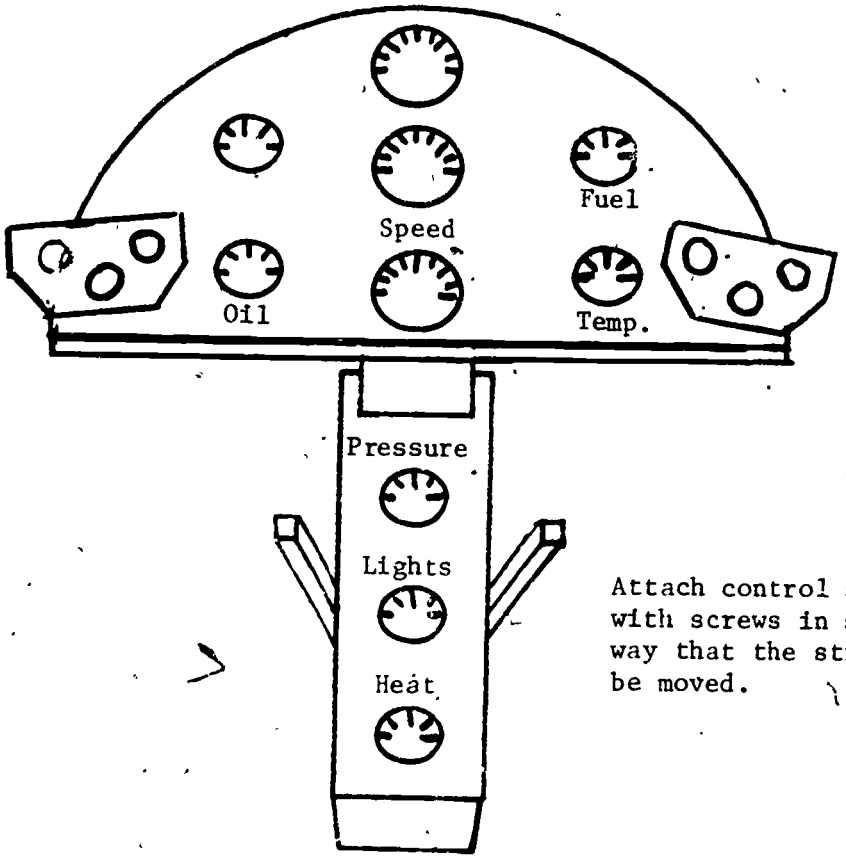
3. Make a rectangular box. Cut a hole at one end into which the 2" x 4" column with the braces will fit.



4. The unit will look this way when put together.

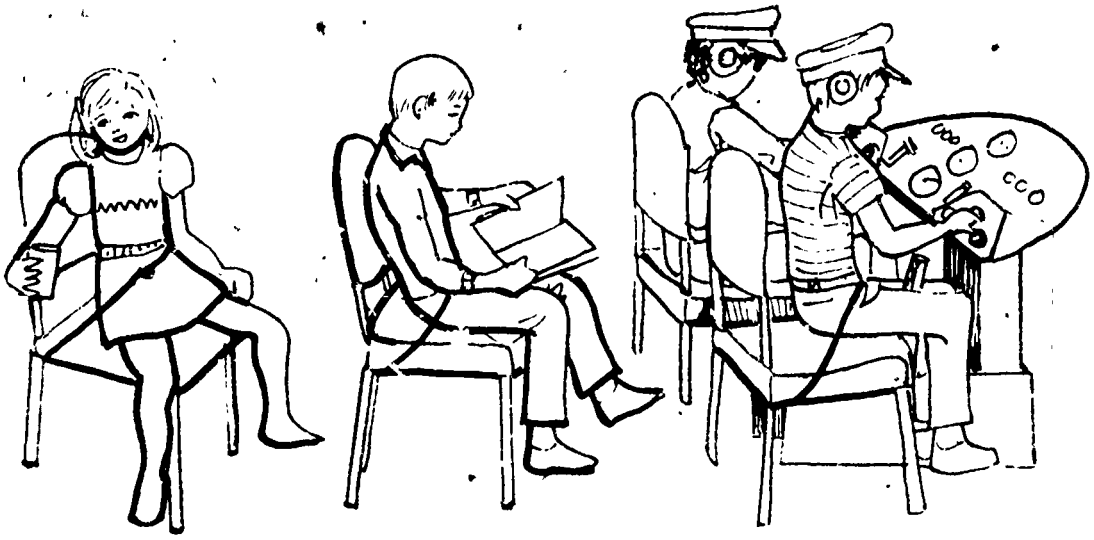


5. Draw some dials on the dashboard. Also attach wooden button molds, wheels, and bottle caps to represent other dials and indicators on the dashboard



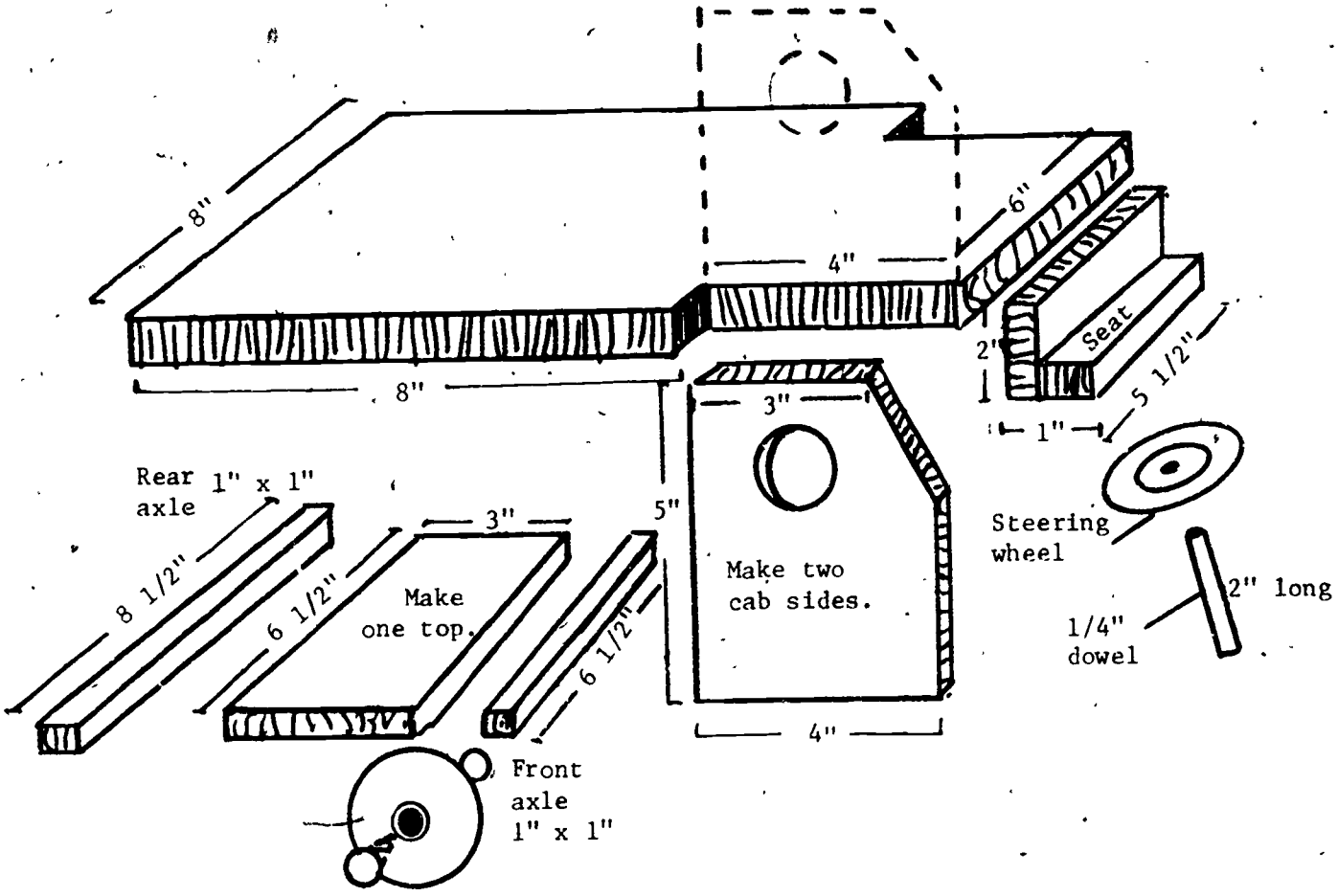
Attach control sticks with screws in such a way that the sticks can be moved.

6. Put chairs behind the cockpit for pilots and passengers to sit during the dramatic play on the airport.

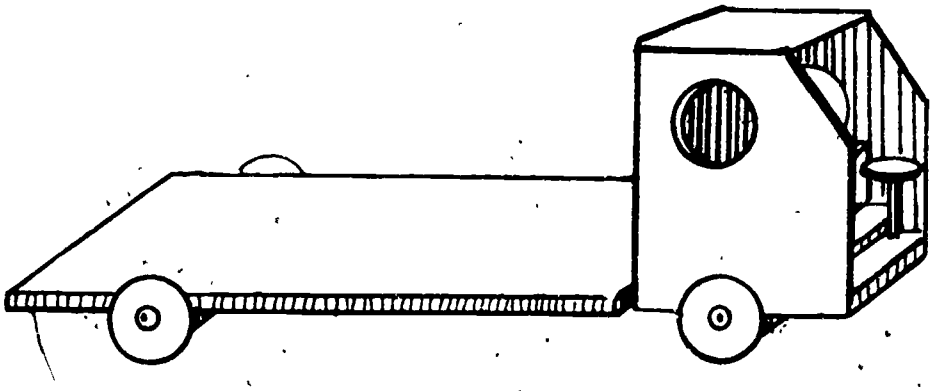


CONSTRUCTION OF A FUEL TRUCK

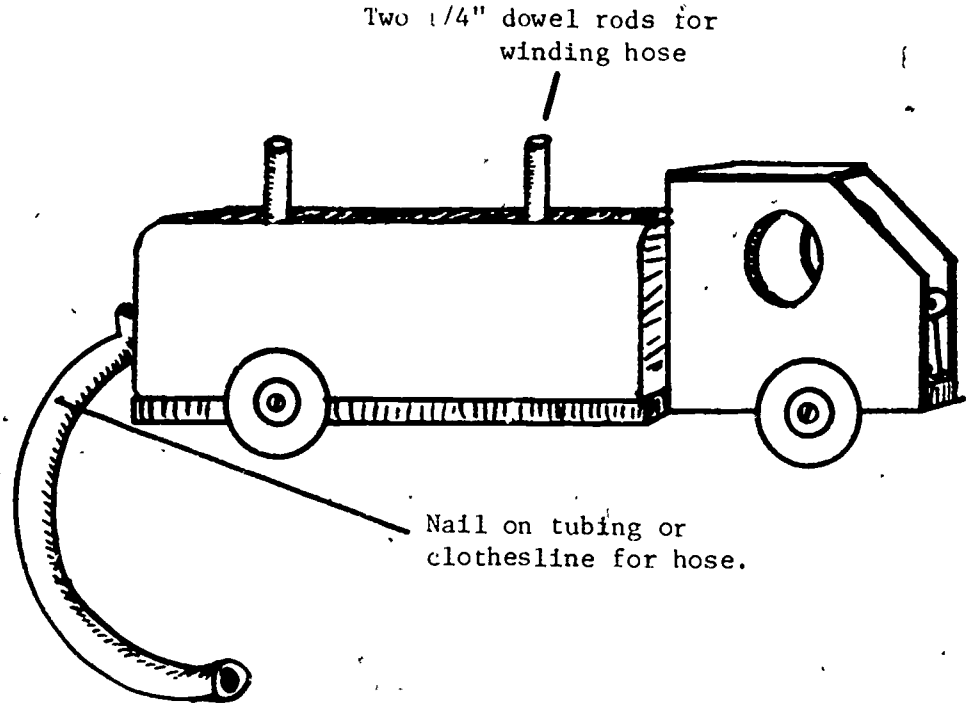
1. Make the bed and cab first. Cut a piece of 1" x 8" wood 12 inches long. At one end of this board cut out a section 1" x 4" from each side, leaving the end 6 inches wide. The cab will be put at this end. The sides and top of the cab are made of 1/4" plywood.



2. The assembled bed and cab of the truck look like this:

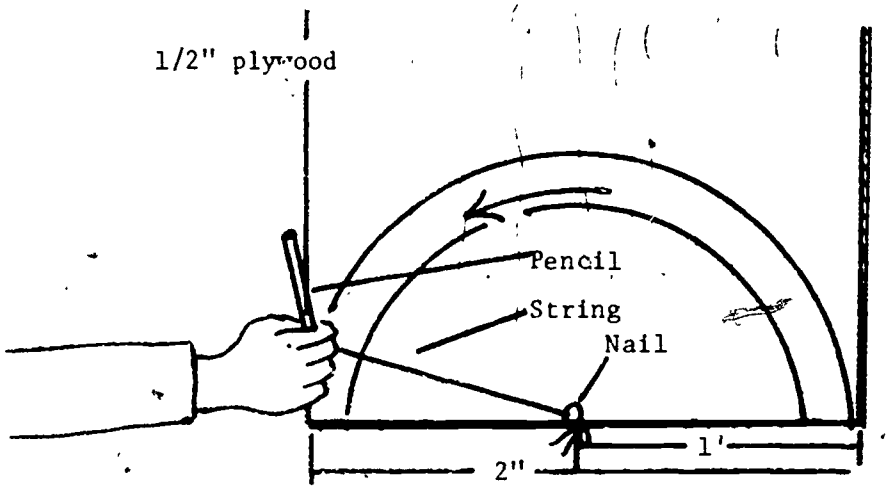


3. Cut a 2" x 4" to the appropriate length. Nail the 2" x 4" to the bed of the truck. Nail through the bottom of the truck. Plane or sand down the top edges and corners of the 2" x 4" so it assumes a rounded appearance to resemble a fuel truck. Nail a piece of rubber tubing or clothesline to the back or side of the fuel truck. Put 1/4" dowel rods on top of the truck to wrap the hose around when it is not in use.

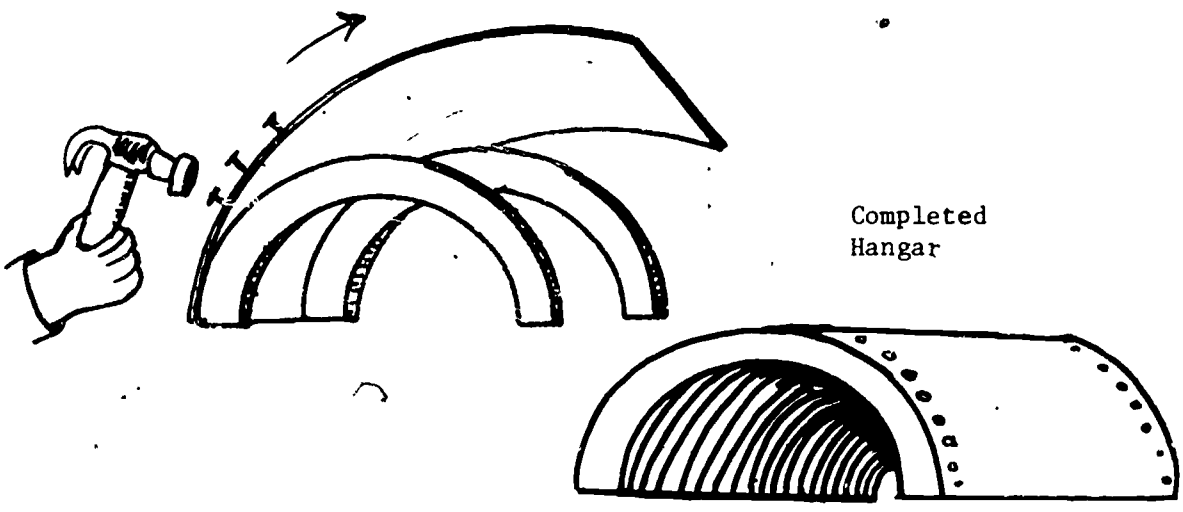


CONSTRUCTION OF A HANGAR

1. Make the hangar by cutting two plywood half circles and connecting them with a thin roof covering. The half circles are made by placing a nail in the center of the end of a piece of 1/2" plywood. Tie one end of the string around the nail and the other end around a pencil. Swing the pencil in a half circle with a one foot radius. Then shorten the string 3 inches and draw a smaller half circle with a 9 inch radius. Cut one plywood half circle and then make an identical half circle.

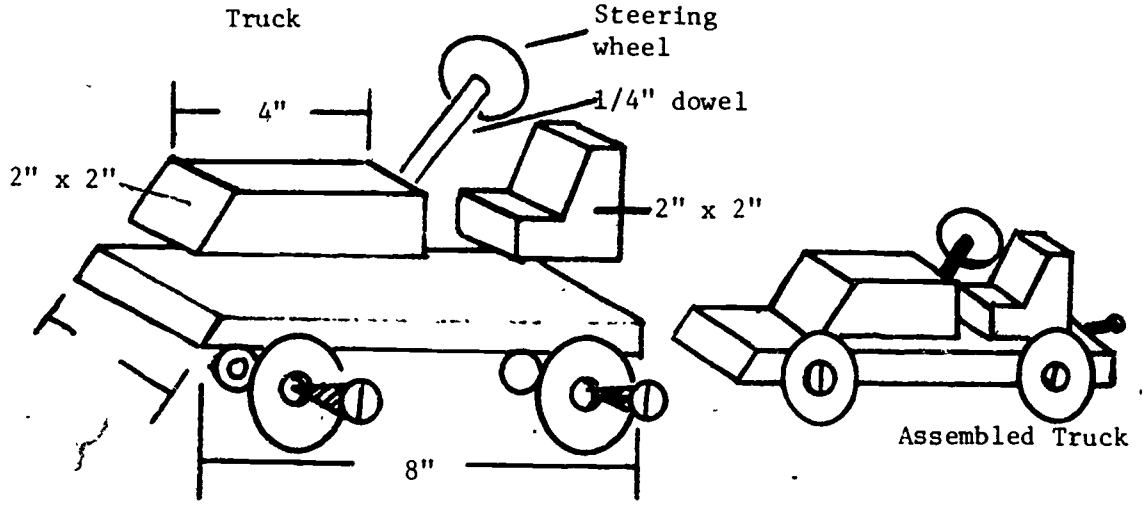


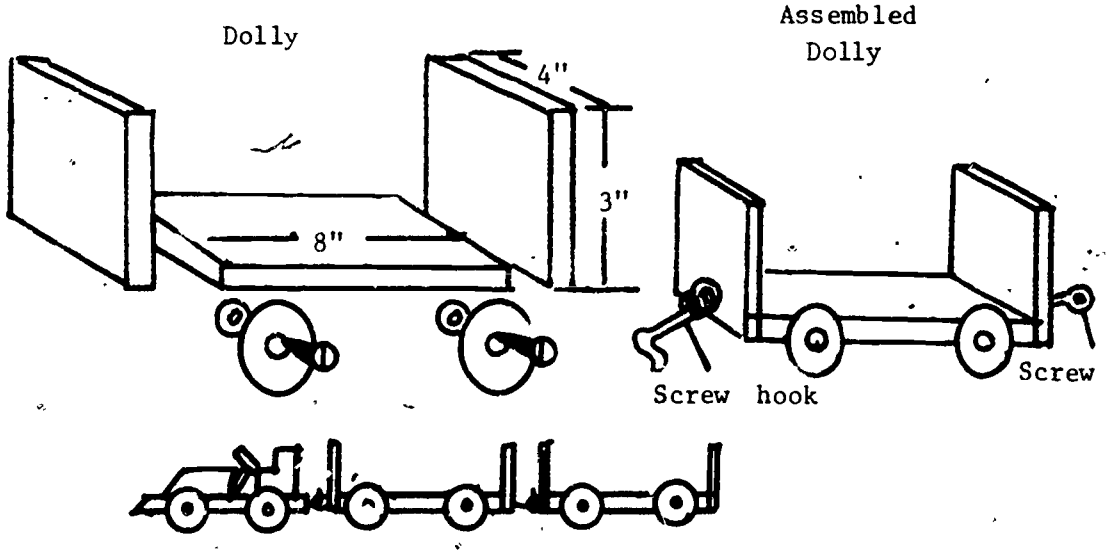
2. Cover the two half circles with thin plywood or cardboard that will bend easily with the curve. Start nailing the roof covering at one side of the plywood half circles and continue nailing over the top of the half circles to the other side. Apply glue before nailing. The completed hangar is about 2 feet wide and 2 feet long.



CONSTRUCTION OF TUGS FOR THE AIRPORT

The tug is essentially a truck pulling a series of dollies hooked together with screw eyes and hooks. The base for the truck and dolly are cut from 1" x 4" stock and are each 8 inches long. The motor section and seat of the tug are made from 2" x 2" stock cut to the dimensions shown below. The steering wheel is mounted on a piece of 1/4" dowel 3 inches long. This dowel is hammered into a 1/4" hole drilled in the base behind the motor. The wheels are attached with round head wood screws with washers on each side.

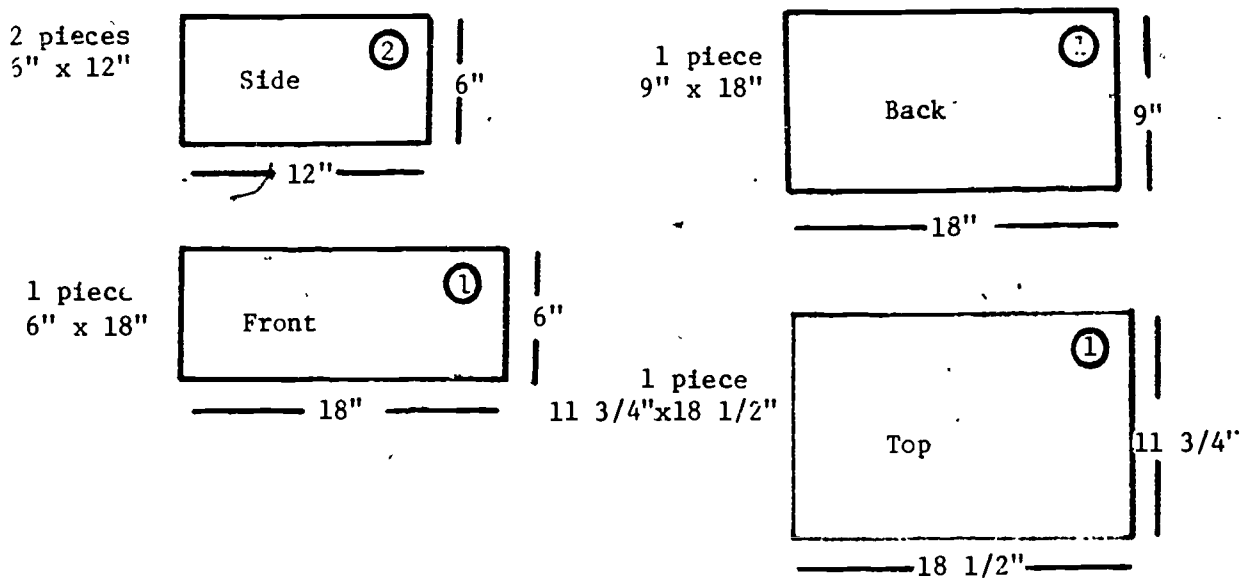




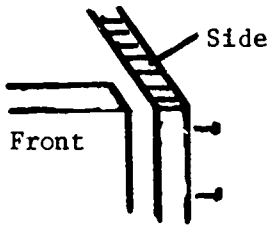
Unit with three dollies

CONSTRUCTION OF A STOVE FOR THE AIRPORT KITCHEN AND RESTAURANT

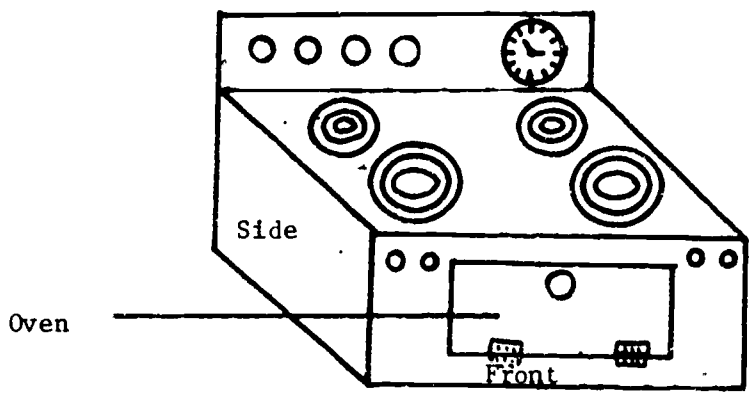
1. All parts are made of 1/4" plywood.



2. Using 1/2" brads, make a frame by nailing the two side pieces to the outside of the front and back ends.



3. Nail the top to this frame. Attach wheels, buttons, or bottle caps for control knobs. Draw round burners on the top. If an oven door is desired, cut a rectangle from the front end. Use this cut-out piece as an oven door, attaching it with metal or leather hinges.



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VT 101 458

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OKLAHOMA VOCATIONAL AGRICULTURE EDUCATION

Basic Core Curriculum IV

101 457

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VOCATIONAL AGRICULTURE IV
A CURRICULUM GUIDE
12th Grade

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State Department of Vocational and Technical Education
Stillwater, Oklahoma

Developed by the Curriculum and Instructional Materials Center
For the Division of Vocational Agriculture
Byrle Killian, State Supervisor
OKLAHOMA STATE BOARD OF VOCATIONAL AND TECHNICAL EDUCATION
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FOREWORD

This publication is designed to provide a basic core of instruction in vocational agriculture in Oklahoma.

Today, teachers of vocational agriculture are faced with increasing problems of what to teach and whom to serve. The student of today, who will be the agriculturist of tomorrow, needs to be a well-educated individual who is constantly seeking information on which to base the many decisions he is required to make.

The purpose of this guide is to assist teachers in improving instruction in Agriculture IV in Oklahoma.

Appreciation is expressed to the many individuals who helped in the development of this publication; the teaching of vocational agriculture should become more effective with its use.

Francis T. Tuttle, State Director
State Department of Vocational and
Technical Education

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PREFACE

Until recently, most vocational agriculture graduates were being prepared to return to the farm. Now an increasing number are entering occupations other than farming with a large percent finding employment in the field of agribusiness. Not only did technical areas of agriculture require new materials, but the ever changing demands of the agriculture industry require the student to become highly skilled in many areas, and this requires an up-to-date curriculum.

Every effort has been made to make this publication basic, readable, and by all means, usable. Three vital parts of instruction have been omitted from this publication intentionally: motivation, personalization, and localization. These areas are left to the individual instructors, and instructors should capitalize on them. Only then will this publication really become a vital part of the teaching learning process.

Many instructors may wish to supplement this publication with additional materials which they feel are necessary for their particular area of the state. By all means they should do so.

After using this publication, it is hoped that each teacher will realize the effectiveness of this approach to teaching which focuses all resource material toward a measurable outcome. The student should be able to perform at a higher level because both the student and the instructor know exactly where each is going.

Dean Reeder
Ag Curriculum Specialist

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INTRODUCTION

Vocational education in agriculture has changed. Fewer students each year are returning to the farm and more are entering fields of related agriculture occupations. Teachers of vocational agriculture are faced with the problem of teaching subject matter areas in which they have limited experience and little or no available instructional materials. This has created a challenge for curriculum personnel. The Curriculum and Instructional Materials Center of the State Department of Vocational and Technical Education has accepted the challenge.

In 1968, The Basic Core Curriculum Guide was developed outlining four years of instruction in vocational agriculture. From this basic guide, units of instruction have been developed for Vocational Agriculture IV to cover four sections: Farm Business Management, Leadership and Careers, Plant and Soil Science, and Agricultural Mechanics. The instructional units are designed to account for 60 percent of an instructor's time in teaching vocational agriculture. The remaining 40 percent is left to the individual instructor according to the demands of his local community.

USE OF THIS PUBLICATION

The approach taken in this publication is unique and quite new. Teachers, before attempting to teach from this material, should become familiar with it and should understand the *writer's* ideas. This introduction is for the teacher's benefit and explains the most effective use of the publication.

Instructional Units

Each instructional unit includes objectives, suggested activities, information sheets, assignment sheets, job sheets, transparency masters, a test, and answers to the test.

Objectives

Included in each unit of instruction are measurable objectives. These objectives state the goals of the course in such a way that both teacher and student will know the changes in behavior expected to occur as a result of the instruction. In short, objectives are a means of providing a sense of direction and accomplishment for the student.

The measurable objectives are stated in two forms: Terminal Objectives stating the subject matter to be covered in a unit of instruction within a section; Specific Objectives stating the performance of the student in order to reach the terminal objective. Specific objectives are most important in regard to teaching the unit. Before attempting to teach a unit, terminal and specific objectives must be explained to the student in order to tell him what is expected of him.

Suggested Activities

Each unit of instruction has a suggested activities sheet outlining steps to follow in accomplishing the specific objectives. The activities relate the duties of the instructor to the particular unit. Duties may vary according to the unit and usually include the

following: provide students with objectives, information sheets, and job sheets, make transparencies, discuss terminal and specific objectives, discuss information sheets, and give test. Teachers are encouraged to use any additional activities and means of accomplishing objectives.

Information Sheets

The information sheets contain essential facts necessary for the teaching of a unit of instruction. These sheets should be given to the student. Information sheets can be reproduced at the local school or ordered from the Curriculum Center.

Assignment Sheets

Assignment sheets are included in units when necessary. An assignment sheet allows the student to practice a written skill, such as calculating board feet, before the evaluation is given.

Job Sheets

Job sheets are included in units when necessary. A job sheet gives operations necessary to successfully complete a production job. It contains the name of the job, drawings, materials and tools needed, and procedures for completing a job.

Transparency Masters

Transparency masters are charts, pictures, or illustrations printed for use in making overhead transparencies. These are included in units when necessary. A transparency should be made from the transparency master and be shown on an overhead projector to supplement the information.

Test

A test is included at the close of each unit of instruction to measure the specific objectives.

(NOTE: This publication will provide unity of instruction throughout Oklahoma in teaching vocational agriculture. The effectiveness of this publication will depend on you as an instructor.)

FARM RECORDS - FARM INVENTORIES
UNIT I

TERMINAL OBJECTIVE

After completion of this unit, the student should be able to select the method of valuation to use in farm inventories, compute depreciation, and construct a farm inventory. This knowledge will be evidenced through demonstration and by scoring eighty-five percent on the unit test.

SPECIFIC OBJECTIVES

After completion of this unit, the student should be able to:

1. Match terms associated with farm inventories.
2. Select from a list the general requirements that all inventories must include.
3. List factors that determine the time of year to inventory.
4. Match the method of valuation to be used on various type assets.
5. Discuss how to inventory crops that have been placed in a government loan.
6. Match the method of computing depreciation with the proper definition.
7. Apply the rule for determining the fraction when using the sum-of-the-digit method of depreciation.
8. Calculate depreciation, using three different methods.
9. Name two factors that determine the method of depreciation to use.
10. Select from a list the items that are normally depreciated.
11. Demonstrate the ability to construct a farm inventory when given the kind and number of assets for a simulated farm.

FARM RECORDS - FARM INVENTORIES
UNIT I

SUGGESTED ACTIVITIES

I. Instructor:

A. Provide students with objective sheet.

B. Provide students with information and assignment sheets.

C. Make transparencies.

D. Discuss terminal and specific objectives.

E. Discuss information and assignment sheets.

F. Give test.

II. Student:

A. Read objectives

B. Study information sheet.

C. Complete assignment sheets.

D. Take test.

INSTRUCTIONAL MATERIALS

I. Included in this unit:

A. Objectives

B. Information sheet

C. Transparency master: TM 1-Comparison of Depreciation Methods

D. Assignment sheets

1. Assignment Sheet #1--Determining the Fraction to Use When Applying the Sum-of-the-Year Digit Method of Depreciation

2. Assignment Sheet #2--Calculating Depreciation

3. Assignment Sheet #3--Constructing a Farm Inventory

E. Answers to assignment sheets

F. Test

G. Answers to test

II. References:

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FARM RECORDS - FARM INVENTORIES
UNIT I

INFORMATION SHEET

I. Terms and definitions

A. Inventory--An itemized list of goods or valuables with their estimated worth

B. Depreciation--Decline in value of an asset due to such causes as wear and tear, action of elements, obsolescence, and inadequacy

C. Capitalization--Process for placing a value on an asset based on its future earning power and the expected interest rate

D. Asset--Any item of value owned

II. General requirements all inventories must include

A. Name of asset--Kind of unit

B. Unit--This includes pounds, bushels, quarts, head, acres

C. Unit price--This includes price per bushel, quart, head, acre

D. Quantity--This includes number of bushels, tons, pounds, head, acres

III. Factors that determine inventory date

A. Date when farm work begins for year's crop

B. Date tenant moved to farm

C. Date of lease renewal

D. Date livestock shifted from winter feed to summer pasture

E. If only enterprise was "feeding," inventory might be "between lots"

F. Desirable when there is little else to do

G. Period when there is small quantity of assets

H. January 1 on general farms is most convenient because of tax purposes

(NOTE: First five factors are based on significance in the farm operation, factors F, G, and H are based on convenience to operator.)

INFORMATION SHEET

IV. Valuation methods used on various types of assets

	Valuation Method	Type Asset
A.	Net selling price	Crops or livestock produced for market
B.	Cost less depreciation	Machinery and breeding livestock
C.	Cost or market price (whichever is lower)	Purchased farm supplies
D.	Replacement cost minus depreciation	Long-lived or fixed assets such as buildings
E.	Capitalization of earning power	Land, bonds, or livestock that gain in value

(NOTE: Basic formula for capitalization of earning power is: Value = annual income divided by rate of interest or V = A/R)

Example: Annual net income expected per acre is $10.00, rate of interest 5% -- Value per acre is V = 10/.05 or $200.00 per acre

V. Crop inventory under government loan

A. Crops produced during year that have been entered as a receipt should not be inventoried as an asset

B. If loan has not been entered as receipt, the government loan stock should be included on inventory

VI. Methods of computing depreciation (Transparency 1)

A. Straight line--Yearly depreciation consists of dividing total anticipated depreciation by the number of years asset is expected to last

(NOTE: An additional 20% first year depreciation on new or used tangible personal property may be used if proper provisions are met.)

B. Diminishing balance--A fixed rate of depreciation is used every year and applied to the value of the asset at the beginning of the year

(NOTE: The rate of depreciation should be near twice that used for straight line method.)

C. Sum-of-the-year-digit method--The annual depreciation is determined by multiplying a fraction times the amount to be depreciated

(NOTE: The amount to be depreciated is cost minus salvage value.)

INFORMATION SHEET

VII. Determining fraction to use with sum-of-the-year-digit method

A. The denominator is the sum of the years of life of the asset

Example: Asset with 10 years life, the denominator would be 55 (1+2+3+4+5+6+7+8+9+10=55)

Example: Asset with 7 years life, the denominator would be 28 (1+2+3+4+5+6+7=28)

B. The numerator of the fraction is the years of life remaining at the beginning of the accounting period

Example: Asset having 7 year life

Year of use	1	2	3	4	5	6	7
Life remaining (numerator) (denominator)	$\frac{7}{28}$	$\frac{6}{28}$	$\frac{5}{28}$	$\frac{4}{28}$	$\frac{3}{28}$	$\frac{2}{28}$	$\frac{1}{28}$

Example: Asset having 10 year life

Year of use	1	2	3	4	5	6	7	8	9	10
Life remaining (numerator) (denominator)	$\frac{10}{55}$	$\frac{9}{55}$	$\frac{8}{55}$	$\frac{7}{55}$	$\frac{6}{55}$	$\frac{5}{55}$	$\frac{4}{55}$	$\frac{3}{55}$	$\frac{2}{55}$	$\frac{1}{55}$

VIII. Methods of calculating depreciation

A. Straight line method

1. Implement costing $1200.00 new
2. Expected life of 10 years
3. Salvage value of $100.00 when worn out
4. Would have annual depreciation of $1200.00 minus $100.00 divided by 10 or $110.00 per year

B. Diminishing balance method

1. Assume a $1200.00 asset
2. Expected life of 10 years
3. Salvage value of $100.00
4. Depreciation rate of 20% per year

INFORMATION SHEET

5.

Value at Beginning of Year	Annual Depreciation	Remaining Balance
a. 1st Yr. - $1,200.00	20% X $1,200.00 = $240.00	$960.00
b. 2nd Yr. - $960.00	20% X $960.00 = $192.00	768.00
c. 3rd Yr. - $768.00	20% X $768.00 = $153.60	614.40
d. 5th Yr. - $614.40	20% X $614.40 = $122.88	491.52
g. 6th Yr. - $491.52	20% X $491.52 = $98.30	392.22

f. 6th Yr. and following take 20% of the remaining balance until salvage value is reached.

C. Sum-of-the-year-digit method

1. Assume a $1200.00 asset
2. Ten year life
3. Salvage value of $100.00
4.

Value at Beginning of Year	Annual Depreciation	Remaining Balance
a. 1st Yr. - $1,200.00	10/55 X (1,200 - 100) = 200	1,200 - 200 = 1,000
b. 2nd Yr. - $1,000.00	9/55 X (1,200 - 100) = 180	1,000 - 180 = 820
c. 3rd Yr. - $820.00	8/55 X (1,200 - 100) = 160	820 - 160 = 660
d. 10th Yr. - $120.00	1/55 X (1,200 - 100) = 20	120 - 20 = 100

IX. Factors that determine method of depreciation to use

A. Method that most nearly approximates the loss in value of the asset

(NOTE: Declining balance and the sum-of-the-year-digit methods are used on assets that depreciate more rapidly early in life. Farm truck and equipment are examples of this type asset.)

B. Method easiest to compute--Straight line is easiest to compute and understand

X. Items that can be depreciated

A. Houses for rent or used by tenants

B. Barns, sheds, granaries

INFORMATION SHEET

C. Livestock purchased for breeding or dairy purposes

D. Automobiles (share used in business)

E. Trucks and trailers

F. Farm machines and equipment

G. Fences and drain tile

H. Water systems

(NOTE: Home as a residence and land are not depreciated.)

XI. Steps in constructing farm inventory

A. The entire inventory should be taken on a single day or as of a single date

B. A count of numbers and a record of weights are sufficient for most types of livestock

C. Horses, valuable sires, and registered breeding stock should be listed individually.

D. When stored crops are inventoried, the bins or stocks should be measured and the contents estimated from dimensions found

E. Growing crops should be inventoried at their approximate cost to date

(NOTE: This is the most common method.)

Examples of farm inventories

LIVESTOCK INVENTORY

Description	Beginning of Year			End of Year			Number Died or Slaughtered
	No	Avg. Weight	Total Value	No.	Avg. Weight	Total Value	
Hogs							
Old Sows	16	275#	$850.00	18	300#	$1080.00	
Spring Pigs	112	45#	2016.00	—	—	—	
Total	128	XXX	$2866.00	18	XXX	$1080.00	

INFORMATION SHEET

FARM IMPROVEMENTS

Kind of Improvement	Date Acquired	Cost	Depreciation Allowed	Method of Depreciation	Rate % Life (Years)	Depreciation For This Year	Balance
BARN	1963	$10,000.00	$4,500.00	ST. LINE	20 YRS.	$500.00	$5,000.00
FENCE - 1000 RODS	1970	900.00	80.00	ST. LINE	20 YRS.	40.00	780.00
Total	XXX	$10,900.00	$4580.00	XXX	XXX	$540.00	$5780.00

MACHINERY AND EQUIPMENT INVENTORY

Kind of Property	Date Acquired	Cost	Depreciation Allowed	Method of Depreciation	Rate % Life (Years)	Depreciation For This Year	Balance
HOG HOUSES	1-8-63	$3200.00	$640.00	ST. LINE	40 yrs.	$80.00	$2480.00
	1-10-70	2418.00	806.00	DECL. BAL.	33⅓% (64%)	537.33	1074.67
Total	XXX	$5618.00	$1446.00	XXX	XXX	$617.33	$3554.67

NOTE Machinery should be valued at original cost less depreciation allowable for the time it has been in use The average life of farm machinery may be assumed to be 10 years, but this depends upon the kind of machine its care and use

FEED--SEED--CROPS INVENTORY

Item	Beginning of Year			End of Year		
	Units	Value per Unit	Total Value	Units	Value per Unit	Total Value
WHEAT	112 ACRES	$10.00	$1120.00	105	$12.00	$1260.00
ALFALFA	2000 BALES	1.00	2000.00	100	.80	80.00
MILE.	10,000	2.00	200.00	40,000	.208	832.00
Total	XXX	XXX	3320.00	XXX	XXX	2172.00

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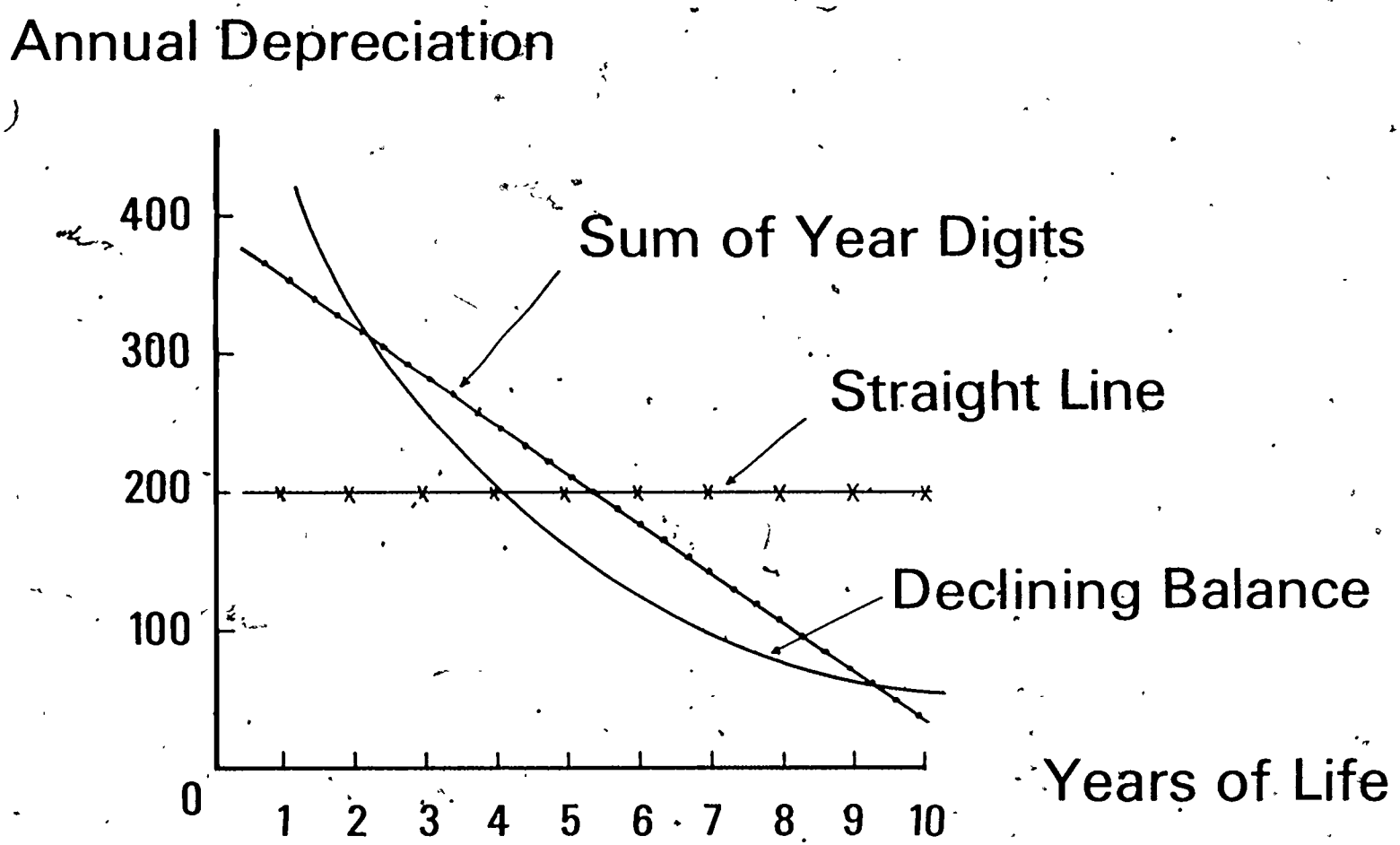
Comparison of Depreciation Methods



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FARM RECORDS - FARM INVENTORIES
UNIT I

ASSIGNMENT SHEET #1-DETERMINING THE FRACTION TO USE WHEN APPLYING THE SUM-OF-THE-YEAR DIGIT METHOD OF DEPRECIATION

Work each of the problems listed below.

1. Determine the denominator for an asset that has an eight year life.

2. What fraction would be used for the first year of an asset having an eight year life.

3. What fraction would be used for the fourth year of an asset having a five year life.

FARM RECORDS - FARM INVENTORIES
UNIT I

ASSIGNMENT SHEET #2--CALCULATING DEPRECIATION

Work each of the problems listed below.

1. Use the straight line method to calulate the annual depreciation for a $1100.00 trailer that has an expected life of ten years and projected salvage value of $200.00 at the end of this period.

2. Using the same problem as above calculate the depreciation for each year of service using the diminishing balance method. Use 20% as the annual depreciation.

Value at Beginning of Year	Annual Depreciation	Remaining Balance
1st year		
2nd year		
3rd year		
4th year		
5th year		
6th year		
7th year		
8th year		
9th year		
10th year		

3. Use the sum-of-the-year-digit method to calculate the depreciation for a $1100.00 asset with a 10 year life and a salvage value of $200.00.

Value at Beginning of Year	Annual Depreciation	Remaining Balance
1st year		
2nd year		
3rd year		
4th year		

ASSIGNMENT SHEET #2

5th year		
6th year		
7th year		
8th year		
9th year		
10th year		

FARM RECORDS - FARM INVENTORIES
UNIT I

ASSIGNMENT SHEET #3--CONSTRUCTING A FARM INVENTORY

Using the information below, calculate the depreciation, determine the present value, and construct a beginning inventory for this assimulated farm.

1. Twenty-seven beef cows averaging 1000 pounds
2. Twelve steer calves averaging 400 pounds
3. Thirteen heifer calves averaging 350 pounds
4. One registered bull
   a. Original cost $750.00
   b. Expected usage 4 years
   c. Number of years in use-2 years
   d. Salvage value $480.00
5. One hundred feeder pigs
   a. Weight 50 pounds
   b. Value = 1.5 x present market
6. Milo grain
   a. Fifty thousand pounds
   b. Use present market value
7. Alfalfa hay
   a. Five hundred bales at 80 pounds each
   b. Use present market value
8. Tractor
   a. Original cost $8,000.00
   b. Two years old
   c. Expected life 10 years
   d. Salvage value $1,200.00

ASSIGNMENT SHEET #3

9. One chisel plow
   a. Original cost $800.00
   b. Four years old
   c. Expected life of 10 years
   d. Salvage value $100.00
10. One grain drill
   a. Original cost $750.00
   b. Five years old
   c. Expected life 10 years
   d. Salvage value $200.00
11. One portable grinder-mixer
   a. Original cost $1600.00
   b. One year old
   c. Expected life 8 years
   d. Salvage value $500.00
12. Sixteen foot stock trailer
   a. Original cost $700.00
   b. Two years old
   c. Expected life 8 years
   d. Salvage value $300.00
13. Three quarter ton truck
   a. Original cost $3000.00
   b. Two years old
   c. Expected life 8 years
   d. Salvage value $300.00

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ASSIGNMENT SHEET #3

14. Metal barn

    a. Replacement cost $6000.00

    b. Depreciation prior to this year $1800.00

    c. Depreciation this year $200.00

15. Two hog feeders

    a. Original cost $300.00

    b. Expected life 15 years

    c. Three years old

    d. Salvage value $0

16. Hog houses

    a. Replacement cost $1000.00

    b. Prior years depreciation $160.00

    c. This years depreciation $40.00

17. Six thousand bushels of wheat stored under government loan

    a. Wheat will not be bought back

    b. Wheat has already been entered as a receipt for this year

18. Land

    a. Owned--160 acres of cropland at $400.00 per acre

    b. Rented--240 acres of rangeland

ASSIGNMENT SHEET #3

THIS RECORD BELONGS TO

Name _____

Address _____

County _____

For Year Beginning _____

INVENTORY OF LAND

Owned or Rented	Cropland Inc. Meadow & Rotated Pasture	Pasture and Range Land	Woodland	Other	Total Land	
	Acres	Acres	Acres	Acres	Acres	Total Value
Owned Land (1)						
Rented Land (2)						
Rented Land (2)						
Total						

FARM IMPROVEMENTS

Kind of Improvement	Date Acquired	Cost	Depreciation Allowed	Method of Depreciation	Rate % Life (Years)	Depreciation For This Year	Balance
Total							

MACHINERY AND EQUIPMENT INVENTORY

Kind of Property	Date Acquired	Cost	Depreciation Allowed	Method of Depreciation	Rate % Life (Years)	Depreciation For This Year	Balance
Total							

NOTE: Machinery should be valued at original cost less depreciation allowable for the time it has been in use. The average life of farm machinery may be assumed to be 10 years, but this depends upon the kind of machine, its care and use.

ASSIGNMENT SHEET #3

LIVESTOCK INVENTORY

Description	Beginning of Year			End of Year			Number Died or Slaughtered
	No.	Avg. Weight	Total Value	No.	Avg. Weight	Total Value	
Total							
Total							

FEED--SEED--CROPS INVENTORY

Item	Beginning of Year			End of Year		
	Units	Value per Unit	Total Value	Units	Value per Unit	Total Value
Total						

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FARM RECORDS - FARM INVENTORIES
UNIT I

ANSWERS TO ASSIGNMENT SHEETS

Assignment Sheet #1

1. 1 + 2 + 3 + 4 + 5 + 6 + 7 + 8 = 36
2. 8/36
3. 2/15

Assignment Sheet #2

1. $1100 minus 200 = 900 :- 10 years = $90 depreciation per year

2.

Value at Beginning Year	Annual Depreciation	Remaining Balance
1st Yr. $1,100.00	20% X $1,100.00 = $220.00	$880.00
2nd Yr. 880.00	20% X $880.00 = $176.00	704.00
3rd Yr. 704.00	20% X $704.00 = $140.80	563.20
4th Yr. 563.20	20% X $563.20 = $112.64	450.56
5th Yr. 450.56	20% X $450.56 = $90.00	360.45
6th Yr. 360.45	20% X $360.45 = $72.09	288.36
7th Yr. 288.36	20% X $288.36 = $57.67	230.69
8th Yr. 230.69	20% X $230.69 = $64.14	184.55
9th Yr. 184.55	20% X $184.55 = $36.91	147.69
10th Yr. 147.64	20% X $147.64 = $29.53	118.11

3.

Value at Beginning of Year	Annual Depreciation	Remaining Balance
1st Yr. $1,000.00	10/55 X (1,000 - 100) = 163.63	$836.37
2nd Yr. 836.37	9/55 X 900 = 147.27	689.10
3rd Yr. 689.10	8/55 X 900 = 130.90	558.20
4th Yr. 558.20	7/55 X 900 = 114.54	443.66
5th Yr. 443.66	6/55 X 900 = 98.18	345.48
6th Yr. 345.48	5/55 X 900 = 81.82	263.66
7th Yr. 263.66	4/55 X 900 = 65.44	198.22
8th Yr. 198.22	3/55 X 900 = 49.09	149.13
9th Yr. 149.13	2/55 X 900 = 32.73	116.40
10th Yr. 116.40	1/55 X 900 = 16.36	100.04

ANSWERS TO THE ASSIGNMENT SHEETS

ASSIGNMENT SHEET #3

THIS RECORD BELONGS TO

Name _____

Address _____

County _____

For Year Beginning _____

INVENTORY OF LAND

Owned or Rented	Cropland Inc. Meadow & Rotated Pasture	Pasture and Range Land	Woodland	Other	Total Land	
	Acres	Acres	Acres	Acres	Acres	Total Value
Owned Land (1)	160				160	$64,000.00
Rented Land (2)		240			240	—
Rented Land (2)						
Total	160	240			400	$64,000.00

FARM IMPROVEMENTS

Kind of improvement	Date Acquired	Cost	Depreciation Allowed	Method of Depreciation	Rate % Life (Years)	Depreciation For This Year	Balance
BARN METAL	X	REPLACEMENT 6000	1800	X	X	200	4000
HOG HOUSE	X	REPLACEMENT 1000	160	X	X	40	800
Total	XXX			XXX	XXX		

MACHINERY AND EQUIPMENT INVENTORY

Kind of Property	Date Acquired	Cost	Depreciation Allowed	Method of Depreciation	Rate % Life (Years)	Depreciation For This Year	Balance
TRACTOR	(2 yrs. old)	$8000.00	$1600.00	DECL BAL.	20% (10 YRS)	$1280.00	$5120.00
CHISEL PLOW	(4 yrs. old)	800.00	210.00	ST. LINE	10 YRS.	70.00	520.00
GRAIN DRILL	(5 yrs. old)	750.00	220.00	ST. LINE	10 YRS.	55.00	475.00
PORT. GRINDER MIXER	(1 YR. OLD)	1600.00	0	ST. LINE	8 YRS.	137.50	1462.50
16' STOCK TRAILER	(2 YRS. OLD)	700.00	50.00	ST. LINE	8 YRS.	50.00	600.00
3/4 TON TRUCK	(2 YRS. OLD)	3000.00	667.00	SUM OF THE DIGITS	5 YRS.	500.00	1833.00
2 HOG FEEDERS	(3 YRS. OLD)	300.00	40.00	ST. LINE	15 YRS.	20.00	240.00
Total	XXX			XXX	XXX		

(NOTE: Method of depreciation is optional --- Method should most nearly approximate the loss in value of the asset.)

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ANSWERS TO ASSIGNMENT SHEETS

LIVESTOCK INVENTORY

Description	Beginning of Year			End of Year			Number Died or Slaughtered
	No.	Avg. Weight	Total Value	No.	Avg. Weight	Total Value	
CATTLE:							
BEEF COWS	27	1000#	- PRESENT MKT. VALUE				
STEER CALVES	12	400#	- PRESENT MKT. VALUE				
HEIFER CALVES	13	350#	- PRESENT MKT. VALUE				
REGISTERED BULL	1	[illegible]					
Total		XXX			XXX		
SWINE:							
FEEDER PIGS	100	60#	- PRESENT MKT. VALUE				
Total		XXX			XXX		

FEED--SEED--CROPS INVENTORY

Item	Beginning of Year			End of Year		
	Units	Value per Unit	Total Value	Units	Value per Unit	Total Value
MILO GRAIN	50000#	(PRESENT MKT-)				
ALFALFA	20 TONS	(PRESENT MKT-)				
Total	XXX	XXX		XXX	XXX	

(NOTE: 6000 bu. what has been entered as a receipt, will not appear on inventory.)

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FARM RECORDS - FARM INVENTORIES
UNIT I

TEST

1. Match the terms on the right with the correct definition.

____a.	Decline in value of an asset due to such causes as wear and tear, action of elements, obsolescence, and inadequacy	1. Inventory 2. Depreciation 3. Capitalization
_____b.	Any item of value owned	4. Asset
_____c.	An itemized list of goods or valuables with their estimated worth	
____d.	Process for placing a value on an asset based on its future earning power and the expected interest rate	

2. Select from the list below the general requirements that all inventories must include by placing an "X" in the blank.

____a. Unit price

____b. Method of depreciation

____c. Unit

____d. Quantity

____e. Expected life

____f. Breed

____g. Name of asset

3. List four factors that determine the time of year to inventory.

a.

b.

c.

d.

4. Match the method of valuation on the right with the assets on the left.

____a.	Livestock produced for market	1.	Net selling price
____b.	Machinery and breeding livestock	2.	Capitalization of earning power
____c.	Purchased farm supplies	3.	Cost less depreciation
____d.	Long-lived buildings	4.	Replacement cost minus depreciation
____e.	Land, or bonds, or livestock that gain in value	5.	Cost or market price (whichever is lower)

5. Discuss in writing two methods to handle crops under government loan on a inventory.

6. Match the method of computing depreciation on the right with the proper definition.

____a.	A fixed rate of depreciation is used every year and applied to the value of the asset at the beginning of the year	1.	Straight line
		2.	Diminishing balance
____b.	Yearly depreciation consists of dividing the total anticipated depreciation by the number of years asset is expected to last	3.	Sum-of-the year-digit method
____c.	The annual depreciation is determined by multiplying a fraction times the amount to be depreciated		

7. What fraction would be used in the sum-of-the-digit method for the first year depreciation of an asset having a six year expected life?

8. Using three different methods, calculate the first year depreciation for a $1000.00 asset having a 10 year expected life and a $200.00 salvage value.

   a. Straight line method

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b. Diminishing balance method–Depreciation rate is twenty percent

c. Sum-of-the-year-digit method

9. Name two factors that determine the method of depreciation to use.

a.

b.

10. Select from the list below the items that are normally depreciated by circling the correct letters.

a. Rent house

b. Barn

c. Fences

d. Land

e. Feeder cattle

11. Demonstrate the ability to construct a farm inventory when given the kind and number of assets for a simulated farm.

(NOTE: If this activity has not been accomplished prior to this test, ask the instructor when this is to be completed.)

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FARM RECORDS - FARM INVENTORIES
UNIT I

ANSWERS TO TEST

1. a. 2
   b. 4
   c. 1
   d. 3

2. a
   c
   d
   g

3. Any four of the following:
   a. Date when farm work begins for year's crop
   b. Date tenant moved to farm
   c. Date of lease renewal
   d. Date livestock shifted from winter feed to summer pasture
   e. If only enterprise was "feeding," inventory might be "between lots"
   f. Desirable when there is little else to do
   g. Period when there is small quantity of assets
   h. January 1 on general farms is most convenient because of tax purposes

4. a. 1
   b. 3
   c. 5
   d. 4
   e. 2

5. Discussion should include the following:

   a. Crops produced during year that have been entered as a receipt should not be inventoried as an asset.

   b. If loan has not been entered as receipt, the government loan stock should be included on inventory

6. a. 2

   b. 1

   c. 3

7. 6/21

8. a. $1000 - $200 = $800 ÷ 10 = $80.00

   b. 20% x $1000 = $200.00

   c. 10/55 x ($1000 - $200) = $145.45

9. a. Method that most nearly approximates the loss in value of the asset

   b. Method easiest to compute

10. a

    b

    c

11. Performance skills will be evaluated to the satisfaction of the instructor.

FARM RECORDS--NET WORTH STATEMENT
UNIT II

TERMINAL OBJECTIVE

After completion of this unit, the student should be able to match the various type assets and liabilities when given the definitions and demonstrate the ability to complete a net worth statement. This knowledge will be evidenced through demonstration and by scoring eighty-five percent on a unit test.

SPECIFIC OBJECTIVES

After completion of this unit, the student should be able to:

1. Match terms associated with net worth statements when given the definitions.
2. List the minimum core of financial records required in a well managed business.
3. Select the equations for calculating net worth.
4. Match the type of asset with the proper definition.
5. Classify assets into current, intermediate, and long-term when given examples.
6. Match the kind of liability with the proper definition.
7. Select from a list the uses made of a net worth statement.
8. Complete a net worth statement.

FARM RECORDS - NET WORTH STATEMENT
UNIT II

SUGGESTED ACTIVITIES

I. Instructor:

A. Provide students with objective sheet.

B. Provide students with information and assignment sheets.

C. Make transparencies.

D. Discuss terminal and specific objectives.

E. Discuss information and assignment sheets.

F. Give test.

II. Student:

A. Read objectives.

B. Study information sheet.

C. Complete assignment sheet.

D. Take test.

INSTRUCTIONAL MATERIALS

I. Included in this unit:

A. Objectives

B. Information sheet

C. Transparency Master: TM 1 -- Net Worth Statement

D. Assignment Sheet #1--Completing a Net Worth Statement

E. Answers to assignment sheet

F. Test

G. Answers to test

II. References:

A. Hopkins, John A. and Earl O. Heady. *Farm Records and Accounting.* Ames, Iowa: Iowa State University Press, 1962.

B. Castle, Emery N. and Manning H. Becker. *Farm Business Management.* New York: The Macmillan Company, 1967.

C. OSU Extension Facts. *Financial Records: The Net Worth Statement.* Extension Service, Oklahoma State University, Stillwater, Oklahoma.

D. *Supervised Training Record Book.* Curriculum and Instructional Materials Center, Stillwater, Oklahoma, 1973.

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FARM RECORDS--NET WORTH STATEMENT
UNIT II

INFORMATION SHEET

I. Terms and definitions

A. Net worth--Statement listing the physical resources and liabilities of the business (Transparency 1)

B. Assets--Items or resources owned

C. Liabilities--Financial claims against the firm

D. Working capital--Current assets minus current liabilities

E. Spread sheet--Summarized net worth statement including information for several years

F. Cash flow--Illustrates the gross flow of and requirements for cash throughout the year

II. Financial records required in business

A. Net worth statement or balance sheet

B. Profit and loss statement

C. Projected cash flow

III. Equation for calculating net worth

A. Net worth (equity) = Assets minus liabilities

B. Assets = Liabilities plus net worth

IV. Type of assets

A. Current assets--Generally include cash and other items which can rapidly be converted into cash at little or no loss in value

B. Intermediate or working assets--Items that are less marketable and less readily converted into cash without loss

C. Fixed or long-term assets--Not easily converted into cash and represent a relatively permanent investment

INFORMATION SHEET

V. Assets

A. Current

1. Savings
2. Marketable securities
3. Accounts receivable
4. Livestock held for resale
5. Marketable inventories of crops and supplies

B. Intermediate

1. Machinery and equipment
2. Breeding stock
3. Supplies not having ready market

C. Long-term

1. Buildings
2. Land

VI. Kinds of liabilities

A. Current--Debt obligations falling due within the next year

Examples:

1. Accounts payable
2. Short-term loans coming due
3. Current payments due on long or intermediate term obligations

B. Intermediate--Debt obligations coming due in a two through seven year period

(NOTE: This classification includes loans to finance intermediate term assets such as breeding stock and machinery, and supplies requiring longer than one year repayment period.)

INFORMATION SHEET

C. Long-term--Loans to finance long-term or fixed assets

Examples:
1. Debts secured by real estate
2. Real estate improvements with repayment terms running from eight to forty years

VII. Uses made of a net worth statement

A. Measures performance in terms of growth

(NOTE: For this reason it is necessary to fill out a net worth statement about the same time each year.)

B. Shows the financial soundness of the business

(NOTE: A measure reflecting financial soundness is the percentage of equity; for example, every dollar of assets in a business having eighty percent equity is supported by eighty cents of equity and twenty cents of debt.)

C. Shows liquidity and the anticipated sources of working capital

(NOTE: Current assets - current liabilities = working capital)

D. Used in acquiring credit for working capital or capital expansion

(NOTE: The net worth statement shows what collateral is available to support these loan requests.)

Net Worth Statement

ASSETS	BEGINNING-1/1/72	ENDING-1/1/73
FIXED ASSETS		
Land	$190,900	$190,900
Bldgs., etc.	30,000	29,250
WORKING ASSETS		
Tractor	4,550	4,225
CURRENT ASSETS		
Livestock	1,500	1,500
Cash	1,000	1,000
Accounts receivable	400	400
TOTAL ASSETS	228,350	227,275
LIABILITIES		
LONG-TERM	28,000	26,500
INTERMEDIATE	200	200
CURRENT		
Unpaid bills	50	- 50
TOTAL LIABILITIES	28,250	26,750
NETWORTH (ASSETS-LIABILITIES)	200,100	200,525

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ASSIGNMENT SHEET #1--COMPLETING A NET WORTH STATEMENT

Using the information provided, complete a beginning net worth statement for this assimulated farm.

1. Steer calves
   a. Weight--400 pounds
   b. Value--40¢ per pound
   c. Number units--30 head
2. Feeder pigs
   a. Number units--80 head
   b. Weight--40 pounds
   c. Value--40¢ per pound
3. Milo grain
   a. Number units--50,000
   b. Value--$2.00 per cwt.
4. Tractor
   a. Original cost--$7,500.00
   b. Five years old
   c. Expected life--10 years
   d. Salvage value--$1,000.00
5. Metal barn
   a. Replacement cost--$6,000.00
   b. Ten years old
   c. Amount previously depreciated--$3,000.00
6. Accounts payable--$1,100.00

ASSIGNMENT SHEET #1

7. Interest due

   a. Six months

   b. Amount owed--$1,100.00

   c. Interest rate--8%

8. Land

   a. Forty acres

   b. Value--$200.00 per acre

ASSIGNMENT SHEET #1

OPERATOR'S NET WORTH STATEMENT

ASSETS: (Property owned and other resources)	Jan. 1, 19____	Jan. 1 one year later
1 Land		$
2 Improvements		
3 Machinery and Equipment		
4 Hogs		
5 Cattle		
6 Feed, seed, and growing crops		
7 Accounts Receivable		
8 Cash on hand in Bank		
9 Stocks and bonds		
10 Cash Value-Life Insurance		
11 Other Property		
TOTAL ASSETS		$
LIABILITIES: (Debts)		
12 Accounts Payable		
13 Mortgages		
14 Interest Due		
15 Taxes Due		
TOTAL LIABILITIES		$
NET WORTH (Assets minus Liabilities)		$

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FARM RECORDS--NET WORTH STATEMENT
UNIT II

ANSWERS TO ASSIGNMENT SHEET #1

OPERATOR'S NET WORTH STATEMENT

ASSETS: (Property owned and other resources)		Jan. 1, 19____	Jan. 1 one year later
1	Land	$ 8,000.00	$
2	Improvements	(6,000 - 3,000) 3,000.00	
3	Machinery and Equipment	(7,500 - 3,250) 4,250.00	
4	Hogs	1,280.00	
5	Cattle	4,800.00	
6	Feed, seed, and growing crops	1,000.00	
7	Accounts Receivable		
8	Cash on hand in Bank		
9	Stocks and bonds		
10	Cash Value Life Insurance		
11	Other Property		
	TOTAL ASSETS	$22,330.00	$
LIABILITIES: (Debts)			
12	Accounts Payable	1,100.00	
13	Mortgages		
14	Interest Due	44.00	
15	Taxes Due		
	TOTAL LIABILITIES	$ 1,144.00	$
	NET WORTH (Assets minus Liabilities)	$21,186.00	$

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FARM RECORDS--NET WORTH STATEMENT
UNIT II

TEST

1. Match the terms on the right with the proper definition.

_____a. Items or resources owned	1. Spread sheet
_____b. Statement listing the physical resources and liabilities of the business	2. Liabilities
_____c. Financial claims against the firm	3. Assets
_____d. Summarized net worth statement including information for several years	4. Net worth
_____e. Current assets minus current liabilities	5. Working capital
_____f. Illustrates the gross flow of and requirements for cash throughout the year	6. Cash flow

2. List the minimum core of financial records required in a well managed business.

   a.

   b.

   c.

3. From the list below, select the two equations for calculating net worth.

   a. Assets = Liabilities plus net worth

   b. Liabilities = Assets plus net worth

   c. Net worth = Equity plus liabilities

   d. Net worth (equity) = Assets minus liabilities

4. Match the type of asset on the right with the proper definition.

_____a.	Items that are less marketable and less readily converted into cash without loss.	1.	Current assets
_____b.	Generally include cash and other items which can rapidly be converted into cash at little or no loss in value	2.	Intermediate or working assets
_____c.	Not easily converted into cash and represent a relatively permanent investment	3.	Fixed or long-term assets

5. Classify the following assets as current, intermediate, or long-term. Place a "C", "I", or "L" in the blank preceding the assets depending on the type asset it represents.

_____a.	Buildings	"C"	Current assets
_____b.	Supplies not having ready market,	"I"	Intermediate assets
_____c.	Land	"L"	Long-term assets
_____d.	Breeding stock		
_____e.	Machinery and equipment		
_____f.	Livestock held for resale		
_____g.	Marketable inventories of crops and supplies		
_____h.	Accounts receivable		
_____i.	Marketable securities		
_____j.	Savings		

6. Match the kind of liability on the right with the proper definition.

_____a.	Debt obligations coming due in a two through seven year period	1.	Current
_____b.	Debt obligations falling due within the next year	2.	Intermediate
_____c.	Loans to finance long-term or fixed assets	3.	Long-term

7. Select from the list below the uses made of a net worth statement. Place an "X" by the correct answers.

_____a. Shows the financial soundness of the business

_____b. Measures financial soundness in the percentage of assets

_____c. Shows liquidity and the anticipated sources of working capital

_____d. Measures performance in terms of growth

_____e. Shows the cash flow and requirements throughout the year

_____f. Used in acquiring credit for working capital or capital expansion

8. Complete a net worth statement.

FARM RECORDS--NET WORTH STATEMENT
UNIT II

ANSWERS TO TEST

1. a. 3
   b. 4
   c. 2
   d. 1
   e. 5
   f. 6
2. a. Net worth statement or balance sheet
   b. Profit and loss statement
   c. Projected cash flow
3. a
   d
4. a. 2
   b. 1
   c. 3
5. a. L
   b. I
   c. L
   d. I
   e. I
   f. C
   g. C
   h. C
   i. C
   j. C

6. a. 2

b. 1

c. 3

7. a

c

d

f

8. Evaluated to the satisfaction of the instructor.

FINANCING THE FARM BUSINESS--SOURCES OF CREDIT
UNIT IV

TERMINAL OBJECTIVE

After completion of this unit, the student should be able to match the type of interest with the proper explanation and calculate interest when given a problem and a formula. The student should be able to match the common sources of farm credit with the advantages and disadvantages of each source of credit. This knowledge will be evidenced by scoring eighty-five percent on a unit test.

SPECIFIC OBJECTIVES

After completion of this unit, the student should be able to:

1. Match terms associated with farm finance when given the definitions.
2. Select the type of loans when given the proper definition of each.
3. Match the type of interest with the proper explanation and work problems illustrating each.
4. List the factors that determine the rate of interest.
5. Calculate the annual interest when given a problem and a formula.
6. Match the source of credit when given a list of advantages and disadvantages of each source.
7. Select factors to consider in choosing a source of credit.

FINANCING THE FARM BUSINESS--SOURCES OF CREDIT
UNIT III

SUGGESTED ACTIVITIES

I. Instructor:

A. Provide students with objective sheet.

B. Provide students with information and assignment sheets.

C. Discuss terminal and specific objectives.

D. Discuss information and assignment sheets.

E. Give test.

II. Students:

A. Read objectives.

B. Study information sheet.

C. Complete assignment sheet.

D. Take test.

INSTRUCTIONAL MATERIALS

I. Included in this unit:

A. Objectives

B. Information sheet

C. Assignment Sheet #1--Calculating Interest

D. Answers to assignment sheet

E. Test

F. Answers to test

II. References:

A. Nelson, Aaron G., and William G. Murray. *Agriculture Finance.* Ames, Iowa: Iowa State University Press, 1967.

B. OSU Extension Facts. *Sources of Farm Credit in Oklahoma.* Extension Service, Oklahoma State University, Stillwater, Oklahoma.

C. Castle, Emery N., and Manning H. Becker. *Farm Business Management*. New York: The Macmillan Company, 1967.

D. *Financing Modern Agriculture.* Farm Credit Banks of Wichita.

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FINANCING THE FARM BUSINESS--SOURCES OF CREDIT
UNIT III

INFORMATION SHEET

I. Terms and definitions

A. Appraisal--A fair market value given on personal property

B. Collateral--Livestock, land, and other personal property used to secure the loan

C. Amortized--Regular schedule of payment of the loan

D. Interest rate--Percentage charged for the use of money

E. Maturity--Date the loan is to be paid in full

F. Mortgages--A written claim listing the collateral to secure the loan

G. Principle--Amount of money borrowed

II. Types of loans

A. Long-term loans

1. Extend from five to thirty years or more

2. Used for such purposes as the purchase of farms, for farm improvements, for major repairs and other purposes

B. Intermediate loans

1. Extend for periods of one to five years

2. Used for purchase of machinery and equipment, the purchase of breeding herds and flocks, and construction or major repair of farm buildings

C. Short-term loans

1. Extend for periods up to one year

2. Used for such items as fertilizer, feed or seed, or to pay other current operating expenses

INFORMATION SHEET

III. Types of interest

A. Compound interest--Interest calculated at regular intervals and added to the principle (compound interest is the same for savings as borrowing)

Example: Compound interest on a $100.00 loan with interest at 1 percent per month

Period	Beginning Balance	Chart Interest	Ending Balance
a. 1st Mo.	$100.00	$1.00	$101.00
b. 2nd Mo.	101.00	1.01	102.01
c. 3rd Mo.	102.00	1.02	103.03
d. 4th Mo.	103.03	1.03	104.06

B. Simple interest--Product of the principle, the time in years, and the annual rate of interest

Example: Interest on $1,200.00 for one year with the rate of interest at 6 percent per annum equals $72.00

C. Discounted interest--Interest is deducted from principle at time loan is made

Example:

a. $1,200.00 loan for one year discounted at 6 percent

b. Borrower would receive: $1,200.00 72.00 = $1,128.00

c. $1,200.00 would be paid at the end of the year

(NOTE: True annual interest would be 6.38 percent.)

D. Add-on-interest--Interest is calculated on the beginning balance and then added to principle to obtain the amount to be repaid in equal periodic installments

Example:

a. $1,200.00 installment plan loan @ 6 percent interest to be repaid in 12 equal monthly payments

INFORMATION SHEET

b. $1,200.00 x 6% = $72.00

c. $1,200 + $72.00 = $1,272 ÷ 12 months = $106.00 payment

(NOTE: Interest is being paid on unowed money, true annual rate is 11.07%.)

IV. Factors that determine rate of interest

A. Cost of money in the money market

B. Service cost of making records, keeping records, and collecting loans

(NOTE: Service charges may be a separate cost.)

C. Risk of loss

V. Calculating interest rates

$$\frac{\text{Total of Finance Charges}}{\text{1/2 Original Loan}} \times \frac{\text{No. of Payments}}{\text{No. of Years}} \times \frac{1}{\text{No. of Payments Plus 1}} = \text{True Annual Rate of Interest}$$

Example: A farmer borrowed $8,000.00 which cost him $400.00 for 24 months. What was his interest rate?

$$\frac{400}{4{,}000} \times \frac{24}{2} \times \frac{1}{25} = 4.8\% \text{ Interest}$$

VI. Advantages and disadvantages of credit sources

A. Commercial banks

1. Advantages

a. Convenience of borrowing

INFORMATION SHEET

b. Know personal needs

c. Loan approved quickly

d. Loans on more diversified items

e. Will make character loans

2. Disadvantages

a. Interest rate usually higher

b. Short-term loans

c. Will not loan as much on land as some agencies

B. Individuals

1. Advantages

a. Low rate of interest

b. Immediate loan

c. Greater possiblitiy to negotiate the payment or interest of loan

2. Disadvantages

a. Not dependable

b. Usually short-term credit.

C. Finance companies

1. Advantages

a. Easier for poor risk persons

b. Immediate loan approval

c. Short-term loans

d. Convenience of borrowing

2. Disadvantages

a. Interest rates extremely high

b. Usually a straight line interest rate on a longer term

c. High pressure loan agents

INFORMATION SHEET

D. Federal land banks

1. Advantages

a. Usually have low interest rates on long-term loans

b. Long-term loan (20-40 years)

c. More understanding on economic conditions

2. Disadvantages

a. Complicated loan procedure

b. Borrower has to buy shares

c. Usually appraised value is low

d. Limited funds to be loaned

E. Production credit association

1. Advantages

a. Low interest rate

b. Unlimited funds

c. Pay interest only on amount of time used

d. Keeps better records

2. Disadvantages

a. Borrower has to buy shares

b. Short-term loans

c. Not conveniently located

F. Farmers' home administration

(NOTE: Check with county supervisor.)

1. Advantages

a. Makes loans to individuals who do not qualify for other loans

b. Short, intermediate, and long-term loans

INFORMATION SHEET

c. Reasonable rates and terms on loans

d. Advice, assistance, and supervision given by supervisor

2. Disadvantages

a. Not intended as a permanent source of financing

b. Borrowers expected to refinance when suitable commercial sources are available

c. Secure loans only on larger acreages

G. Insurance companies

1. Advantages

a. Long-term mortgages

b. Low interest rates

c. Not any limits on size of loan except for self-imposed limits

2. Disadvantages

a. First mortgage loans

b. Some states prohibit short-term loans

c. Selective about areas where loans are made

d. Can not pay loan back all at once

H. Oklahoma School Land Commission

1. Advantages

a. Interest rates low

b. Long-term loans--33 years

2. Disadvantages

a. Loans will not be made on land less than 20 acres or on amount less than $1,000.00

b. Loan cannot exceed 50% of the appraiser's value of the land without the improvements

c. First mortgage loans

d. May take a long time to get loan

INFORMATION SHEET

I. Merchants and dealers

1. Advantages

a. Easier for poor risk persons

b. Convenient for farmer

c. Immediate loan

d. Loan can be made for large percent of value

e. Repayment schedule may be designed for individual

2. Disadvantages

a. Interest is higher

b. May have different form of credit arrangement for various customers (This could be an advantage.)

VII. Factors to consider in choosing a source of credit

A. Amount of the loan

B. Rate of interest

C. Length of loan period

D. Repayment schedules

E. Size of payments

F. Reliability of lending agents

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FINANCING THE FARM BUSINESS--SOURCES OF CREDIT
UNIT III

ASSIGNMENT SHEET #1--CALCULATING INTEREST

Answer the following problems:

1. How much interest would be paid for the use of $360.00 for one year at 8% straight interest?

2. How much interest would be paid for the use of $360.00 for 18 months at 8% straight interest?

3. How much compound interest would be paid for three month's use of $360.00 at 1% interest per month?

4. a. What would monthly payments be for one year's use of $360.00 to be repaid in 12 equal monthly payments using 8% add-on type interest?

   b. What would be the true annual interest rate for the above loan?

NOTE: $\frac{\text{Total of Finance Charges}}{\text{1/2 Original Loan}} \times \frac{\text{No. of Payments}}{\text{No. of Years}} \times \frac{1}{\text{No. of Payments Plus 1}} = \text{True Annual Rate of Interest}$

ASSIGNMENT SHEET #1

5. a. How much interest would be paid for one year's use of $360.00 to be repaid in 12 equal payments using 8% discount interest?

   b. What would be the true annual interest rate for the above loan?

   (NOTE: Use formula as stated in question 4.)

6. If a person borrows $2,000.00 for a car, pays $68.89 per month for 36 months. How much interest has he paid?

   What is the true annual interest rate for the above loan?

   (NOTE: Use formula as stated in question four.)

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FINANCING THE FARM BUSINESS--SOURCES OF CREDIT
UNIT III

ANSWERS TO ASSIGNMENT SHEET #1

1. $360.00 X 8% = $28.80

2. $28.80 for 12 mo. + $14.40 for 6 mo. = $43.20

3. 1st mo. - 360 X 1% = 3.60 - Ending Balance = $363.60
   2nd mo. $363.60 X 1% = 3.64 - Ending Balance = $367.24
   3rd mo. $367.24 X 1% = 3.67 - Ending Balance = $370.91
   $10.91 interest

4. a. $360.00 X 8% = $28.80
   b. $\frac{\$28.80}{180} \times \frac{12}{1} \times \frac{1}{13}$ = 14.7% true annual interest

5. a. $360.00 X 8% = $28.80 interest
   b. $\frac{\$28.80}{165.60} \times \frac{12}{1} \times 1/13$ = 16.05% true annual interest
   (Note: Since loan was discounted only $331.20 was amount of original loan.)

6. a. $68.80 X 36 = $2,480.04 - $2,000.00 = $480.04
   b. $\frac{\$480.04}{1,000} \times \frac{36}{3} \times 1/37$ = 15.5%

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FINANCING THE FARM BUSINESS--SOURCES OF CREDIT
UNIT III

TEST

1. Match the terms on the right to the correct definition.

_____a.	Amount of money borrowed	1. Collateral
_____b.	A fair market value given on personal property	2. Appraisal
_____c.	Livestock, land, and other personal property used to secure the loan	3. Amortized
_____d.	A written claim listing the collateral to secure the loan	4. Interest rate
_____e.	Date the loan is to be paid in full	5. Maturity
_____f.	Percentage charged for the use of money	6. Mortgages
_____g.	Regular schedule of payment of the loan	7. Principle

2. Select the type loan on the right when given the definitions on the left.

_____a.		1. Long-term loans
	1) Extend for periods of one to five years	2. Intermediate loans
	2) Used for purchase of machinery and equipment, the purchase of breeding herds and flocks, and construction or major repair of farm buildings	3. Short-term loans
_____b.		
	1) Extend from five to thirty years or more	
	2) Used for such purposes as the purchase of farms, for farm improvements, for major repairs and other purposes	

_____c.

1) Extend for periods up to one year

2) Used for such items as fertilizer, feed or seed, or to pay other current operating expenses

3. Match the terms on the right to the correct definition.

_____a. Product of the principle, the time in years, and the annual rate of interest

_____b. Interest is deducted from principle at time loan is made

_____c. Interest calculated at regular intervals and added to the principle

_____d. Interest is calculated on the beginning balance and then added to principle to obtain the amount to be repaid in equal periodic installments

1. Simple interest
2. Compound interest
3. Discounted interest
4. Add-on-interest

4. Work the following problems:

a. How much interest would be paid for the use of $100.00 for one year at 8% straight interest?

b. How much compound interest would be paid for two months use of $100.00 at 1% percent interest per month?

c. How much interest would be paid for one year's use of $100.00 to be repaid in 12 equal monthly payments using 8% add-on type interest?

d.

1) How much money would the borrower have available to spend when borrowing $100.00 to be repaid in 12 equal payments using 8% discount interest?

2) What amount would monthly payments be in the above problem?

5. List two factors that determine the rate of interest and complete the problem below.

a.

1)

2)

b. A farmer borrowed $6,000.00 which cost him $400.00 for 24 months. Caluclate the interest by using the following formula.

Total of Finance Charges / 1/2 Original Loan	X	No. of Payments / No. of Years	X	1 / No. of Payments Plus 1	=	True Annual Rate of Interest

6. Match the source of credit on the right with the proper list of advantages and disadvantages on the left.

_____a.

1) Advantages

a) Easier for poor risk persons

b) Convenient for farmer

c) Immediate loan

d) Loan can be made for large percent of value

e) Repayment schedule may be designed for individual

2) Disadvantages

a) Interest is higher

b) May have different form of credit arrangement for various customers (This could be an advantage.)

1. Commercial banks
2. Farmers' home administration
3. Federal land banks
4. Insurance companies
5. Production credit association
6. Oklahoma School Land Commission
7. Merchants and dealers
8. Individuals
9. Finance companies

_____b.

1) Advantages

a) Makes loans to individuals who do not qualify for other loans

b) Short, intermediate, and long-term loans

c) Reasonable rates and terms on loans

d) Advice, assistance, and supervision given by supervisor

2) Disadvantages

a) Not intended as a permanent source of financing

b) Borrowers expected to refinance when suitable commercial sources are available

c) Secure loans only on larger acreages

_____c.

1) Advantages

a) Long-term mortgages

b) Low interest rates

c) Not any limits on size of loan except for self-imposed limits

2) Disadvantages

a) First mortgage loans

b) Some states prohibit short-term loans

c) Selective about areas where loans are made

d) Can not pay loan back all at once

_____d.

1) Advantages

a) Interest rates low

b) Long-term loans--33 years

2) Disadvantages

a) Loans will not be made on land less than 20 acres or on amount less than $1,000.00

b) Loan cannot exceed 50% of the appraiser's value of the land without improvements

c) First mortgage loans

d) May take a long time to get loan

_____e.

1) Advantages

a) Usually have low interest rates on long-term loans

b) Long-term loan (20-40 years)

c) More understanding on economic conditions

2) Disadvantages

a) Complicated loan procedure

b) Borrower has to buy shares

c) Usually appraised value is low

d) Limited funds to be loaned

1. Commercial banks
2. Farmers' home administration
3. Federal land banks
4. Insurance companies
5. Production credit association
6. Oklahoma School Land Commission
7. Merchants and dealers
8. Individuals
9. Finance companies

_____f.

1) Advantages

a) Low interest rate

b) Unlimited funds

c) Pay interest only on amount of time used

d) Keeps better records

2) Disadvantages

a) Borrower has to buy shares

b) Short-term loans

c) Not conveniently located

_____g.

1) Advantages

a) Convenience of borrowing

b) Know personal needs

c) Loan approved quickly

d) Loans on more diversified items

e) Will make character loans

2) Disadvantages

a) Interest rate usually higher

b) Short-term loans

c) Will not loan as much on land as some agencies

_____h.

1) Advantages

a) Low rate of interest

b) Immediate loan

c) Greater possibility to negotiate the payment or interest of loan

2) Disadvantages

a) Not dependable

b) Usually short-term credit

_____i.

1) Advantages

a) Easier for poor risk persons

b) Immediate loan approval

c) Short-term loans

d) Convenience of borrowing

2) Disadvantages

a) Interest rates extremely high

b) Usually a straight line interest rate on a longer term

c) High pressure loan agents

7. Select from the list below three factors to consider in choosing a source of credit. Check correct factors.

_____a. Time of year

_____b. Amount of the loan

_____c. Area of the state

_____d. Rate of amortizing

_____e. Repayment schedules

_____f. Size of payments

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FINANCING THE FARM BUSINESS--SOURCES OF CREDIT
UNIT III

ANSWERS TO TEST

1. a. 7
   b. 2
   c. 1
   d. 6
   e. 5
   f. 4
   g. 3
2. a. 2
   b. 1
   c. 3
3. a. 1
   b. 3
   c. 2
   d. 4
4. a. $100.00 x 8% = $8.00
   b. First month $100.00 x 1% = $1.00 Ending balance $101.00
   Second month $101.00 x 1% = $1.01 Ending balance $102.01
   Total interest = $2.01
   c. $100.00 x 8% = $8.00
   d. 1) $100.00 x 8% - $100.00 - 8.00 = $92.00 amount borrower receives
   2) $100.00 ÷ 12 = $8.33 monthly payment
5. Any two of these three:
   a. 1) Cost of money in money market
   2) Service cost of making records, keeping records, and collecting loans
   3) Risk of loss

b. $\frac{400}{3000} \times \frac{24}{2} \times \frac{1}{25} = 6.4\%$

6. a. 7

b. 2

c. 4

d. 6

e. 3

f. 5

g. 1

h. 8

i. 9

7. b

e

f

INSURANCE
UNIT IV

TERMINAL OBJECTIVE

After the completion of this unit, the student should be able to match terms associated with insurance to the proper definition. He should be able to match the various types of liability, property, life, and health insurance when given the correct definition and to select from a list the factors that influence rates for various kinds of insurance. This knowledge will be evidenced by scoring eighty-five percent on the unit test.

SPECIFIC OBJECTIVES

After completion of this unit, the student will be able to:

1. Match terms associated with insurance to the proper definition.
2. Match the type liability insurance with the proper definition.
3. Match the basic auto coverages with the proper definition.
4. Interpret the liability limit of a 10-20-5 policy.
5. Select from a list the factors to consider when determining what coverages to buy for an automobile.
6. Select from a list those items that influence automobile insurance premiums.
7. List ways to save on automobile insurance.
8. Match the type property insurance with the correct definition.
9. Select from a list those items that influence cost of property insurance.
10. Name the basic rules to use when buying property insurance.
11. Distinguish between crop hail insurance and federal crop insurance.
12. Match the kind of life insurance policy with the characteristics of each kind.
13. Discuss in writing instances when a family income life insurance policy would be needed most.
14. Select from a list the factors that determine the amount of life insurance needed.
15. Match the kind of health insurance with the proper definition.

16. Select from a list the features of workmen's compensation insurance.

17. Select from a list the kinds of work covered by social security, and who must pay social security tax.

18. Select from a list the benefits which are paid from social security funds.

19. Select from a list the reasons social security payments may stop.

20. Evaluate a family insurance program and make recommendations for improvements.

INSURANCE
UNIT IV

SUGGESTED ACTIVITIES

I. Instructor:

A. Provide students with objective sheet.

B. Provide students with information and assignment sheets.

C. Make transparency.

D. Discuss terminal and specific objectives.

E. Discuss information and assignment sheets.

F. Give test.

II. Students:

A. Read objectives.

B. Study information sheet.

C. Complete assignment sheet.

D. Take test.

INSTRUCTIONAL MATERIALS

I. Included in this unit:

A. Objectives

B. Information sheet

C. Transparency Master: TM 1--Social Security--Where the Money Comes From Where the Money Goes

D. Assignment Sheet #1--Evaluating Your Family Insurance Program

E. Test

F. Answers to test

II. References:

A. *A Teacher's Guide for Insurance: A Business and Office Curriculum Project.* Department of Vocational Education, Colorado State University, Fort Collins, Colorado, 1971.

B. Kelsey-Daniels. *Handbook of Life Insurance.* Institute of Life Insurance, 277 Park Avenue, New York, 10017.

C. *Your Social Security.* Superintendent of Documents. U.S. Government Printing Office. Washington, D.C. 20402, 1970.

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INSURANCE
UNIT IV

INFORMATION SHEET

I. Terms and definitions

A. Annuity--A contract that provides an income for a specified period of time such as a number of years or for life

B. Application--A statement of information made by a person applying for insurance

(NOTE: This becomes part of the policy.)

C. Automatic premium loan--A provision authorizing the premium to be subtracted from policy cash values if not paid by the end of the grace period

D. Beneficiary--Person named in the policy to receive proceeds at death of insured

E. Cash value--Amount available in cash upon voluntary termination of policy before death

F. Convertible--Term insurance exchanged at option of policyholder without evidence of insurability for another insurance plan

G. Disability benefit (Waiver of premium)--The provision added to life insurance to pay premiums if totally and permanently disabled

H. Double indemnity--An accidental death benefit to pay double face amount in case of death by accident

I. Endowment insurance--Insurance payable to the insured if living on maturity date or death prior to maturity

J. Face amount--Amount stated on the face of the policy that will be paid in case of death or at maturity

K. Grace period--A period (usually 31 days following the premium due date during which a premium may be paid without a penalty

(NOTE: This applies only to life insurance where stated and sometimes health insurance.)

L. Group insurance--Insurance which is usually issued without medical examination on a group of persons under a single master contract

M. Lapsed policy--A policy terminated for nonpayment of premium

N. Policy--Document stating terms of contract that is issued to policyholder by the company

INFORMATION SHEET

O. Policy dividend--A refund of part of the premium on participating policies plus interest

P. Policy loan--Cash loaned on the cash value of policy at a specified interest rate

Q. Premium--The payment or consideration one makes as a policyholder in agreement with the policy for insurance

R. Insurance--Spreads the risk of one person's misfortune among a large number of persons

S. Family income life insurance--A combination of permanent life insurance and decreasing term insurance

T. Homeowner's policy--A combination of several coverages or protections in one policy regarding home, personal property, and liability insurance

U. Credit insurance--Written through lending institutions on lives of borrowers

(NOTE: Most credit insurance is decreasing term policies in which the amount of insurance is equal to the unpaid portion of the mortgage.)

V. Permanent life insurance--Includes straight life, limited pay, and endowment

W. Term life insurance--Gives protection for a stated period of time and at the end of term is the termination of contract

Examples: 5 year term, 15 year term, decreasing term, or term to age 65

X. Liability--When one is negligent and therefore liable for injury or damage caused to someone else

(NOTE: Liability insurance protects one from claims made by other people and provides defense in the event of a groundless suit. Liability limits should be equal to assets.)

Y. Social security--Act of congress which provides retirement and disability income and is funded by social security tax

Z. Co-Insurance--When one is carrying part of the risk and is not fully insured

AA. No fault insurance--In regard to auto insurance, everyones company will pay for their own damage and injury

(NOTE: State laws may amend this concept.)

BB. Loss payable clause--Names the mortgage company on the policy whereby any claim is payable to mortgage company up to the amount of mortgage

INFORMATION SHEET

II. Types of liability insurance

A. Public liability--Protects policyholder from lawsuits by members of the public who suffer property or bodily injury caused by his negligence

(NOTE: This would apply to auto liability and farmer's comprehensive liability.)

B. Employer's liability--Protects employer when he is liable for on-the-job accidents caused by his negligence

(NOTE: This covers loss of time, medical care, bodily injury, sickness, and death.)

C. Workmen's compensation--Pays the employee's medical expense regardless of who is negligent

D. Farmer's comprehensive liability--Similar to public liability but is designed specifically for farmers

III. Basic automobile coverages

A. Bodily injury liability--Protects the policyholder financially if he or a member of his family injures someone while operating his vehicle

(NOTE: State law requires everyone to have liability insurance.)

B. Property damage liability--Protects the policyholder financially if he or a member of his family damages someone's automobile or other property

(NOTE: Most policies also offer liability protection for one if driving a borrowed car, or if loaning one's car to someone else.)

C. Medical reimbursement--Pays for any medical, dental, hospital, nursing, or funeral expenses incurred as the result of an auto or truck accident involving the insured vehicle regardless of fault

D. Comprehensive physical damage--Insures auto against glass breakage, fire, theft, and all weather elements

(NOTE: Policy may have no deductible or may range from $25.00 to $100.00 deductible.)

E. Collision--Insurance pays for damage to one's car regardless of the burden of negligence

(NOTE: Deductible choice ranges from $10 to $250.)

F. Protection against the uninsured motorist--Coverage for holder to recover loss for bodily injury caused by a person having no liability insurance

INFORMATION SHEET

IV. Interpretation of a 10-20-5 automobile policy

A. Ten indicates insured person is protected against damages up to $10,000 for one person

B. Twenty means insured person is protected against damages up to $20,000 for two or more persons injured in one accident

(NOTE: This is not in addition to the $10,000 protection for one person.)

C. The five indicates insured person is protected against property damage to others up to $5,000

(NOTE: It costs very little to raise liability limits. 100-300-100 costs as little as $10.00 more per year than 10-20-5.)

V. Factors to consider when determining types of automobile coverages to buy

A. Liability insurance should be purchased for every licensed vehicle

B. Liability limits should be the same on all vehicles

(NOTE: Minimum liability limits should be equal to one's assets.)

C. It is advisable to carry medical insurance on every vehicle

(NOTE: Medical payments cover passengers as well as the one insured and family.)

D. Consider dropping comprehensive and collision insurance when:

1. The car is paid for and there is no bank note
2. One can afford to repair the car from personal funds
3. One can do without the automobile if destroyed
4. The value of car is not more than the cost of comprehensive and collision premiums

(NOTE: All these factors should be considered and applied to each individual circumstance.)

VI. Items that influence automobile insurance premiums

A. Number of basic coverages one carries

B. Area one lives

INFORMATION SHEET

C. Value and size of automobile

D. Age

E. Sex

(NOTE: Boys rates are higher than girls.)

F. Marital status

G. Distance one drives to work

H. Use of car--Business or pleasure

I. Driving habits of individuals

J. Claims paid on policy during past three year period

K. Rates must be similar for equal risks

L. Cost of repairs

(NOTE: Rates are set by each insurance company and the insurance commission regulates these rates.)

VII. Ways to save on automobile insurance

A. Safe driver discount

(NOTE: Some companies give a ten to twenty percent discount on basic premiums to those with a three year record of no involvement in accidents where they were at fault or convicted of traffic violations.)

B. Driver education discount

(NOTE: Discount varies from company to company, but the course must meet national standards and be successfully completed.)

C. Two or more cars discount

VIII. Types of property insurance

A. Fire and extended coverage--Protects dwellings, farm buildings, and personal property against the perils of fire, lightning, wind, hail, explosion, riot, and civil commotion

(NOTE: Property does not have to be owner occupied.)

B. Homeowners--A package policy generally for town property that insures the dwelling, additional private structures, personal property such as household goods, and comprehensive personal liability; to qualify for this policy, the dwelling must be owner occupied

INFORMATION SHEET

(NOTE: Homeowners insures against damage from fire, and extended coverage as described in item A, plus theft, vehicle damage, falling objects, weight of ice and snow, freezing of plumbing system, and hot water heater rupture.)

C. Farm Owners--Same as homeowners plus optional coverages of farm barns and buildings, machinery, grain, hay, livestock, tools and equipment, and employer's liability

IX. Items that influence cost of property insurance

A. Amount of protection

B. Type of contruction (wood or brick)

C. Location

D. Distance from fire department

E. Period of time covered

X. Basic rules for buying property insurance

A. Do not insure if financially able to do without or to replace with personal funds or if a loss would not hamper the farm operation

B. Insure if there is a loan against property under personal ownership

C. Write enough coverage to replace the loss

XI. Crop hail and federal crop insurance

A. Crop hail

1. An insurance company policy that protects against loss by hail or fire; optional coverage is loss by wind

2. The amount of loss payable is the amount of insurance multiplied by the percentage of damage

3. Damage percentage is determined by sampling methods that are agreeable to both parties

B. Federal crop insurance

1. Provides "all risk" crop investment insurance

2. Does not insure profit for the farmer or cover avoidable losses such as those caused by neglect or poor farming practices

INFORMATION SHEET

3. Pays up to the guaranteed yield

(NOTE: If actual yield is as much as guarantee then no payment is made regardless of extent of loss.)

XII. Kind of life insurance policies

A. Term insurance

1. Covers the stated number of years or term that the policy is in effect
2. Usually does not accumulate any cash value
3. Insurance protection ends when the stated term expires
4. Used for business insurance protection, creditor's risk, and general family protection
5. For the time contracted, it is the cheapest form of life insurance
6. Chances of death increase with age, therefore policy rates are higher for each succeeding period
7. No guarantee of renewal
8. Group insurance is usually term insurance

B. Straight life insurance (Whole life or ordinary life)

1. Provides lifetime protection
2. Most widely used of all permanent life insurance
3. Costs less annually than any other kind of lifetime protection
4. Premiums are paid throughout the policyholder's lifetime
5. Policy accumulates a cash value
6. Policyholder may borrow the cash value of his policy

C. Limited payment life insurance

1. Provides lifetime protection
2. Premiums are paid only during a specified period of time
3. Fewer premiums are necessary so each one is larger
4. Accumulates cash value

INFORMATION SHEET

5. Twenty year, or thirty year pay, or paid up at 65 are examples of limited payment life insurance

(NOTE: Anyone having above average income for a few years might consider this type of insurance.)

D. Endowment life insurance

1. Policy puts emphasis on savings more than any other life insurance

2. Purpose is to accumulate a certain amount of money in a specified period, while providing life insurance

3. If policyholder lives, whole amount of policy is paid to him when endowment comes due

4. If policyholder dies before the period has elapsed, the full amount of the policy is paid to beneficiary

5. Expensive form of insurance for protection

6. Suits those who wish money for educating children or during retirement

XIII. Instances when family income life insurance is needed most

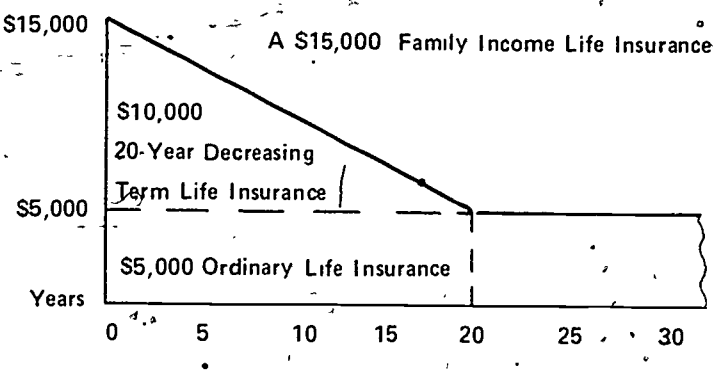
(NOTE: Combination of permanent life and decreasing term insurance.)

A. When there are small children to be reared or educated

B. While policyholder is paying off mortgage

Example: The chart below illustrates a common form of family income policy

(NOTE: If the policy shown had been in effect for fifteen years, the beneficiary would receive monthly income payments for the remaining five years of the policy.)



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INFORMATION SHEET

XIV. Factors that determine amount of life insurance needed

A. Family's income and net worth

B. Size of the family

C. Age and sex of the children

D. Skills and abilities of the wife and older children

E. Indebtedness of the family

F. Long-time goals including college education for the children

(NOTE: A qualified insurance agent is able to program one's insurance needs. Know the insurance agent and have confidence in him. There is usually a need for revision of your insurance needs.)

XV. Kinds of health insurance

A. Hospital-surgical-medical

1. Known as first dollar coverage with a small deductible clause

Example: $20, $50, or $100 deductible

2. Usually has specified limits on room and board, hospital special charges, surgery, and out patient care

B. Major medical

1. Pays for expenses associated with a catastrophe and has a large deductible clause of from $100 to $1,000 but has a large benefit limit

Example: $10,000 to $20,000

2. Usually covers most all expenses over the deductible with possibly a limit on room, board, and surgery

3. Has larger benefit period than hospital-surgical-medical

Example: Three years

4. Major medical usually pays 80% for eligible expenses for the first one to five thousand dollars and 100% thereafter until maximum benefits are reached

INFORMATION SHEET

C. Disability income

1. Pays a stated amount while a person is disabled because of injury or illness

2. Deductibles on disability income are called waiting periods

(NOTE: This is the period between the start of disability and beginning of payment.)

3. Has different combinations of waiting periods

(NOTE: Example: 0/0 means no waiting period for accident or sickness, 30/90 means 30 day waiting period for accidents and 90 day waiting period for sickness.)

4. Variations in length of benefit periods may be purchased

Example: Life time benefits for accidents and five year benefits for sickness

5. Usually there are smaller benefits for partial disability

(NOTE: The hospital-surgical-medical, major medical, and disability income policies can be purchased in group plans, individual plans, and family plans. Many employers of larger firms provide group plans for employees.)

XVI. Features of workmen's compensation

A. In effect in all states

B. Employer must insure employees

C. Covers injury on the job

D. Covers illness as a result of job

E. Pays percentage of earnings while disabled

F. Pays accidental death benefits

G. Protects the employer regardless of who is negligent

H. Applies usually to firms with four or more full time employees

(NOTE: Dairys and feedlots with three or more employees may come under workmen's compensation.)

INFORMATION SHEET

XVII. Kinds of work covered by social security

A. Almost every kind of employment and self-employment

(NOTE: Some occupations are covered only if certain conditions are met.)

B. Self-employed farmers and ranchers

(NOTE: If net earnings from self-employment are $400 or more in a year)

C. Farm employees--Social security credits are earned while working for a farmer, a ranch operator, or a farm labor crew leader

1. If the employer pays $150 or more in cash during the year for farm work

2. If farm work for the employer involves twenty or more days during the year for cash wages

XVIII. Benefits paid from social security (Transparency 1)

A. Monthly retirement benefits--Payable in full at age 65 with reduced benefits as early as age 62

B. Monthly survivor's benefits are payable to the following:

1. Widow at 62

2. Unmarried children under 18 (Under 22, if full-time student)

3. Children 18 or over if disabled before age 18

4. Widow at any age if she is caring for child under 18

5. Widow as early as age 50 if she has a severe disability

6. Dependent parents 62 or over

7. Dependent widower 62 or over

C. Monthly disability benefits--Payable to one before 65 with a severe disability that has lasted at least 12 months

D. Medicare--A two-part health insurance program for older people

E. Lump sum for funeral expenses payable to survivor at death of the person paying social security

INFORMATION SHEET

XIX. Reasons social security payments stop

A. Marriage to one who is not covered by social security insurance payments

(NOTE: An exception is for the widow who remarries after reaching age 60.)

B. Divorce--All payments end if divorce is granted unless one is age 62 or older or if the marriage lasted at least thirty continuous years

C. No child "in her care"--Payment to wife under 62 stops when she no longer has a child under 18 or disabled

D. Child reaches 18--Payments stop unless he is disabled or a full-time unmarried student

E. Adoption--Payments end unless person is adopted by stepparent, grandparent, aunt, uncle, brother, or sister

F. Death--Applies to any person receiving monthly benefits

G. Disability--If no longer disabled, payments stop to dependents

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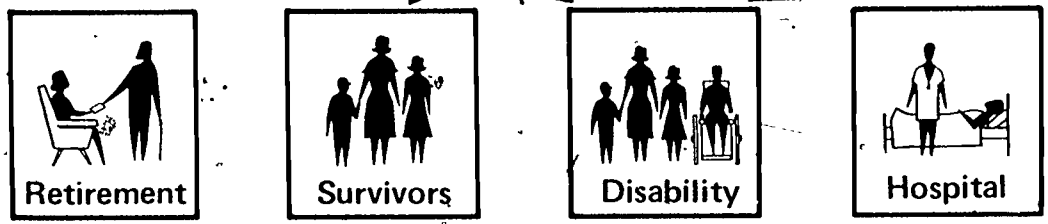
SOCIAL SECURITY
Where the Money Comes From, Where the Money Goes

Retirement, Survivors, Disability, and Hospital Insurance

Contributions paid during working years by
- Employers
- Employees
- Self-Employed People

3 Separate Funds

Trust Fund Money Used for Benefits

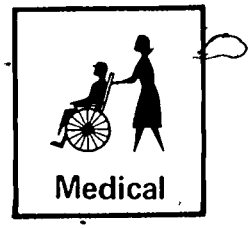


Voluntary Medical Insurance

Premiums by people 65 or over who sign up-

Equal contribution by government

A Separate Trust Fund



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INSURANCE
UNIT IV

ASSIGNMENT SHEET #1--EVALUATING YOUR FAMILY INSURANCE PROGRAM

With the help of your parents, complete the following information in regard to your family insurance program.

1. Review of your automobile insurance.

Auto Description	Liability Limits	Medical	Comprehensive	Collision

a. Liability limits are the same on each vehicle. Yes____ No____

b. Liability limits are equal to family assets. Yes____ No____

c. Each vehicle has medical coverage. Yes____ No____

d. Comprehensive and collision should be dropped on older vehicles. Yes____ No____

e. Comprehensive and collision should be added to one or more vehicles. Yes____ No____

f. All vehicles have liability coverage. Yes____ No____

ASSIGNMENT SHEET #1

g. Using the information and recommendations included in this unit, what changes would you recommend in the coverages of your family vehicles?

2. Review of your property insurance program.

Description	Amount of Coverage
Dwelling	
Contents	
Garage	
Barn	
Other Building #1	
Other Building #2	
Other Building #3	
Farm Liability or personal liability	
Machinery	
Tools	
Livestock	
Grain	
Hay	
Other:	

a. Our property is fully insured. Yes____ No____

(NOTE: To be fully insured and avoid co-insurance on the dwelling, it must be insured for at least eighty percent of replacement cost.)

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ASSIGNMENT SHEET #1

b. In the event house and contents were lost to fire, insurance would replace same house, all clothes, furniture, appliances, books, ets.
Yes ____ No ____

c. All barns vital to farm operation are insured. Yes____ No____

d. All tools, machinery, hay, and grain vital to the farm operation are insured. Yes ____ No.____

e. Liability limits are adequate to protect farm or property in the event of a suit. Yes____ No____

f. Liability coverage includes protection for employees. Yes____ No ____

g. Crop hail or federal crop insurance is used on our farm.
Yes ____ No ____

h. Based on information and recommendations in this unit, what suggestions would you make in your family's property insurance coverages?

3. Review your family's life insurance program.

	Amount of Policy	Kind of Policy
Father		
Mother		
Yourself		
Brother		
Sister		

a. In event of death of your father, there would be enough cash, including life insurance proceeds, to pay all debts, funeral expenses, etc.
Yes ____ No ____

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ASSIGNMENT SHEET #1

b. After paying debts and expenses, family income would be such to insure adequate education for all children. Yes____ No____

c. Enough cash to pay state and federal estate taxes will be available in the event of death of mother or father. Yes____ No____

(NOTE: For more information, check with your accountant, attorney, or insurance agent.)

d. Members of my family have term insurance coverage that should be converted to permanent coverage. Yes____ No____

4. Review of health insurance and social security.

a. All members of family are covered by health insurance. Yes____ No____

b. Hospital surgical type coverage is included in our policy. Yes____ No____

c. Major medical coverage is included in our policy. Yes____ No____

d. At least one member of family is covered by disability income or workmen's compensation. Yes____ No____

e. My parents and I have recently checked our accounts with social security to verify the credit of all payments. Yes____ No____

(NOTE: Any mistakes the social security administration has made during the past three years can be corrected. Mistakes not corrected within three years are lost.)

f. If answer to "e" was no, obtain from your postmaster a card which may be mailed to the social security administration for verification of your payments.

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INSURANCE
UNIT IV

TEST

1. Match the following definitions with the terms on the right.

(NOTE: Answers to "a" through "m" are listed on this page.)

_____a. Insurance payable to the insured if living on maturity date or death prior to maturity

_____b. An accidental death benefit to pay double face amount in case of death by accident

_____c. The provision added to life insurance to pay premiums if totally and permanently disabled

_____d. Gives protection for a stated period of time and at the end of term is the termination of contract

_____e. Includes straight life, limited pay, and endowment

_____f. Written through lending institutions on lives of borrowers

_____g. A combination of several coverages or protections in one policy regarding home, personal property, and liability insurance

_____h. A combination of permanent life insurance and decreasing term insurance

_____i. When one is negligent and therefore liable for injury or damage caused to someone else

_____j. Act of congress which provides retirement and disability income and is funded by social security tax

1. Endowment insurance
2. Disability benefit (Waiver of premium)
3. Double indemnity
4. Insurance
5. Premium
6. Family income life insurance
7. Credit insurance
8. Term life insurance
9. Permanent life insurance
10. Homeowner's policy
11. Liability
12. Co-Insurance
13. Social security

_____k. When one is carrying part of the risk and is not fully insured

_____l. Spreads the risk of one person's misfortune among a large number of persons

_____m. The payment or consideration one makes as a policyholder in agreement with the policy for insurance

(NOTE: Answers to "n" through "bb" are listed on this page.)

_____n. Cash loaned on the cash value of policy at a specified interest rate

_____o. Term insurance exchanged at option of policyholder without evidence of insurability for another insurance plan

_____p. Amount available in cash upon voluntary termination of policy before death

_____q. A contract that provides an income for a specified period of time such as a number of years or for life

_____r. A statement of information made by a person applying for insurance

_____s. A provision authorizing the premium to be subtracted from policy cash values if not paid by the end of the grace period

_____t. Person named in the policy to receive proceeds at death of insured

_____u. Amount stated on the face of the policy that will be paid in case of death or at maturity

_____v. A period (usually 31 days) following the premium due date during which a premium may be paid without a penalty

14. Cash value
15. Automatic premium loan
16. Annuity
17. Application
18. Beneficiary
19. Convertible
20. Policy loan
21. Policy
22. Group insurance
23. Face amount
24. Loss payable clause
25. Grace period
26. Lapsed policy
27. Policy dividend
28. No fault insurance

_____w. Insurance which is usually issued without medical examination on a group of persons under a single master contract

_____x. A policy terminated for nonpayment of premium

_____y. Document stating terms of contract that is issued to policyholder by the company

_____z. A refund of part of the premium on participating policies plus interest

____aa. Names the mortage company on the policy whereby any claim is payable to mortgage company up to the amount of mortgage

____bb. In regard to auto insurance, everyones company will pay for their own damage and injury

2. Match the following definitions of liability insurance with the terms on the right.

_____a. Pays the employee's medical expense regardless of who is negligent

_____b. Similar to public liability but is designed specifically for farmers

_____c. Protects policyholder from lawsuits by members of the public who suffer property or bodily injury caused by his negligence

_____d. Protects employer when he is liable for on-the-job accidents caused by his negligence

1. Public liability
2. Employer's liability
3. Workmen's compensation
4. Farmer's comprehensive liability

3. Match the basic auto coverages with the terms on the right.

_____a. Insurance pays for damages to one's car regardless of the burden of negligence

_____b. Pays for any medical, dental, hospital, nursing, or funeral expenses incurred as the result of an auto or truck accident involving the insured vehicle regardless of fault

1. Protection against uninsured motorist
2. Bodily injury liability
3. Property damage liability
4. Medical reimbursement

_____c. Protects the policyholder financially if he or a member of his family injures someone while operating his vehicle

_____d. Protects the policyholder financially if he or a member of his family damages someone's automobile or other property

_____e. Insures auto against glass breakage, theft, and all weather elements

_____f. Coverage for holder to recover loss for bodily injury caused by a person having no liability insurance

5. Comprehensive physical damage

6. Collision

4. Explain in writing what is meant by a 10-20-5 automobile liability policy.

5. Select from the list below the factors that determine what automobile coverages to buy. Place an "X" by the correct factors.

_____a. Liability insurance should be purchased for every licensed vehicle

_____b. Liability limits should be less on automobiles not used very often

_____c. It is not advisable to carry medical insurance on every vehicle

_____d. Consider dropping comprehensive and collision insurance when able to afford repair on the car from personal funds

6. Select from the list below those items that influence automobile insurance premiums. Place an "X" by the correct items.

_____a. Number of basic coverages one carries

_____b. Area one lives

_____c. Name of car manufacturer

_____d. Age

_____e. Sex

_____f. Height

_____g. Driving habits of individuals

7. List two ways to save on automobile insurance.

a.

b.

8. Match the types of property insurance on the right with the proper definition.

_____a. A package policy generally for town property that insures the dwelling, additional private structures, personal property such as household goods, and comprehensive personal liability; to qualify for this policy, the dwelling must be owner occupied

_____b. Protects dwelling, farm buildings, and personal property against the perils of fire, lightning, wind, hail, explosion, riot, and civil commotion

_____c. Same as homeowners plus optional coverages of farm barns and buildings, machinery, grain, hay, livestock, tools and equipment, and employer's liability

1. Fire and extended coverage
2. Homeowners
3. Farm owners

9. Select from the list the items that influence the cost of property insurance. Place an "X" by the correct items.

_____a. Amount of protection

_____b. Type of construction (wood or brick)

_____c. Age of people living on property

_____d. Distance from fire department

_____e. Marital status of applicant

10. Name two basic rules to use when buying property insurance.

a.

b.

11. Distinguish between crop hail and federal crop insurance by writing crop hail or federal crop as it applies to the following statements.

a. _____ Pays up to the guaranteed yield

b. _____ An insurance company policy that protects against loss by hail or fire; optional coverage is loss by wind

c. _____ The amount of loss payable is the amount of insurance multiplied by the percentage of damage

d. _____ Provides "all risk" crop investment insurance

e. _____ Damage percentage is determined by sampling methods that are agreeable to both parties

f. _____ Does not insure profit for the farmer or cover avoidable losses such as those caused by neglect or poor farming practices

12. Match the characteristics on the left with the correct kind of life insurance on the right.

(NOTE: These terms can be used more than once.)

_____	a. Covers the stated number of years or term that the policy is in effect	1.	Term insurance
_____	b. Premiums are paid throughout the policyholder's lifetime	2.	Limited payment life insurance
_____	c. Premiums are paid only during a specified period of time; provides lifetime protection	3.	Endowment life insurance
_____	d. No guarantee of renewal	4.	Straight life insurance
_____	e. Policy puts emphasis on savings more than any other life insurance		
_____	f. Expensive form of insurance for protection		
_____	g. Most widely used of all permanent life insurance		

13. Discuss in writing instances when a family income life insurance policy would be needed most.

14. Select from the list below the factors that determine the amount of life insurance needed. Place an "X" by the proper factors.

_____a. Size of the family

_____b. Age and sex of children

_____c. Indebtedness of the family

_____d. Location within the state

_____e. Race

15. Match the kind of health insurance on the right with the proper definition.

(NOTE: These terms can be used more than once.)

_____a. Pays for expenses associated with a catastrophe and has a large deductible clause of from $100 to $1000 but has a large benefit limit

_____b. Known as first dollar coverage with a small deductible clause

_____c. Pays a stated amount while a person is disabled because of injury or illness

_____d. Usually pays 80% for eligible expenses for the first one to five thousand dollars and 100% thereafter until maximum benefits are reached

_____e. Usually has specified limits on room and board, hospital special charges, surgery, and out patient care

1. Hospital-surgical-medical
2. Major medical
3. Disability income

16. Select from the list below the features of workmen's compensation for those who qualify. Place an "X" by the statement.

_____a. Employer must insure employees

_____b. Covers injury on the job

_____c. Pays percentage of earnings while disabled

_____d. Usually applies to firms with two full time employees

_____e. Pays death benefits regardless of cause

_____f. Protects the employee unless he is negligent

17. Select from the list below the kinds of work covered by social security. Place an "X" by correct answers.

_____a. Almost every kind of employment and self-employment

_____b. Farm employee working fifteen days for a farmer and receiving $140.00 for this work

_____c. Self-employed farmers and ranchers

18. Select from the list below the benefits that are paid from social security funds. Place an "X" by the correct statements.

_____a. Monthly survivors benefits to a widow at age 62

_____b. Monthly survivors benefits to a widow at any age if she is caring for a child under 18

_____c. Full benefits for retirement at age 62

_____d. Medicare--A two-part health insurance program for older people

19. Select from the list below the reasons social security payments stop. Place an "X" by the correct answers.

_____a. All payments end if divorce is granted unless one is age 62 or older or if the marriage lasted at least thirty continuous years

_____b. Payments to wife under 62 stop when she no longer has a child under 24 or disabled

_____c. When a person is no longer disabled, payments stop to dependents

_____d. When a dependent child reaches 18, payments stop even if he is a full time student

_____e. Payments stop whenever a dependent child is adopted unless adopted by stepparent, grandparent, aunt, uncle, brother, or sister

20. Evaluate a family insurance program and recommend needed changes.

(NOTE: If this activity has not been accomplished prior to this test, ask the instructor when this is to be completed.)

INSURANCE
UNIT IV

ANSWERS TO TEST

1. a. 1
   b. 3
   c. 2
   d. 8
   e. 9
   f. 7
   g. 10
   h. 6
   i. 11
   j. 13
   k. 12
   l. 4
   m. 5
   n. 20
   o. 19
   p. 14
   q. 16
   r. 17
   s. 15
   t. 18
   u. 23
   v. 25
   w. 22

x. 26

y. 21

z. 27

aa. 24

bb. 28

2. a. 3

b. 4

c. 1

d. 2

3. a. 6

b. 4

c. 2

d. 3

e. 5

f. 1

4. a. Ten indicates insured person is protected against damages up to $10,000 for one person

b. Twenty means insured person is protected against damages up to $20,000 for two or more persons injured in one accident

c. The five indicated insured person is protected against property damage to others up to $5,000

5. a

d

6. a

b

d

e

g

7. Any two of the following:
   a. Safe driver discount
   b. Driver education discount
   c. Two or more cars discount

8. a. 2
   b. 1
   c. 3

9. a
   b
   d

10. Any two of the following:
   a. Do not insure if financially able to do without or to replace with personal funds, or if a loss would not hamper the farm operation
   b. Insure if there is a loan against property under personal ownership
   c. Write enough coverage to replace the loss

11. a. Federal crop
   b. Crop hail
   c. Crop hail
   d. Federal crop
   e. Crop hail
   f. Federal crop

12. a. 1
   b. 4
   c. 2
   d. 1
   e. 3
   f. 3
   g. 4

13. When there are small children to be educated or reared or while policyholder is paying off mortgage.

14. a
    b
    c

15. a. 2
    b. 1
    c. 3
    d. 2
    e. 1

16. a
    b
    c

17. a
    c

18. a
    b
    d

19. a
    c
    e

20. Evaluated to the satisfaction of the instructor.

TAX MANAGEMENT
UNIT V

TERMINAL OBJECTIVE

After completion of this unit, the student should be able to list reasons good records are important and to match the advantages and disadvantages to the proper method of reporting farm income. He should be able to distinguish between taxable and non taxable items and to complete schedule F of a 1040 form. This knowledge will be evidenced through demonstration and by scoring eighty-five percent on a unit test.

SPECIFIC OBJECTIVES

After completion of this unit, the student should be able to:

1. Match terms and definitions associated with tax management.
2. List reasons good records are important for income tax management.
3. Match the method of reporting farm income with the proper definition.
4. Match the advantages and disadvantages to the proper method of reporting farm income.
5. Distinguish between taxable and non-taxable items when given a list.
6. Select from a list ways to avoid extremely high or low taxable income.
7. Match the method of depreciation with the proper definition.
8. Determine annual depreciation when using the straight line method.
9. Select from a list those who must file an income tax return.
10. Complete schedule F and transfer information to a 1040 form when given an assimulated situation.

TAX MANAGEMENT
UNIT V

SUGGESTED ACTIVITIES

I. Instructor:

A. Provide students with objective sheet.

B. Provide students with information and assignment sheets.

C. Discuss terminal and specific objectives.

D. Discuss information and assignment sheets.

E. Give test.

II. Students:

A. Read objectives.

B. Study information sheet.

C. Complete assignment sheets.

D. Take test.

INSTRUCTIONAL MATERIALS

I. Included in this unit:

A. Objectives

B. Information sheets

C. Assignment sheets

1. Assignment Sheet #1--Calculating Straight Line Depreciation

2. Assignment Sheet #2--Completing Schedule F and Transferring to a 1040 Form

D. Answers to assignment sheets

E. Test

F. Answers to test

II. References:

A. *Doane's Farm Management Guide.* St. Louis, Missouri: Doane Agriculture Service, Inc., 1971

B. *Farm Income Tax Management.* Stillwater, Oklahoma: Extension Service, Oklahoma State University.

C. U.S., Treasury Department, Internal Revenue Service, *Your Federal Income Tax,* 1973 Edition, Publication 17.

III. Optional teaching aids:

A. U.S., Treasury Department, Internal Revenue Service, *Teaching Taxes Program,* Teacher's Guide, 1973 Edition, Publication 19.

B. U.S., Treasury Department, Internal Revenue Service, *Farm Edition,* Publication 22.

(NOTE: Publication #22 and #19 may be ordered free of charge from the Internal Revenue Service.)

C. Films

(NOTE: Internal Revenue District Offices have several tax films which can be borrowed on request.)

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TAX MANAGEMENT
UNIT V

INFORMATION SHEET

I. Terms and definitions

A. Schedule F--A tax form used along with the 1040 form to complete farm income and expenses

B. Market livestock--Animals raised on farm primarily for sale

C. Purchased livestock--Animals bought for resale

D. Other farm income--Farm income received other than sale of crops and livestock

(NOTE: This includes machine hire, Government payments, and patronage dividends.)

E. Depreciation--Decline in value of an asset due to such causes as wear and tear, action of elements, obsolescence, and inadequacy

F. Assets--Items or resources owned

G. Tax basis--The dollar amount used to compute depreciation

(NOTE: As depreciation accumulates the tax basis decreases. Tax basis does not necessarily have any relation to market value. Usually the cost of a purchased asset is the starting basis.)

H. Salvage value--Value of an asset at the end of its useful life

I. Self-employed--Person operating his own business

(NOTE: The operation can be on your own farm through your own personal labor or with hired labor, as a tenant, or as a member of a partnership.)

J. Ad valorem tax--Assessment taxes against real property, personal property, and public service property

(NOTE: The greater part of ad valorem taxes goes for the support of public schools and is used for the support of county and sometimes city governments.)

K. Income averaging--Permits the taxpayer who receives an unusually large amount of income in one year to be taxed on this income as if it had been received over a five year period.

INFORMATION SHEET

II. Reasons good records are important for tax management

A. Records identifying receipts make it possible to substantiate the fact that some of these receipts are from a source which makes them non-taxable

B. If expenses are not recorded at the time they are incurred or paid, some may be overlooked or forgotten when preparing a tax return

(NOTE: An overlooked item of $25 could cost you $5 or more in extra tax dollars.)

C. The cost of farm assets should be recorded so the depreciation allowance can be determined

D. Upon audit of an income tax return by the Internal Revenue Service, good records are needed to verify the items reported

E. If records show the date an asset was acquired, for what it was used, and whether it was sold, traded, destroyed, or otherwise disposed of, capital gains provisions of the law or 100 percent loss provisions can sometimes be claimed

F. Records are valuable for efficient farm management and provide a basis for analyzing a business and for obtaining credit

G. Records should establish the amount of earnings to be reported for self-employment social security tax purposes

(NOTE: Cancelled checks and deposit slips are the best verifications of transactions.)

III. Methods of reporting farm income

A. Cash method--Income is reported in the year cash or its equivalent is received from the sales produce or property or for services performed; deductions for farm expense items are made in the year in which they are paid out

B. Accrual method--Use inventories of livestock, crops, produce, feed, supplies, etc to determine gross income, sales are treated as income when the price of the item is recoverable; expenses are deductible when payable

C. Crop method--If producing a crop that takes more than a year from planting to harvesting and selling, one may use the crop method of accounting: the expenses of producing the crop are deducted in the year of sale; profit or loss is not determined until the crop is harvested and sold

(NOTE: Sugar cane is an example of a crop suited for the crop accounting method because the growing period is more than one year.)

INFORMATION SHEET

IV. Advantages and disadvantages of each method of reporting farm income

A. Cash method

1. Advantages

a. Most simple method

b. Most flexible as one can choose when to incur income and deduct expenses

c. One works with actual money rather than abstract figures

2. Disadvantages

a. Income may be erratic--An unusually good year could balloon income into a high tax bracket

b. In a low income year, allowable deductions and exemptions may be lost by having too little income

B. Accrual method

1. Advantages

a. Levels out income without the necessity of year-end manipulation

b. The over-all effect is to defer cost of producing crops, livestock, or other products to be offset against the sale price

c. One has a close check on all operations due to the requirement of more accurate record keeping

2. Disadvantages

a. Records are required to be detailed and complex

b. One works with abstract figures rather than actual money

c. The actual cash position is difficult to determine

C. Crop method

1. Advantages

a. Expenses of producing the crop are deducted in the year of sale

b. When the crop is sold, that account is closed and gain or loss is shown in a particular tax year

INFORMATION SHEET

2. Disadvantages

a. Each crop is considered a distinct venture with a separate account

b. With the crops grown in Oklahoma, this method would not apply to most crops

V. Taxable and non-taxable items

A. Taxable items

1. Compensation for services
2. Dividends received from business dealings
3. Income from royalities
4. Estates and trusts income
5. Commissions
6. Income from interest
7. Rent income
8. Income from partnerships
9. Profits from sales or exchanges of property
10. Gross income from the farm or ranch business
11. Government program payments
12. Gasoline tax refunds
13. Insurance proceeds received for crop damage or farm building damage
14. Easement payments and other unearned income

B. Non-taxable items

1. Exchanges of business property presently may not be taxed
2. Commodity credit loans would not be income until the commodity is sold or turned to the government
3. Social security benefits, railroad retirement pensions, and war veteran's disability pensions

INFORMATION SHEET

4. Fair market value of produce or livestock raised and consumed by farmer and his family

6. Life insurance paid by reason of death

7. Gifts, bequests, and inheritances

8. Loans

9. Income tax refunds

(NOTE: Interest paid in the refund is taxable.)

10. The value of work performed by farmer, his wife, or children on the farm

11. Increase in the value of crops, livestock, or other assets unless sold or exchanged when on the cash method of accounting

(NOTE: Accrual taxpayers must reflect the increase in value.)

12. Sickness and injury benefits, if received as damages in settlement of a claim or under a health and accident insurance policy

13. Educational grants and scholarships

VI. Ways to avoid extremely high or low taxable incomes

A. Periods when income is high

1. Pay debts

2. Hire children

(NOTE: A child using the new low-income allowance plus his exemption of $750 may earn $2050.00 free of tax; this applies to 1973.)

3. Purchase needed machinery and livestock

4. Hold crops and livestock off market

5. Use maximum initial depreciation

6. Make needed repairs

7. Use income averaging

8. Do extra conservation work

INFORMATION SHEET

B. Periods when income is low

1. Use slower depreciation

(NOTE: Method of depreciation on same item must remain consistent from one year to another.)

2. Postpone debt payments

3. Sell crops and livestock

4. Collect accounts receivable

5. Do additional custom work

VII. Methods of depreciation

A. Straight line--Yearly depreciation consists of dividing total anticipated depreciation by the number of years asset is expected to last

B. Diminishing balance--A fixed rate of depreciation is used every year and applies to the value of the asset at the beginning of the year

(NOTE: The rate of depreciation should be near twice that used for straight line method.)

C. Sum-of-the-digits method--Annual depreciation is determined by multiplying a fraction times the amount to be depreciated

(NOTE: The amount to be depreciated is cost minus salvage value.)

D. Additional first year depreciation--An additional 20 percent first year depreciation on new or used tangible personal property may be used if proper provisions are met

Example:		
	Cost of new tractor	$3,200.00
	One shot depreciation (20% x 3,200)	640.00
	Adjusted basis	$2,560.00
	Less: Estimated salvage value	200.00
	Adjusted basis for depreciation	$2,360.00
	Divided by expected life	236.00
	Add: 20% depreciation above	640.00
	Total current allowable depreciation	876.00

INFORMATION SHEET

(NOTE: After taking the 20 percent depreciation, regular depreciation may be taken on the remaining cost basis from the date of purchase to the end of the year. The following provisions must be met in order to claim additional first year depreciation:

1. The property must have a useful life of six years or more .
2. The total cost of such properties is not more than $10,000 ($20,000 on a joint return)
3. Property is not acquired from spouse, parent, child or other ancestor or lineal descendant
4. Property is not acquired in transactions between certain related partnerships, corporations, stockholders, beneficiaries, or grantors of trusts
5. If property is acquired through a trade, only the difference paid is subject to this additional depreciation)

VIII. Calculating straight line depreciation

A. Original cost--$300.00

B. Expected life--10 years

C. Salvage value--$20.00

D. Annual depreciation--$300.00 minus $20.00 = $280.00 divided by 10 years equals $28.00 per year

IX. Who must file a return

A. A single individual under 65 years of age having $2,050 or more gross income for the year

B. A single individual over age 65 having $2,800 or more gross income for the year

C. Any individual who may be claimed as the dependent of another taxpayer must file a return if gross income is $750 or more

(NOTE: An unmarried full time student may earn $2050.00 per year and still be claimed as a dependent.)

D. Married persons under 65 years of age having the combined gross income of $2,800 per year provided a joint return is used

INFORMATION SHEET

E. Married persons, one being above 65 years of age, having a combined gross income of $3,550 per year provided a joint return is filed

F. Married persons, both 65 years of older having a combined gross income of $4,300 per year provided a joint return is filed

G. Self-employed persons having net earnings from self-employment of $400 or more per year

(NOTE: This applies to any self-employed person regardless of age.)

H. If income tax was withheld during the year but not enough income earned to file a return one can get a refund by filing and still be claimed as a dependent by another taxpayer

I. A surviving wife or husband of a decedent who would have been required to file had he lived, and no executor, administrator, or legal representative has been appointed.

TAX MANAGEMENT
UNIT V

ASSIGNMENT SHEET #1--CALCULATING STRAIGHT LINE DEPRECIATION

Using the information below, calculate the depreciation using the straight line method.

1. Tractor
   a. Original cost $10,000.00
   b. 3 years old
   c. Expected life 10 years
   d. Salvage value--$700.00
   e. Yearly depreciation _____

2. Portable grinder-mixer
   a. Original cost--$2,000.00
   b. 1 year old
   c. Expected life--7 years
   d. Salvage value--$500.00
   e. Yearly depreciation _____

3. 16 foot stock trailer
   a. Original cost--$800.00
   b. 4 years old
   c. Expected life--5 years
   d. Salvage value--$200.00
   e. Yearly depreciation _____

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TAX MANAGEMENT
UNIT V

ASSIGNMENT SHEET #2--COMPLETING SCHEDULE F AND TRANSFERRING TO A 1040 FORM

Use the following information to complete schedule F parts I, II, and III and transfer this information to a 1040 form.

1. John Cook is student who lives with his parents in Stillwater, Oklahoma.
2. John's social security number is 229-46-2479.
3. John worked at the local elevator and earned $2,000.00 of which $117.00 was withheld for social security and $155.00 was withheld for federal income taxes.
4. According to John's record book he has the following items set up on a straight line depreciation schedule.

a. Hog house

1) 1 year old
2) Original cost--$40.00
3) Useful life--10 years
4) Salvage value--$0

b. Fence

1) 1 year old
2) Original cost--$55.00
3) Useful life--5 years
4) Salvage value--$0

c. Hog house

1) New
2) Cost--$42.00
3) Useful life--10 years
4) Salvage value--$0

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ASSIGNMENT SHEET #2

D. Farm equipment

1) 1 year old

2) Original cost--$105.00

3) Useful life--5 years

4) Salvage value--$15.00

5. John has two sows which he farrows twice per year and feeds all his pigs out to market weight.

6. John's record book shows the following sales and expenses for the year.

EXPENSES

Date	Item of Expense and Description	Total Expense	Charge to Enterprise 1 SWINE	2	3	4	5	6
1-22	2500# SUPPLEMENT @ 7.00 cwt.	175 00	175 00					
1-22	10,000 MILO @ 2.40/cwt.	240 00	240 00					
4-15	MEDICINE FOR PIGS	9 00	9 00					
3-1	BREEDING FEE	30 00	30 00					
5-24	MATERIALS FOR HOG HOUSE	42 00	42 00					
7-1	63000 MILO @ 2.25	292 50	292 50					
7-16	3,000 SUPPLEMENT @ 7.00 CWT.	210 00	210 00					
9-1	BREEDING FEE	30 00	30 00					
10-10	MEDICINE	10 00	10 00					
12-31	COST OF GRAIN STORAGE							
	23,000 @ .05/cwt.	11 50	11 50					

SALES AND OTHER INCOME

Date	Item of Sale and Description	Total Credit	Charge to Enterprise 1 SWINE	2	3	4	5	6
6-23	15 PIGS - 3300# @ 25/cwt.	825 00	825 00					
12-21	17 PIGS - 4080# @ 24.50/cwt.	999 60	999 60					

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Ag. IV - 131-A

ASSIGNMENT SHEET # 2

Form **1040** **US** Department of the Treasury / Internal Revenue Service

Individual Income Tax Return

1972

For the year January 1–December 31, 1972, or other taxable year beginning ..... 1972, ending ..... 19.....

Please print or type

First name and initial (If joint return, use first names and middle initials of both) | Last name | Your social security number (Husband's, if joint return)

Present home address (Number and street, including apartment number, or rural route) | Wife's number, if joint return

City, town or post office, State and ZIP code | Occupation: Yours / Wife's

Please attach Copy B of Form W-2 here

Filing Status—check only one:

1 ☐ Single

2 ☐ Married filing joint return (even if only one had income)

3 ☐ Married filing separately. If wife (husband) is also filing give her (his) social security number and first name here.

4 ☐ Unmarried Head of Household

5 ☐ Widow(er) with dependent child (Enter year of death of husband (wife) ▶ 19)

Exemptions

Regular / 65 or over / Blind — Enter number of boxes checked ▶

6 Yourself . . . . ☐ ☐ ☐

7 Wife (husband) . . . ☐ ☐ ☐

8 First names of your dependent children who lived with you

Enter number ▶

9 Number of other dependents (from line 32) . . . ▶

10 Total exemptions claimed . . . . . ▶

Income

11	Wages, salaries, tips, and other employee compensation. (Attach Form W-2 to front. If unavailable, attach explanation)	11	
12a	Dividends (see pages 6 and 13 of instr.) $ . . . . . 12b Less exclusion $ . . . . Balance ▶	12c	
	(If gross dividends and other distributions are over $200, list in Part I of Schedule B.)		
13	Interest income. [If $200 or less, enter total without listing in Schedule B. If over $200, enter total and list in Part II of Schedule B]	13	
14	Income other than wages, dividends, and interest (from line 45)	14	
15	Total (add lines 11, 12c, 13 and 14)	15	
16	Adjustments to income (such as "sick pay," moving expenses, etc. from line 50)	16	
17	Subtract line 16 from line 15 (adjusted gross income)	17	

● **Caution:** *If you have unearned income and you could be claimed as a dependent on your parent's return, see boxed instruction on page 7, under the heading "Tax Credits-Payments." Check this block* ☐.

● *If you do not itemize deductions and line 17 is under $10,000, find tax in Tables and enter on line 18.*

● *If you itemize deductions or line 17 is $10,000 or more, go to line 51 to figure tax.*

Tax, Payments and Credits

18	Tax, check if from: ☐ Tax Tables 1–12, Schedule D, ☐ Tax Rate Schedule X, Y, or Z ☐ Schedule G or ☐ Form 4726	18	
19	Total credits (from line 61)	19	
20	Income tax (subtract line 19 from line 18)	20	
21	Other taxes (from line 67)	21	
22	Total (add lines 20 and 21)	22	
23	Total Federal income tax withheld (attach Forms W-2 or W-2P to front) 23		
24	1972 Estimated tax payments (include amount allowed as credit from 1971 return) 24		
25	Amount paid with Form 4868, Application for Automatic Extension of Time to File U.S. Individual Income Tax Return 25		
26	Other payments (from line 71) 26		
27	Total (add lines 23, 24, 25, and 26)	27	

Bal. Due or Refund

28	If line 22 is larger than line 27, enter BALANCE DUE IRS. Pay in full with return. Make check or money order payable to Internal Revenue Service ▶	28	
29	If line 27 is larger than line 22, enter amount OVERPAID ▶	29	
30	Line 29 to be **REFUNDED TO YOU** ▶	30	
31	Line 29 to be credited on 1973 estimated tax | 31 |		

Foreign Accounts

Did you, at any time during the taxable year, have any interest in or signature or other authority over a bank, securities, or other financial account in a foreign country (except in a U.S. military banking facility operated by a U.S. financial institution)? ▶ ☐ Yes ☐ No

If "Yes," attach Form 4683. (For definitions, see Form 4683.)

Note: Be sure to complete Revenue Sharing (lines 33 and 34) on next page.

Soc. sec. no. on Check or Money Order. Attach here

Sign here

Under penalties of perjury, I declare that I have examined this return, including accompanying schedules and statements, and to the best of my knowledge and belief it is true, correct, and complete. Declaration of preparer (other than taxpayer) is based on all information of which he has any knowledge.

Your signature — Date

Wife's (husband's) signature (if filing jointly, BOTH must sign even if only one had income)

Preparer's signature (other than taxpayer) — Date

Address (and ZIP Code) — Preparer's Emp. Ident. or Soc. Sec. No.

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Other Dependents

(a) NAME	(b) Relationship	(c) Months lived in your home. If born or died during year, write B or D.	(d) Did dependent have income of $750 or more?	(e) Amount YOU furnished for dependent's support. If 100% write ALL.	(f) Amount furnished by OTHERS including dependent.
				$	$

32 Total number of dependents listed in column (a). Enter here and on line 9 ▶

Revenue Sharing

33 Print or type the location of your principal place of residence at end of year (not necessarily the same as your post office address).

(a) State	(b) County	(c) Locality. If you lived inside the boundaries of an incorporated city, town, etc., enter its name; if not, check here ▶ ☐	(d) Township (see instructions on page 8)

34 Enter the number of persons included on line 10 who (1) are filing a return of their own; or, (2) did not live at your principal place of residence at the end of the year ▶

For IRS use only—Leave blank

PART I.—Income other than Wages, Dividends, and Interest

35	Business income (or loss) (attach Schedule C)	35	
36	Net gain (or loss) from sale or exchange of capital assets (attach Schedule D)	36	
37	Net gain (or loss) from Supplemental Schedule of Gains and Losses (attach Form 4797)	37	
38	Pensions and annuities, rents and royalties, partnerships, estates or trusts, etc. (attach Schedule E)	38	
39	Farm income (or loss) (attach Schedule F)	39	
40	Fully taxable pensions and annuities (not reported on Schedule E—see instructions on page 8)	40	
41	50% of capital gain distributions (not reported on Schedule D)	41	
42	State income tax refunds (caution—see instructions on page 8)	42	
43	Alimony	43	
44	Other (state nature and source)	44	
45	Total (add lines 35 through 44). Enter here and on line 14 ▶	45	

PART II.—Adjustments to Income

46	"Sick pay" if included in income (attach Form 2440 or other required statement)	46	
47	Moving expense (attach Form 3903)	47	
48	Employee business expense (attach Form 2106 or other statement)	48	
49	Payments as a self-employed person to a retirement plan, etc. (see Form 4848)	49	
50	Total adjustments (add lines 46, 47, 48, and 49). Enter here and on line 16 ▶	50	

PART III.—Tax Computation (Do not use this part if you use Tax Tables 1–12 to find your tax.)

51	Adjusted gross income (from line 17)	51	
52	(a) If you itemize deductions, enter total from Schedule A, line 40 and attach Schedule A (b) If you do not itemize deductions, enter 15% of line 51, but do NOT enter more than $2,000. ($1,000 if line 3 is checked)	52	
53	Subtract line 52 from line 51	53	
54	Multiply total number of exemptions claimed on line 10, by $750	54	
55	Taxable income. Subtract line 54 from line 53	55	

(Figure your tax on the amount on line 55 by using Tax Rate Schedule X, Y or Z, or if applicable, the alternative tax from Schedule D, income averaging from Schedule G, or maximum tax from Form 4726.) Enter tax on line 18.

PART IV.—Credits

56	Retirement income credit (attach Schedule R)	56	
57	Investment credit (attach Form 3468)	57	
58	Foreign tax credit (attach Form 1116)	58	
59	Credit for contributions to candidates for public office—see instructions on page 9	59	
60	Work Incentive Program credit (attach Form 4874)	60	
61	Total credits (add lines 56, 57, 58, 59, and 60). Enter here and on line 19 ▶	61	

PART V.—Other Taxes

62	Self-employment tax (attach Schedule SE)	62	
63	Tax from recomputing prior-year investment credit (attach Form 4255)	63	
64	Minimum tax (see instructions on page 10). Check here ☐, if Form 4625 is attached	64	
65	Social security tax on tip income not reported to employer (attach Form 4137)	65	
66	Uncollected employee social security tax on tips (from Forms W-2)	66	
67	Total (add lines 62, 63, 64, 65, and 66). Enter here and on line 21 ▶	67	

PART VI.—Other Payments

68	Excess FICA tax withheld (two or more employers—see instructions on page 10)	68	
69	Credit for Federal tax on special fuels, nonhighway gasoline and lubricating oil (attach Form 4136)	69	
70	Credit from a Regulated Investment Company (attach Form 2439)	70	
71	Total (add lines 68, 69, and 70). Enter here and on line 26 ▶	71	

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ASSIGNMENT SHEET # 2

SCHEDULE F (Form 1040)

Department of the Treasury
Internal Revenue Service

Farm Income and Expenses

(Compute social security self-employment tax on Schedule SE)

▶ Attach to Form 1040.
▶ If rental income, see Instruction C before using this schedule.

1972

Name(s) as shown on Form 1040 | Social security number

Business name and address

Location of farm(s) and number of acres in each farm

If you filed Form 943, enter employer identification number here

Part I Farm Income—Cash Receipts and Disbursements Method

Do not include sales of livestock held for draft, breeding, sport, or dairy purposes; report such sales on Form 4797.

Sales of Purchased Livestock and Other Items Purchased for Resale

a. Description	b. Amount received	c. Cost or other basis
1 Livestock:	$	$
2 Other items:		
3 Totals	$	$

4 Profit (or loss), subtract line 3, column c from line 3, column b ▶ $

Sales of Market Livestock and Produce Raised and Held Primarily for Sale and Other Farm Income

Kind	Quantity	Amount
5 Cattle		
6 Calves		
7 Sheep		
8 Swine		
9 Poultry		
10 Dairy products		
11 Eggs		
12 Wool		
13 Cotton		
14 Tobacco		
15 Vegetables		
16 Grain		
17 Fruits and nuts		
18 Other (specify):		

OTHER FARM INCOME

19 Machine work
20 Patronage dividends
21 Per-unit retains
22 Agricultural program payments:
(1) Cash
(2) Materials and services
23 Commodity Credit loans under election (or forfeited)
24 Federal gasoline tax credit
25 State gasoline tax refund
26 Other (specify):

27 Add lines 5 through 26 $

28 Gross profit *(add lines 4 and 27) ▶ $

Part II Farm Deductions—For Cash and Accrual Method Taxpayers

F

Do not include personal or living expenses not attributable to production of farm income, such as taxes, insurance, repairs, etc., on your dwelling.

Items	Amount
29 Labor hired	$
30 Repairs, maintenance	
31 Interest	
32 Rent of farm, pasture	
33 Feed purchased	
34 Seed, plants purchased	
35 Fertilizers, lime	
36 Machine hire	
37 Supplies purchased	
38 Breeding fees	
39 Veterinary, medicine	
40 Gasoline, fuel, oil	
41 Storage, warehousing	
42 Taxes	
43 Insurance	
44 Utilities	
45 Freight, trucking	
46 Conservation expenses	
47 Land clearing expenses	
48 Pension and profit-sharing plans (see instructions)	
49 Employee benefit programs other than line 48 (see instructions)	
50 Other (specify):	
51 Add lines 29 through 50 ▶	$
52 Depreciation (from line 59, Part III) ▶	
53 Total deductions. Add lines 51 and 52 ▶	$

54 Net farm profit (or loss) (subtract line 53 from 28). Enter here and on line 39, Form 1040. ALSO enter on Schedule SE, Part II, line 4a ▶ $

Use amount on line 28 for optional method of computing net earnings from self-employment. (See line 6, Part II, Schedule SE.)

Part III Depreciation (Do not include property you and your family occupy as a dwelling, its furnishings, and other items used for personal purposes.)

Note: If depreciation is computed by using the Class Life (ADR) System for assets placed in service after December 31, 1970, or the Guideline Class Life System for assets placed in service before January 1, 1971, you must file Form 4832 (Class Life (ADR) System) or Form 5006 (Guideline Class Life System). Except as otherwise expressly provided in income tax regulations sections 1.167(a)–11(b)(5)(vi) and 1.167(a)–12, the provisions of Revenue Procedures 62–21 and 65–13 are not applicable for taxable years ending after December 31, 1970. If you need more space, use Form 4562.

If you elected the Class Life (ADR) System this taxable year, check this box . . . . . ☐

If you elected the Guideline Class Life System this taxable year, check this box . . . . . ☐

a. Group and guideline class or description of property	b. Date acquired	c. Cost or other basis	d. Depreciation allowed or allowable in prior years	e. Method of computing depreciation	f. Life or rate	g. Depreciation for this year
55 Total additional first-year depreciation (do not include in items below) →						
56 Depreciation from Form 4832						
57 Depreciation from Form 5006						
58 Other depreciation:						
Buildings						
Furniture and fixtures						
Transportation equipment						
Machinery and other equipment						
Other (specify):						
59 Totals			Enter here and in Part II, line 52 ▶			

SUMMARY OF DEPRECIATION (Other Than Additional First Year Depreciation)

	Straight line	Declining balance	Sum of the years-digits	Units of production	Other (specify)	Total
a. Depreciation from Form 4832						
b. Depreciation from Form 5006						
c. Other						

Part IV Farm Income—Accrual Method (Do not include sales of livestock held for draft, breeding, sport, or dairy purposes; report such sales on Form 4797 and omit them from "On hand at beginning of year" column)

Description (Kind of livestock, crops, or other products)	On hand at beginning of year		Purchased during year		Raised during year	Consumed or lost during year	Sold during year		On hand at end of year	
	Quantity	Inventory value	Quantity	Amount paid	Quantity	Quantity	Quantity	Amount received	Quantity	Inventory value
		$		$				$		$
60 Totals (enter here and in Part V below)		$ (Enter on line 70)		$ (Enter on line 71)				$ (Enter on line 62)		$ (Enter on line 61)

Part V Summary of Income and Deductions—Accrual Method

61 Inventory of livestock, crops, and products at end of year		$
62 Sales of livestock, crops, and products during year		
63 Agricultural program payments: (1) Cash		
(2) Materials and services		
64 Commodity Credit loans under election (or forfeited)		
65 Federal gasoline tax credit		
66 State gasoline tax refund		
67 Other farm income (specify):		
68 Add lines 62 through 67		
69 Total (add lines 61 and 68)		$
70 Inventory of livestock, crops, and products at beginning of year	$	
71 Cost of livestock and products purchased during year		
72 Gross profits *(subtract the sum of lines 70 and 71 from line 69)		$
73 Total deductions from line 53, Part II, page 1		$
74 Net farm profit (or loss) (subtract line 73 from line 72). Enter here and on line 39, Form 1040. ALSO enter on Schedule SE, Part II, line 4a		$

*Use amount on line 72 for optional method of computing net earnings from self-employment. (See line 6, Part II, Schedule SE.)

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TAX MANAGEMENT
UNIT V

ANSWERS TO ASSIGNMENT SHEETS

Assignment Sheet #1

1. $930.00
2. $214.28
3. $120.00

Assignment Sheet #2

(NOTE: Answers are on the following pages.)

136-A

ANSWERS TO ASSIGNMENT SHEETS

Form **1040** **US** Department of the Treasury / Internal Revenue Service

Individual Income Tax Return

1972

For the year January 1–December 31, 1972, or other taxable year beginning ..... , 1972, ending ..... , 19

Please print or type

First name and initial (If joint return, use first names and middle initials of both): JOHN

Last name: Cook

Your social security number (Husband's, if joint return): 229 46 2479

Wife's number, if joint return:

Present home address (Number and street, including apartment number, or rural route): Box 111

City, town or post office, State and ZIP code: STILLWATER, OKLAHOMA 74074

Occupation: Yours STUDENT Wife's

Please attach Copy B of Form W-2 here

Filing Status—check only one.

1 [X] Single
2 [ ] Married filing joint return (even if only one had income)
3 [ ] Married filing separately. If wife (husband) is also filing give her (his) social security number and first name here.
4 [ ] Unmarried Head of Household
5 [ ] Widow(er) with dependent child (Enter year of death of husband (wife) ▶ 19)

Exemptions

	Regular	65 or over	Blind	Enter number of boxes checked
6 Yourself	[X]	[ ]	[ ]	▶ 1
7 Wife (husband)	[ ]	[ ]	[ ]	

8 First names of your dependent children who lived with you

Enter number

9 Number of other dependents (from line 32) ▶

10 Total exemptions claimed ▶ 1

Income

11	Wages, salaries, tips, and other employee compensation. (Attach Form W-2 to front. If unavailable, attach explanation)	11	2000 00
12a	Dividends (see pages 6 and 13 of instr.) $ 12b Less exclusion $ Balance ▶ (If gross dividends and other distributions are over $200, list in Part I of Schedule B.)	12c	
13	Interest income. [If $200 or less, enter total without listing in Schedule B. If over $200, enter total and list in Part II of Schedule B.]	13	
14	Income other than wages, dividends, and interest (from line 45)	14	790 50
15	Total (add lines 11, 12c, 13 and 14)	15	2790 50
16	Adjustments to income (such as "sick pay," moving expenses, etc. from line 50)	16	0
17	Subtract line 16 from line 15 (adjusted gross income)	17	2790 50

● **Caution:** *If you have unearned income and you could be claimed as a dependent on your parent's return, see boxed instruction on page 7, under the heading "Tax Credits-Payments." Check this block* [ ].

● *If you do not itemize deductions and line 17 is under $10,000, find tax in Tables and enter on line 18.*

● *If you itemize deductions or line 17 is $10,000 or more, go to line 51 to figure tax.*

Tax, Payments and Credits

18	Tax, check if from: [X] Tax Tables 1–12, [ ] Schedule D, [ ] Tax Rate Schedule X, Y, or Z, [ ] Schedule G or [ ] Form 4726		18	106 00
19	Total credits (from line 61)		19	0
20	Income tax (subtract line 19 from line 18)		20	106 00
21	Other taxes (from line 67)		21	0
22	Total (add lines 20 and 21)		22	106 00
23	Total Federal income tax withheld (attach Forms W-2 or W-2P to front)	23 155 00		
24	1972 Estimated tax payments (include amount allowed as credit from 1971 return)	24		
25	Amount paid with Form 4868, Application for Automatic Extension of Time to File U.S. Individual Income Tax Return	25		
26	Other payments (from line 71)	26		
27	Total (add lines 23, 24, 25, and 26)		27	155 00

Bal. Due or Refund

28	If line 22 is larger than line 27, enter BALANCE DUE IRS. Pay in full with return. Make check or money order payable to Internal Revenue Service ▶	28	
29	If line 27 is larger than line 22, enter amount OVERPAID ▶	29	49 00
30	Line 29 to be **REFUNDED TO YOU** ▶	30	49 00
31	Line 29 to be credited on 1973 estimated tax 31		

Foreign Accounts

Did you, at any time during the taxable year, have any interest in or signature or other authority over a bank, securities, or other financial account in a foreign country (except in a U.S. military banking facility operated by a U.S. financial institution)? ▶ [ ] Yes [X] No

If "Yes," attach Form 4683. (For definitions, see Form 4683.)

Note: Be sure to complete Revenue Sharing (lines 33 and 34) on next page.

Attach Check or Money Order here

soc. sec. no.

Sign here

Under penalties of perjury, I declare that I have examined this return, including accompanying schedules and statements, and to the best of my knowledge and belief it is true, correct, and complete. Declaration of preparer (other than taxpayer) is based on all information of which he has any knowledge.

Your signature ▶ Date

Preparer's signature (other than taxpayer) ▶ Date

Wife's (husband's) signature (if filing jointly, BOTH must sign even if only one had income)

Address (and ZIP Code) Preparer's Emp. Ident. or Soc. Sec. No.

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ANSWERS TO ASSIGNMENT SHEETS

Form 1040 (1972)

Other Dependents

(a) NAME	(b) Relationship	(c) Months lived in your home if born or died during year, write B or D	(d) Did dependent have income of $750 or more?	(e) Amount YOU furnished for dependent's support. If 100% write ALL.	(f) Amount furnished by OTHERS including dependent.
				$	$

32 Total number of dependents listed in column (a). Enter here and on line 9 ▶

Revenue Sharing

33 Print or type the location of your principal place of residence at end of year (not necessarily the same as your post office address).

(a) State	(b) County	(c) Locality. If you lived inside the boundaries of an incorporated city, town, etc., enter its name; if not, check here ▶ ☐	(d) Township (see instructions on page 8)
OKLA.	PAYNE	STILLWATER	

34 Enter the number of persons included on line 10 who (1) are filing a return of their own, or, (2) did not live at your principal place of residence at the end of the year ▶ 1

For IRS use only—Leave blank

PART I.—Income other than Wages, Dividends, and Interest

35 Business income (or loss) (attach Schedule C)	35		
36 Net gain (or loss) from sale or exchange of capital assets (attach Schedule D)	36		
37 Net gain (or loss) from Supplemental Schedule of Gains and Losses (attach Form 4797)	37		
38 Pensions and annuities, rents and royalties, partnerships, estates or trusts, etc. (attach Schedule E)	38		
39 Farm income (or loss) (attach Schedule F)	39	790	50
40 Fully taxable pensions and annuities (not reported on Schedule E—see instructions on page 8)	40		
41 50% of capital gain distributions (not reported on Schedule D)	41		
42 State income tax refunds (caution—see instructions on page 8)	42		
43 Alimony	43		
44 Other (state nature and source)	44		
45 Total (add lines 35 through 44). Enter here and on line 14 ▶	45	790	50

PART II.—Adjustments to Income

46 "Sick pay" if included in income (attach Form 2440 or other required statement)	46		
47 Moving expense (attach Form 3903)	47		
48 Employee business expense (attach Form 2106 or other statement)	48		
49 Payments as a self-employed person to a retirement plan, etc. (see Form 4848)	49		
50 Total adjustments (add lines 45, 47, 48, and 49). Enter here and on line 16 ▶	50		

PART III.—Tax Computation (Do not use this part if you use Tax Tables 1–12 to find your tax.)

51 Adjusted gross income (from line 17)	51		
52 (a) If you itemize deductions, enter total from Schedule A, line 40 and attach Schedule A. (b) If you do not itemize deductions, enter 15% of line 51, but do NOT enter more than $2,000. ($1,000 if line 3 is checked)	52		
53 Subtract line 52 from line 51	53		
54 Multiply total number of exemptions claimed on line 10 by $750	54		
55 Taxable income. Subtract line 54 from line 53	55		

(Figure your tax on the amount on line 55 by using Tax Rate Schedule X, Y or Z, or if applicable, the alternative tax from Schedule D, income averaging from Schedule G, or maximum tax from Form 4726.) Enter tax on line 18.

PART IV.—Credits

56 Retirement income credit (attach Schedule R)	56		
57 Investment credit (attach Form 3468)	57		
58 Foreign tax credit (attach Form 1116)	58		
59 Credit for contributions to candidates for public office—see instructions on page 9	59		
60 Work Incentive Program credit (attach Form 4874)	60	1	
61 Total credits (add lines 56, 57, 58, 59, and 60). Enter here and on line 19 ▶	61	0	

PART V.—Other Taxes

62 Self-employment tax (attach Schedule SE)	62		
63 Tax from recomputing prior-year investment credit (attach Form 4255)	63		
64 Minimum tax (see instructions on page 10). Check here ☐, if Form 4625 is attached	64		
65 Social security tax on tip income not reported to employer (attach Form 4137)	65		
66 Uncollected employee social security tax on tips (from Forms W-2)	66		
67 Total (add lines 62, 63, 64, 65, and 66). Enter here and on line 21 ▶	67	0	

PART VI.—Other Payments

68 Excess FICA tax withheld (two or more employers—see instructions on page 10)	68		
69 Credit for Federal tax on special fuels, nonhighway gasoline and lubricating oil (attach Form 4136)	69		
70 Credit from a Regulated Investment Company (attach Form 2439)	70		
71 Total (add lines 68, 69, and 70). Enter here and on line 26 ▶	71	0	

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ANSWERS TO ASSIGNMENT SHEETS

SCHEDULE F (Form 1040)

Department of the Treasury
Internal Revenue Service

Farm Income and Expenses

(Compute social security self-employment tax on Schedule SE)

► Attach to Form 1040.
► If rental income, see instruction C before using this schedule.

1972

Name(s) as shown on Form 1040: JOHN COOK

Social security number: 229 46 2479

Business name and address

Location of farm(s) and number of acres in each farm

If you filed Form 943, enter employer identification number here

Part I Farm Income—Cash Receipts and Disbursements Method

Do not include sales of livestock held for draft, breeding, sport, or dairy purposes; report such sales on Form 4797.

Sales of Purchased Livestock and Other Items Purchased for Resale

a. Description	b. Amount received	c. Cost or other basis
1 Livestock:	$	$
2 Other items:		
3 Totals	$	$
4 Profit (or loss), subtract line 3, column c from line 3, column b ►		$

Sales of Market Livestock and Produce Raised and Held Primarily for Sale and Other Farm Income

Kind	Quantity	Amount
5 Cattle		
6 Calves		
7 Sheep		
8 Swine	22	1824 60
9 Poultry		
10 Dairy products		
11 Eggs		
12 Wool		
13 Cotton		
14 Tobacco		
15 Vegetables		
16 Grain		
17 Fruits and nuts		
18 Other (specify):		

OTHER FARM INCOME

19 Machine work	
20 Patronage dividends	
21 Per-unit retains	
22 Agricultural program payments:	
(1) Cash	
(2) Materials and services	
23 Commodity Credit loans under election (or forfeited)	
24 Federal gasoline tax credit	
25 State gasoline tax refund	
26 Other (specify):	
27 Add lines 5 through 26	$ 1824 60
28 Gross profit *(add lines 4 and 27) ►	$ 1824 60

Part II Farm Deductions—For Cash and Accrual Method Taxpayers

F

Do not include personal or living expenses not attributable to production of farm income, such as taxes, insurance, repairs, etc., on your dwelling.

Items	Amount
29 Labor hired	$
30 Repairs, maintenance	
31 Interest	
32 Rent of farm, pasture	
33 Feed purchased	917 50
34 Seed, plants purchased	
35 Fertilizers, lime	
36 Machine hire	
37 Supplies purchased	
38 Breeding fees	60 00
39 Veterinary, medicine	19 00
40 Gasoline, fuel, oil	
41 Storage, warehousing	11 50
42 Taxes	
43 Insurance	
44 Utilities	
45 Freight, trucking	
46 Conservation expenses	
47 Land clearing expenses	
48 Pension and profit-sharing plans (see instructions)	
49 Employee benefit programs other than line 48 (see instructions)	
50 Other (specify):	
51 Add lines 29 through 50 ►	$ 1008 00
52 Depreciation (from line 59, Part III) ►	26 10
53 Total deductions. Add lines 51 and 52 ►	$ 1034 10
54 Net profit (or loss) (subtract line 53 from 28). Enter here and on line 39, Form 1040. ALSO enter on Schedule II, line 4a ►	$ 790 60

* If you have entered on line 28 for optional method of computing net earnings from self-employment (See line 6, Part II, Schedule SE.)

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Part III Depreciation (Do not include property you and your family occupy as a dwelling, its furnishings, and other items used for personal purposes.)

Note: If depreciation is computed by using the Class Life (ADR) System for assets placed in service after December 31, 1970, or the Guideline Class Life System for assets placed in service before January 1, 1971, you must file Form 4832 (Class Life (ADR) System) or Form 5006 (Guideline Class Life System). Except as otherwise expressly provided in income tax regulations sections 1.167(a)-11 b(5)(v) and 1.167(a)-12, the provisions of Revenue Procedures 62-21 and 65-13 are not applicable for taxable years ending after December 31, 1970. If you need more space, use Form 4562.

If you elected the Class Life (ADR) System this taxable year, check this box . . . ☐

If you elected the Guideline Class Life System this taxable year, check this box . . . ☐

a Group and guideline class or description of property	b Date acquired	c Cost or other basis	d Depreciation allowed or allowable in prior years	e Method of computing depreciation	f. Life or rate	g. Depreciation for this year
55 Total additional first-year depreciation (do not include in items below)						
56 Depreciation from Form 4832						
57 Depreciation from Form 5006						
58 Other depreciation:						
Buildings	— 1971 JULY 1972	40 00 42 00	4 00 0	ST. LINE ST. LINE	10 10	4 00 2 10
Furniture and fixtures						
Transportation equipment						
Machinery and other equipment	1971	105-15=90	9 00	ST. LINE	10	9 00
Other (specify):						
FENCE	1971	55 00	11 00	ST. LINE	5	11 00
59 Totals			Enter here and in Part II, line 52 ▶			26 10

SUMMARY OF DEPRECIATION (Other Than Additional First Year Depreciation)

	Straight line	Declining balance	Sum of the years-digits	Units of production	Other (specify)	Total
a. Depreciation from Form 4832						
b. Depreciation from Form 5006						
c. Other						

Part IV Farm Income—Accrual Method (Do not include sales of livestock held for draft, breeding, sport, or dairy purposes; report such sales on Form 4797 and omit them from "On hand at beginning of year" column)

Description (Kind of livestock, crops, or other products)	On hand at beginning of year		Purchased during year		Raised during year	Consumed or lost during year	Sold during year		On hand at end of year	
	Quantity	Inventory value	Quantity	Amount paid	Quantity	Quantity	Quantity	Amount received	Quantity	Inventory value
		$		$				$		$
60 Totals (enter here and in Part V below)		$ (Enter on line 70)		$ (Enter on line 71)				$ (Enter on line 62)		$ (Enter on line 61)

Part V Summary of Income and Deductions—Accrual Method

61 Inventory of livestock, crops, and products at end of year		$
62 Sales of livestock, crops, and products during year		
63 Agricultural program payments: (1) Cash		
(2) Materials and services		
64 Commodity Credit loans under election (or forfeited)		
65 Federal gasoline tax credit		
66 State gasoline tax refund		
67 Other farm income (specify):		
68 Add lines 62 through 67		
69 Total (add lines 61 and 68)		$
70 Inventory of livestock, crops, and products at beginning of year	$	
71 Cost of livestock and products purchased during year		
72 Gross profits *(subtract the sum of lines 70 and 71 from line 69)		$
73 Total deductions from line 53, Part II, page 1		$
74 Net farm profit (or loss) (subtract line 73 from line 72). Enter here and on line 39, Form 1040. ALSO enter on Schedule SE, Part II, line 4a		$

*Amount on line 72 for optional method of computing net earnings from self-employment. (See line 6, Part II, Schedule SE)

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TAX MANAGEMENT
UNIT V

TEST

1. Match the terms on the right with the correct definition.

_____a. Person operating his own business	1. Ad valorem tax
_____b. The dollar amount used to compute depreciation	2. Self-employed
_____c. Decline in value of an asset due to such causes as wear and tear, action of elements, obsolescence, and inadequacy	3. Salvage value
_____d. Items or resources owned	4. Schedule F
_____e. Value of an asset at the end of its useful life	5. Purchased livestock
_____f. Assessment taxes against real property, personal property, and public service property	6. Market livestock
_____g. Farm income received other than sale of crops and livestock	7. Depreciation
_____h. Animals bought for resale	8. Assets
_____i. Animals raised on a farm primarily for sale	9. Tax basis
_____j. A tax form used along with the 1040 form to complete farm income and expenses	10. Other farm income
_____k. Permits the taxpayer who receives an unusually large amount of income in one year to be taxed on this income as if it had been received over a five year period	11. Income averaging

2. Name four reasons good records are important for tax management.

a.

b.

c.

d.

3. Match the following statements with the correct terms on on the right.

_____a. If producing a crop that takes more than a year from planting to harvesting and selling, one may use the crop method of accounting: the expenses of producing the crop are deducted in the year of sale; profit or loss is not determined until the crop is harvested and sold

_____b. Use inventories of livestock crops, produce, feed, supplies, etc. to determine gross income; sales are treated as income when the price of the item is recoverable; expenses are deductible when payable

_____c. Income is reported in the year cash or its equivalent is received from the sales produce or property or for services performed; deductions for farm expense items are made in the year in which they are paid out

1. Cash method
2. Accrual method
3. Crop method

4. Match the proper method of reporting farm income on the right as they apply to each of the following advantages and disadvantages

Advantages:

_____a. Levels out income without without the necessity of year-end manipulation

_____b. Most simple method

1. Cash method
2. Accrual method
3. Crop method

_____c. Most flexible as one can choose when to incur income and deduct expenses

_____d. Expenses of producing crop are deducted in the year of sale

_____e. One works with actual money rather than abstract figures

_____f. One has a close check on all operations due to the requirement of more accurate record keeping

Disadvantages:

_____g. Income may be erratic--An unusually good year could balloon income into a high tax bracket.

_____h. Records are required to be complex and detailed

_____i. Each crop is considered a distinct venture with a separate account

_____j. In a low income year, allowable deductions and exemptions may be lost by having too little income

_____k. The actual cash position is difficult to determine

5. Distinguish between taxable and non-taxable items by placing a "T" by taxable items and "N" by non-taxable items.

_____a. Dividends received from business dealings

_____b. Income from royalities

_____c. Exchanges of business property

_____d. Income from interest

_____e. Rent income

_____f. Gasoline tax refunds

_____g. Government program payments

_____h. Social security benefits, railroad retirement pensions, and war veteran's disability pensions

_____i. Life insurance paid by reason of death

6. a. Select from the list below ways to avoid extremely high taxable income. Place an "X" by the correct statements.

_____1) Pay debts

_____2) Hire children

_____3) Use slower depreciation

_____4) Hold crops and livestock off market

_____5) Collect accounts receivable

b. Select from the list below ways to avoid extremely low taxable income. Place an "X" by the correct statements.

_____1) Postpone debt payments

_____2) Sell crops and livestock

_____3) Use maximum initial depreciation

_____4) Do additional custom work

_____5) Make needed repairs

7. Match the method of depreciation with the proper definition on the right.

_____a. A fixed rate of depreciation is used every year and applies to the value of the asset at the beginning of the year

_____b. Yearly depreciation consists of dividing total anticipated depreciation by the number of years asset is expected to last

_____c. An additional 20 percent first year depreciation on new or used tangible personal property may be used if proper provisions are met

1. Straight line
2. Diminishing balance
3. Sum-of-the digits method
4. Additional first year depreciation

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_____d. Annual depreciation is determined by multiplying a fraction times the amount to be depreciated

8. Determine the ~~annual depreciation~~ of the following item by using the straight line method.

   a. Original cost--$1,000.00

   b. Expected life--10 years

   c. Projected salvage value--$100.00

   d. Annual depreciation_____

9. Select from the list below those who must file an income tax return. Place an "X" by the proper answers.

   _____a. A single individual under 65 years of age having $2,050 or more gross income for the year

   _____b. Any individual who may be claimed as the dependent of another tax payer must file a return if gross income is $600 or more

   _____c. Married persons under age 65 having the combined gross income of $2,800 per year provided a joint return is used

   _____d. Self-employed persons having net earnings from self-employment of $350 per year

10. Complete schedule F and transfer information to a 1040 form when given an assimulated situation.

    (NOTE: If this has not been accomplished prior to the test, ask the instructor when the above activity should be completed.)

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TAX MANAGEMENT
UNIT V

ANSWERS TO TEST

1. a. 2
   b. 9
   c. 7
   d. 8
   e. 3
   f. 1
   g. 10
   h. 5
   i. 6
   j. 4
   k. 11

2. Any four of the following:

   a. Records identifying receipts make it possible to substantiate the fact that some of these receipts are from a source which makes them non-taxable

   b. If expenses are not recorded at the time they are incurred or paid, some may be overlooked or forgotten when preparing a tax return

   c. The cost of farm assets should be recorded so the depreciation allowance can be determined

   d. Upon audit of an income tax return by the Internal Revenue Service, good records are needed to verify the items reported

   e. If records show the date an asset was acquired, for what it was used, and whether it was sold, traded, destroyed, or otherwise disposed of, capital gains provisions of the law or 100 percent loss provisions can sometimes be claimed

   f. Records are valuable for efficient farm management and provide a basis for analyzing a business and for obtaining credit

   g. Records should establish the amount of earnings to be reported for self-employment social security tax purposes

3. a. 3
   b. 2
   c. 1

4. a. 2
   b. 1
   c. 1
   d. 3
   e. 1
   f. 2
   g. 1
   h. 2
   i. 3
   j. 1
   k. 2

5. a. T
   b. T
   c. N
   d. T
   e. T
   f. T
   g. T
   h. N
   i. N

6. a. 1)
   2)
   4)
   b. 1)
   2)
   4)

7. a. 2
   b. 1
   c. 4
   d. 3

8. $90

9. a
   c

10. Evaluated to the satisfaction of the instructor.

MACHINERY AND EQUIPMENT MANAGEMENT
UNIT VI

TERMINAL OBJECTIVE

After the completion of this unit, the student should be able to name factors to be considered when selecting machinery and equipment, apply the rule for determining theoretical capacity, and list general rules that affect field efficiency. Using an alignment chart, he should be able to determine the capacity of a machine, estimate operating cost, and estimate the annual fixed cost of machinery. This knowledge will be evidenced through demonstration and by scoring eighty-five percent on the unit test.

SPECIFIC OBJECTIVES

After completion of this unit, the student should be able to:

1. Match terms associated with machinery and equipment management to the proper definition.
2. Name the factors to be considered when selecting machinery and equipment.
3. Match the kinds of costs involved in owning and operating any piece of machinery to the correct terms.
4. Select from a list the factors that determine the size of equipment to buy.
5. Match the type machine with the expected mechanical life hours of each.
6. Apply the rule for determining the theoretical capacity of a machine.
7. List general rules that affect field efficiency.
8. Match the type field operation with the typical field efficiency.
9. Apply the rule for estimating the required effective field capacity for a machine to perform a specific operation.
10. Determine the required capacity of a machine using an alignment chart.
11. Estimate the machine capacity using an alignment chart.
12. Estimate the operating cost of machinery using an alignment chart.
13. Estimate annual fixed cost of machinery using an alignment chart.

MACHINERY AND EQUIPMENT MANAGEMENT
UNIT VI

SUGGESTED ACTIVITIES

I. Instructor:

A. Provide students with objective sheet.

B. Provide students with information and assignment sheets.

C. Make transparencies.

D. Discuss terminal and specific objectives.

E. Discuss information and assignment sheets.

F. Give test.

II. Students:

A. Read objectives.

B. Study information sheet.

C. Complete assignment sheets.

D. Take test.

INSTRUCTIONAL MATERIALS

I. Included in this unit:

A. Objectives

B. Information sheet

C. Transparency masters

1. TM 1--Alignment Chart for Estimating Proper Machine Capacity
2. TM 2--Alignment Chart for Estimating Machine Capacity
3. TM 3--Alignment Chart for Estimating Operating Cost
4. TM 4--Annual Average Fixed Cost As A Percent of Initial List Price
5. TM 5--Alignment Chart for Estimating Annual Fixed Cost

D. Assignment sheets

1. Assignment Sheet #1--Determining the Required Capacity of a Machine

2. Assignment Sheet #2--Estimating the Machine Capacity

3. Assignment Sheet #3--Estimating the Operating Cost of Machinery

4. Assignment Sheet #4--Estimating Annual Fixed Cost of Machinery

E. Answers to assignment sheets

F. Test

G. Answers to test

II. References:

A. Bowers, Wendell. *Workbook for Machinery Management.* Agricultural Engineering Department, Oklahoma State University, Stillwater, Oklahoma.

B. *Doane's Farm Management Guide.* St. Louis, Missouri: Doane Agricultural Service, Inc., 1971.

C. Hamilton, James E. and W. R. Bryant. *Profitable Farm Management.* Englewood, New Jersey: Prentice-Hall, Inc., 1963.

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MACHINERY AND EQUIPMENT MANAGEMENT
UNIT VI

INFORMATION SHEET

I. Terms and definitions

A. Theoretical capacity--Rate, in acres per hour, which a machine is working when no time is lost due to turns, unused width, stopping, plugging, and breakdowns

B. Field efficiency--Ratio of the actual capacity of a machine to its ideal or theoretical capacity

II. Factors to be considered when selecting machinery and equipment

A. Reliability of manufacturer

B. Parts and service available from dealer

C. Adaptation of machine to needs

(NOTE: Consider size, attachments, and simplicity of design.)

D. Price and quality of machine

E. Availability of fuel used on engine-driven machines

F. Ease of making adjustments and minor repairs

G. Design and neatness of appearance

H. Added investment should be offset by reducing the required labor or permitting the labor to be used more productively

I. Resale or salvage value

III. Kinds of costs involved in owning and operating any piece of machinery

A. Fixed costs--Include depreciation, taxes, insurance, and interest on investment

(NOTE: These costs will occur whether you use the machinery or not.)

B. Variable costs--Operating costs which include repair bills, maintenance, gas, oil and/or lubrication, and general upkeep

(NOTE: These costs are involved in the actual operation of the machinery or equipment.)

INFORMATION SHEET

IV. Factors that determine the size of equipment to buy

A. Size and type of farming operation

B. Soil type and topography

C. Labor available

D. Capital available

E. Skill of the operator

F. Number of days in the season available to use this machine

V. Expected mechanical life hours

A. Wheel tractors--12,000 hours

B. Combines--2,000 hours

C. Corn pickers--1,500 hours

D. Cotton strippers--1,500 hours

E. Grain drills--1,000 hours

F. Plows--2,000 hours

G. Mowers--1,000 hours

H. Balers--2,000 hours

I. Forage harvesters--1,500 hours

J. Discs--2,000 hours

K. Cultivators--2,000 hours

L. Swathers--1,500 hours

(NOTE: On some machines the number of hours to reach the minimum average cost per hour may be less than the expected mechanical life.)

VI. Rule for determining the theoretical capacity--Theoretical Capacity (acres per hour) equals $\frac{\text{Speed (mph)} \times \text{Width (feet)}}{8.25}$

(NOTE: 8.25 represents a conversion factor which permits one to multiply mph times width and come out with acres per hour.

$\frac{43{,}560 \text{ sq. ft. per acre}}{5{,}280 \text{ ft/mile}} = 8.25$

Example: The theoretical capacity of a 10-foot self-propelled windrower traveling 4 mph:

$$\frac{4 \text{ mph} \times 10 \text{ feet}}{8.25} = 4.85 \text{ acres per hour}$$

(NOTE: Speed (miles per hour) $= \frac{\text{Distance traveled (feet)}}{\text{Time (minutes)} \times 88}$)

INFORMATION SHEET

VII. General rules that affect field efficiency

A. A normal turn at end of row should be made with one continuous motion

(NOTE: The time to make a turn with a row crop operation depends mainly on the width of the available turning space and the ground surface conditions.)

B. When space at the end is too narrow for a complete turn and requires backing for completion, as much as 50 percent more time will be required

C. If there is no space at the end for a turn and the entire operation must be completed by backing, turning time may be two and one-fourth times that of a normal turn

D. Other increases include 11 percent for a rough field condition, 29 percent for obstructions and 25 percent for ditches

E. Operators can increase field efficiencies by 10 percent or more by simply trying to eliminate unnecessary time the implement is down at the end of a furrow or row

VIII. Typical field efficiencies

OPERATION	FIELD EFFICIENCIES
A. Tillage (plowing, discing, and cultivating)	65-85%
B. Planting	45-75%
C. Drilling	65-80%
D. Combining, cotton stripping, baling	60-75%
E. Mowing, raking, conditioning, and swathing	65-85%
F. Spraying	55-65%

IX. Estimating the required effective field capacity. Effective field capacity equals

$$\frac{\text{Speed (mph)} \times \text{Width (feet)}}{8.25} \times \frac{\text{Field Efficiency}}{100}$$

Example: The effective field capacity for a 10-foot self- propelled windrower traveling 4 mph with a 70 percent field efficiency:

$$\frac{4 \times 10}{8.25} \times \frac{70\%}{100} = \frac{4 \times 10 \times .70}{8.25} = 3.4 \text{ acres per hour}$$

INFORMATION SHEET

X. Determining the required capacity of a machine using an alignment chart

A. In order to determine the required capacity of a machine use the enclosed chart (Transparency 1)

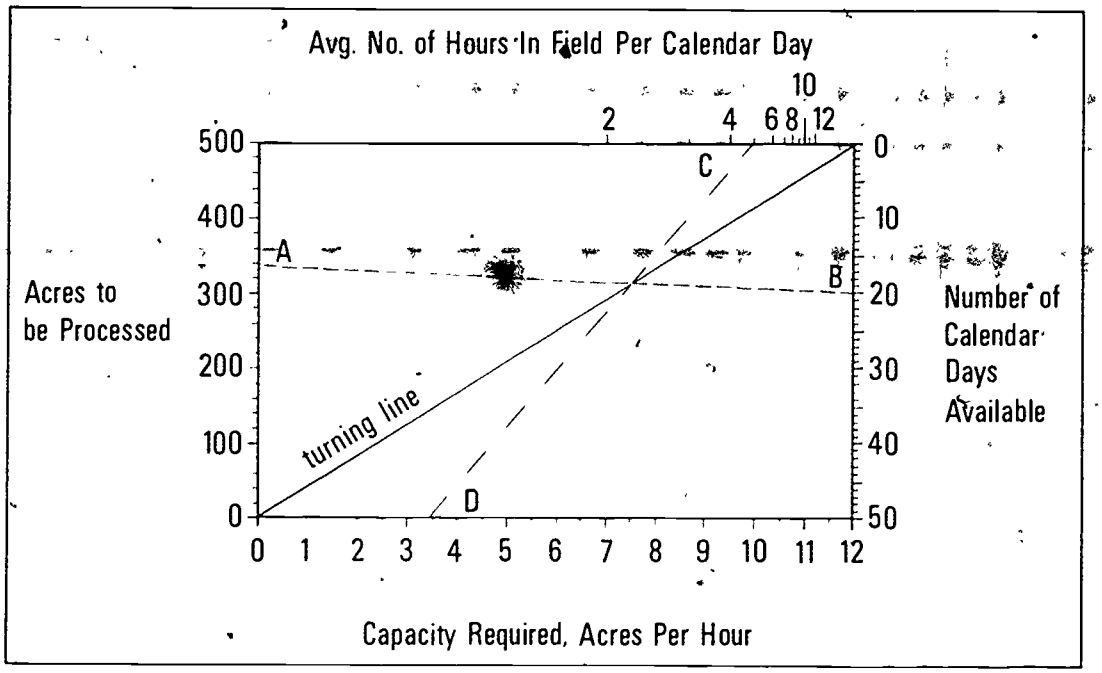
B. Draw a straight line from the number of acres to be processed to the number of calendar days in which the process must be completed

C. Draw a second line from the average number of working hours available per calendar day and the point of intersection of the first line and the turning line

D. The second line will then intersect the bottom scale to show the required effective capacity in acres per hour

Example: 340 acres of land is to be prepared for wheat seeding and it is desired to use the smallest size of one-way plow that can be used if the ground is to be worked between the dates of September 1 and September 20; during the 20 days no more than 100 hours are available for working in the field, due to Sundays and bad weather. This is an average of 5 hours in the field for each calendar day. The required capacity as shown on the chart is approximately 3.5 acres per hour

CHART FOR ESTIMATING PROPER MACHINERY CAPACITY



INFORMATION SHEET

XI. Estimating the capacity of a machine by using an alignment chart

A. Use the chart enclosed (Transparency 2)

B. Draw a straight line from the speed of machine to the correct field efficiency percent

(NOTE: Field efficiency data is included in earlier information within this unit.)

C. Draw a second line from the machine width through the point of intersection of the first line and the turning line

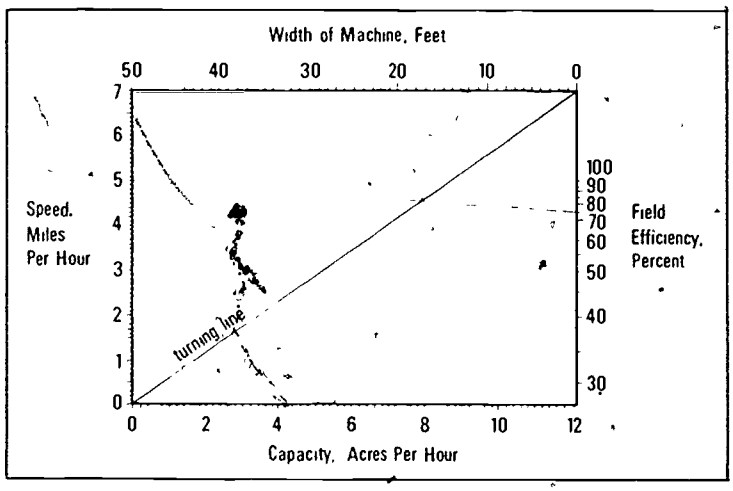
D. Second line will then intersect the bottom scale to show the estimated capacity of the machine

E. If proper width needs to be determined in order to reach a given capacity, use the same alignment chart and the following steps

1. Draw straight lines from the speed of travel to the correct field efficiency
2. Draw a second line from the desired capacity (acres per hour) through the point of intersection of the first line and the turning line
3. The second line will then intersect the top scale to show the needed width

Example: A machine traveling 5 mph with a 75 percent field efficiency and a needed capacity of 5.5 acres per hour would have to be how wide? By using the chart enclosed it can be determined that the machine needs to be 12 feet wide.

ALIGNMENT CHART FOR ESTIMATING MACHINE CAPACITY



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INFORMATION SHEET

XII. Estimating operating cost of machinery by using an alignment chart

A. Use the enclosed chart (Transparency 3)

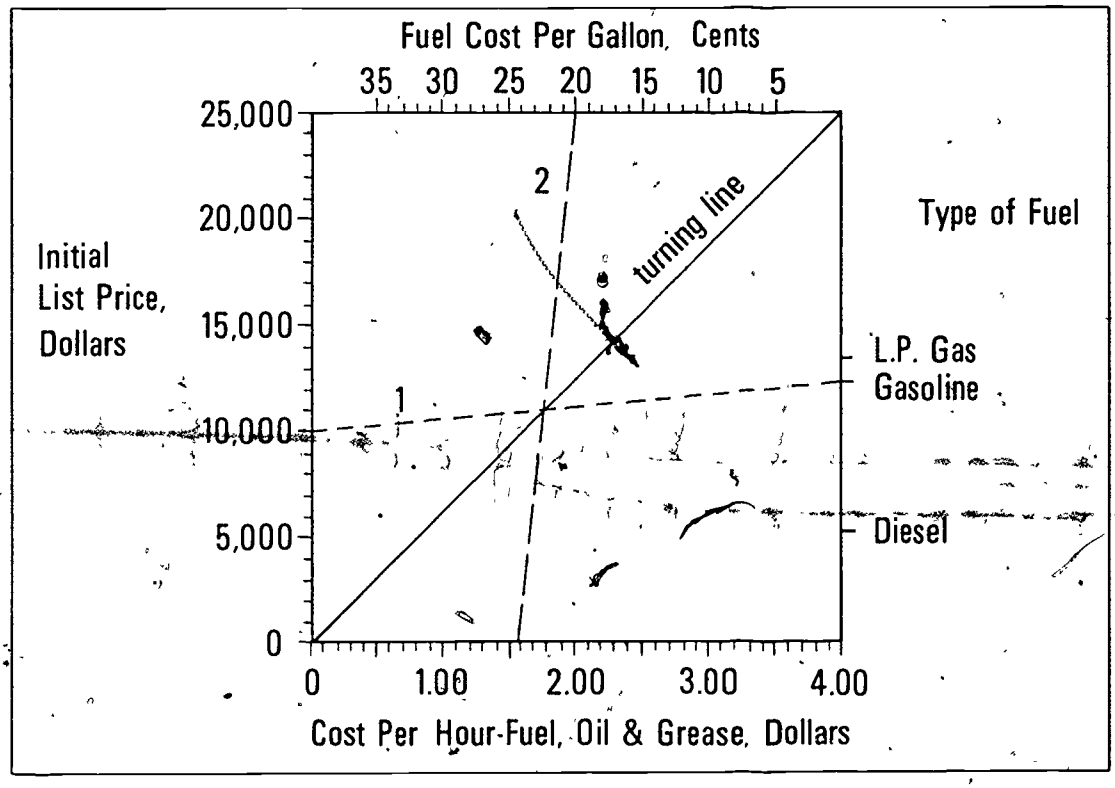
B. Draw a straight line from the initial list price of the machine to the type of fuel used

C. Draw a second line from the fuel cost per gallon and the point of intersection of the first line and the turning line

D. The second line will then intersect the bottom scale to show the cost per hour of fuel, oil, and grease

Example: A gasoline tractor costs $10,000 and has a fuel cost of twenty cents per gallon. By using the chart below it is estimated that the operating cost would be $1.60 per hour.

ALIGNMENT CHART FOR ESTIMATING OPERATING COST



INFORMATION SHEET

XIII. Estimating annual fixed cost by using an alignment chart

A. Use the enclosed charts (Transparencies 4 and 5)

B. Determine average annual fixed cost percent by using chart #1

C. Draw a straight line from indicated mark on left margin to the predetermined annual fixed cost percent

D. Draw a second line from the initial list price and the point of intersection of the first line and the turning line

E. The second line will then intersect the bottom scale to show the average annual fixed cost

Chart #1

ALIGNMENT CHART FOR ESTIMATING ANNUAL FIXED COST

Number of Years Owned Since New	All Tractors	Combines	Cotton Pickers	Forage Harvesters & Balers	Swathers	All Others
1	32.8	37.3	41.8	43.1	36.3	40.3
2	22.1	24.5	26.6	26.8	24.4	25.8
3	18.3	19.8	21.0	21.0	20.0	20.5
4	16.1	17.1	17.9	17.8	17.4	17.6
5	14.7	15.4	15.8	15.7	15.6	15.6
6	13.6	14.1	14.3	14.1	14.3	14.2
7	12.8	13.0	13.1	12.9	13.2	13.0
8	12.0	12.1	12.1	12.0	12.3	12.1
9	11.4	11.4	11.2	11.1	11.5	11.3
10	10.9	10.7	10.5	10.4	10.8	10.6
11	10.4	10.1	9.8	9.8	10.2	9.9
12	10.0	9.6	9.3	9.2	9.6	9.4

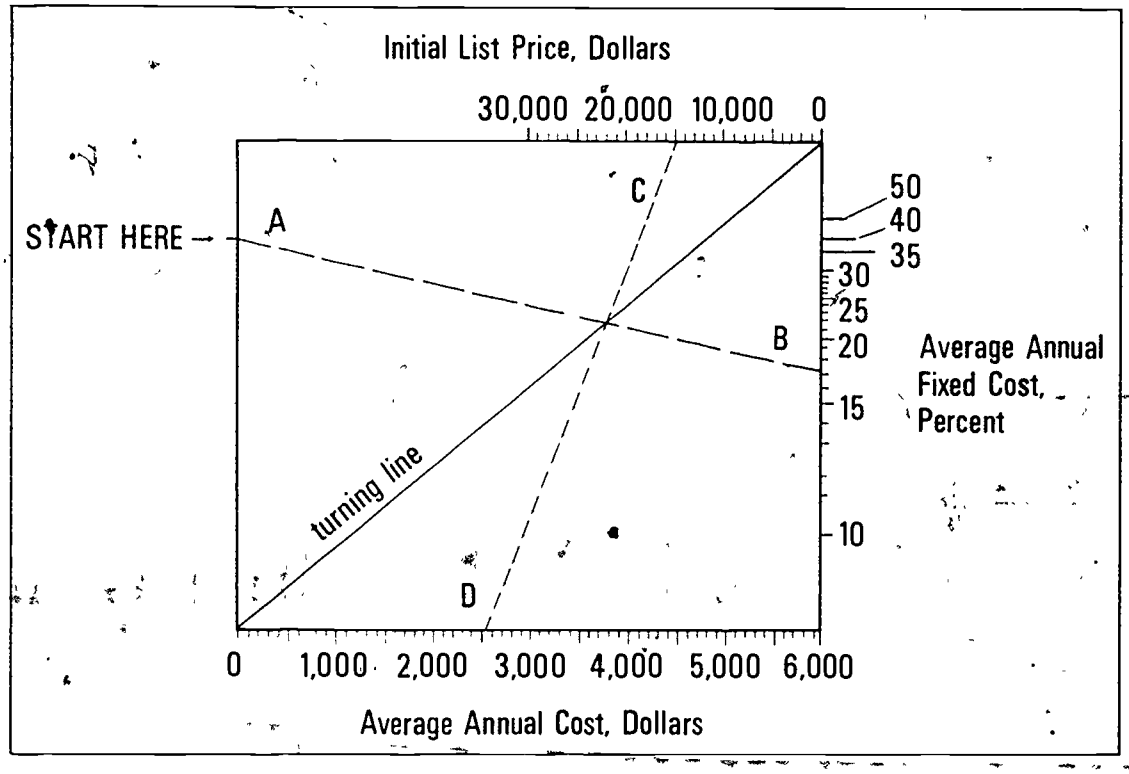
*Includes depreciation, taxes, housing, insurance and interest. It is further assumed that the machine was sold at 10% less than initial list price and a credit for depreciation is given for income tax purposes.

INFORMATION SHEET

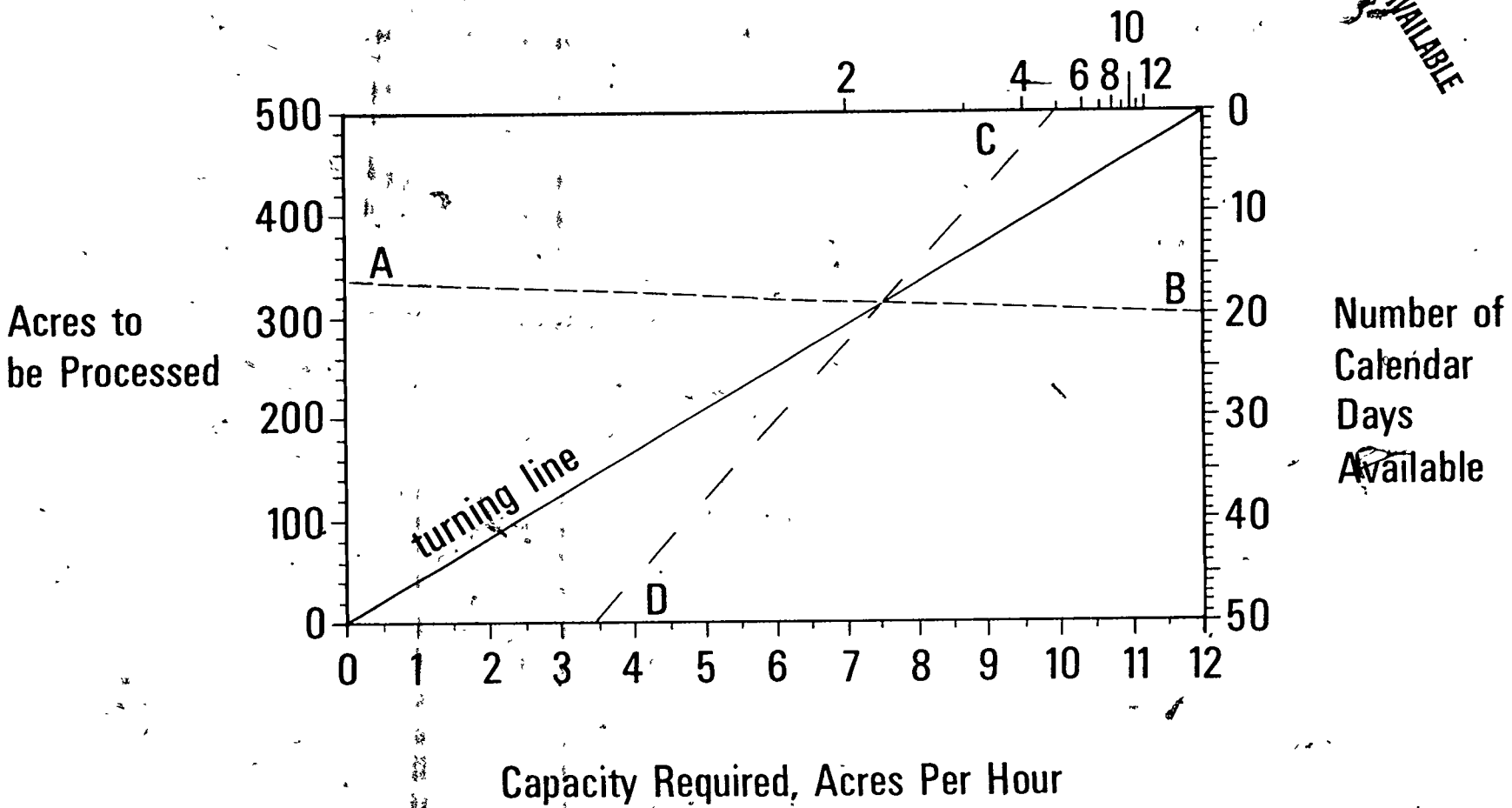
Chart #2

Example: A tractor has a 17 percent average annual fixed cost and an initial list price of $15,000. By using chart #2 it can be estimated that the average annual fixed cost will be $2,500.

ALIGNMENT CHART FOR ESTIMATING OPERATING COST



Alignment Chart for Estimating Proper Machine Capacity



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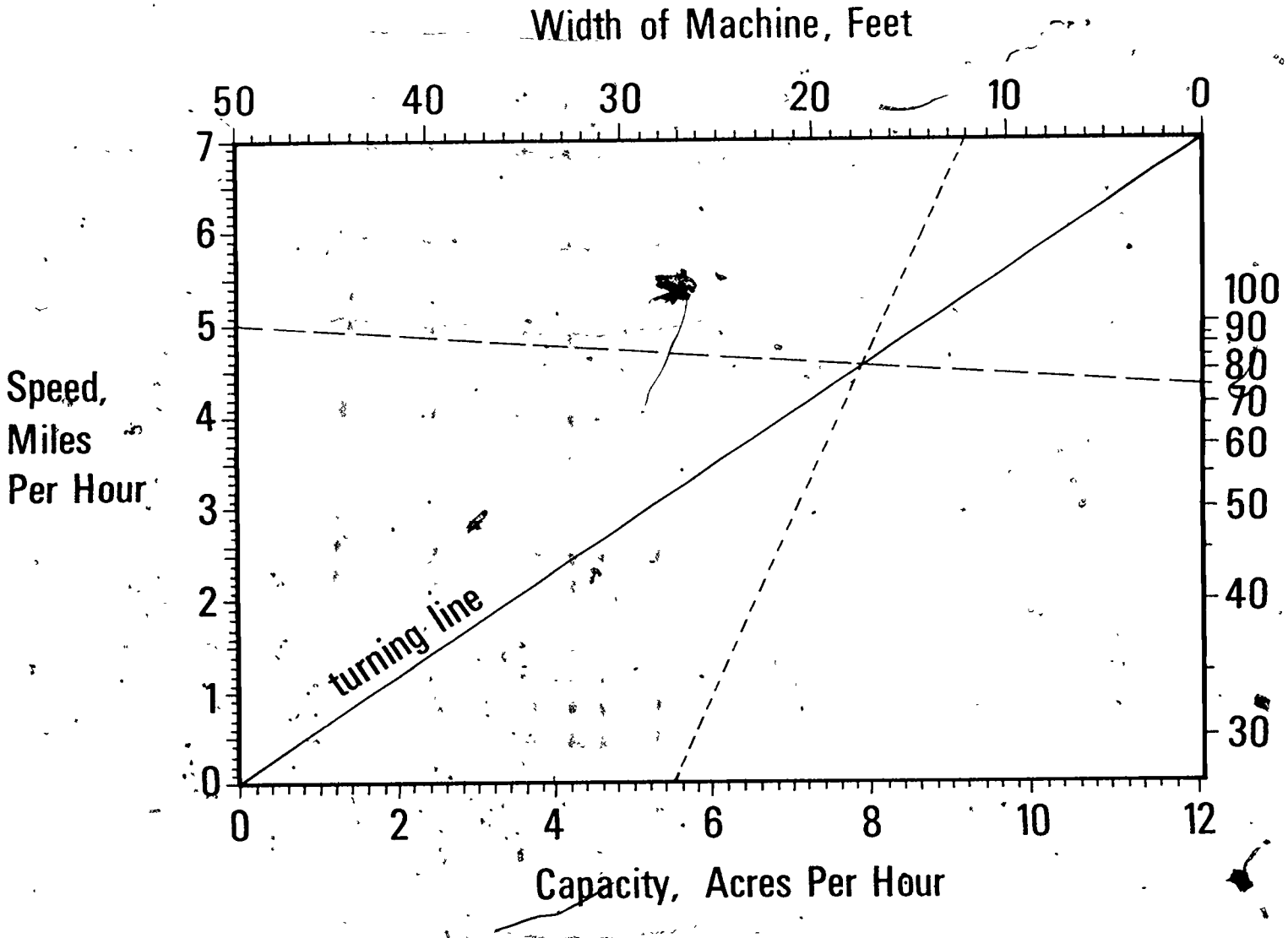
TM 1

Alignment Chart for Estimating Machine Capacity



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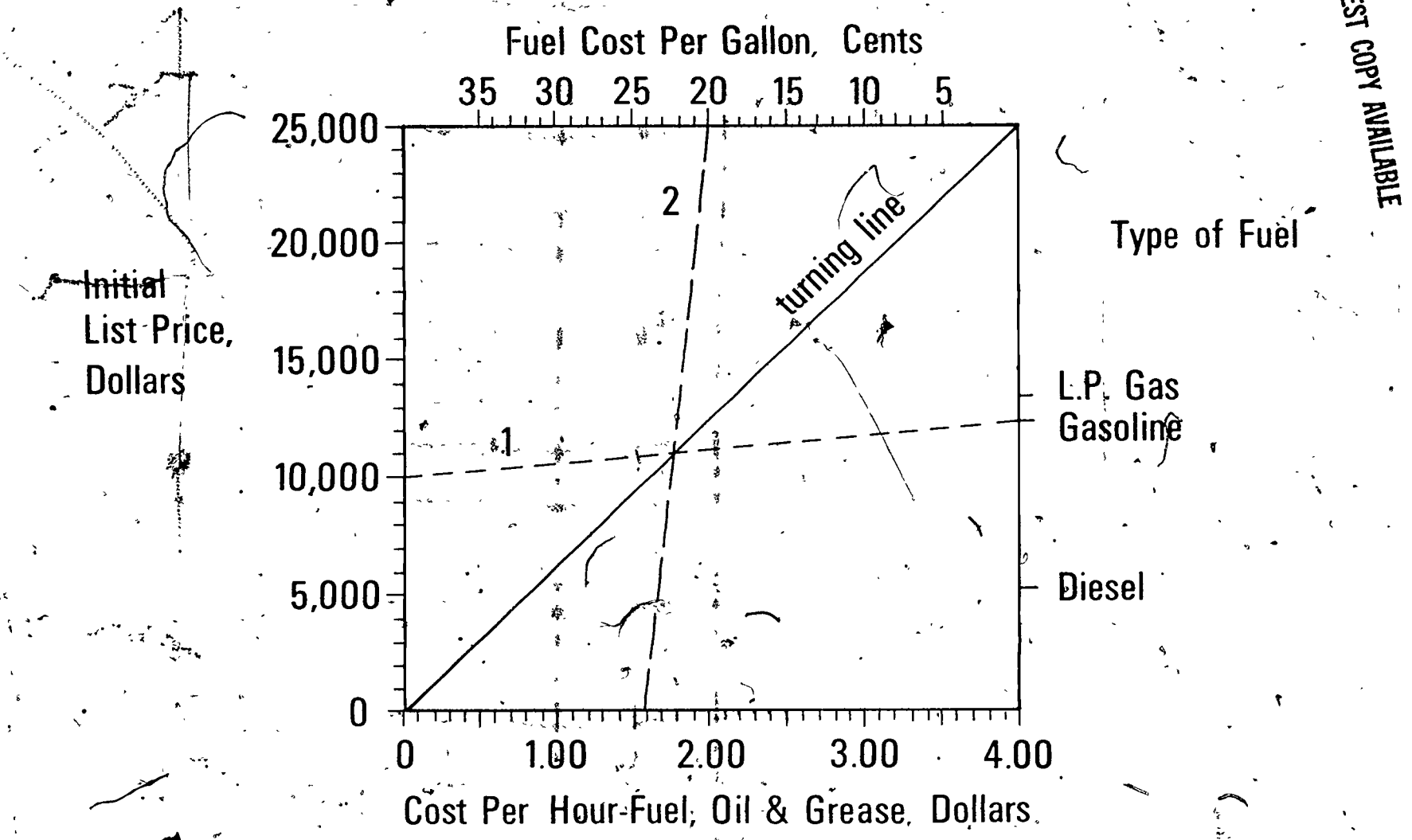
Alignment Chart for Estimating Operating Cost

TRACTORS, COMBINES, BALERS, FORAGE HARVESTERS, SWATHERS



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Annual Average Fixed Cost As A Percent of Initial List Price

Number of Years Owned Since New	All Tractors	Combines	Cotton Pickers	Forage Harvesters & Balers	Swathers	All Others
1	32.8	37.3	41.8	43.1	36.3	40.3
2	22.1	24.5	26.6	26.8	24.4	25.8
3	18.3	19.8	21.0	21.0	20.0	20.5
4	16.1	17.1	17.9	17.8	17.4	17.6
5	14.7	15.4	15.8	15.7	15.6	15.6
6	13.6	14.1	14.3	14.1	14.3	14.2
7	12.8	13.0	13.1	12.9	13.2	13.0
8	12.0	12.1	12.1	12.0	12.3	12.1
9	11.4	11.4	11.2	11.1	11.5	11.3
10	10.9	10.7	10.5	10.4	10.8	10.6
11	10.4	10.1	9.8	9.8	10.2	9.9
12	10.0	9.6	9.3	9.2	9.6	9.4

*Includes depreciation, taxes, housing, insurance and interest. It is further assumed that the machine was sold at 10% less than initial list price and a credit for depreciation is given for income tax purposes.

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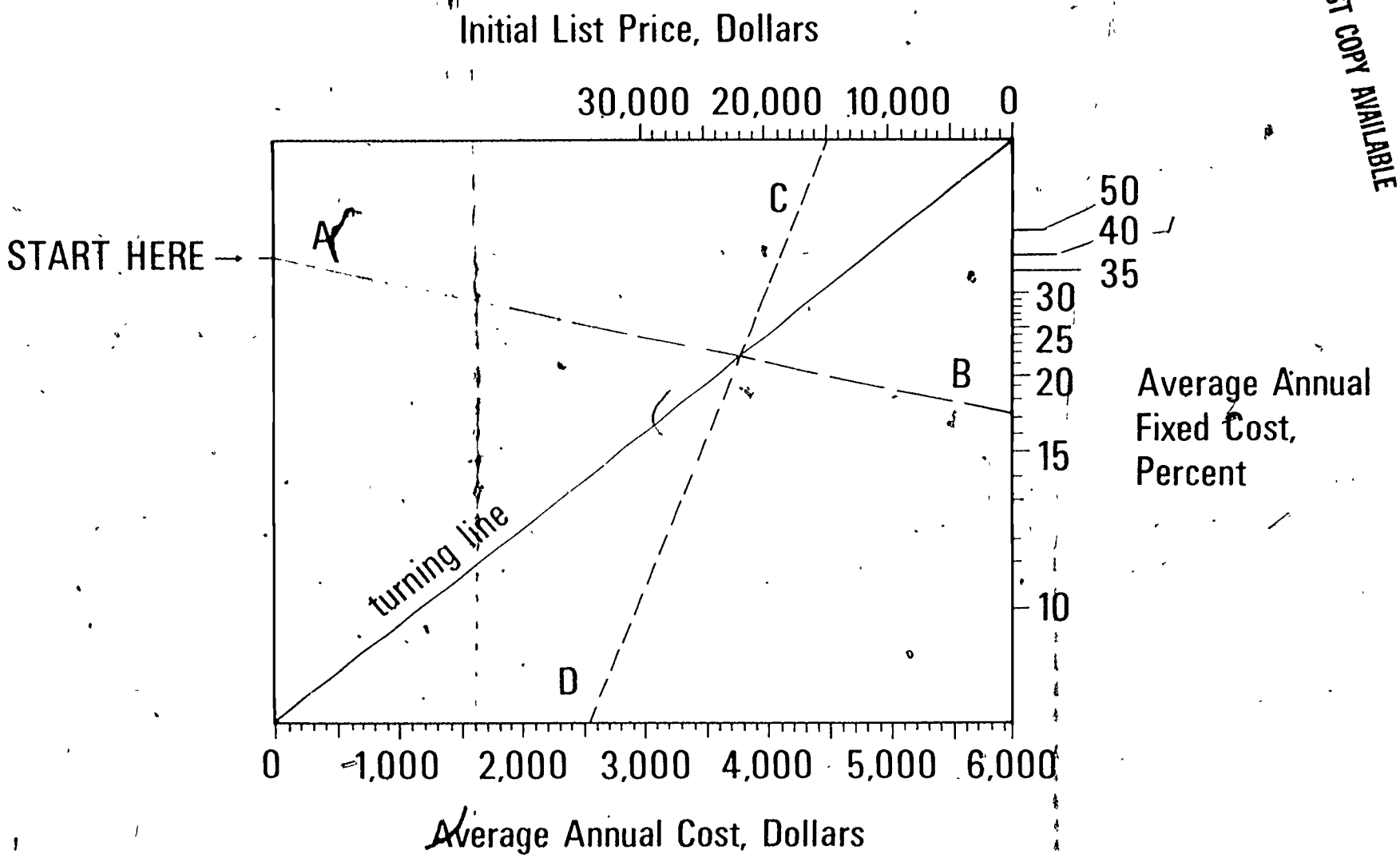
Alignment Chart for Estimating Annual Fixed Cost



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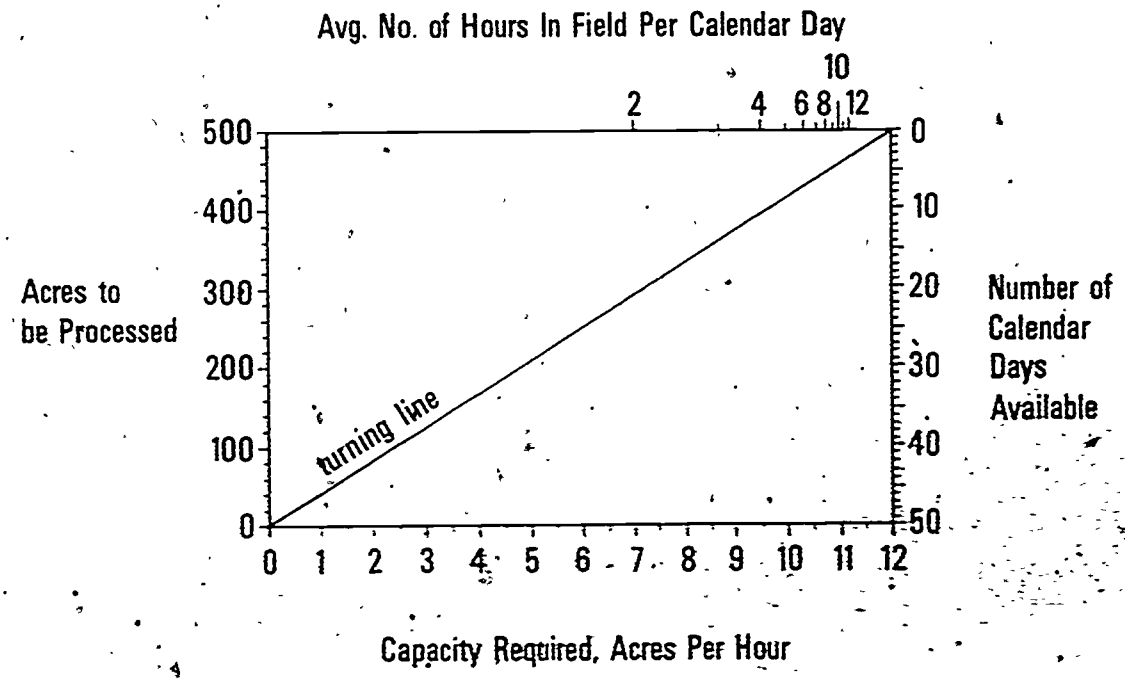
MACHINERY AND EQUIPMENT MANAGEMENT
UNIT VI

ASSIGNMENT SHEET #1--DETERMINING THE REQUIRED CAPACITY OF A MACHINE

Work each of the problems below. Use the alignment chart enclosed.



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ASSIGNMENT SHEET #1

1. A farmer has 200 acres of land to plow in 15 days. He works 6 hours per day. How many acres per hour must he plow?

   Answer:_____

2. How many acres per hour capacity is needed to combine 300 acres of wheat in 15 calendar days averaging 6 hours per day.

   Answer:_____

3. How many hours per day must you work if you plow 200 acres in 10 days at a rate of 3 acres per hour?

   Answer:_____

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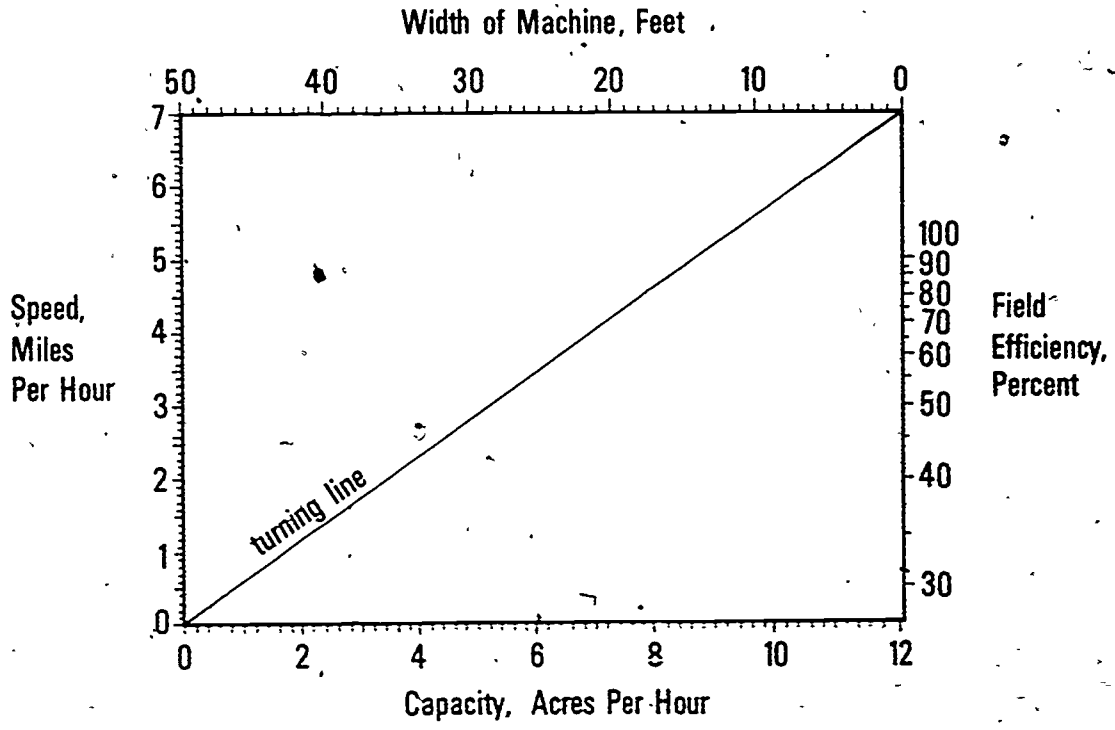
MACHINERY AND EQUIPMENT MANAGEMENT
UNIT VI

ASSIGNMENT SHEET #2--ESTIMATING
THE MACHINE CAPACITY

Using the alignment sheet below, work each of the following problems.



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ASSIGNMENT SHEET #2

1. What machine width would be necessary when desiring to plow 5.5 acres per hour, using a machine that travels 5 mph and has a 75 percent field efficiency?

   Answer:_____

2. How many acres per hour could be plowed if you are traveling 4 mph with a 10 foot plow that has a 70 percent field efficiency.

   Answer:_____

3. In problem #2 how many acres per hour could be plowed if travel speed was increased to 6 mph?

   Answer:_____

4. Your own problem.

   (NOTE: Use a machine on your farm or one given by the instructor.)

   Machine_____

   Speed_____mph

   Width_____feet

   Field efficiency_____percent

   Actual capacity_____acres per hour

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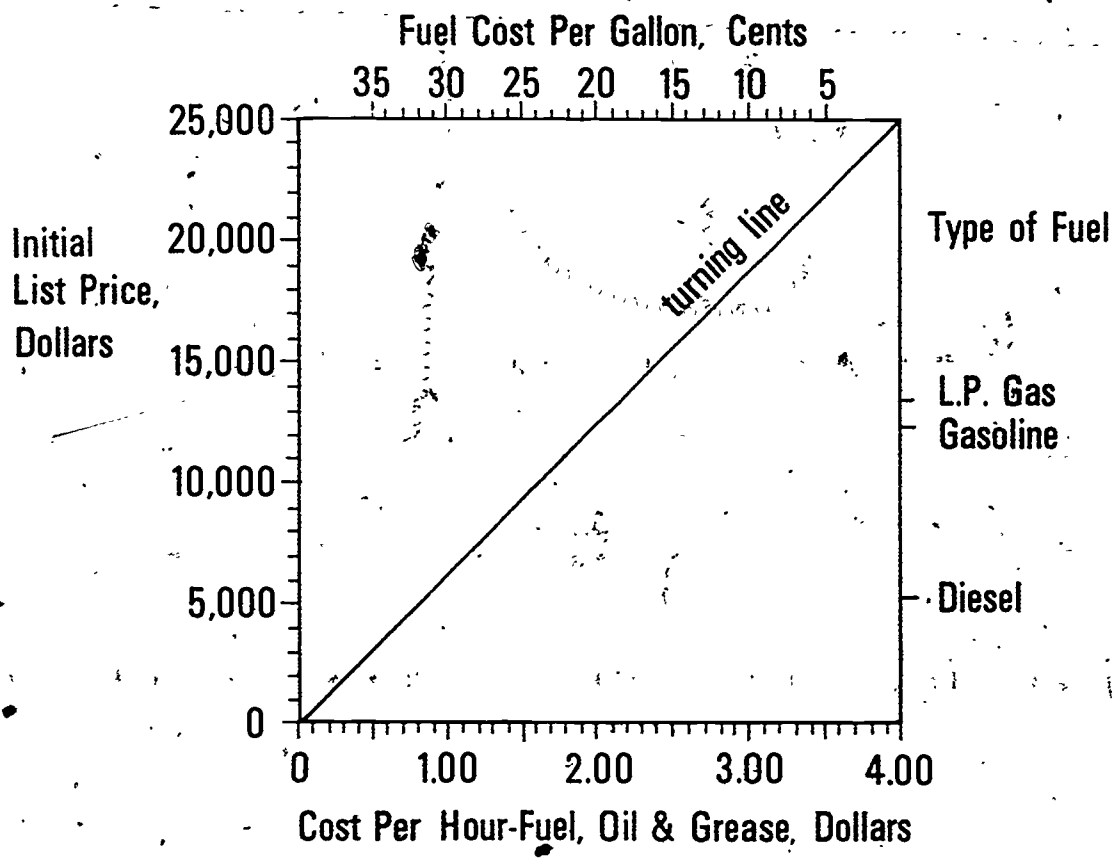
MACHINERY AND EQUIPMENT MANAGEMENT
UNIT VI

ASSIGNMENT SHEET #3--ESTIMATING THE OPERATING COST OF MACHINERY

Using the alignment chart below, work each of the following problems.



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ASSIGNMENT SHEET #3

1. If gasoline costs 20¢ per gallon, what is the average cost per hour for fuel and lubricants for a gasoline tractor with an initial list price of $10,000?

2. If LP gas costs 11¢ per gallon, what is the average cost per hour for fuel and lubricants for a LP gas tractor with an initial list price of $10,000?

3. If diesel costs 15¢ per gallon, what is the average cost per hour for fuel and lubricants for a diesel tractor with an initial list price of $10,000?

4. Your own problem.

   (NOTE: Use a tractor on your own farm or one given by the instructor.)

   Machine cost_____

   Fuel type_____

   Fuel cost per gallon_____

   Cost per hour for fuel and lubricants_____

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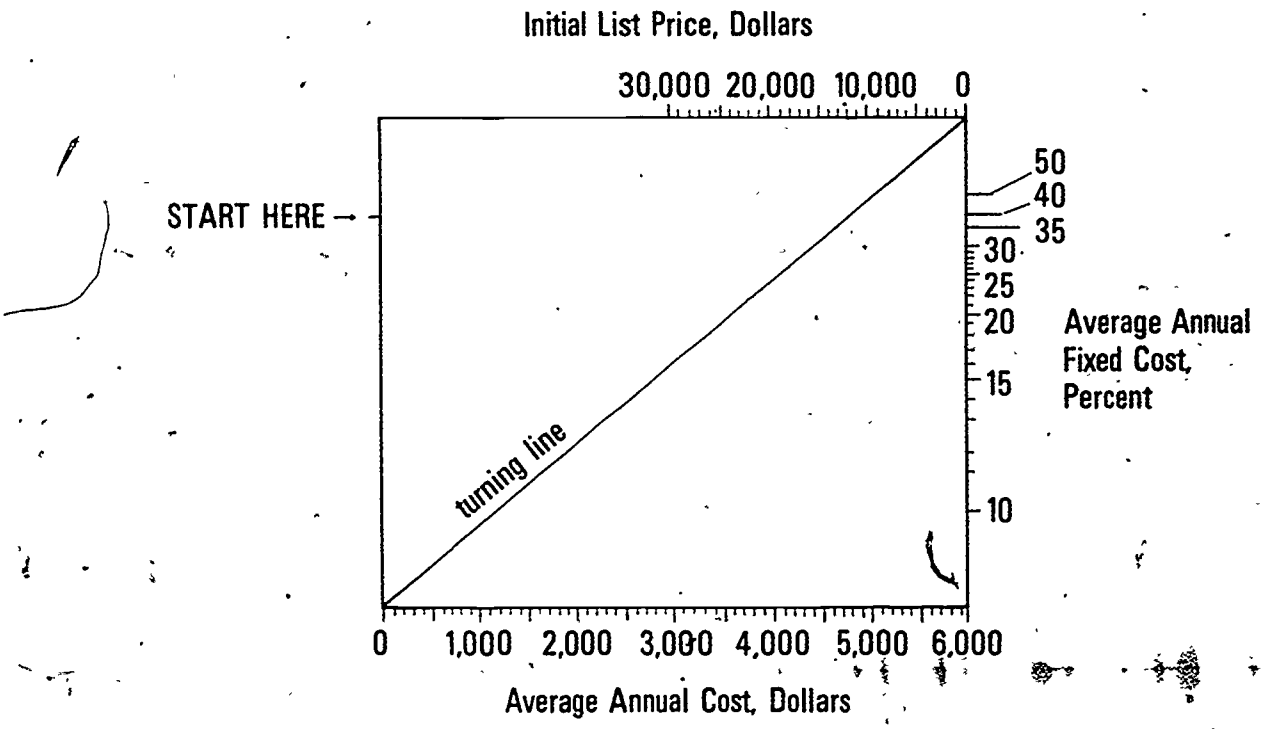
MACHINERY AND EQUIPMENT MANAGEMENT
UNIT VI

ASSIGNMENT SHEET #4--ESTIMATING ANNUAL FIXED COST OF MACHINERY

Using the alignment chart below, work each of the following problems.



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ASSIGNMENT SHEET #4

1. What is the average annual fixed cost of a swather that has a 24 percent average fixed cost and an initial list price of $5,000?

2. What is the average annual fixed cost of a swather that has a 14 percent average fixed cost and an initial list price of $5,000?

3. What is the average annual fixed cost of a tractor that has a 20 percent average fixed cost and an initial list price of $15,000?

4. Your own problem.

   Initial list price_____

   Average annual fixed cost percent_____

   (NOTE: Refer to Transparency 4 chart.)

   Average annual cost_____

MACHINERY AND EQUIPMENT MANAGEMENT
UNIT VI

ANSWERS TO ASSIGNMENT SHEETS

Assignment Sheet #1

1. 2.25 acres per hour
2. 3.45 acres per hour
3. 7 hours

Assignment Sheet #2

1. 12 feet
2. 3.4 acres per hour
3. 5.2 acres per hour
4. To be completed by student

Assignment Sheet #3

1. $1.60
2. $.95
3. $.80
4. To be completed by student

Assignment Sheet #4

1. $1,300
2. $800
3. $3,100
4. To be completed by student

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MACHINERY AND EQUIPMENT MANAGEMENT
UNIT VI

TEST

1. Match the terms on the right to the proper definition.

_____a.	Rate, in acres per hour, which a machine is working when no time is lost due to turns, unused width, stopping, plugging, and breakdowns	1.	Field efficiency
		2.	Theoretical Capacity
_____b.	Ratio of the actual capacity of a machine to its ideal or theoretical capacity		

2. Name five factors to be considered when selecting machinery and equipment.

a.

b.

c.

d.

e.

3. Match the kinds of costs involved in owning and operating any piece of machinery to the correct term or terms.

_____a.	Depreciation	1.	Variable costs
_____b.	Interest on investment	2.	Fixed costs
_____c.	Repair bills		
_____d.	Gas		
_____e.	Taxes		
_____f.	General upkeep		
_____g.	Insurance		

4. Select from the list below the factors that determine the size of equipment to buy. Place an "X" by the correct factor.

_____a. Labor available

_____b. Soil type and topography

_____c. Distance from dealer

_____d. Capital available

_____e. Season of the year

_____f. Size and type of farming operation

5. Match the expected life hours on the right with the type of machine on the left.

_____	a. Balers	1.	1,200 hours
_____	b. Discs	2.	2,000 hours
_____	c. Cultivators	3.	1,500 hours
_____	d. Swathers	4.	1,000 hours
_____	e. Forage harvesters	5.	12,000 hours
_____	f. Wheel tractors		
_____	g. Mowers		
_____	h. Plows		
_____	i. Grain drills		
_____	j. Cotton strippers		
_____	k. Corn pickers		
_____	l. Combines		

6. Determine the theoretical capacity of a 20-foot self-propelled combine that travels 3 mph by applying the following rule:

$$\frac{\text{Speed x Width}}{8.25} = \text{Acres per hour}$$

7. List three general rules that affect field efficiency.

a.

b.

c.

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8. Match the type field operation on the left with the typical field efficiency.

_____	a. Planting	1.	65-85%
_____	b. Tillage (Plowing, discing, and cultivating)	2.	45-75%
		3.	65-80%
_____	c. Drilling	4.	60-75%
_____	d. Combining, baling, and cotton stripping	5.	55-65%
_____	e. Mowing, raking, conditioning, and swathing.		
_____	f. Spraying		

9. Apply the following rule for estimating the effective field capacity for a 12-foot plow that has a 60 percent field efficiency and is traveling 4 mph.

Rule: $\frac{\text{Speed} \times \text{Width}}{8.25} \times \frac{\text{Field Efficiency}}{100} = \text{Effective Field Capacity } 8.25$

10. Determine the required capacity of a machine using an alignment chart.

11. Estimate the machine capacity using an alignment chart.

12. Estimate the operating cost of machinery using an alignment chart.

13. Estimate the annual fixed cost of machinery using an alignment chart.

(NOTE: If this has not been accomplished prior to the test, ask the instructor when the above activities should be completed.)

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MACHINERY AND EQUIPMENT MANAGEMENT
UNIT VI

ANSWERS TO TEST

1. a. 2
   b. 1

2. Any five of the following:
   a. Reliability of manufacturer
   b. Parts and service available from dealer
   c. Adaptation of machine to needs
   d. Price and quality of machine
   e. Availability of fuel used on engine-driven machines
   f. Ease of making adjustments and minor repairs
   g. Design and neatness of appearance
   h. Added investment should be offset by reducing the required labor or permitting the labor to be used more productively
   i. Resale or salvage value

3. a. 2
   b. 2
   c. 1
   d. 1
   e. 2
   f. 1
   g. 2

4. a
   b
   d
   f

5. a. 2

   b. 2

   c. 2

   d. 3

   e. 3

   f. 5

   g. 4

   h. 2

   i. 4

   j. 3

   k. 3

   l. 2

6. $\frac{3 \text{ mph} \times 20 \text{ feet}}{8.25} = 7.27$ acres per hour

7. Any three of the following:

   a. A normal turn at end of row should be made with one continuous motion

   b. When space at the end is too narrow for a complete turn and requires backing for completion, as much as 50 percent more time will be required

   c. If there is no space at the end for a turn and the entire operation must be completed by backing, turning time may be two and one-fourth times that of a normal turn

   d. Other increases include 11 percent for a rough field condition, 29 percent for obstructions, and 25 percent for ditches

   e. Operators can increase field efficiencies by 10 percent or more by simply trying to eliminate unnecessary time the implement is down at the end of a furrow or row

8. a. 2

   b. 1

   c. 3

d. 4

e. 1

f. 5

9. $\frac{4 \times 12}{8.25} \times \frac{60}{100} = 3.47$ acres per hour

10. Evaluated to the satisfaction of the instructor.

11. Evaluated to the satisfaction of the instructor.

12. Evaluated to the satisfaction of the instructor.

13. Evaluated to the satisfaction of the instructor.

MACHINERY AND EQUIPMENT MANAGEMENT--CUSTOM SERVICE VERSUS OWNERSHIP
UNIT VII

TERMINAL OBJECTIVE

After the completion of this unit, the student should be able to select from a list the advantages and disadvantages of custom service. He should be able to determine custom work rates, the feasibility of machinery ownership, and the number of acres a machine must be used to break even with the present custom rate. This knowledge will be evidenced by scoring eighty-five percent on the unit test.

SPECIFIC OBJECTIVES

After completion of this unit, the student should be able to:

1. Match terms related to machinery and equipment management with the proper definitions.
2. Select from a list the advantages and disadvantages of custom service.
3. Apply the rule for determining the annual fixed cost.
4. Apply the rule for determining fuel cost per acre.
5. Apply the rule for determining repair cost per acre.
6. Apply the rule for determining labor cost per acre.
7. Determine custom work rates when given a custom work rate table.
8. Determine if it is cheaper to own a machine or hire the custom operator.
9. Determine the number of acres a machine must be used to break even with the present custom rate.

MACHINERY AND EQUIPMENT MANAGEMENT--CUSTOM SERVICE VERSUS OWNERSHIP
UNIT VII

SUGGESTED ACTIVITIES

I. Instructor:

A. Provide students with objective sheet.

B. Provide students with information and assignment sheets.

C. Discuss terminal and specific objectives.

D. Discuss information and assignment sheets.

E. Give test.

II. Students:

A. Read objectives.

B. Study information sheet.

C. Complete assignment sheets.

D. Take test.

INSTRUCTIONAL MATERIALS

I. Included in this unit:

A. Objectives

B. Information sheet

C. Assignment sheets

1. Assignment Sheet #1--Determine Custom Work Rates
2. Assignment Sheet #2--Determine Cost of Custom Hiring Versus Ownership
3. Assignment Sheet #3--Determine Break-Even Points

II. References:

A. Bowers, Wendell. *Workbook for Machinery Management.* Agriculture Engineering Department, Oklahoma State University, Stillwater, Oklahoma.

B. *Custom Work Rates in Oklahoma.* Stillwater, Oklahoma: OSU Extension Service Fact Sheet No. 118.

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MACHINERY AND EQUIPMENT MANAGEMENT--CUSTOM SERVICE VERSUS OWNERSHIP
UNIT VII

INFORMATION SHEET

I. Terms and definitions

A. Fixed costs--Include depreciation, taxes, insurance, and interest on investments

(NOTE: These costs will occur whether machine is used or not.)

B. Variable costs--Operating costs which include repair bills, maintenance, gas, oil and/or lubrication, and general upkeep

(NOTE These costs are involved in the actual operation of the machinery or equipment.)

II. Advantages and disadvantages of custom service

A. Advantages

1. Ownership costs are eliminated
2. Capital can be invested in other enterprises
3. Annual machinery cost can be varied to suit weather, yield, and market conditions of individual years
4. There may be benefits from newer machinery, a skilled operator, and less time required

B. Disadvantages

1. Service may not be available when the job is ready
2. Annual cost may be higher than ownership cost
3. Labor released by hiring custom work may not be profitably used
4. Custom operators may prefer large jobs and refuse or postpone small jobs
5. Custom operators are sometimes interested in acres rather than efficiency

Example: Operators often operate combine or swather too fast

INFORMATION SHEET

III. Rule for determining the annual average fixed cost

A. List price times percent factor listed in chart below equals annual fixed cost

Alignment Chart For Estimating Annual Fixed Cost
As A Percent Of Initial List Price

Number of Years Owned Since New	All Tractors	Combines	Cotton Pickers	Forage Harvesters & Balers	Swathers	All Others
1	32 8	37.3	41.8	43.1	36.3	40.3
2	22 1	24.5	26.6	26.8	24.4	25.8
3	18.3	19.8	21.0	21.0	20.0	20.5
4	16 1	17.1	17.9	17.8	17.4	17.6
5	14 7	15.4	15.8	15.7	15.6	15.6
6	13 6	14.1	14.3	14.1	14.3	14.2
7	12.8	13.0	13.1	12.9	13.2	13.0
8	12.0	12.1	12.1	12.0	12.3	12.1
9	11.4	11.4	11.2	11.1	11.5	11.3
10	10.9	10.7	10.5	10.4	10.8	10.6
11	10.4	10.1	9.8	9.8	10.2	9.9
12	10.0	9.6	9.3	9.2	9.6	9.4

*Includes depreciation, taxes, housing, insurance and interest. It is further assumed that the machine was sold at 10% less than initial list price and a credit for depreciation is given for income tax purposes

Example: A combine with a initial list price of $10,000.00 that has been owned five years since new would have an annual fixed cost of 15.4% x $10,000 or $1,540.00

B. $\frac{\text{Annual ownership or fixed cost}}{\text{Acres of annual use}}$ = Ownership cost per acre

IV. Rule for determining fuel and lubricant cost

A. $\frac{\text{Initial list price}}{1000}$ X fuel price X fuel factor = Fuel cost per hour

INFORMATION SHEET

B. Fuel and lubricant cost factors*

Equipment	Fuel cost multiplier		
	Gasoline	Diesel	L.P.G.
Two-wheel drive tractors	.79	.51	.87
Self-propelled combines	.79	.51	.87
Self-propelled swathers	.79	.51	.87
Hay baler with engine	.79	.51	.87
Forage harvester with engine	.79	.51	.87
Self-propelled cotton picker	.26	.18	.31
Trucks and pickups	1.15	.74	1.25
Four-wheel drive tractors	.53	.36	.61
Self-propelled forage harvesters	.53	.36	.61
Crawler tractors	.41	.29	.48
Feed truck with power box	.41	.29	.48

(NOTE: *These values are 15% larger than the fuel consumption multiplier. This allows for 15% of the fuel cost to cover the cost of lubricants and filters. Multiply these rates by the fuel price and the list price divided by $1,000 to obtain fuel and lubricant cost in dollars per hour. Fuel price is the actual cost per gallon after tax refunds and all rebates.)

C. $\frac{\text{Fuel cost per hour}}{\text{Acres per hour}}$ = Fuel cost per acre

V. Rule for determining repair cost

A. $\frac{\text{Initial list price}}{1{,}000} \times \text{Accumulated repair cost/\$1000 of initial list price} = \text{Total accumulated repair cost}$

B. Accumulated repair cost per $1000 of initial list price

(Charts are listed on the following pages.)

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INFORMATION SHEET

1. COMBINES

Accumulated Repair Costs per $1,000 of Initial List Price

Hours of annual use	Accumulated cost at end of year											
	1	2	3	4	5	6	7	8	9	10	11	12
25	0	0	1	2	2	3	5	6	8	9	11	14
50	0	2	3	6	9	12	16	21	27	33	40	47
75	1	3	7	12	18	25	34	44	55	68	82	98
100	2	5	11	19	30	42	57	74	93	114	138	165
125	2	8	17	29	44	63	85	110	139	171	207	246
150	3	11	24	40	62	87	118	153	193	237	287	342
175	4	15	31	53	81	115	155	202	254	313	378	451
200	5	19	40	68	104	147	198	256	323	398	*	*
225	6	23	49	84	128	181	244	317	399	*	*	*
250	8	28	59	101	155	219	295	383	*	*	*	*
275	9	33	70	120	184	260	351	455	*	*	*	*
300	11	39	82	141	215	305	410	*	*	*	*	*
350	14	51	108	186	284	402	*	*	*	*	*	*
400	18	65	138	236	361	*	*	*	*	*	*	*
450	22	80	170	292	446	*	*	*	*	*	*	*
500	27	97	206	353	*	*	*	*	*	*	*	*

2. SWATHERS

Accumulated Repair Costs per $1,000 of Initial List Price

Hours of annual use	Accumulated cost at end of year											
	1	2	3	4	5	6	7	8	9	10	11	12
25	5	13	22	34	46	61	76	93	112	131	153	175
50	12	32	55	83	114	149	188	229	275	323	376	431
75	21	54	94	141	194	253	318	389	465	548	636	730
100	31	78	136	204	281	367	462	565	676	796	925	1062
125	41	104	182	273	376	491	617	755	904	1064	1236	1419
150	52	132	231	346	477	622	782	957	1146	1349	*	*
175	63	161	282	423	583	760	956	1169	1400	*	*	*
200	75	192	336	503	693	905	1137	1391	*	*	*	*
225	88	224	391	586	808	1054	1326	*	*	*	*	*
250	101	256	448	672	926	1209	*	*	*	*	*	*
275	114	290	508	761	1049	1369	*	*	*	*	*	*
300	128	325	568	852	1174	*	*	*	*	*	*	*
350	156	397	694	1041	1435	*	*	*	*	*	*	*
400	186	472	826	1239	*	*	*	*	*	*	*	*
450	216	550	963	1444	*	*	*	*	*	*	*	*
500	248	631	1104	*	*	*	*	*	*	*	*	*

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3. CULTIVATORS

Accumulated Repair Costs per $1,000 of Initial List Price

Hours of annual use	Accumulated cost at end of year											
	1	2	3	4	5	6	7	8	9	10	11	12
25	0	1	3	5	8	11	16	20	26	32	39	47
50	1	5	10	18	28	40	54	71	90	111	135	162
75	3	10	22	37	58	82	112	146	186	231	281	337
100	5	17	36	63	97	138	188	246	312	387	472	566
125	7	25	54	94	145	207	281	367	466	579	705	845
150	10	35	75	130	201	287	390	510	648	804	979	1174
175	13	46	99	172	265	379	515	673	855	1061	1292	1549
200	16	59	126	219	337	482	655	856	1087	1349	*	*
225	20	73	156	271	417	596	809	1058	1344	*	*	*
250	24	88	189	327	504	720	978	1279	*	*	*	*
275	29	105	224	388	598	855	1161	1518	*	*	*	*
300	34	122	262	454	700	1000	1358	*	*	*	*	*
350	45	162	346	599	923	1320	*	*	*	*	*	*
400	57	205	440	762	1174	*	*	*	*	*	*	*
450	71	254	544	942	1451	*	*	*	*	*	*	*
500	85	307	658	1139	*	*	*	*	*	*	*	*

4. DISCS

Accumulated Repair Costs per $1,000 of Initial List Price

Hours of annual use	Accumulated cost at end of year											
	1	2	3	4	5	6	7	8	9	10	11	12
25	0	1	2	3	5	7	10	13	17	21	25	30
50	1	3	7	12	18	26	35	46	58	72	88	106
75	2	7	14	24	37	54	73	95	121	150	183	219
100	3	11	24	41	63	90	122	160	203	252	307	368
125	5	16	35	61	94	134	183	239	303	376	458	550
150	6	23	49	85	131	187	254	331	421	522	636	763
175	8	30	65	112	172	246	335	437	556	690	840	1007
200	11	38	82	142	219	313	426	556	707	877	*	*
225	13	47	102	176	271	387	526	688	873	*	*	*
250	16	57	123	213	327	468	636	831	*	*	*	*
275	19	68	146	252	389	556	755	987	*	*	*	*
300	22	80	171	295	455	650	883	*	*	*	*	*
350	29	105	225	390	600	858	*	*	*	*	*	*
400	37	134	286	496	763	*	*	*	*	*	*	*
450	46	165	354	613	943	*	*	*	*	*	*	*
500	55	100	428	740	*	*	*	*	*	*	*	*

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5. FORAGE HARVESTERS

Accumulated Repair Costs per $1,000 of Initial List Price

Hours of annual use	Accumulated cost at end of year											
	1	2	3	4	5	6	7	8	9	10	11	12
25	6	15	25	38	51	66	82	100	118	138	159	180
50	14	36	63	93	126	163	203	245	291	339	390	444
75	24	61	106	157	214	276	343	416	493	575	661	753
100	35	89	154	228	311	401	499	604	716	835	961	1094
125	47	119	206	305	415	536	667	807	957	1116	1285	1462
150	60	151	261	387	526	679	845	1023	1213	1415	*	*
175	73	185	319	472	643	830	1033	1250	1482	*	*	*
200	87	220	379	562	765	988	1228	1487	*	*	*	*
225	102	256	442	655	892	1151	1432	*	*	*	*	*
250	117	293	507	751	1023	1320	*	*	*	*	*	*
275	132	332	574	850	1157	1494	*	*	*	*	*	*
300	148	372	643	952	1296	*	*	*	*	*	*	*
350	181	454	785	1163	1584	*	*	*	*	*	*	*
400	215	541	934	1384	*	*	*	*	*	*	*	*
450	251	630	1088	1612	*	*	*	*	*	*	*	*
500	287	723	1248	*	*	*	*	*	*	*	*	*

6. BALERS

Accumulated Repair Costs per $1,000 of Initial List Price

Hours of annual use	Accumulated cost at end of year											
	1	2	3	4	5	6	7	8	9	10	11	12
25	3	7	12	18	25	32	40	49	58	67	77	88
50	7	18	30	45	61	79	99	120	142	165	190	217
75	12	30	52	77	104	134	167	202	240	280	322	367
100	17	43	75	111	151	195	243	294	349	407	468	533
125	23	58	100	149	202	261	325	393	466	544	626	713
150	29	74	127	188	257	331	412	499	591	690	794	903
175	36	90	155	230	313	405	403	609	722	843	970	1104
200	43	107	185	274	373	481	599	725	859	1002	*	*
225	50	125	215	319	435	561	698	845	1001	*	*	*
250	57	143	247	366	498	643	800	969	*	*	*	*
275	64	162	280	414	564	728	906	1096	*	*	*	*
300	72	181	313	464	632	815	1014	*	*	*	*	*
350	88	221	383	567	772	996	*	*	*	*	*	*
400	105	263	455	674	918	*	*	*	*	*	*	*
450	122	307	530	786	1070	*	*	*	*	*	*	*
500	140	352	608	901	*	*	*	*	*	*	*	*

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7. MOWERS

Accumulated Repair Costs per $1,000 of Initial List Price

Hours of annual use	Accumulated cost at end of year											
	1	2	3	4	5	6	7	8	9	10	11	12
25	15	39	69	103	142	185	232	284	340	400	465	534
50	38	96	169	253	349	455	572	700	838	986	1145	1315
75	64	163	286	429	591	771	969	1185	1419	1671	1940	2227
100	93	238	415	623	858	1120	1408	1723	2062	2428	*	*
125	125	317	555	833	1147	1497	1882	2302	*	*	*	*
150	158	402	704	1055	1454	1898	2386	*	*	*	*	*
175	193	492	860	1290	1777	2319	*	*	*	*	*	*
200	230	585	1023	1534	2113	*	*	*	*	*	*	*
225	268	682	1192	1788	2463	*	*	*	*	*	*	*
250	307	782	1367	2050	*	*	*	*	*	*	*	*
275	348	885	1548	2321	*	*	*	*	*	*	*	*
300	389	991	1733	2599	*	*	*	*	*	*	*	*
350	476	1210	2118	*	*	*	*	*	*	*	*	*
400	566	1440	2519	*	*	*	*	*	*	*	*	*
450	659	1678	*	*	*	*	*	*	*	*	*	*
500	756	1925	*	*	*	*	*	*	*	*	*	*

8. PLOWS

Accumulated Repair Costs per $1,000 of Initial List Price

Hours of annual use	Accumulated cost at end of year											
	1	2	3	4	5	6	7	8	9	10	11	12
25	7	18	31	46	64	83	105	128	154	181	210	241
50	17	44	76	114	157	205	258	316	378	446	517	593
75	29	74	129	193	266	348	437	535	640	754	875	1005
100	42	107	187	281	387	506	636	777	931	1096	1272	1461
125	56	143	251	376	518	676	849	1039	1244	1464	1701	1952
150	71	182	318	476	656	856	1077	1317	1577	1856	2155	2475
175	87	222	388	582	802	1046	1316	1609	1926	2268	2634	3024
200	104	264	462	692	954	1245	1565	1914	2292	2698	*	*
225	121	308	538	807	1111	1451	1824	2231	2671	*	*	*
250	139	353	617	925	1275	1664	2092	2558	*	*	*	*
275	157	399	698	1047	1443	1883	2368	2896	*	*	*	*
300	176	447	782	1173	1616	2109	2651	*	*	*	*	*
350	215	546	956	1433	1974	2577	*	*	*	*	*	*
400	255	650	1137	1705	2343	*	*	*	*	*	*	*
450	297	757	1325	1987	2737	*	*	*	*	*	*	*
500	341	868	1519	2278	*	*	*	*	*	*	*	*

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9. PLANTERS · DRILLS

Accumulated Repair Costs per $1,000 of Initial List Price

Hours of annual use	Accumulated cost at end of year											
	1	2	3	4	5	6	7	8	9	10	11	12
25	1	3	7	12	18	26	35	46	58	72	88	106
50	3	11	24	71	63	90	122	160	203	252	307	368
75	6	23	49	85	131	187	254	331	421	522	636	763
100	11	38	82	142	219	313	426	556	707	877	*	*
125	16	57	123	213	327	468	363	831	*	*	*	*
150	22	80	171	295	455	650	883	*	*	*	*	*
175	29	105	225	390	600	858	*	*	*	*	*	*
200	37	134	286	496	763	*	*	*	*	*	*	*
225	46	165	354	613	943	*	*	*	*	*	*	*
250	55	200	428	740	*	*	*	*	*	*	*	*
275	66	237	508	879	*	*	*	*	*	*	*	*
300	77	277	594	1028	*	*	*	*	*	*	*	*
350	102	366	784	*	*	*	*	*	*	*	*	*
400	129	465	996	*	*	*	*	*	*	*	*	*
450	160	575	*	*	*	*	*	*	*	*	*	*
500	193	695	*	*	*	*	*	*	*	*	*	*

10. CORN PICKERS · COTTON STRIPPERS

Accumulated Repair Costs per $1,000 of Initial List Price

Hours of annual use	Accumulated cost at end of year											
	1	2	3	4	5	6	7	8	9	10	11	12
25	1	2	4	7	10	14	18	23	28	34	40	47
50	2	7	13	21	31	42	55	70	86	103	122	143
75	4	13	25	41	60	81	106	133	164	198	234	274
100	7	20	40	64	94	128	167	211	260	313	371	434
125	9	29	57	92	134	183	239	302	371	447	530	620
150	13	39	76	123	180	245	320	404	497	599	*	*
175	16	50	97	158	230	314	410	517	636	*	*	*
200	20	62	121	195	285	389	507	640	*	*	*	*
225	24	75	146	236	344	469	612	*	*	*	*	*
250	28	88	172	279	407	556	*	*	*	*	*	*
275	33	103	201	325	474	647	*	*	*	*	*	*
300	38	118	231	374	545	*	*	*	*	*	*	*
350	49	151	295	478	697	*	*	*	*	*	*	*
400	60	187	366	592	*	*	*	*	*	*	*	*
450	73	226	442	715	*	*	*	*	*	*	*	*
500	86	267	523	*	*	*	*	*	*	*	*	*

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11. CRAWLERS

Accumulated Repair Costs per $1,000 of Initial List Price

Hours of annual use	Accumulated cost at end of year											
	1	2	3	4	5	6	7	8	9	10	11	12
500	3	10	19	31	45	61	80	100	124	149	177	207
600	4	13	25	41	60	82	107	135	165	199	236	277
700	5	17	32	53	77	105	136	172	212	256	303	354
800	7	21	40	65	95	129	169	213	262	316	375	438
900	8	25	49	79	115	156	204	257	317	382	452	529
1000	9	29	57	93	136	185	241	305	375	452	536	626
1100	11	34	67	108	158	216	281	355	436	526	624	730
1200	13	39	77	124	181	248	323	408	502	605	717	839
1300	14	45	87	141	206	282	367	464	570	687	815	953
1400	16	50	98	159	232	317	414	522	642	774	917	1073
1500	18	56	110	178	259	354	462	583	717	864	1024	*
1600	20	62	122	197	287	393	512	646	795	958	*	*
1700	22	69	134	217	317	433	564	712	876	1056	*	*
1800	24	75	147	238	347	474	618	780	960	*	*	*
1900	26	82	160	260	378	517	674	851	1046	*	*	*
2000	29	89	174	282	411	561	732	923	*	*	*	*

12. WHEEL TRACTORS

Accumulated Repair Costs per $1,000 of Initial List Price

Hours of annual use	Accumulated cost at end of year											
	1	2	3	4	5	6	7	8	9	10	11	12
200	2	5	10	17	25	33	44	55	68	82	97	113
250	2	8	15	24	35	48	62	79	97	117	139	162
300	3	10	20	32	47	64	84	105	130	156	185	217
350	4	13	25	41	60	82	107	135	166	200	237	278
400	5	16	32	51	74	102	132	167	206	248	294	344
450	6	19	38	62	90	123	160	202	248	299	355	415
500	7	23	45	73	106	145	189	239	294	354	420	491
550	9	27	52	85	124	169	220	278	342	412	489	572
600	10	31	60	98	142	194	253	320	393	474	562	657
650	11	35	69	111	162	221	288	363	447	539	639	747
700	13	39	77	125	182	249	324	409	503	607	719	841
750	14	44	86	139	203	278	362	457	562	677	803	940
800	16	49	96	155	225	308	402	507	623	751	891	1042
900	19	59	115	187	272	372	485	612	752	907	1075	1258
1000	23	70	137	221	322	440	574	724	891	1073	1273	1489
1200	30	94	183	296	431	589	768	969	1192	1437	*	*

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VI. Rule for determining labor cost per acre

$$\frac{\text{Cost per hour}}{\text{Acres per hour}} = \text{Cost per acre}$$

Example: $\frac{\$2.00 \text{ per hour}}{4 \text{ acres per hour}} = \$.50$ labor cost per acre

VII. Custom work rates for tillage, planting, and miscellaneous jobs

(Work rates are listed on the following pages.)

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Table 1. Custom Work Rates For Tillage, Planting, and Miscellaneous Jobs.

OPERATION	UNITS	PANHANDLE NO REPS	PANHANDLE AVE	PANHANDLE LOW	PANHANDLE HIGH	WEST-CENTRAL NO. REPS	WEST-CENTRAL AVE.	WEST-CENTRAL LOW	WEST-CENTRAL HIGH	SOUTHWEST NO REPS.	SOUTHWEST AVE.	SOUTHWEST LOW	SOUTHWEST HIGH	NORTH-CENTRAL NO. REPS.	NORTH-CENTRAL AVE.	NORTH-CENTRAL LOW	NORTH-CENTRAL HIGH
TILLAGE																	
PLOWING, (MOLDBOARD)	ACRE	12	3.21	1 00	5 00	48.	3 35	2 00	5 00	58.	3.45	1 50	5.00	52.	3.15	1.50	4.00
ONE-WAY DISC TILLING	ACRE	22.	1 32	1 00	2 00	40.	1 75	1 00	2 50	56.	1.80	1 00	3.00	40.	1.80	1.00	4.00
LISTING	ACRE	15	1 35	1 00	2 00	20	1 67	1 25	3 50	28	1.67	1.00	3.00	8.	1.88	1.25	3.00
DISCING SINGLE	ACRE	8	0 94	0 75	1 50	21	1 21	0.50	2 00	17.	1 58	0 75	3 00	10.	1.42	1.00	2.50
TANDEM	ACRE	16	1 22	1 00	1 50	40.	1 69	1.00	3.00	52.	1 76	1 00	5 00	41.	1.48	0.75	3.00
HARROWING SPIKE TOOTH,	ACRE	7	0 64	0 50	1 00	24	0 97	0 50	2.00	29.	1 11	0 50	2 00	23.	0.84	0.45	2.00
SPRING TOOTH	ACRE	8	0 89	0 75	1 25	37.	1.20	0 50	2 00	32.	1 31	0.75	2 50	36.	1.07	0.75	2.00
SURFACE CHISEL 3 8 IN	ACRE	12	1 48	1 00	2 00	24	2 03	1 00	4.00	46.	2 10	1 00	5.00	21.	1 86	1.00	3.00
DEEP CHISEL	ACRE	9	2 72	1 50	4 00	22	3 58	2 00	7.50	35.	3 32	1 50	7.00	13.	2.69	1.50	4.00
ROD WEEDER	ACRE	7.	1 68	1 00	3 00	7	1 50	1 00	2.00	4.	1 38	1.00	1.50	3.	1.58	1.50	1.75
ROTARY HOE (ROW ONLY)	ACRE	3	0 97	0 90	1 00	15	1 27	0 75	2.50	9.	1.56	1.00	2 50	4.	0.99	0.45	1.50
CULTIVATING (ROW ONLY)	ACRE	4	1 25	1 00	1 75	26	1.44	0 60	2 50	33.	1.45	0.75	2.50	3.	1.75	1.25	2.00
ROTARY HOE (SOLID)	ACRE	7	0 82	0 75	1 00	16	1.16	0 50	2 50	13.	1.33	0 75	2.00	7.	1.36	0.50	2.50
BLADE OR WIDE SWEEPS	ACRE	16.	1 36	0 75	2 00	18.	2 07	1 00	4 00	20.	1 75	0 75	3.00	18.	1.74	1.00	3.75
STALK SHREDDER, POWER	ACRE	6	1 62	0 70	3 00	19	1.58	1 00	3.00	27.	1 57	0 75	3.00	4.	2.25	2.00	3.00
PLANTING																	
DRILL SM GRAIN W FERT	ACRE	6	1 67	1 25	2 75	28	1 66	0 85	3 00	24.	1 90	1.00	4.00	25.	1.57	1.00	2.50
DRILL SM GRAIN W O FERT	ACRE	17	1 05	0 75	1 75	37	1 26	0 75	2.00	45.	1.41	0.50	3.50	31.	1.26	0.75	2.00
DRILL VETCH & RYE W FERT	ACRE	4.	1 75	1 25	2 50	23	1 59	0 90	2 50	21.	1 83	1 00	4.00	18.	1 51	1.00	2.00
DRILL VETCH & RYE W O FERT	ACRE	5	1 25	0 75	2 00	28	1 29	0.75	2.50	32.	1 41	0 75	2.00	22.	1.18	0.75	1.50
DRILL ALFALFA W FERT	ACRE	1	1 75	1 75	1 75	17	1 79	1.00	2 50	18.	2.07	1.25	5.00	8.	2.06	1.00	3.50
DRILL ALFALFA W O FERT	ACRE	2	1 13	1 00	1 25	20	1 44	1.00	2 50	23.	1 52	1.00	3.00	9.	1.28	1.00	2.00
LISTER CORN-SORGHUM	INCH	7	40 00	40 00	40 00	8	40 00	40 00	40 00	4.	40 00	40.00	40.00	1	42.00	42.00	42.00
W/BAND APPL W FERT ATT	ACRE	2	2 13	1 75	2 50	8	2 22	1 00	3.25	4.	2.19	1.50	3.00	1.	2.00	2.00	2.00
W/BAND APPL W/O FERT	ACRE	4	1.44	1 25	1 75	8.	1.80	0 90	3.00	4.	1.63	1.25	2 50				
W/O BAND APPL W FERT	ACRE	2.	1 38	1 25	1 50	7.	1.64	1 25	3 00	3.	1.58	1.25	2.00				
W/O BAND APPL W O FERT	ACRE	4.	1 63	1 25	2 00	8.	1 38	1 00	2.00	11.	1.39	1.00	2.00				
SURFACE CORN-SORGHUM	INCH	2	29 00	18 00	40 00	3	40 00	40 00	40 00	2	40.00	40.00	40 00	2.	14.00	12.00	16.00
W/BAND APPL W/FERT	ACRE	2	2 00	1 50	2 50	4	2 10	0.90	4.00	4.	1.75	1 50	2.00				
W/BAND APPL W/O FERT	ACRE	2.	1 50	1 25	1 75	5.	1 72	0 85	3.50	3	1.25	1.00	1.50				
W/O BAND APPL W/FERT	ACRE	2	2 50	1 50	3 50	5	1 85	1 25	3 00	3.	1.42	1.25	1 50				
W/O BAND APPL W/O FERT	ACRE	2.	1 13	1 00	1 25	7.	1 39	1 00	2 00	6.	1 50	1.00	4 00	1.	1.50	1.50	1.50
PEANUTS	INCH					4	34 00	20 00	40.00	2	22 00	20.00	24.00				
W/BAND APPL W/FERT	ACRE					6	3 17	1.00	7.00	5.	2.50	2.00	3.50				
W/BAND APPL W/O FERT	ACRE					4	2.42	0.95	6.00	5	2.10	1 50	3.00				
W/O BAND APPL W/FERT	ACRE					3	2 75	1 25	5 00	4	2 50	2.00	3.50				
W/O BAND APPL W/O FERT	ACRE					4	2 19	1.25	4.00	5.	2.50	1.50	4.50				
SOYBEANS OR COTTON	INCH					14	39 00	38.00	40.00	10.	36.00	36.00	40 00				
W/BAND APPL W/FERT	ACRE					17.	2 31	.90	4 00	12.	2 00	1.25	3.00				
W/BAND APPL W/O FERT	ACRE					14.	2 11	.85	4 00	10	1.67	1.50	2.50				
W/O BAND APPL W/FERT	ACRE					12.	1 92	1.25	3 00	6.	1.90	1.25	3.00				
W/O BAND APPL W/O FERT	ACRE					19	1 50	1 00	2 75	20.	1 62	1.00	3.00				
MISCELLANEOUS																	
DRY FERTILIZERS	ACRE	2	0 75	0 50	1 00	23	0 81	0 25	3.00	21.	0.90	0 25	2.80	15.	0.61	0.25	1.00
ANHYDROUS AMMONIA	ACRE	8.	1 25	1 00	2 00	19.	1 49	0 50	3.50	18.	1 32	0 50	2.25	13.	1.35	0.50	3.00
LIQUID FERTILIZERS	ACRE	2	0 50	0 50	0 50	19	1.08	0.25	3 25	16.	0.89	0.35	1.50	7.	0.86	0.50	1.25
SPRAY FOR WEED CONTROL	ACRE	8.	1 19	0 50	2 50	22	1.03	0 50	2 00	19.	1 45	0.50	3 00	18.	1.26	0.50	2.50
APPL BY GROUND VEHICLES	ACRE	4	1 15	0 75	1 60	14.	1 09	0 50	2 00	13	1.13	0.50	2 50	13.	1.16	0.50	2.00
APPL BY AIRCRAFT	ACRE	7.	1 84	1 00	3 00	24.	1 36	0.50	3 00	28.	1.24	0.50	3.00	18.	1.52	1 00	2.50
SPRAYING	HEAD	5.	0 25	0 15	0 35	19.	0 21	0.10	0 50	8.	0 16	0.10	0.25	11.	0.30	0.05	0.70
DEHORNING	HEAD	7	0 39	0 10	1 00	24	0.71	0 25	1 25	17.	0.81	0 20	2.00	19.	0.69	0 10	1.00
BRANDING	HEAD	7	0 22	0 10	0 50	22	0 38	0 10	0 50	14.	0 60	0.20	1.50	9.	0.35	0.10	1.00
VACCINATING	HEAD	6	0 17	0 10	0 25	25.	0 36	0.10	1.00	16.	0 39	0.05	1.00	17.	0 46	0.10	1.00
CASTRATING	HEAD	7	0 36	0 10	0 50	23.	0 65	0 25	1 25	14	0 71	0.20	1.00	20.	0.78	0.10	1.50
WORMING	HEAD	3	0 37	0 15	0 75	11.	0 46	0.25	1.00	11	0.49	0.10	1.25	9.	0.43	0.10	0.90
BOB TAIL HAULING (ONE WAY)	MILE	6	0 40	0 30	0 50	18.	0 37	0.20	0 75	11.	0 50	0.30	1 00	8.	0 51	0.35	0.75
SEMI HAULING ONE WAY	MILE	6.	0 63	0 45	1 00	17.	0 56	0 25	1.00	9.	0 54	0.40	0 75	10.	0.62	0.40	1.00
DIGGING LINE POST HOLES	HOLE	4.	0 10	0 10	0 10	21	0 11	0 05	0.20	17.	0 13	0.10	0.20	28.	0.15	0.10	0.50
SWATHING SM GRAIN CROPS	ACRE	17.	2 41	1 50	3 50	48.	2 64	2 00	3.50	50.	2 44	1.50	4.00	51.	2.44	1.50	6 00
COMBINING BASE RATE	ACRE	30	3 30	3 00	4 00	61	3 31	3.00	5 00	63	3.21	3 00	4.00	89.	3.66	3.00	6.00
EXTRA CHARGE	BU.	25.	0 05	0 05	0 10	46.	0.05	0 05	0.10	45	0 05	0.05	0 10	76.	0 05	0.05	0.10
FOR YIELD OVER BU PER	ACRE	25	20.60	20.00	30 00	46.	20.43	20 00	30.00	45	20.44	20.00	30.00	76.	20.79	20.00	40.00
HAULING S. G. BASE RATE	BU	27.	0 05	0 01	0.10	57.	0 05	0 05	0.15	59.	0 06	0.05	0.15	77.	0.05	0.05	0.08
EXTRA $ CHARGE FOR HAULING	MILE	19.	0 01	0 00	0 01	43	0.01	0.00	0.01	41.	0 01	0.00	0.01	54.	0.01	0.00	0.03
DISTANCE HAULED OVER	MILE	18.	7.39	5.00	20 00	43.	5.64	2.50	10 00	41.	5 63	3.00	12.00	54.	5.69	1.00	12.00

INFORMATION SHEET

CENTRAL				SOUTH-CENTRAL				NORTHEAST				EAST-CENTRAL				SOUTHEAST			
NO. REPS.	AVE.	LOW	HIGH	NO. REPS.	AVE.	LOW	HIGH	NO. REPS.	AVE.	LOW	HIGH	NO. REPS.	AVE.	LOW	HIGH	NO. REPS.	AVE.	LOW	HIGH
51.	3.82	2.00	6 00	43	4.06	2 50	6.00	35	3.93	2.75	6 50	29.	3.69	2.50	5 00	11.	3.84	1.50	8.00
31.	2.42	1.25	5.00	27	2 49	0 50	5.00	13.	2.50	1 00	4.00	12	2.19	1.25	5.00	7.	2.50	1.50	4.00
7.	2.68	1.25	5.00	13.	2.11	1.00	3.50	1.	2.00	2.00	2.00	6.	1.92	1.50	3.00	5.	2.60	1.50	3.50
8.	2.06	1.00	3.00	11	1 70	0.75	2.50	9.	1.25	1.00	1.75	12.	1.60	1.00	2.50	8.	1.81	1.00	2.00
40.	1.99	1 25	3 50	40	2 18	0.75	6.00	29	1.85	1.00	3.00	27.	2.01	1.00	5.00	12.	2.54	1.50	6.00
22.	1 47	0.50	3 00	27	1.25	0.35	2.50	17	1.16	0.50	2 50	14.	1.20	0.75	3.00	8.	1.63	0.75	4.00
21.	1 63	0.75	3.50	14	1 64	1 00	3.50	17.	1.49	0.75	2.00	6.	1 75	1.00	3.00	3.	1.75	1.00	2.25
22.	2.35	1 25	4.50	20.	2.89	1.50	4.00	9.	2.50	1 00	4.00	7.	2.93	2.00	5.00	5.	2.90	1.75	5.00
17.	4.16	2.00	7.00	15.	4.13	2.00	10.00	5	4 20	1.25	7.00	6.	4.50	3 00	7.00	3.	5.67	4.00	7.00
2.	1.50	1.00	2.00	2.	1.75	1.50	2.00					1.	2.00	2.00	2.00				
6.	1 75	1 00	3.00	5.	1 70	1.00	2.00	3.	1.33	1.00	1.75	6.	1.58	0.75	2.50	2.	1.00	1.00	1.00
11.	2 00	1.50	2.50	14.	1.76	1.00	2.50	12.	1.65	1.00	2.00	9.	1.53	1.25	2.00	6.	2.21	1.50	3.25
5.	1 35	0 75	2.50	5.	1 55	1.00	2 00	3.	1.42	1.00	1.75	4.	1.88	1.50	2.50	2.	2.75	1.50	4.00
7.	2.00	1.50	4.00	4.	1.94	1.75	2.00					4.	1.63	1.50	2.00	2.	2.25	1.50	3.00
8.	3.13	1.50	5 00	6.	2 33	1.00	4 00	4	2.13	1.00	4.00	12.	1.94	1.00	3.00	6.	3.00	1.00	4.50
23.	2.08	1.00	3.00	26.	1 97	1.00	3.00	20	1.97	1.25	3.50	16.	2 08	1.25	4.00	6.	2.63	2.00	3.50
26.	1.66	1 00	2 50	25	1.69	1 00	2.50	18.	1.61	1 00	3.00	14	1 64	1 00	3.00	6.	1.79	1.50	2.50
20.	2.12	1 25	3.00	22	2.16	1.00	5.00	14	2.12	1.45	3.50	15	2.28	1.25	4.50	6.	2.63	2.00	3.50
22.	1 64	1 00	2.50	23	1 70	1.00	2 50	13	1.72	1.00	3.00	11	1 73	1.00	4.00	7.	1.86	1.50	2.50
8.	2 00	1.50	2 50	14	2 15	1 50	4 00	11.	2.20	1 25	3.50	7	2.50	1.50	5 00	2.	2.50	2.00	3.00
14.	1 88	1.25	2 50	13	1 96	1.25	4.00	11	1.84	1 00	3.50	7.	2.21	1 00	3 50	5.	1.90	1.50	3.00
				6	34 50	30.00	40 00					3	39.33	38.00	40.00				
				5	2 15	2.00	2.75					3.	3.33	3.00	4.00	2.	2.00	2.00	2.00
				4	1.81	1.25	2 50					3.	2.83	2.00	4.00	2.	2.00	2.00	2.00
				3.	2 42	2.00	2 75					4	1 88	1.50	2.00	2.	1.75	1.50	2.00
1.	2 00	2 00	2.00	2	2 25	2.00	2.50					3.	1.83	1 50	2.00	2.	1.50	1.00	2.00
				5.	34.60	30.00	40.00	3.	36.00	36.00	36 00	4.	36.00	32 00	38.00				
				5	2.10	2.00	2.50	2.	2.00	2.00	2.00	4.	2.88	2.00	4.00	2.	2.00	2.00	2.00
				4.	2.00	1 50	2 50	2.	1.50	1.50	1.50	3.	2.83	2.00	4.00	2.	2.00	2.00	2.00
1.	1.50	1.50	1.50	2.	2.38	2 00	2.75	5.	2.30	1.50	3.00	6.	2.00	1.50	2.50	2.	1.75	1.50	2.00
				3.	2.17	2.00	2.50	4.	1.78	1.00	2.50	4.	2.00	1.50	2.50	2.	1.50	1.00	2.00
2.	34 00	32.00	36.00	7	33.86	30.00	40 00					4	36.50	32.00	40.00				
2.	2 00	2.00	2.00	7	2.25	2.00	3.00					3.	3.67	3.00	5.00	3.	2.33	2.00	3.00
1.	1.50	1.50	1.50	4.	2.13	1.50	2.50					2.	3.00	2.00	4.00	2.	2.00	2.00	2.00
				4.	2.31	2.00	2.75					2.	2.00	2.00	2.00	2.	1.75	1.50	2.00
				3.	2 17	2.00	2.50					2.	1.75	1.50	2.00	2.	1.50	1.00	2.00
4.	35.00	32.00	42.00	12.	34 00	15.00	40.00	3.	36.00	36.00	36.00	10.	37.00	32.00	40.00	4.	36.00	36.00	36.00
2.	2.00	2 00	2.00	10.	2 08	2.00	2.75	4.	2.75	2.00	3.00	9.	2.95	2.00	4.00	5.	2.03	2.00	2.25
1.	1.50	1.50	1 50	6.	1.83	1 30	2.50	3.	1.66	1.50	2.50	7.	2.85	2 00	4.00	4.	2.00	2.00	2.00
1.	1.50	1.50	1 50	7.	2.25	2.00	2.75	6.	2 60	1 75	3.25	13.	1 63	1.25	2.50	4.	1.62	1.50	2.00
				7.	2.07	2.00	2.50	3.	1.83	1.00	2.50	8	2.00	1.50	2.50	4.	1.50	1.00	2.00
15.	0.98	0 50	2.50	21.	1 29	0 50	2.50	13.	1.37	0 50	3.75	16.	1 34	0.50	2.50	10.	1.35	1.00	3.00
6.	1.67	0.50	3.50	9.	1.36	0.50	2 00	6.	2.67	0.75	4.00	5.	1.40	1.00	2 00	5.	1.70	1.00	2.00
10.	1.38	0.50	8.00	4.	0.77	0.35	1.50	6.	1.22	0.60	2.00	4	1 50	1.00	2.00	2.	1.50	1.00	2.00
16.	1.11	0.50	2.25	20.	1.45	0 75	2 50	6.	1.25	0.50	2.00	10.	1.38	1.00	2.00	5.	1.25	0.50	2.00
9.	0.90	0.50	1 12	7	1 38	0 75	2.00	3.	1 33	0.50	2.00	6	1 42	1.00	2.50	3	1.33	0.50	2.00
13.	1.16	0.75	2.00	8.	1.94	1.00	3.00	6.	2.02	1.50	2.50	4.	1.59	1.00	3 00	2.	1.13	1.00	1.25
8.	0.26	0.10	0.50	11.	0.23	0 10	0.50	6.	0 19	0 05	0.35	10.	0 20	0.05	0.38	6.	0.15	0.15	0.15
13.	0.81	0.25	1.50	10.	0.74	0 20	1.00	13.	0.84	0.05	3.00	8.	0 57	0.20	1.00	5.	0.58	0.10	1.00
11.	0.51	0.10	1 50	8.	0.56	0.20	1.00	9.	0.54	0.05	2.00	8.	0.38	0.10	0.75	4.	0.45	0.10	1.00
14.	0.56	0.10	1.50	10.	0.55	0.25	1.25	10.	0.52	0 20	1.00	9.	0 38	0.05	1.00	4.	0.39	0.10	1.00
14.	0.80.	0.25	1.50	11.	0 82	0 25	2 00	11.	0 63	0.20	1.00	6.	0.37	0.15	0.85	4.	0.56	0.15	1.00
7.	0.75	0.20	1.50	5.	0.90	0.50	1.25	6.	0.37	0.15	0.50	8.	0.34	0.20	0.50	5.	0.71	0.10	1.50
17.	0.46	0.30	1.00	19.	0.42	0 25	1.00	17.	0.43	0.10	0.67	11.	0.43	0 20	0.70	6.	0.36	0.25	0.60
13.	0.64	0.35	1.00	15.	0.47	0 30	1.00	11.	0.61	0.40	1.00	7.	0.56	0.35	0.75	3.	0.67	0.55	0.85
22.	0.14	0.10	0.35	24.	0.15	0.10	0.40	19.	0.20	0.10	0.35	9.	0.16	0.10	0.25	3.	0.14	0.10	0.20
27.	2.61	1.50	3.50	16.	2.74	1.40	5.00	16.	2.39	1.00	4.00	3.	1.67	1.50	2.00				
53.	4.11	3.00	5.00	33.	4.20	2.00	7.50	34.	4.55	3.50	7.50	23.	5.02	3.00	6.00	4.	4.75	3.00	6.00
21.	0.05	0.00	0.10	9.	0.06	0.01	0.10	5.	0.07	0 05	0.10	1.	0.10	0.10	0.10				
21.	22.14	20.00	32.00	8.	21.25	20.00	30.00	5.	21.00	20.00	25.00	1.	30.00	30.00	30.00				
41.	0.07	0.05	0.10	23.	0.08	0.05	0.12	24.	0.08	0.05	0.15	10.	0.08	0.05	0.12	2.	0.07	0.05	0.10
23.	0.01	0.00	0.07	10.	0.03	0.00	0.20	10.	0.01	0.00	0.01	2.	0.01	0.00	0.01				
23.	5.22	2.00	10.00	9.	6.11	5.00	10.00	9.	5.67	5.00	10.00	2.	8.00	6.00	10.00				

INFORMATION SHEET

Example: The average custom rate for moldboard plowing in panhandle is $3.21 per acre.

VIII. Determining which is cheapest--ownership or custom operator

Example: You have 125 acres of alfalfa hay which you will be cutting four times annually. You have been paying $3.00 per acre to have a custom operator swath your hay. You can purchase a new fourteen foot self-propelled swather for $5,850. The list price is $6,500. Gasoline costs 20¢ per gallon and you pay $2.00 per hour for labor. You estimate that you can swath five acres per hour. If you purchase the swather you would keep it eight years. Is it cheaper to own the swather or hire the custom operator?

Step A Determine acres of annual use

1. 4 cuttings x 125 acres = 500 acres annual use

2. $\frac{\text{500 acres annual use}}{\text{5 acres per hour}}$ = 100 hours annual use

Step B Calculate ownership

1. Initial list price x factor (Refer to table in III of information sheet.) = annual ownership cost

2. $4,500 x 12.3% = $799.50 annual ownership cost

3. $\frac{\text{\$799.50 annual ownership cost}}{\text{500 acres of annual use}}$ = $1.60 ownership cost/acre

Step C Calculate fuel cost per acre

1. $\frac{\text{Initial list price}}{1{,}000}$ X fuel price X fuel factor = fuel cost per hour

(NOTE: Refer to table in IV of information sheet.)

2. $\frac{6500}{1000}$ X $.20 X .79 = $1.03 = fuel cost per hour

3. $\frac{\text{\$1.03 fuel cost per hour}}{\text{5 acres per hour}}$ = $.21 = Fuel cost per acre

INFORMATION SHEET

Step D Calculate repair cost

1. $\frac{\text{Initial list price}}{\$1000} \times \begin{matrix}\text{accumulated repair}\\ \text{cost per \$1000}\\ \text{of initial list price}\end{matrix} = \begin{matrix}\text{Total accumulated}\\ \text{repair cost}\end{matrix}$

   (NOTE: Refer to swather table in V-B-2 of information sheet.)

2. $6500 \times \$565 = 3,672.50 = \begin{matrix}\text{Total accumulated}\\ \text{repair cost}\end{matrix}$

3. $\frac{\$3,672.50}{8 \text{ years}} = 459.06$ annual repair cost

4. $\frac{459.06 \text{ annual repair cost}}{500 \text{ acres annually}} = \begin{matrix}\$.92 \text{ per acre}\\ \text{repair costs}\end{matrix}$

Step E Calculate labor cost per acre

1. $\frac{\text{Labor cost per hour}}{\text{Acres per hour}} = \text{labor cost per acre}$

2. $\frac{\$2.00}{5} = \$.40$ labor cost/acre

Step F Calculate variable cost per acre

1. Fuel $ .21
2. Repairs $ .92
3. Labor $ .40

   $1.53 variable cost per acre

Step G Calculate total cost per acre

1. Ownership cost $1.40
2. Variable cost $1.53

   $2.93 total cost per acre

Step H Determine which is cheapest

1. Custom cost per acre as given in example = $3.00
2. Ownership cost per acre as determined = $2.93
3. Operator would save 7¢ per acre by owning the swather

INFORMATION SHEET

IX. Calculating break-even acreage

$$\frac{\text{Annual ownership cost}}{\text{Custom rate-variable cost}} = \text{Acres needed to break even}$$

Example: $\frac{\$459 \text{ annual ownership cost}}{\$3.00 \text{ custom rate}-\$1.53 \text{ variable cost}} = \frac{\$459}{\$1.47} =$ 312.24 acres needed to break even

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MACHINERY AND EQUIPMENT MANAGEMENT--CUSTOM SERVICE VERSUS OWNERSHIP
UNIT VII

ASSIGNMENT SHEET #1--DETERMINE CUSTOM WORK RATES

Using the table found in VII of information sheet, determine the following custom rates.

1. The average custom rate per acre for moldboarding in southwest Oklahoma.

2. The average custom rate per acre for application of dry fertilizer in central Oklahoma.

3. The average combining base rate for northeast Oklahoma.

4. The average custom charge for spike tooth harrowing in southeast Oklahoma.

5. The average custom charge for semi-hauling one way in the panhandle of Oklahoma.

6. The average custom rate for planting cotton in west central Oklahoma on 39 inch rows without any type of band application and without fertilizer.

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MACHINERY AND EQUIPMENT MANAGEMENT-CUSTOM SERVICE VERSUS OWNERSHIP
UNIT VII

ASSIGNMENT SHEET #2--DETERMINE COST OF CUSTOM HIRING VERSUS OWNERSHIP

1. Determine if it is cheaper to own a machine or hire a custom operator for the following problem.

   You have 200 acres of alfalfa which you will be cutting 4 times annually. You have been paying $3.10 per acre to have a custom operator swath your hay. You can purchase a new 14 foot self-propelled swather for 5,700. The list price is $6,300. Gasoline cost 20¢ per gallon and you pay $2.00 per hour for labor. You estimate that you can swath 4 acres per hour. If you purchase the swather you would keep it 6 years.

   (NOTE: Use the same steps as given in VIII of information sheet.)

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ASSIGNMENT SHEET #2

2. Determine the number of acres needed to break even with the present custom rate using the situation stated in question 1 of this assignment sheet.

(NOTE: $\frac{\text{Ownership cost}}{\text{Custom rate-variable cost}}$ = Acres to equal custom rate

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MACHINERY AND EQUIPMENT MANAGEMENT--CUSTOM SERVICE VERSUS OWNERSHIP
UNIT VII

ASSIGNMENT SHEET #3--DETERMINE BREAK-EVEN POINTS

1. Determine the number of acres needed to break even with the present custom rate using the following example.

The custom rate for combining wheat is $4.00 per acre. You are considering buying a new combine for $9,900.00 that that has an initial list price of $11,000.00. This machine will harvest four acres per hour. Gasoline costs 20¢ per gallon and you pay $2.00 per hour for labor. You plan to keep the combine 10 years and use the machine 125 hours per year.

Step A Calculate total ownership cost using table found in III of information sheet. Initial list price x (Table %) = Annual ownership cost

Step B Calculate fuel cost per acre. Refer to fuel factor table on IV of information sheet.

$$\frac{\text{Initial list price}}{1{,}000} \times \text{fuel price} \times \text{fuel factor} = \text{fuel cost per hour}$$

$$\frac{\text{Fuel cost/hour}}{\text{acres per hour}} = \text{fuel cost per acre}$$

Step C Calculate repair cost. Refer to table found in V of information sheet.

$$\frac{\text{Initial list price}}{1000} \times \text{accumulated repair cost per \$1000 of initial list price} = \text{Total accumulated repair cost}$$

$$\frac{\text{Total accumulated repair cost}}{\text{Number of years}} = \text{annual repair cost}$$

$$\frac{\text{Annual repair cost}}{\text{Hours used annually}} = \text{Repairs per hour}$$

$$\frac{\text{Repairs per hour}}{\text{Acres per hour}} = \text{Repairs per acre}$$

Step D Calculate labor cost per acre

$$\frac{\text{Cost per hour}}{\text{acres per hour}} = \text{Labor Cost per acre}$$

Step E Calculate variable cost per acre (Add fuel, repairs, and labor cost per acre.)

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ASSIGNMENT SHEET #3

Step F Calculate break-even acreage.

(NOTE: $\frac{\text{Ownership cost}}{\text{Custom rate--Variable cost}}$ = Acres to equal custom rate)

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MACHINERY AND EQUIPMENT MANAGEMENT--CUSTOM SERVICE VERSUS OWNERSHIP
UNIT VII

ANSWERS TO ASSIGNMENT SHEETS

Assignment Sheet #1

1. $3.45 per acre
2. $.98 per acre
3. $4.55 per acre
4. $1.63 per acre
5. $.63 per mile
6. $1.50 per acre

Assignment Sheet #2

1. a. 4 cutting x 200 acres = 800 acres annual use

$$\frac{\text{800 acres annual use}}{4} = \text{200 hours annual use}$$

b. 6300 x 10.8% = $680.40 annual ownership cost

$$\frac{680.40}{800} = .85 \text{ ownership cost per acre}$$

c. $\frac{6300}{1000} \times .20 \times .79 = \$1.00$ fuel cost per hour

$$\frac{\$1.00}{\text{4 acres per hour}} = \$.25 \text{ fuel cost per acre}$$

d. $\frac{6300}{1000} \times \$905 = \$5701.50$ accumulated repair cost

$$\frac{5701.50}{\text{4 years}} = \$1425.37 \text{ annual repair cost}$$

$$\frac{1425.37}{\text{800 acres annually}} = \$1.78 \text{ per acre repair cost}$$

e $\frac{\$2.00}{4 \text{ acres per hour}}$ = $.50 labor cost per acre

f. Variable cost per acre:
Fuel (.25) repairs ($1.78) labor (.50) = $2.53

g. Ownership cost = $.85 per acre

Variable cost = $\frac{2.53}{3.38}$ per acre

ANSWER: It would cost $.38 per acre to own the machine rather than hire custom operator

2. $\frac{\text{Ownership cost - } 680.40}{\text{Custom rate - } \$3.00 \text{ minus variable cost - } \$2.53} = \frac{680.40}{.47} = 14447.6 \text{ acres}$

4 cuttings per year 1447.6 ÷ 4 = 361.9 acres of alfalfa needed to break even with custom rate

Assignment Sheet #3

1. a. $11,000 x 10.7% = $1,177 annual ownership cost

b. $\frac{\$11,000}{1,000}$ x $.20 x .79 = $1.74 fuel cost per hour

c. $\frac{\$11,000}{1,000}$ x $171 = $1,881 total accumulated repair cost

$\frac{1,881 \text{ total accumulated repair cost}}{10 \text{ years}}$ = $188.10 annual repair cost

$\frac{\$188.10 \text{ annual repair cost}}{125 \text{ hours annually}}$ = $1.50 repairs per hour

$\frac{\$1.50 \text{ repairs per hour}}{4 \text{ acres per hour}}$ = $.37 repairs per acre

d. $\frac{\$2.00 \text{ per hour}}{4 \text{ acres per hour}}$ = $.50 per acre

e. Variable cost--Fuel (.43), repairs (.37), labor (.50) equals $1.30 variable cost per acre

f. $\frac{\text{Ownership cost}}{\text{Custom rate-variable to equal custom rate}} = \frac{\$1,177}{\$4.00 - \$1.30} = \frac{\$1,177}{\$2.70} = 436 \text{ acres}$

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MACHINERY AND EQUIPMENT MANAGEMENT--CUSTOM SERVICE VERSUS OWNERSHIP
UNIT VII

TEST

1. Match the terms on the right ot the proper definition.

_____a. Operating costs which include repair bills, maintenance, gas, oil and/or lubrication, and general upkeep

_____b. Includes depreciation, taxes, insurance, and interest on investments

1. Fixed costs
2. Variable costs

2. Select from the list below the advantages and disadvantages of custom service. Place an "X" by correct answers.

Advantages:

_____a. Ownership costs are eliminated

_____b. It is nearly always cheaper to hire custom operators than to own machinery

_____c. There may be benefits from newer machinery, a skilled operator, and less time required

Disadvantages:

_____d. Service may not be available when the job is ready

_____e. Capital can be invested in other enterprises

3. If the annual fixed cost was 19.8% of the initial list price, what would the annual ownership cost for a $9,000 combine be?

4. Apply the following information in determining fuel cost per acre.

$\frac{\text{Fuel cost per hour} = \$1.10}{\text{Acres per hour} = 5}$ = _____ fuel cost per acre

5. Apply the following information in determining per acre repair cost.

$\frac{\$1500 \text{ annual repair cost}}{800 \text{ acres}}$ = _____ per acre repair cost

6. Apply the following information in determining the labor cost per acre.

$\frac{\$1.75 \text{ labor cost per hour}}{5 \text{ acres per hour}} = \underline{\qquad\qquad}$ labor cost per acre

7. Determine custom rates when given a chart.

8. Determine if it is cheaper to own a machine or hire the custom operator.

9. Determine the number of acres a machine must be used to break even with the custom rate.

(NOTE: If this has not been accomplished prior to the test, ask the instructor when the above activities (7, 8, and 9) should be completed.)

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MACHINERY AND EQUIPMENT MANAGEMENT--CUSTOM SERVICE VERSUS OWNERSHIP
UNIT VII

ANSWERS TO TEST

1. a. 2

   b. 1

2. a

   c

   d

3. 9000 x 19.8% = $1782.00

4. $\frac{1.10}{5}$ = $.22

5. $\frac{1500}{800}$ = $1.87

6. $\frac{1.75}{5}$ = $.35

7. Evaluated to the satisfaction of the instructor.

8. Evaluated to the satisfaction of the instructor.

9. Evaluated to the satisfaction of the instructor.

ANALYSIS AND EVALUATION OF SUPERVISED FARM TRAINING PROGRAM
UNIT I

TERMINAL OBJECTIVE

After completion of Unit I, the student should be able to name reasons for using enterprise analysis. He should be able to calculate unit cost analysis and evaluate each enterprise he owns. He should be able to identify strong and weak points of each enterprise and compare them to his fellow classmates'. This knowledge will be evidenced through demonstration and by scoring eighty-five percent on the post test.

SPECIFIC OBJECTIVES

After completion of five hours of instruction, the student should be able to:

1. Name four reasons for using enterprise analysis.
2. Calculate unit cost analysis for each enterprise owned.
3. Identify strong and weak points of each enterprise and compare to fellow classmates!
4. Demonstrate the ability to analyze each enterprise owned by completing the assignment sheets.

ANALYSIS AND EVALUATION OF SUPERVISED FARM TRAINING PROGRAM UNIT I

SUGGESTED ACTIVITIES

I. Instructor:

A. Provide students with objective sheet.

B. Provide students with information and assignment sheets.

C. Discuss terminal and specific objectives.

D. Discuss information and assignment sheets.

E. Give test.

II. Students:

A. Read objectives.

B. Study information sheets.

C. Complete each assignment sheet that pertains to your enterprise.

D. Take test.

INSTRUCTIONAL MATERIALS

I. Included in this unit:

A. Objectives

B. Information sheets

C. Assignment sheets

1. Assignment Sheet #1--Breeding Enterprise Analysis
2. Assignment Sheet #2--Feeding Enterprise Analysis
3. Assignment Sheet #3--Crop Enterprise Analysis
4. Assignment Sheet #4--Dairy Enterprise Analysis

D. Test

E. Answers to test

II. References:

A. Future Farmers of America, Supervised Training Record Book. Vocational Agriculture, State Department of Vocational and Technical Education, Stillwater, Oklahoma.

B. Texas Agricultural Education Instructional Materials. Texas Agricultural Education Teaching Materials Center, College Station, Texas.

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ANALYSIS AND EVALUATION OF SUPERVISED FARM TRAINING PROGRAM
UNIT I

INFORMATION SHEET

I. Reasons for using enterprise analysis

A. Aids in planning future farm and ranch operations

B. Allows comparison of one enterprise to another

C. Identifies management decisions

D. Evaluates efficiency as manager

II. Unit cost analysis

A. Breeding enterprise

1. Number of breeding animals

2. Percent of calf crop

3. Percent of lamb crop

4. Number of pigs weaned per litter

5. Weight of calves at weaning

6. Weight of pigs at 35 days

B. Feeding enterprise

1. Number of animals on feed

2. Starting weight of animals

3. Final weight of animals

4. Number of days on feed

5. Total gain in pounds

a. Subtract starting weight from final weight

b. Example

Final weight of barrow	215 pounds
Starting weight of barrow	40 pounds
Total gain in pounds	175

INFORMATION SHEET

6. Pounds gained per day

   a. Divide gain per animal in pounds by number of days on feed

   b. Example

      Total gain of barrow 175 pounds
      Number of days on feed 90 days
      175 ÷ 90 = 1.94 pounds gained per day

7. Pounds of feed fed

8. Pounds of feed required per pound of gain

C. Crop enterprise

1. Number of acres in enterprise

2. Amount of seed used per acre

3. Fertilizer used

   a. Kind

   b. Pounds per acre

   c. Cost per acre

4. Yield per acre

   a. Total production divided by number of acres

   b. Example

      Produced 16,000 bushels
      Number of acres 400
      16,000 bushels ÷ 400 acres = 40 bu. per acre

5. Cost per bushel, pounds, tons

   a. Total expenses divided by total production

   b. Example

      Produced 16,000 bushels
      Total expense
      16,000 bushels = total expense

INFORMATION SHEET

D. Dairy enterprise

1. Number of cows in production
2. Average production per cow
3. Average butterfat production per cow
4. Average butterfat percent for herd
5. Feed cost per pound of butterfat produced

III. Strong and weak points

A. Strong

1. Breeding
   a. 90% calf crop
   b. 125% lamb crop
   c. 8.5 pigs weaned per litter
   d. Weighing
   e. Facilities
2. Feeding
   a. Efficiency
   b. Weighing
   c. Parasite and disease control
   d. Facilities
   e. Water supply
3. Crops
   a. Quality
   b. Fertilizer
   c. Weed control
   d. Yield
   e. Seedbed preparation

INFORMATION SHEET

4. Dairy

a. Testing and records

b. Water supply

c. Sanitation

d. Yield

e. Parasite and disease control

B. Weak

1. Breeding

a. Less than 90% calf crop

b. Less than 125% lamb crop

c. Weaning less than eight pigs per litter

d. Poor facilities

2. Feeding

a. Poor feed conversion

b. Poor feeding facilities

c. Failure to provide adequate water supply

d. Failure to feed a balanced ration

e. Poor parasite and disease control

3. Crop

a. Failure to plant high quality seed

b. Failure to fertilize

c. Poor weed control management

d. Yield too low

e. Poor seedbed preparation

INFORMATION SHEET

4. Dairy

   a. Poor records

   b. Failure to test production

   c. Poor sanitation

   d. Poor parasite and disease control

(NOTE: The teacher may wish to give the students the standards of the local community or the county. We suggest that students with the same enterprise compare and evaluate each other's records.)

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ANALYSIS AND EVALUATION OF SUPERVISED FARM TRAINING PROGRAM UNIT I

ASSIGNMENT SHEET #1--BREEDING ENTERPRISE ANALYSIS

Circle Enterprise
Beef, Sheep, Swine

School Year _____

Breed _____

Date Started _____

Date Closed _____

		State Standards	Local Standards	Goals
Number of breeding animals				
Percent of calf crop		80%		
Percent of lamb crop		110%		
Number of pigs weaned per litter		7.2		
Weight of calves at weaning		440 Steers 410 Heifers		
Weight of pigs at 35 days		20 pounds		
Cost per pound of gain				

Strong Points

1.

2.

3.

Weak Points

1.

2.

3.

Suggestions for Improving Weak Points

1.

2.

3.

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ANALYSIS AND EVALUATION OF SUPERVISED FARM TRAINING PROGRAM
UNIT I

ASSIGNMENT SHEET #2--FEEDING ENTERPRISE ANALYSIS

Circle Enterprise
Beef, Sheep, Swine

School Year _____

Breed _____

Date Started _____ Date Closed _____

		State Standards	Local Standards	Goals	
Number of animals on feed					
Starting weight of animals					
Final weight of animals					
Number of days on feed		150 days			(Swine)
		75 days			(Sheep)
		155 days			(Beef)
Total gain in pounds					
Total gain per day		1.4 pounds			(Swine)
		.5 pounds			(Sheep)
		2.5 pounds			(Beef)
Pounds of feed fed					
Pounds of feed required per pound of gain		3.2 pounds			(Swine)
		8.0 pounds			(Sheep)
		8.0 pounds			(Beef)
Cost per unit					

Strong Points

1.

2.

3.

Weak Points

1.

2.

3.

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ASSIGNMENT SHEET #2

Suggestions for Improving Weak Points

1.

2.

3.

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ANALYSIS AND EVALUATION OF SUPERVISED FARM TRAINING PROGRAM UNIT I

ASSIGNMENT SHEET #3--CROP ENTERPRISE ANALYSIS

Type of Crop _____ Current School Year _____

Date Started _____ Date Closed _____

		Local Standards	Goals
Number of acres in enterprise			
Amount of seed used per acre			
Cost of seed per acre			
Fertilizer used			
Kind:			
Pounds per acre:			
Cost per acre:			
Chemicals used			
Kind:			
Pounds per acre:			
Cost per acre:			
Tillage cost per acre			
Other costs			
Yield per acre			
Cost per bushel, pounds, tons			

Strong Points

1.

2.

3.

Weak Points

1.

2.

3.

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ASSIGNMENT SHEET #3

Suggestions for Improving Weak Points

1.

2.

3.

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ANALYSIS AND EVALUATION OF SUPERVISED FARM TRAINING PROGRAM UNIT I

ASSIGNMENT SHEET #4--DAIRY ENTERPRISE ANALYSIS

Breed _____ Current School Year _____

Date Started _____ Date Closed _____

		State Standards	Local Standards	Goals
Number of cows in production	_____	_____	_____	_____
Average production per cow	_____	12,100 lbs.	_____	_____
Average butterfat production per cow	_____	436 lbs.	_____	_____
Average butterfat percent for herd	_____	3.6%	_____	_____
Feed cost per pound of butterfat produced	_____	.65 lbs.	_____	_____

Strong Points	Weak Points
1.	1.
2.	2.
3.	3.

Suggestions for Improving Weak Points

1.

2.

3.

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ANALYSIS AND EVALUATION OF SUPERVISED FARM TRAINING PROGRAM UNIT I

TEST

1. Name four reasons for using enterprise analysis.

   a.

   b.

   c.

   d.

2. Calculate the following problems:

   a. John Doe, a freshman, owns a Hereford steer. He purchased the steer September 1, and the steer weighed 600 pounds. He fed the steer for 140 days and the final weight was 1,050 pounds. What was the total weight gain and average gain per day?

      1) Total weight gain _____

      2) Average daily gain _____

   b. Jim Smith planted 20 acres of wheat which yielded a total production of 1000 bushels. What was his yield per acre?

   c. Bill White is milking 20 Holstein cows with a total production of 266,800 pounds. What is the average production per cow and average butterfat per cow using 3.6% butterfat?

      1) Average production per cow _____

      2) Average butterfat per cow _____

3. Identify strong and weak points of each enterprise and compare to fellow classmates!

4. Demonstrate the ability to analyze each enterprise owned by completing the assignment sheets.

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ANALYSIS AND EVALUATION OF SUPERVISED FARM TRAINING PROGRAM UNIT I

ANSWERS TO TEST

1. a. Aids in planning future farm and ranch operations
   b. Allows comparison of one enterprise to another
   c. Identifies management decisions
   d. Evaluates efficiency as manager

2. a. 1) 450 pounds
      2) 3.2 pounds
   b. 25 bushels
   c. 1) 13,340 pounds
      2) 480 pounds

3. and 4. Performance skills will be evaluated by the instructor.

DEVELOPING THE FFA PROGRAM OF ACTIVITIES
UNIT I

TERMINAL OBJECTIVE

After completion of this unit, the student should be able to define terms associated with a program of activities, select the major divisions of the FFA program, and match the chapter activities with the proper division. He should be able to list the parts that are included in a program of activities form and select factors that contribute to a satisfactory program of activities. This knowledge will be evidenced by scoring eighty-five percent on a unit test.

SPECIFIC OBJECTIVE

After completion of this unit, the student should be able to:

1. Define terms associated with the FFA program of activities.
2. Select from a list the benefits of having a well planned program of activities.
3. Select from a list the major divisions of the FFA program of activities.
4. List the parts that a program of activities form should contain.
5. Select the factors that contribute to a satisfactory program of activities.
6. Select from a list the steps to follow in constructing and conducting a program of activities.
7. Match the chapter activity with the proper divisions within the program of activities.
8. Develop a FFA program of activities.

DEVELOPING THE FFA PROGRAM OF ACTIVITIES
UNIT I

SUGGESTED ACTIVITIES

I. Instructor:

A. Provide students with objective sheet.

B. Provide students with information and assignment sheets.

C. Discuss terminal and specific objectives.

D. Discuss information and assignment sheets.

E. Give test.

II. Students:

A. Read objectives.

B. Study information sheet.

C. Complete assignment sheet.

D. Take test.

INSTRUCTIONAL MATERIALS

I. Included in this unit:

A. Objectives

B. Information sheet

C. Assignment Sheet #1--Develop the FFA Program of Activities

D. Test

E. Answers to test

II. References:

A. *Official FFA Manual for the National Organization for Students of Vocational Agriculture.* Alexandria, Virginia, 1972.

B. *The New FFA, Chapter Champions.* (Ideas for chapter action), Washington, D.C. (20202): U.S. Office of Education, Department of Health, Education, and Welfare.

C. National FFA Organization. *Chapter Guide to FFA Activities 1972-73.* Washington, D.C. (20202): Department of Health, Education and Welfare.

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DEVELOPING THE FFA PROGRAM OF ACTIVITIES
UNIT I

INFORMATION SHEET

I. Terms and definitions

A. Program of activities--Outline of activities covering a definite period which includes specific goals, ways and means of reaching these goals, and provisions for checking on the accomplishments

B. Executive committee--Committee made up of chapter officers and the chairman of each committee

(NOTE: In smaller chapters the officers usually make up the executive committee.)

C. Sub-committee--Members other than the chairman that make up a committee within the program of activities

(NOTE: Sub-committee members should be chosen according to their interests.)

II. Benefits of a well planned program of activities

A. Include goals that serve as a means of directing the chapter activities in a positive manner

B. Provide school administration and community with a better understanding of the local chapter

C. Provide opportunity for members to use and develop skills taught in vocational agriculture

D. Point out the vital part FFA has in a vocational agriculture department

E. Necessary for proper chapter recognition on the local, state, and national level

F. Represent the combined thinking of a majority of the members and involves every member

III. Major divisions of the FFA program of activities

A. Supervised agricultural occupations experience

B. Cooperation

C. Community service

D. Leadership

E. Earnings, savings, and investments

INFORMATION SHEET

F. Conduct of meetings

G. Scholarship

H. Recreation

I. Public relations

J. Participation in state and national activities

IV. Parts of a program of activities form

A. Division of the program of activities

B. Activities to be participated in under the division

C. Names of the committee members who will be responsible for each activity

D. Goals to be accomplished under each activity

E. Ways and means of reaching each goal

F. Accomplishment information upon the completion of each goal

V. Factors that contribute to a satisfactory program of activities

A. Sufficient time given to evaluate, plan, and organize chapter activities

B. Final program of activities are planned early in school year

C. Resource personnel used in program planning and evaluation

D. Challenging and practical goals selected and based upon interest and needs of the members, school, and community

E. A well developed, realistic, and workable ways and means

F. Committee organization and membership cooperation

G. Adequate financing provided for all activities

H. All members realize it is their program and are involved

I. Review of the calendar of activities with the school administrator

J. Program of activities displayed on a wall chart or each member has a copy

INFORMATION SHEET

VI. Steps in constructing and conducting a program of activities

A. Have continuous and periodic evaluation of the chapter activities

B. Have executive committee, under the guidance of the advisor, appoint the program of activities committees

C. Choose subcommittee members according to their interests insofar as possible

D. Encourage vice-president to meet with each committee to assist them in formulating their phase of the program of activities

E. From copies of the programs of activities of the state association and the national organization, select and list items to be included in the chapter program

F. Secure copies of other chapter programs and get ideas on other suitable program ideas

G. Have the committees on program of activities report back regularly to the chapter

H. Instruct the vice-president to keep informed on committee progress and to make regular reports to both the president and advisor

I. Direct the reporter to record the chapter accomplishments on the program of activities wall chart or on a regular activity report form

VII. Chapter activities included in each major division

A. Supervised agricultural occupations experience

1. Chapter sponsors activities that increase the scope of the supervised occupational experience programs of the members

Examples:

a. During the summer before entering the vocational agriculture program, have a meeting with the parents, students, and advisors to discuss a supervised occupational experience program

b. Explain the value of record keeping to parents and students

c. Visit programs of outstanding members and former members such as State Farmers and American Farmers

d. Provide a chapter loan program and invite a loan association representative or other knowledgeable person to discuss loans

INFORMATION SHEET

e. Show films of agricultural subjects; some good sources for agriculture of FFA films are: The Venard Organization, Peoria, Illinois 61611; Modern Talking Pictures Service, 1212 Avenue of the Americas, New York, New York 10035; and Farm Film Foundation, 1425 H Street, N.W., Washington, D.C. 20005

f. Conduct tours of leading commercial operations that relate to the agricultural industry

g. Maintain a chapter bulletin board with a list of available jobs as determined by surveys and newspaper help wanted ads

h. Contact local employment agencies and other agricultural agencies to locate work experiences for the members

i. Arrange for urban students to have a place for projects such as school farm, greenhouse, or others

j. Establish a rental system whereby students rent production space (4 x 12 foot plot for horticulture or one acre plots for school farm); set a yearly or monthly rental fee to give students experience in rental and bookkeeping; student is responsible for everything in his plot

k. Establish supplementary programs such as beekeeping, fish farming, rabbits, and others

2. Conducts activities which improve the quality of the supervised occupational experience programs of its members

Examples:

a. Establish livestock chains

b. Provide the opportunity for junior membership in breed associations

c. Provide information concerning the use of artificial insemination

d. Participate in shows, fairs, and livestock contests

e. Establish a rent-lease agreement for agricultural equipment

f. Conduct demonstration plot and animal experiments

INFORMATION SHEET

3. Members conduct activities that promote plant and/or animal loss prevention

Examples:

a. Show a film on the use of proper sanitation practices--Some good sources are United States Steel; your State Health Department; and Breed Associations

b. Sponsor pesticide safety program--Some sources for materials are all major agricultural chemical companies, U.S. Food and Drug Administration, and U.S. Department of Agriculture

(NOTE: See FFA Safety Handbook for other sources and mailing addresses.)

c. Have veterinarian explain disease prevention and parasite control of livestock

d. Have Soil Conservation representative explain the proper use of chemicals on crops

e. Conduct gain and weight contests

f. Assist other agricultural agencies with animal health programs

g. Provide recommendations in harvesting, grading, storage, and marketing of crops

h. Conduct fertilizer and cultural demonstrations

4. Chapter conducts activities to improve agricultural mechanics occupational experiences of members

Examples:

a. Conduct tractor driving and maintenance contests

b. Sponsor mechancial skills contests

c. Make shop facilities available to members on a regularly scheduled basis

d. Attend agricultural machinery demonstrations

e. Arrange for students to receive work experience in agricultural mechanics by setting up working arrangements with local implement dealers

f. Arrange for local implement dealers to provide knocked down equipment to be assembled by agricultural mechanics class

INFORMATION SHEET

5. Chapter recognizes outstanding supervised agricultural occupations experience programs

Examples:

a. Establish "Grain Club"; trophies are presented to the top two producers in the club

b. Provide shop project awards

c. Participate in Soil Conservation Essay Contest

d. Post progress charts on project supervision

e. Post pictures of outstanding project enterprises

f. Provide proficiency awards from national organization

B. Cooperation

1. Chapter sponsors cooperative purchasing and/or sales activities

Examples:

a. Combine member crop and livestock purchases to obtain financial savings through bulk rate prices

b. Patronize and increase member involvement in local cooperatives

c. Establish a record keeping cooperative and/or assist members in joining record keeping cooperative

d. Establish and maintain a "Chapter Exchange" bulletin board with a current listing of items for sale or wanted

e. Establish a community cooperative by selling supplies to local farmers at wholesale price

f. Establish and operate a Junior Production Credit Association

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INFORMATION SHEET

2. Chapter provides agricultural services for members

Examples:

a. Establish a cooperative; draw up a constitution and by-laws, have participating chapter members serve as the board of directors, hire a member as the manager, sell shares on the basis of hours worked, declare dividends, and in general operate as a cooperative business; chapters have established cooperatives in several areas including:

1) Chapter farm
2) Livestock
3) Crop
4) Horticulture
5) Beekeeping
6) Orchard spraying
7) Irrigation
8) Machinery

b. Establish a livestock breeding service cooperative

c. Establish livestock chain

d. Purchase and loan equipment needed by members

e. Join the state cattleman's association

f. Provide student assistants for USDA officials working with the screw-worm eradication program

3. Chapter conducts a demonstration in the community to promote good agricultural practices

Examples:

a. Assist with community tree planting efforts in areas needing reforestation

b. Provide student assistants to wildlife personnel for wildlife release or habitat improvement programs

INFORMATION SHEET

c. Sponsor a chapter safety hazard search campaign

d. Provide a community soil testing service to area farmers

e. Establish a community veterinary medicine bank of equipment and materials

f. Establish a community tractor painting service for area farmers

g. Serve as guides and teachers for elementary school ecology and conservation tours and instruction

4. Chapter cooperates with other school organizations

Examples:

a. Establish an all-school summer job placement service

b. Prepare and distribute to area farmers and businessmen a list of students available for employment

c. Sponsor a barbecue for faculty members each fall

d. Serve as waiters for FHA banquet, build hurdles for athletic department, assist with talent show, and other similar activities

e. Assist in keeping school grounds attractive and safe

5. Chapter cooperates with other organizations and agencies in the community

a. Arrange for a chapter or class visit to a local or state cooperative facility

b. Test new crop practices on demonstration plots in cooperation with farm supply, extension, and university specialists

c. Sponsor a harvest festival, rodeo, tractor pull, or other special event in cooperation with local civic clubs

d. Assist the local soil conservation district in conservation demonstrations with chapter members serving as junior supervisors

e. Participate in crop and/or livestock improvement association activities

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f. Assist the local wildlife conservation officials in sponsoring a hunter safety program

g. Assist the local machinery dealer with machinery assembly and testing

h. Help local Red Cross with activities such as swimming safety, first aid, and blood collection drives

i. Construct and operate a booth at the local festival or fair

j. Assist area officials with senior citizen housing project

k. Operate an official weather station in cooperation with the land grant college or the U.S. Weather Bureau

l. Work with other organizations for Community Clean-Up Day

m. Work closely with the FFA Alumni in providing scholarships, sponsoring fairs or shows, obtaining money for members to attend State and/or National Conventions, and other functions

o. Participate in local, county, and state fairs: chapter and individual exhibits, fairgrounds preparation, and other activities

6. Chapter sponsors at least one activity to promote a better understanding between residents within service area of school

Examples:

a. Establish a Mothers' Booster Club to assist with appropriate chapter activities such as suppers, banquets, and concessions

b. Sponsor an all-school judging contest involving all students and faculty members

c. Prepare pork, chicken, sweet corn, beef, or other agricultural products for special community events

d. Sponsor an annual farmers' institute or similar promotional event as part of the local adult and young farmer educational program

e. Conduct a conservation tour for groups of all ages, and use chapter members as guides

f. Provide effort and funds to complete needed school projects such as concession stand, equipment, or landscaping

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g. Assist school administration with new student and freshmen orientation

h. Provide members for parking cars at all school events

i. Provide for needs of deserving families such as fuel, food, or money

j. Contribute to worthwhile charities

k. Prepare Christmas decorations for the local community

l. Sponsor community field days in cooperation with extension and university officials

m. Maintain a "For Sale" and "Wanted" bulletin board in community

n. Establish demonstration plots in cooperation with seed, chemical, and fertilizer companies

7. Chapter cooperates with other FFA chapters in conducting at least one activity

Examples:

a. Sponsor a livestock garden or shop project show

b Conduct Greenhand and/or Chapter Farmer initiation with local area chapters

c. Arrange for stopover visits of members enroute to various FFA events

d. Combine actions of area chapters in promoting National FFA Week

e. Exchange chapter members with another chapter

C. Community Service

1. Chapter sponsors or assists with an agricultural show

Examples:

a. Sponsor a school fair, community fair, garden show, or livestock show

b. Assist in sponsoring a community fair, home and garden show, livestock show, or youth fair, by providing publicity, department superintendent, setting up pens, offering facilities, or securing sponsors

c. Help construct and/or repair facilities for local and/or county fair and similar events

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2. Chapter presents educational programs before community and community organizations

Examples:

a. Develop Children's Barnyard or Old MacDonald's Farm at local or county fair

b. Set up displays and have demonstrations at local shopping centers, businesses, civic, agricultural, and/or youth organizations

c. Provide information on jobs and new and improved agricultural practices by means of meetings, leaflets, bulletins, and cooperation with extension service

d. Participate in Farm-City Week activities by providing publicity, welcome farms and displays, farm guides and other services

e. Present speeches, demonstrations, panels, and/or slide series to community organizations explaining:

1) Agriculture in the community

2) The importance of agriculture

3) The activities of your FFA chapter

4) The activities of outstanding chapter members

3. Chapter assists charitable organizations and campaigns

Examples:

a. Conduct charity drives and donate money to: e.g. Heart Fund, Cancer, Christian Rural Overseas Program, March of Dimes, United Givers Fund, Red Cross, and others

b. Help needy families, disabled citizens, and/or senior citizens by performing chores, and supplying financial assistance

c. Help crippled children and/or retarded children by donating toys, tape recorders, or other needed equipment; or by helping with recreation and other activities

d. Donate FFA pens and pencils and other materials to hospital for use by shut-ins

e. Sing Christmas carols at county home and/or nursing home

f. Decorate nursing home or county home during Halloween and other special celebrations during the year

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g. Organize community service projects in cooperation with local churches

h. Sell seeds, plants, etc., and donate the proceeds to crippled children

i. Raise plants in school greenhouse and give to hospital patients and shut-ins in the community

4. Chapter conducts a community safety program

Example:

a. Conduct a community safety program on agricultural machinery, electrical wiring, chemicals, and other potential community hazards

b. Conduct a school for the safe operation and maintenance of tractors and equipment

c. Conduct a safe tractor driving contest

d. Sponsor a dog clinic for vaccinations

e. Sponsor a pest control and extermination contest

f. Conduct a bicycle safety program

g. Have a "buckle up for safety" seat belt day

(NOTE: Get a bank to provide quarters. Give everyone a quarter who arrives in school parking lot with seat belt fastened.)

5. Chapter conducts activities that help conserve the natural resources or improve the environment

Examples:

a. Clean up the community by painting buildings, tearing down old buildings, removing junk autos, mowing vacant lots and sweeping the sidewalks with commercial vacuum sweeper

b. Sponsor and/or co-sponsor with other organizations community ecology programs such as recycling of paper and bottles and cleaning up streams and parks

c. Make community survey to determine need for a park and identify the community resources

INFORMATION SHEET

d. Participate in community park construction

e. Secure state game and fish commissions assistance in demonstrating hunter safety, water safety, and wildlife protection

f. Landscape homes for citizens in the community

g. Construct, paint, and repair picnic tables for city park

h. Conserve water and soil by constructing waterways, contours, terraces, windbreaks, and using cover crops

i. Collect water samples for purity testing and soil for analysis testing

j. Repair tombstones for cemetery.

6. Chapter assists school with a major activity, such as landscaping, and beautification campaigns

Examples:

a. Beautify school by seeding and fertilizing the lawns, constructing patio areas, constructing concrete seats for outdoor use, landscaping school area, and renovating football field and stadium

b. Sponsor Arbor Day programs at elementary schools and have students plant trees furnished by the FFA

c. Develop a portable barnyard and take baby animals to elementary and/or deaf and blind schools

d. Serve refreshments for such groups as Honor Society, PTA, teachers' association, and others

7. Other suggested chapter activities

Examples:

a. Assist civic organizations in putting on July 4th celebrations by parking cars, supplying equipment and materials, assembling booths, and other similar activities

b. Erect church and civic club signs at edge of town

c. Develop a community products and/or occupations promotional brochure to show what the community has to offer

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d. Organize a "career-at-home night" for high school students

e. Remove junked automobiles and roadside trash piles

f. Landscape and beautify community streets and public buildings

g. Organize a community emergency medical service

(NOTE: For a further list of community service ideas, see the BOAC chapter action guide.)

D. Leadership

1. Chapter provides members with leadership experience in public speaking

Examples:

a. Require all vocational agriculture students to write a speech and present it to the class

b. Video tape member's speech and replay for constructive criticism

c. Select members from each class to present speeches at other area chapters' meetings

d. Select local chapter public speaking winner to participate above chapter level

e. Present FFA Foundation recognition awards to class participants and local winner

f. Present speeches to local service clubs, radio, and others

g. Invite speech teacher, advisory committee members, and others to help judge speeches

h. Require all new members to participate in creed, extemporaneous, junior public speaking, or similar speaking contests

2. Chapter provides members with training in parliamentary law and experience in conducting meetings

Examples:

a. Provide parliamentary procedure training to all vocational agriculture students through instruction and participation in parliamentary law activities

b. Conduct parliamentary procedure demonstration to other clubs and classes

INFORMATION SHEET

c. Select team members and enter parliamentary procedure contest above the chapter level

d. Secure books for chapter library on parliamentary procedure and officer training

e. Conduct regular meetings according to accepted parliamentary procedure

3. Chapter provides training for officers and members

Examples:

a. Hold mock meetings in class to provide training in leadership and parliamentary procedure for all students; draw situations at random for class to act on

b. Elect junior, greenhand, or class officers who operate some of the regular meetings

c. Participate in chapter, district, state, and national leadership training schools, conferences, or similar activities

d. Provide financial assistance to members attending leadership training camp schools, conferences, or similar activities

e. Invite State and National Officers to visit chapter Contact State Office or the National FFA Center, Box 15160, Alexandria, Virginia 22309

f. Provide officer leadership training program for other school organizations

g. Schedule a visit with officers of other community organizations for officer training

h. Participate and/or observe FFA executive meeting

4. Chapter assigns responsibilities for each member in the program of activities

Examples:

a. Appoint all members to a program of activities committee at start of school year

b. Select a committee chairman

c. Select goals for the program of activities using the National Chapter Award Program application, previous chapter programs of activities, programs of activities from other chapters, and the Official FFA Manual

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d. Write a program of activities during class time with assistance from other members

e. Present written program of activities to president or vice president for approval

f. Report committee accomplishments at each chapter meeting

g. Schedule regular meetings of program of activities committees

h. Post committee reports, activities, and accomplishments in the classroom

i. Summarize year's activities and report to state for chapter and member recognition

5. Chapter members meet leadership requirements for advanced degrees

Examples:

a. Secure degree and award requirement materials for members

b. Test members' knowledge of FFA and parliamentary procedure through FFA quizzes, parliamentary procedure demonstrations, and other similar activities

c. Check application for requirements

d. Have members fill out or update a state farmer application each year, keep leadership accomplishments up to date, and familiarize members with other advanced awards and degrees

6. Chapter point system for achievement

Examples:

a. Set up point system committee to select items for which points are to be awarded

(NOTE: This would include attendance at meetings, participation in leadership activities, participation in community service, speeches, and other activities.)

b. Use point system to select chapter Star Greenhand, Star Chapter Farmer, Leadership Award winner, and DeKalb Award winner

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c. Have each student keep a record of points earned each quarter or semester

d. Require members to keep point system in student notebook and/or chapter file

e. Points earned may be applied to:

1) Purchase of FFA supplies

2) Eligibility for chapter trip

3) Student's grade

4) Award plaque or certificate

E. Earnings, savings, and investments

1. Chapter earns money during the year to adequately support its activities

Examples:

a. Commission selling projects

1) Secure sponsors for FFA Calendar program

2) Sell citrus fruit during Christmas season

3) Maintain a gilt chain for chapter members

4) Sponsor a local turkey shoot

5) Have an ice cream social

6) Sell pine seedlings for reforestation

7) Have apple butter or cider sale during the fall

8) Sell rat poison

9) Sell slow moving vehicle signs

10) Sponsor a school or community rodeo

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11) Sell Christmas cards

12) Sell hand tool sets

13) Have a community scrap iron drive

14) Invest in U.S. Savings Bonds

15) Conduct FFA raffle

16) Receive premium money from livestock shows

17) Hold magazine sales

18) Put on donkey basketball game

19) Organize a chapter cooperative with the chapter owning some shares

b. Production selling projects

1) Hold Christmas tree sales

2) Sell flowers and vegetable plants from chapter greenhouse projects (coordinate with local growers)

3) Operate a school nursery for classroom work and community sales

4) Sell hog troughs that were constructed in shop classes

5) Fix up used farm equipment and resell

6) Raise popcorn, dry down, package, and sell

7) Sell livestock, dairy, and poultry products

c. Cooperative selling projects

1) Sell fire extinguishers

2) Sell tickets to amateur show

3) Sell tickets to community barbecue

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4) Sell certified seed potatoes

5) Put on a pancake and sausage supper

6) Put on an oyster feed

7) Sponsor a horse show

8) Sponsor wood cutting bee or contest

d. Selling a service to others

1) Run concession stand during sports activities

2) Obtain a dealership for seed corn

3) Operate an equipment rental service

4) Auction members for a day's labor

5) Run a chapter land laboratory and produce crops for experience and profit

6) Provide landscape service to area home owners

7) Sponsor a car wash

2. Chapter investments to broaden the scope of chapter activities

Examples:

a. Provide loans to younger members

b. Purchase chapter equipment

c. Buy U. S. Savings Bonds

d. Purchase shares in local cooperative

e. Purchase land for chapter

f. Maintain livestock chain

g. Provide speakers for chapter activities

h. Finance leadership training

i. Provide a chapter scholarship for a graduating senior

j. Donate money to State and/or National FFA Foundation

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3. Chapter conducts activities to encourage savings and stimulate investments among members

Examples:

a. Use official record books and materials

b. Prepare yearly budget and submit to chapter

c. Maintain treasurer's book and audit monthly

d. Recognize members who practice thrift

e. Provide board of education with copy of budget and net worth statement

f. Have representatives from a commercial bank, Production Credit Association, Farmers Home Administration, Federal Land Bank, and agribusinessmen speak on proper credit procedures

F. Conduct of meetings

1. Chapter uses appropriate official ceremonies

Examples:

a. Use official ceremonies as written in the FFA manual

b. Have officers memorize their parts in ceremonies

2. Chapter maintains a current file of FFA materials

Examples:

a. Establish a filing system that can be understood by members

b. Assign responsibility for maintaining the file to the chapter secretary or other designated member

c. Post a file index guide near the cabinet

d. Review materials annually and replace outdated data

3. Chapter uses recommended procedures in keeping chapter records

Examples:

a. Use official secretary and treasurer books

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b. Provide at least simulated experience in financial record keeping for the treasurer

c. Provide an "officer's office" or other suitable place for keeping chapter records

d. Require secretary to have the meeting minutes up to date

e. Submit treasurer's book to auditing committee

4. Arrange to have a regularly scheduled meeting time

Examples:

a. Prepare meeting time and dates on school calendar with approval of school administrators

b. Notify in advance all teachers who may be inconvenienced by the absence of students during FFA meetings

c. Schedule FFA evening meetings when possible

d. Hold at least one meeting each month at a regularly scheduled time

e. Start on time and establish a definite time limit for meeting

f. Send a "we missed you at the last meeting" postcard to the home of each member not present for scheduled meeting or activity

g. Provide a copy of meeting agenda to the school administration

i. Assign a chapter member to be responsible for maintaining the official scrapbook

5. Invite an FFA officer above the chapter level to visit the chapter

Examples:

a. Arrange to conduct an FFA meeting while the officer is present

b. Introduce the officer to school personnel and businessmen in the community

c. Have officer speak to the chapter officers on the role of an FFA officer or other suitable topics

INFORMATION SHEET

d. Take the officer to visit members' homes

e. Have officer participate in school assemblies, chapter banquet, and/or other similar activities

6. Use nominating committee in election of officers

Examples:

a. Use graduating senior officers and/or graduating seniors as committee members

b. Include representatives from freshman, sophomore, junior, and senior classes on the committee

7. Chapter encourages graduates to retain their active FFA membership

Examples:

a. Send a self-addressed, stamped envelope, and an invitation for membership to graduates

b. Pay part or all of the graduate's membership dues

c. Notify graduate members of FFA meetings with a postcard or phone call

d. Establish an FFA Alumni Association

8. Other suggestions

Examples:

a. Recognize members with perfect attendance at meetings

b. Hold orientation meeting for prospective members

c. Invite parents to attend at least one regular meeting

d. Elect a chaplain and have devotions at each meeting

e. Elect officers for the coming year before the end of the current school term

f. Keep chapter official paraphernalia displayed in chapter meeting room

g. Provide each member with an agenda prior to the meeting

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h. Schedule a meeting of the executive committee to plan agenda

i. Schedule regular meeting periods for committee work

j. Establish FFA "Buddy System"; upperclassman arrange for transportation of young member to meeting, introduce new members to chapter officers, and assist new members with their projects

k. Hold executive committee meetings at a local restaurant, or member's or advisor's home, with chapter picking up the tab

l. Arrange a retreat for the executive committee

F. Scholarship

1. Chapter sponsors activities to encourage scholarship among the members

Examples:

a. Require members running for chapter offices to have at least a "C" average

b. Present an award to the member with the best grade point average in agriculture

c. Present an award to the member who has shown the most progress--Consider attitude, improvement, participation, etc.

d. Provide a college scholarship to the graduating senior FFA member who has the highest grade point average and is planning to attend college

e. Secure sponsors from the community for scholarship awards

f. Use scholarship as one criteria for selecting the "Star Greenhand" and "Star Chapter Farmer" Awards

g. Have eligible members seek admission in the National Honor Society

h. Invite former members, National Honor Society members, and/or school administrators, to speak to the chapter on scholarship

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i. Have chapter officers challenge other school organization officers to some scholastic competition such as a debate

j. Present DeKalb Award to senior who has the most outstanding scholastic and activities record

k. Organize tours to sites of educational merit such as a library or a college

l. Have successful scholars from upperclassmen assist students who are having scholastic problems

m. Post an honor roll in the classroom each grading period listing members who have a "B" or better grade average

n. Sponsor an "Ag Diction" or "Ag Terminology" contest

(NOTE: Members learn agriculture terms and are tested. Points are given on terms learned.)

2. Chapter maintains a file of current information concerning agricultural careers, occupations, and educational opportunities

Examples:

a. Maintain a chapter library of current books, trade publications, bulletins, and pamphlets dealing with agriculture and/or the FFA

b. Appoint a chapter librarian

c. Compile a file of materials concerning careers in agriculture

d. Request the chapter advisor to include in his course of study a unit concerning agricultural careers

e. Set up a "Career Day" for chapter members, utilizing professional agriculturists, former members, other businessmen, and guidance counselors

f. Arrange and finance a tour for juniors and seniors to a college and/or a vocational-technical center

g. Organize and finance a "short course" on some agricultural problem in the community; invite the public to participate

h. Award travel allowances to members who are participating in agricultural student exchange programs

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i. Attend the Agricultural Career Show at the National FFA Convention in Kansas City

j. Work closely with guidance counselor to keep him informed of opportunities in agriculture

k. Invite school counselor to attend the National FFA Convention and the Agricultural Career Show--He may attend in place of the local FFA Advisor

3. Chapter provides a file of current information concerning scholarships and other financial assistance for post high school study

Examples:

a. Request the director of student affairs at each state college and university to send the chapter and guidance office a list of available grants, loans, and scholarships

b. Invite the school guidance counselor to speak informally with junior and senior members who are interested in securing student financial assistance

G. Recreation

1. Chapter provides organized recreational activities

Examples:

a. Sponsor a field day of athletic competition in cooperation with other FFA chapters and award prizes

b. Organize a basketball, softball, or baseball team for intramural participation

c. Conduct a ping pong or similar indoor sports tournament

d. Arrange for a skating, bowling, boating, swimming, or similar party

e. Hold a chapter rodeo, snowmobile race, shooting contest, or similar event

f. Go on a fishing trip--Award a prize for the biggest fish

g. Sponsor a fishing derby for the public

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2. Chapter provides organized social activities

Examples:

a. Sponsor a trip to a sporting event

b. Have a barbecue or picnic for FFA members and their guests

c. Conduct a holiday party in cooperation with the FHA or other school group

d. Sponsor a hayride for chapter members and guests

e. Sponsor an educational tour to a farm, business, industry, university, or other place of interest to members

f. Hold a chapter "retreat" or camp

3. Other suggested activities

Examples:

a. Take a summer trip to different areas of the state

b. Visit a museum of interest to members

c. Conduct a tractor rodeo observing safety regulations

d. Arrange for a Christmas caroling activity

e. Participate in a livestock field day

H. Public Relations

1. Chapter sponsors an FFA awards and recognition program or similar activity

Examples:

a. Invite guests - school personnel, members of agricultural organizations, local businessmen, newspaper editors, radio station manager, and community leaders

b. Allow FFA members to conduct a major part of the program

c. Present agricultural proficiency award medals; other chapter and area FFA awards

d. Program be conducted at no cost to guests or participants

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e. Introduce parents and guests to the assembly

f. Award the honorary degree to deserving individuals

2. Chapter makes use of media in acquainting the public with the FFA organization

Examples:

a. Prepare a weekly news column concerning FFA activities and/or agricultural information

b. Release news stories periodically telling of achievements of the chapter or individual members

c. Schedule a regular radio or television program time with a local station

d. Send news stories to the state FFA publication

e. Prepare articles for the school newspaper

f. Send articles and pictures to "The National Future Farmer" magazine and other national magazines

g. Present a public program to a school assembly, civic club, or other community organization

h. Prepare and display an educational exhibit

i. Sponsor outdoor billboard posters

j. Use materials bearing the emblem and letters of the FFA

k. Display FFA messages on marquees of local businesses

l. Put the letters "FFA" in lights on a hillside overlooking a highway

m. Provide "An FFA Member Lives Here" sign for each member

n. Erect chapter roadside signs on appropriate highways

o. Place an FFA trophy case in the school lobby

p. Prepare and distribute a chapter newsletter

INFORMATION SHEET

3. Chapter provides complimentary subscription to the national future farmer magazine

   Examples:

   a. Have chapter member personally deliver the first issue

   b. Provide subscriptions to honorary farmers, businessmen, and school personnel

4. Chapter conducts activities that acquaint the school faculty with the FFA

   Examples:

   a. Hold a faculty reception

   b. Invite faculty members to the FFA banquet

   c. Sponsor a school faculty luncheon or breakfast

   d. Invite faculty members to be judges of appropriate FFA contests

   e. Issue an individual invitation to each teacher to attend an FFA Open House

5. Chapter secures movie illustrating an FFA activity

   Examples:

   a. Secure films depicting group activities, e.g. BOAC, National FFA Convention

   b. Show films depicting individual accomplishments, e.g., "Four Star Farmers of America"

   (NOTE: The above films are available from The Venard Organization, Peoria, Illinois 61611.)

6. Chapter participates in the FFA calendar program

   Examples:

   a. Secure sponsors for calendar program

   b. Purchase FFA calendars for distribution to parents, school personnel, and businessmen in the area

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7. Chapter conducts major activities during national FFA week

Examples:

a. Hold a parent-member banquet

b. Place a chapter display in a public place

c. Sponsor a poster contest

d. Declare a "jacket day" or "dress-up day" for members

e. Raise "Greenhands" to the degree of "Chapter Farmer"

f. Distribute FFA materials such as litter bags, safety warning stickers, etc.

g. Attend church as a group

h. Participate in a school assembly

i. Give a demonstration of good parliamentary procedure

j. Secure a section of a local newspaper for FFA news and information

k. Present a radio and/or television program

l. Arrange for mayor to issue a proclamation declaring National FFA Week for the area

m. Invite a state or national FFA officer to visit the chapter

n. Conduct a church service or other public program

o. Conduct the chapter FFA public speaking contest before a community audience

p. Provide FFA members as speakers for local organizations' meetings

q. Purchase FFA Week materials from the National FFA Supply Service

r. Use FFA Week "How To" idea booklet provided to each chapter prior to FFA Week

8. Other suggested activities

Examples:

a. Prepare an "Easter Farm" or "Animal Farm" for the benefit of children

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b. Conduct a demonstration of good agricultural practices

c. Organize a "Speakers' Bureau" of FFA members

d. Participate in a parade

e. Hold an oyster supper, barbecue, picnic, or similar activity

f. Invite businessmen as speakers for a chapter meeting

g. Sponsor a free "dairy luncheon" at school

h. Conduct an FFA and Vo-Ag orientation program for eighth grade students

i. Have chapter pay part of the cost of FFA jackets or loan members the money to make the purchase

j. Use decals, stencils, and other materials bearing the FFA emblem and name

k. Keep a scrapbook which is displayed at appropriate times

l. Maintain an FFA bulletin board

m. Honor outstanding boosters with appreciation certificates or the Honorary Chapter Farmer Degree

I. State and national activities

1. Chapter sends representatives to state and national conventions

Examples:

a. Select official local chapter delegates to attend state and national conventions

b. Award travelships to convention participants to cover part or all of their expenses

c. Organize transportation to conventions

d. Arrange lodging and meals for chapter participants attending conventions

e. Send degree and award recipients to state and national conventions

f. Members wear proper dress to conventions and other activities

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2. Chapter has successful candidates for advanced FFA degrees

Examples:

a. Keep a current record of each member's FFA projects and activities

b. Have committee of members and advisor review records of all members to see which members qualify for advanced degrees

c. Organize a system to move all FFA members toward advanced degrees

d. Review and approve completed applications for advanced degrees and submit to the state office

e. Post photographs of advanced degree recipients in the agriculture classroom

3. Chapter has candidate(s) for an FFA office above the chapter level

Examples:

a. Acquaint potential candidates with opportunities for service

b. Supply potential candidates with opportunities for personal leadership development

c. Provide assistance to members in completing applications

d. Review and approve completed applications and submit to state office

4. Submit applications above the local chapter level for awards sponsored by the National FFA Foundation, Inc.

Examples:

a. Provide members with information, applications, and assistance in filling out forms

b. Obtain and present Foundation medals to worthy chapter members

c. Have members complete and submit completed Proficiency Award applications

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d. Complete and submit Building Our American Communities (BOAC) application

e. Complete and submit Chapter Safety Award application

f. Complete and submit National Chapter Award Program application

5. Chapter enters judging contests sponsored by the state or national organization

Examples:

a. Utilize judging contests in instructional program to involve all students

b. Train members for judging events by working in the school and community

c. Select members to represent the chapter in various contests above the chapter level

d. Finance expenses for chapter judging teams participating above the chapter level

e. Utilize FFA alumni members in training judging teams

6. Chapter participates in activities and/or programs to promote international understanding

Examples:

a. Invite foreign visitors to FFA chapter meetings and activities

b. Conduct programs for foreign visitors at international assemblies

c. Participate in National FFA Work Experience Abroad (WEA) Program

d. Sponsor an orphan child in a foreign country

e. Send materials to teachers, Peace Corps workers, missionaries, etc. in foreign countries

f. Obtain slide presentation from National FFA Office on Work Experience Abroad program

g. Invite school foreign exchange student to chapter meeting for program

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7. Chapter participation in other national FFA activities

Examples:

a. Participate at National Convention by serving in the National Band, National Chorus, Courtesy Corps, National Talent Contest, or serving as an usher or stage crew member

b. Arrange for a chapter representative to attend a Summer Washington Conference Program

c. Have member exchange programs between chapters in different states

d. Select Chapter Sweetheart or girl member to participate in American Royal Queen's Contest and/or State Contest

e. Have members donate to international child relief, CARE, UNICEF, and others

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DEVELOPING THE FFA PROGRAM OF ACTIVITIES
UNIT I

ASSIGNMENT SHEET #1--DEVELOP A FFA PROGRAM OF ACTIVITIES

Choose one of the major divisions and list the activities that you feel your chapter should participate in. Class members should choose different divisions whereby all divisions will be accounted for. Refer to the Superior Chapter report to make sure your chapter will meet the requirements for Superior Chapter.

Division_____

Committee Chairman_____

Members:

1.
2.
3.
4.

Suggested Activities

1.
2.
3.
4.
5.
6.
7.
8.
9.
10.

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DEVELOPING THE FFA PROGRAM OF ACTIVITIES
UNIT I

TEST

1. Define the following terms:

   a. Program of activities--

   b. Executive committee--

   c. Sub-committee--

2. Select the benefits of having a well planned program of activities by placing an "X" by the correct statement.

   _____a. Include goals that serve as a means of directing the chapter activities in a positive manner

   _____b. Provide opportunity for members to use and develop skills taught in grade school

   _____c. Provide school administration and community with a better understanding of the local chapter

   _____d. Represent the thinking of a majority of the members but involves only junior and senior students

   _____e. Necessary for proper chapter recognition on the local, state, and national level

   _____f. Point out the vital part FFA has in a vocational agriculture department

3. Select the major divisions of the FFA Program of Activities by placing an "X" by the proper division.

   _____a. Cooperation

   _____b. Leadership

   _____c. Preventing loss of livestock

   _____d. Conduct of meetings

   _____e. Earnings, savings, and investments

   _____f. Special activities

   _____g. National FFA Week

   _____h. Community service

   _____i. Scholarship

   _____j. State contests

4. List four parts of a program of activities.

a.

b.

c.

d.

5. Select the factors that contribute to a satisfactory program of activities by placing an "X" by the correct factors.

_____a. All committee chairman realize it is their program and are involved

_____b. Sufficient time given to evaluate, plan, and organize chapter activities

_____c. Final program of activities are planned in May or whenever new officers are elected

_____d. Resource personnel used in program planning and evaluation

_____e. A well developed, realistic, and workable ways and means

_____f. Review of the calendar of activities with the committee chairman and advisor

_____g. Committee organization and membership cooperation

_____h. Challenging and practical goals selected and based upon interest and needs of the state association

6. Select the steps to follow in constructing and conducting a satisfactory program of activities by placing an "X" by the proper steps.

_____a. Have continuous and periodic evaluation of the chapter activities

_____b. Have executive committee, under the guidance of the president, appoint the program of activities committees

_____c. Choose subcommittee members by their class rank and grade classification

_____d. Encourage vice-president to meet with each committee to assist them in formulating their phase of the program of activities

_____e. Secure copies of other chapter programs and get ideas on other suitable program ideas

_____f. Instruct the president to keep informed on committee progress and to make regular reports

_____g. Direct the reporter to record the chapter accomplishments on the program of activities wall chart or on a regular activity report form

7. Match the chapter activity on the left with the correct division on the right.

_____a.	Provide shop project awards	1.	Cooperation
_____b.	Have veterinarian explain disease prevention and parasite control of livestock	2.	Community service
		3.	Leadership
_____c.	Assist charitable organizations and campaigns	4.	Earnings, savings, and investments
		5.	Conduct of meeting
_____d.	Hold at least one meeting each month at a regularily scheduled time	6.	Supervised agriculture occupations experience
_____e.	Establish a livestock breeding service cooperative	7.	Recreation
		8.	Scholarship
_____f.	Provide members with experience in public speaking	9.	FFA public relations
		10.	Participation in state and national activities
_____g.	Have representatives from a commercial bank speak on proper credit procedures		
_____h.	Present an award to the member with the best grade point average in agriculture		
_____i.	Take a summer trip to different areas of the state		
_____j.	Present Honorary Chapter farmer degree to local citizens		
_____k.	Select official local chapter delegates to attend State and National FFA Conventions		

8. Develop a FFA program of activities

(NOTE: If this activity has not been accomplished prior to the test, ask your instructor when the above activity should be completed.)

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DEVELOPING THE FFA PROGRAM OF ACTIVITIES
UNIT I

ANSWERS TO TEST

1. a. Outline of activities covering a definite period which includes specific goals, ways and means of reaching these goals, and provisions for checking on the accomplishments

   b. Committee made up of chapter officers and the chairman of each committee

   c. Members other than the chairman that make up a committee within the program of activities

2. a

   c

   e

   f

3. a

   b

   d

   e

   h

   i

4. Any four of the following:

   a. Division of the program of activities

   b. Activities to be participated in under the division

   c. Names of the committee members who will be responsible for each activity

   d. Goals to be accomplished under each activity

   e. Ways and means of reaching each goal

   f. Accomplishment information upon completion of each goal

5. b
   d
   e
   g

6. a
   d
   e
   g

7. a. 6
   b. 6
   c. 2
   d. 5
   e. 1
   f. 3
   g. 4
   h. 8
   i. 7
   j. 9
   k. 10

8. Evaluated to the satisfaction of the instructor.

YOUNG FARMERS ASSOCIATION OF OKLAHOMA
UNIT II

TERMINAL OBJECTIVE

After completion of this unit, the student should be able to list the purposes of the Young Farmers Association and select the changes which have contributed to the growing need for Young Farmer chapters. He should be able to select from a list the state officers in the Young Farmers Association, explain how each state officer is elected, and list activities in which a Young Farmer chapter in his community should participate. This knowledge will be evidenced through completion of assignment sheets and by scoring eighty-five percent on the unit test.

SPECIFIC OBJECTIVES

After the completion of this unit, the student should be able to:

1. List the purposes of the Young Farmers Association of Oklahoma.
2. Select from a list the changes which have contributed to the growing need for Young Farmer chapters in Oklahoma.
3. Select from a list the characteristics of an outstanding Young Farmer chapter.
4. Distinguish between the two types of membership found in the Young Farmers Association of Oklahoma.
5. Select from a list the state officers in the Young Farmers Association.
6. Explain in writing ways the state officers are selected in the Young Farmers Association of Oklahoma.
7. List the state awards available to Oklahoma Young Farmer members, advisors, and chapters.
8. List activities and programs in which a Young Farmer chapter in your community should participate.
9. List young farmers in the local community below forty years of age that would benefit from a Young Farmer chapter.

YOUNG FARMERS ASSOCIATION OF OKLAHOMA
UNIT II

SUGGESTED ACTIVITIES

I. Instructor:

A. Provide students with objective sheet.

B. Provide students with information and assignment sheets.

C. Discuss terminal and specific objectives.

D. Discuss information and assignment sheets.

E. Give test.

II. Students:

A. Read objectives.

B. Study information sheet.

C. Complete assignment sheets.

D. Take test.

INSTRUCTIONAL MATERIALS

I. Included in this unit:

A. Objectives

B. Information sheet

C. Assignment sheets

1. Assignment Sheet #1--List Activities for a Young Farmer Chapter
2. Assignment Sheet #2--Identify Young Farmers in the Local Community

D. Test

E. Answers to test

II. References:

A. *Constitution and Bylaws for the Young Farmers Association of Oklahoma.* Stillwater, Oklahoma: State Department of Vocational and Technical Education.

B. *Young Farmers Manual.* Austin, Texas: Texas Education Agency, 1967.

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YOUNG FARMERS ASSOCIATION OF OKLAHOMA
UNIT II

INFORMATION SHEET

I. Purposes of a young farmer program

A. The basic purpose is to provide educational programs designed to meet the particular needs of young men who have begun careers in farming and ranching

(NOTE: Such programs provide information needed by members about new technological advancements in agriculture. These programs also provide whatever new or additional training the members may need in production, marketing, management, and mechanization.)

B. To provide organized recreation for rural families

C. To provide leadership training and experience needed in development of rural leaders and good citizens

D. To provide an organization which will fill the void in the lives of young agriculturists between high school age and the time they normally actively participate in an adult farm organization

E. To provide an awards and recognition program suitable for honoring individuals and chapters for outstanding achievements or public service

F. To provide Young Farmers and their families an opportunity to participate in civic and community service work designed to improve rural life in their community, state, and nation

G. To encourage the expansion of the farm business through purchasing of land or leasing of additional land on a sound basis

H. To cooperate with other organizations and agricultural agencies in programs benefiting agriculture

I. To cooperate with FFA chapters and 4-H Clubs in their activities

II. Changes which have contributed to the growing need for Young Farmer chapters

A. The rapid technological advancements in agriculture such as the introduction of herbicides in weed control; introduction of new insecticides for both crop and livestock pests, including systemics; introduction of antibiotics and hormones in livestock and poultry feeding; introduction of new crops and new varieties, particularly hybrids; the increase in mechanization of farming; and the automation of many processes formerly done by hand

B. The intensification of the cost-price squeeze which demands high operational efficiency to stay in business

INFORMATION SHEET

C. The increase in size of farming operations which in turn has brought a tremendous increase in the amount of capital required

D. The loss of a dependable source of farm labor

E. The extensive mechanization of farming operations and a corresponding increase in the amount of maintenance and repair work required

F. Introduction of larger tractors and equipment

G. Involvement of foreign policy in agriculture in such a way that production and marketing of farm products is influenced

H. Involvement of government in supply management and acreage contracts

I. Application of social security programs to farmers and farm employees which necessitates accurate record keeping

J. Development of synthetics to compete with natural fibers

K. Market demands and consumer preferences

III. Characteristics of an outstanding Young Farmer chapter

A. Program of work covering a twelve-month period is carefully planned by a committee of Young Farmers and submitted to chapter membership for approval

B. Educational activities are based on need and interest and set up on a seasonal basis

C. Services of resource personnel for programs are requested months in advance of meeting dates

D. Requests for assistance of resource personnel are sent out by Young Farmers and not by the advisor

E. The president, officers, and committees accept responsibilities and provide leadership in the chapter; the advisor remains in the background and provides assistance as needed

F. Responsibilities for chapter activities are divided among committees; each committee plans and carries out assigned activities

G. Educational programs include two or more tours or demonstration type activities

H. The chapter is represented at Young Farmers workshops, field day programs, area meetings, and state conventions

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INFORMATION SHEET

I. Meeting notices are mailed out in advance of each chapter meeting

J. An aggressive membership and attendance committee is functioning; each member is reminded of each meeting in person or by telephone

K. Young Farmers activities are publicized regularly via news media

L. At least six social or recreational activities are held each year

M. Families of Young Farmers participate in at least two chapter activities during the year

N. The chapter sponsors at least one major community service project during the year

O. Refreshments are served at each meeting

P. Nonmembers, including key community leaders, are invited to selected Young Farmers chapter activities

Q. Awards are provided to honor members for outstanding achievements

R. Awards are presented at a banquet attended by Young Farmers' families and by special friends

S. The chapter participates in the awards program of the area and state

T. Exchange visits are arranged with neighboring chapters

U. Committees are appointed to study and make recommendations on important problems to eliminate long drawn-out business sessions

V. Business sessions are short and held after conclusion of the educational program

W. The chapter is well financed through one or more fund-raising activities per year

X. Members share in responsibilities of various chapter activities through committee work

Y. Appropriate steps are taken to secure the participation of school administrators in selected Young Farmers activities

IV. Types of membership found in the Young Farmers Association of Oklahoma

A. Active membership--Any person interested in agriculture and not enrolled in high school is eligible to become an active member

(NOTE: Members over forty years of age are not eligible to hold state office or receive a state award.)

INFORMATION SHEET

B. Honorary membership--An individual who has made an outstanding contribution to the Young Farmers Association and to the general improvement of agricultural conditions may be elected to an honorary degree of membership by a majority vote of the delegates present at any state convention

V. Officers in the Young Farmers Association of Oklahoma

A. President

B. Five District Vice-Presidents (one from each vocational agriculture supervisory district)

C. Secretary

D. Treasurer

E. Reporter

F. Advisor

VI. Ways the state officers are elected in the Young Farmers Association of Oklahoma

A. President--Majority vote of official delegates present at the state convention

(NOTE: President must have served on executive committee during the three years prior to nomination.)

B. Secretary--Majority vote of official delegates present at the state convention

C. Reporter--Majority vote of official delegates present at the state convention

D. Treasurer--Majority vote of official delegates present at the state convention

E. Vice-Presidents--Each district's delegates will elect their own Vice-President in district meetings at the state convention after the election of the other state officers

F. Advisor--State Supervisor of Vocational Agriculture

VII. Awards available to Oklahoma Young Farmer members, advisors, and chapters

A. Outstanding Young Farmer for each of the five vocational agriculture supervisory districts

B. Outstanding Advisor in each of the five vocational agriculture supervisory districts

C. Outstanding Young Farmer Chapter in each of the vocational agriculture supervisory districts

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INFORMATION SHEET

D. Outstanding Young Farmer in Oklahoma selected from the five district winners

E. Outstanding Advisor in Oklahoma selected from the five district winners

F. Outstanding Young Farmer Chapter selected from the five district winners

VIII. Suggestions for chapter activities and programs

A. Educational programs and activities

1. New herbicides and their use, post and pre-emerge
2. Programs on use of fertilizers
3. Concrete for farm construction
4. Livestock skills demonstration
5. Prevention and control of livestock diseases
6. Prevention and control of internal parasites
7. Financing farm operations; wise use of farm credit
8. Farm income tax and farm records for tax purposes
9. Brush and weed control in pastures
10. Farm appraisals
11. Selection of electric motors for farm use; motor protection
12. Soil testing, tissue testing, and fertilizing according to plant needs and requirements
13. Arc and acetylene welding
14. Tour of nearby experiment station
15. Providing year-round pasture
16. Farm safety demonstration program
17. Farm management service
18. Farm cultivation
19. Wildlife conservation and management
20. New varieties and adaptation of field crops
21. Livestock nutrition

INFORMATION SHEET

B. Community service activities

1. Sponsor achievement awards for rural youth
2. Raise funds for and construct central feeding barn and pens for the Future Farmers of America
3. Organize and conduct fund-raising drives leading to construction of a local or county livestock show and fair facility
4. Sponsor projects for outstanding Future Farmers of America members needing financial help
5. Help locate and sponsor Future Farmers of America and 4-H projects
6. Sponsor local livestock show and serve as show officials
7. Collect, repair, and distribute Christmas toys to needy children
8. Assist with screwworm and Brucellosis eredication programs
9. Assist or sponsor community improvement projects such as park improvement, March of Dimes, and safety campaigns
10. Sponsor American Heritage programs at local high schools
11. Members complete farming operations of an ill farmer
12. Cooperate in conducting fund-raising activities such as turkey shoots, donkey basketball, etc.
13. Provide scholarships and other aid to outstanding rural students
14. Provide feed grain for projects at a boys ranch
15. Sponsor soil testing campaign--Collect and send off soil samples

C. Recreational activities

1. Sponsor homemade ice cream supper for families
2. Young Farmers and Young Homemakers get together after their respective education programs for refreshments
3. Have wild game barbecue with Young Farmers furnishing the game
4. Hold domino party
5. Have covered-dish supper for families

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INFORMATION SHEET

6. Have annual fish fry

7. Sponsor Young Farmers awards banquet

8. Have Christmas party with toys provided for children

D. Leadership activities

1. Serve as general superintendent and division superintendents of local and county shows and fairs

2. Nominate and support members for leadership positions in fairs, associations, Chambers of Commerce, Soil Conservation Board, Cotton Growers Association, ASCS, etc.

3. Prepare and put on radio and television programs on Young Farmers work

4. Take an active part in farm organizations

5. Assist in organizing new Young Farmers chapters

6. Sponsor career day for seniors interested in agriculture careers

7. Participate in programs of various field crop associations, wheat growers, grain-sorghum producers, etc.

8. Devote part of one meeting to parliamentary procedure training

9. Nominate candidates and assist in preparing supporting data for various awards

10. Organize and conduct fund-raising activities and donate to worthy community projects and causes

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YOUNG FARMERS ASSOCIATION OF OKLAHOMA
UNIT II

ASSIGNMENT SHEET #1--LIST ACTIVITIES FOR A YOUNG FARMER CHAPTER

List activities and programs in which a Young Farmer chapter in your community should participate.

1. Educational activities--

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ASSIGNMENT SHEET #1

2. Community service activities--

3. Recreational activities--

4. Leadership activities--

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YOUNG FARMERS ASSOCIATION OF OKLAHOMA
UNIT II

ASSIGNMENT SHEET #2--IDENTIFY YOUNG FARMERS IN THE LOCAL COMMUNITY

List the young farmers in your local community that are below forty years of age and would benefit from a Young Farmer chapter.

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YOUNG FARMERS ASSOCIATION OF OKLAHOMA
UNIT II

TEST

1. List five purposes of the Young Farmers Association of Oklahoma.

   a.

   b.

   c.

   d.

   e.

2. Select from the list below the changes which have contributed to the growing need for Young Farmer chapters. Place an "X" by the correct answers.

   _____a. The rapid technological advancements in agriculture such as the introduction of herbicides in weed control

   _____b. The increase in size of farming operations which in turn has brought a tremendous increase in the amount of capital required

   _____c. The increase in dependable farm labor

   _____d. Introduction of smaller tractors and equipment

   _____e. Development of synthetics to compete with natural fibers

   _____f. Market demands and consumer preferences

3. Select from the list below, the characteristics of an outstanding Young Farmer chapter. Place an "X" by the proper answers.

   _____a. Program of work covering twelve-month period is carefully planned by the advisor and submitted to the chapter membership for approval

   _____b. Educational activities are based on interest and attitudes of members and set up on a seasonal basis

   _____c. Requests for assistance of resource personnel are sent out by Young Farmers and not by the advisor

   _____d. The chapter sponsors at least one major community service project during the year

   _____e. Refreshments are served at each meeting

_____f. The chapter participates in the awards program of the area and state

_____g. Business sessions are usually of greater length and should be held before educational programs

_____h. The chapter is well financed through one or more fund-raising activities per year

_____i. Meeting notices are mailed out in advance of each chapter meeting

_____j. Members share in responsibilities of various chapter activities through committee work

4. Place an "A" in front of the statement that describes active membership and "H" in front of the statement that describes honorary membership.

_____a. An individual who has made outstanding contribution to the Young Farmers Association and to the general improvement of agriculture conditions

_____b. Any person interested in agriculture, not enrolled in high school

5. Select from the list below the officers that serve in the Young Farmers Association of Oklahoma. Place an "X" by the proper answers.

_____a. President

_____b. Six District Vice-Presidents

_____c. Secretary

_____d. Treasurer

_____e. Reporter

_____f. Sentinel

_____g. Advisor

6. Explain in writing how each of the state officers are selected in the Young Farmers Association of Oklahoma.

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7. List six state awards available to Oklahoma Young Farmer members, advisors, and chapters

   a.

   b.

   c.

   d.

   e.

   f.

8. List activities in which a Young Farmer chapter in your community should participate.

9. List young farmers in the local community below forty years of age that would benefit from a Young Farmer chapter.

   (NOTE: These activities should have been completed prior to this test.)

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YOUNG FARMERS ASSOCIATION OF OKLAHOMA
UNIT II

ANSWERS TO TEST

1. Any five of the following:

   a. The basic purpose is to provide educational programs designed to meet the particular needs of young men who have begun careers in farming and ranching

   b. To provide organized recreation for rural families

   c. To provide leadership training and experience needed in development of rural leaders and good citizens

   d. To provide an organization which will fill the void in the lives of young agriculturists between high school age and the time they normally actively participate in an adult farm organization

   e. To provide an awards and recognition program suitable for honoring individuals and chapters for outstanding achievements or public service

   f. To provide Young Farmers and their families an opportunity to participate in civic and community service work designed to improve rural life in their community, state, and nation

   g. To encourage the expansion of the farm business through purchasing of land or leasing of additional land on a sound basis

   h. To cooperate with other organizations and agricultural agencies in programs benefiting agriculture

   i. To cooperate with FFA chapters and 4-H Clubs in their activities

2. a

   b

   e

   f

3. c

   d

   e

   f

h

i

j

4. a. H

b. A

5. a

c

d

e

g

6. President, secretary, reporter and treasurer are elected by the majority vote of official delegates present at the state convention. Each district will elect their own vice-president in district meetings. The State Supervisor of Vocational Agriculture will serve as advisor.

7. a. Outstanding Young Farmer for each of the five vocational agriculture supervisory districts

b. Outstanding Advisor in each of the five vocational agriculture supervisory districts

c. Outstanding Young Farmer Chapter in each of the vocational agriculture supervisory districts

d. Outstanding Young Farmer in Oklahoma selected from the five district winners

e. Outstanding Advisor in Oklahoma selected from the five district winners

f. Outstanding Young Farmer Chapter selected from the five district winners

8. Evaluated to the satisfaction of the instructor.

9. Evaluated to the satisfaction of the instructor.

SELECTING A CAREER
UNIT III

TERMINAL OBJECTIVE

After the completion of this unit, the student should be able to match terms and definitions associated with career selection, select the advantages of selecting a career, and list the important points in choosing a career. The student should be able to select a career and obtain information pertaining to this career. This knowledge will be evidenced by scoring eighty-five percent on the unit test.

SPECIFIC OBJECTIVES

After completion of this unit, the student should be able to:

1. Match terms and definitions associated with careers.
2. Select from a list the advantages of selecting a career.
3. List the important points in choosing a career.
4. Select a career and obtain information pertaining to the selected career.

SELECTING A CAREER
UNIT III

SUGGESTED ACTIVITIES

I. Instructor:

A. Provide students with objective sheet.

B. Provide students with information and assignment sheets.

C. Make transparency.

D. Discuss terminal and specific objectives.

E. Discuss information and assignment sheets.

F. Give test.

II. Students:

A. Read objectives.

B. Study information sheet.

C. Complete assignment sheet and turn in to instructor.

D. Take test.

INSTRUCTIONAL MATERIALS

I. Included in this unit:

A. Objectives

B. Information sheet

C. Transparency master: TM 1--Personal-Social Qualities

D. Assignment Sheet #1--Information Pertaining to a Career

E. Test

F. Answers to test

II. References:

A. Hoover, Norman K. *Handbook of Agricultural Occupations. Danville, Illinois: Interstate Publishers and Printers, 1969.*

B. *Career Exploration, A Guide for Teachers.* Oklahoma City, Oklahoma: State Department of Education, 1970.

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SELECTING A CAREER
UNIT III

INFORMATION SHEET

I. Terms and definitions

A. Agricultural industry--The industry covering broad areas of agriculture from production, through supplying and servicing, business, finance, and all the necessary functions of making agricultural commodities available to the consumer

B. Agri-business--A term referring to the inputs of producing food and fiber, including processing and marketing

C. Career--A course of continued progress in the life work of a person or progress through life in a series of related occupations or activities

D. Career pattern--The sequence of occupations in the life of an individual that makes up a career

E. Occupation--A group of related jobs in an area of work which constitutes the work a person does regularly to make a living

F. Occupational choice--A process one goes through eliminating some occupations and retaining others until an occupation has been chosen

G. Job--A piece of work which is rather specific and definite in nature

H. Career education--The preparation of a student for a successful life of work by increasing his options for occupational choice, by eliminating barriers, real and imagined, to attaining job skills, and by enhancing learning achievement in all subject areas and at all levels of education

I. Agricultural professions--Specialized careers that require a college degree for entry

Examples: Foresters, teachers of agriculture, county agricultural agents, veterinarians, agricultural engineers, and soil conservationists

II. Advantages of selecting a career

A. Greater degree of happiness and satisfaction

B. More opportunities for promotion and advancement

C. Financial and fringe benefits are greater

D. Greater selection of people to work with

INFORMATION SHEET

III. Important points in choosing a career

A. Type of work or job description

B. Essential personal-social qualities (Transparency 1)

(NOTE: This may include the qualities listed below.)

1. Pleasing personal appearance
   a. Grooming
   b. Poise
   c. Voice
   d. Posture
2. Enthusiasm
3. Honesty and dependability
4. Initiative and ambition
5. Friendliness
6. Cooperation and courtesy
7. Punctuality
8. Self-confidence and control
9. Business like behavior

C. Educational-training requirements

1. High school
2. Post high school--Two year technical school or four year baccalaureate program

D. Finances needed to enter and complete training

E. Entry level jobs

F. Advancement possibilities

INFORMATION SHEET

G. Licensing or certification

H. Working conditions

I. Health and physical requirements

J. Earnings and benefits

K. Outlook--Probable demand for workers, etc.

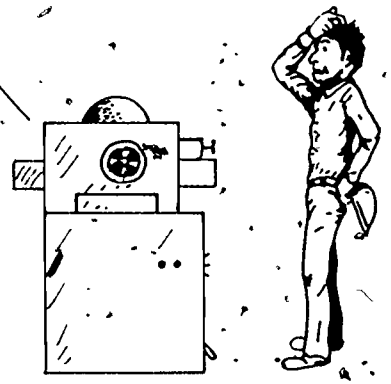
ERIC

Personal-Social Qualities

Of 10 Workers Who Lose Their Jobs

1

Lacks Technical Skill



9

Do Not Know How to Get Along with People

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SELECTING A CAREER
UNIT III

ASSIGNMENT SHEET #1--INFORMATION PERTAINING TO A CAREER

Obtain the following information from a prospective employer or a person working in the same career.

1. Career selected
2. Job title
3. Exactly what does the worker do?
4. What tools or equipment do he use?
5. Does job require: High school education?_____ College?_____
   Technical school?_____ Other?_____
6. What qualifications, other than educational, are necessary?
   Physical
   Mental
   Aptitude or personality
7. What are the working conditions and hours?
8. In what kind of business is this job found?
10. What are the opportunities for advancement?
11. List as many related jobs as you can.
12. What interests of yours would this job satisfy?

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ASSIGNMENT SHEET #1

13. What abilities of yours is this job related to?

14. Will this job require more or less employees in the future?

15. What equipment will I be required to purchase?

16. Upon what basis are employees evaluated for promotion.

17. What are the most common mistakes made by employees in performing this job.

18. What are the expected earnings and benefits from the job.

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SELECTING A CAREER
UNIT III

TEST

1. Match the terms on the right to the proper definition.

_____a.	A piece of work which is rather specific and definite in nature	1.	Agricultural industry
_____b.	The sequence of occupations in the life of an individual that makes up a career	2.	Agri-business
_____c.	A term referring to the inputs of producing food and fiber, including processing and marketing	3.	Career
_____d.	A group of related jobs in an area of work which constitutes the work a person does regularly to make a living	4.	Career pattern
_____e.	Specialized careers that require a college degree for entry	5.	Occupation
_____f.	The preparation of a student for a successful life of work by increasing his options for occupational choice, by eliminating barriers, real and imagined, to attaining job skills, and by enhancing learning achievement in all subject areas and at all levels of education	6.	Occupational choice
_____g.	The industry covering broad areas of agriculture from production, through supplying and servicing, business, finance, and all the necessary functions of making agricultural commodities available to the consumer	7.	Job
		8.	Career education
		9.	Agricultural professions

_____h. A course of continued progress in the life work of a person or progress through life in a series of related occupations or activities

_____i. A process one goes through eliminating some occupations and retaining others until an occupation has been chosen

2. Select from the list below the advantages of selecting a career. Place an "X" by the correct answers.

_____a. Greater degree of happiness and satisfaction

_____b. More opportunities for promotion and advancement

_____c. Shorter working hours with less fringe benefits

_____d. Greater selection of people to work with

3. Name seven points one should consider when choosing a career.

a.

b.

c.

d.

e.

f.

g.

4. Select a career and obtain information pertaining to the selected career.

(NOTE: If this has not been accomplished prior to the test, ask the instructor when it should be completed.)

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SELECTING A CAREER
UNIT III

ANSWERS TO TEST

1. a. 7
   b. 4
   c. 2
   d. 5
   e. 9
   f. 8
   g. 1
   h. 3
   i. 6

2. a
   b
   d

3. Any seven of the following:
   a. Type of work or job description
   b. Essential personal-social qualities
   c. Educational-training requirements:
      1) High school
      2) Post high school-Two year technical school or, four year baccalaureate program
   d. Finances needed to enter and complete training
   e. Entry level jobs
   f. Advancement possibilities
   g. Licensing or certification
   h. Working conditions

i. Health and physical requirements

j. Earnings and benefits

k. Outlook--Probable demand for workers

4. Evaluated to the satisfaction of the instructor.

LAND JUDGING
UNIT I

TERMINAL OBJECTIVE

After completion of this unit the student should be able to judge land, recommend land treatments and complete the score card. This knowledge will be evidenced through demonstration and by scoring eighty-five percent on the unit test.

SPECIFIC OBJECTIVES

After completion of this unit, the student should be able to:

1. Match terms associated with land judging to the correct definition.
2. Name the reasons for judging land.
3. Name the six factors used in determining the land capability class.
4. Match the different variations of permeability, depth, slope, erosion, and surface runoff with the identifying characteristics of each.
5. Name the three major groups of soil in relation to texture.
6. Discuss in a short paragraph the means of determining soil texture by touch.
7. Match the land capability classes with the proper definition.
8. Classify the eight land capability classes according to their proper usage.
9. Select, when given six land factors, the best land class possible for the specified field.
10. Select the recommended land treatments when given the land capability class.
11. Name the proper fertilizer and soil amendments when given the deficiency.
12. Demonstrate the ability:
    a. Complete a land judging score card when given the characteristics of a field.
    b. Judge a field and complete the score card.

LAND JUDGING
UNIT I

SUGGESTED ACTIVITIES

I. Instructor:

A. Provide students with objective sheet.

B. Provide students with information and assignment sheets.

C. Make transparencies.

D. Discuss terminal and specific objectives.

E. Discuss information and assignment sheets.

F. Conduct field trip to judge a previously prepared land site.

G. Give test.

II. Student:

A. Read objective sheet.

B. Study information sheet.

C. Complete assignment sheets.

D. Participate in field trip.

E. Take test.

INSTRUCTIONAL MATERIALS

I. Included in this unit:

A. Objectives

B. Information sheet

C. Transparency masters

1. TM 1--Soil Profile

2. TM 2--Textural Groups and Soil Textures

D. Assignment sheets

1. Assignment Sheet #1--Selecting Proper Fertilizer and Soil Amendments

2. Assignment Sheet #2--Completing Land Judging Score Card

E. Answers to assignment sheets

F. Test

G. Answers to test

II. References:

A. Roberts, Ed. *Land Judging.* Norman, Oklahoma: University of Oklahoma Press.

B. Baumann, Elmo and Fred Dries: *Land Judging in Oklahoma.* Stillwater, Oklahoma: Extension Service, Oklahoma State University.

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LAND JUDGING
UNIT I

INFORMATION SHEET

I. Terms and definitions

A. Surface texture--Proportion of sand, silt, and clay in a soil mass

B. Soil consistency--Way that soil particles hold together or resist being broken apart

C. Soil structure--Way that individual soil particles are grouped together to form clusters of particles

D. Topsoil--Soil directly under our feet; "A" horizon zone in which seeds are planted and cultivated (Transparency 1)

E. Subsoil--Layer found just below the topsoil; this layer is the "B" horizon and the storehouse for moisture and minerals

F. Substratum--Area immediately below the subsoil; this is "C" horizon

G. Permeability--Ease with which air and water go down into the soil and return back toward the surface

H. Erosion--Amount of soil that has been removed

(NOTE: Erosion occurs either by wind or by water.).

I. Surface runoff--Relative rate water is removed by flow over the soil surface

J. Soil depth--Total thickness of topsoil and subsoil down to parent material

K. Slope--Number of feet fall in each 100 feet

(NOTE: This is determined by dividing feet traveled into rise or fall.)

L. Capability class--Classification of land according to its productive capacity and conservation treatment required to check erosion

M. Inhibitory factors--Conditions which hinder land and limit its capability

Examples: Stoniness, wetness, gravelly, salt accumulations, and flooding

N. Soil conserving crops--Crops that prevent or retard erosion and tend to maintain rather than deplete soil organic matter

(NOTE: Close seeded crops are generally regarded as soil conserving crops.)

INFORMATION SHEET

O. Soil improving crops--Improve or replenish rather than deplete soil organic matter; improve soil structure and tilth

(NOTE: Grasses and legumes are such crops.).

P. Lime--Calcareous ingredient that neutralizes acidity and supplies calcium to the soil

II. Reasons for judging land

A. Aids in the understanding and importance of basic soil differences as they affect crop production and erosion

B. Helps one to determine management practices important to proper use of soil and water

C. Develops understanding of different soil and water conservation practices

D. Aids in understanding the influence of land features on production and land protection

E. Aids in selecting a farm for purchase

III. Factors determining land capability class

A. Surface texture

B. Permeability

C. Depth of soil

D. Slope

E. Erosion

(NOTE: This includes wind and water.)

F. Surface runoff

IV. Land factor variations

A. Degrees of permeability

1. Rapid--Soils that have sandy subsoils
2. Moderate--Soils that have highly granular, clay loam subsoil
3. Slow--Soils that have crumbly, clayey subsoil
4. Very slow--Soils that have dense, heavy clay or clay pan subsoils

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INFORMATION SHEET

B. Soil depths

1. Deep--More than 36 inches deep
2. Moderately deep--Twenty to 36 inches deep
3. Shallow--Ten to 20 inches deep
4. Very shallow--Less than 10 inches deep

C. Degrees of slope

1. Nearly level--Less than 1 foot fall in each 100 feet
2. Gently sloping--One to 3 feet fall in each 100 feet
3. Moderately sloping--Three to 5 feet fall in each 100 feet
4. Strongly sloping--Five to 8 feet fall in each 100 feet
5. Steep--Eight to 12 feet fall in each 100 feet
6. Very steep--More than 12 feet fall in each 100 feet

D. Degrees of erosion

1. None to slight--Less than 25 percent surface soil removed with no gullies
2. Moderate--Twenty-five to 75 percent of surface soil removed with or without gullies
3. Severe--Seventy five percent or more of the surface soil removed with occasional uncrossable gullies (gullies more than 100' apart) and/or severe accumulation by wind

   (NOTE: An uncrossable gully is that which cannot be crossed or is very difficult to cross with farm equipment.)
4. Very severe--Seventy-five percent or more of surface soil removed with frequent uncrossable gullies (gullies less than 100' apart) and/or severe accumulation by wind

E. Variance in surface runoff

1. Rapid--Surface water flows rapidly; fields with slopes of 3 percent and above (except rapid permeability soils) would go in this category
2. Moderate--Normal runoff from soils with slopes of 1 to 3 percent; rapidly permeable soils excepted

INFORMATION SHEET

3. Slow--Surface water flows away slowly; surplus water on clayey soils is an occasional problem

4. Very slow--Surface water flows away very slowly; soils may remain wet for long periods of time

V. Major groups of soil in relation to texture (Transparency 2)

A. Sandy soil--Includes coarse textured, very sandy soils

B. Loamy soil--Includes moderately coarse, medium textured, and moderately fine textured soils

C. Clayey soil--Includes fine-textured soils

VI. Determining soil texture by touch

A. Sandy soils--When rubbed between the fingers this soil has a rough, gritty feeling

B. Loamy soil--When rubbed between the fingers this soil has a touch of velvet or the feel of wheat flour

C. Clayey soils--When rubbed between the fingers this soil feels sticky

(NOTE: Soil texture by touch is easier to determine when soil is moist.)

VII. Land capability classes

A. Class I--Soils having few limitations that restrict their use; overhead water does not change the land class--treatment is usually on adjacent soils

B. Class II--Soils having some limitations that reduce the choice of plants or require moderate conservation practices

C. Class III--Soils having severe limitations that reduce the choice of plants or require special conservation practices or both

D. Class IV--Soils having very severe limitations that restrict the choice of plants, require very careful management, special conservation or both

E. Class V--Soils having little or no erosion hazards, but having other limitations that are impractical to remove that limits their use largely to pasture, range, woodland or wildlife food and cover; these include very poor drainage with wet poorly drained profiles or frequently flood areas

F. Class VI--Soils having severe limitations that make them generally unsuited for cultivation and limits their use largely to pasture or range, woodland, or wildlife food and cover

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INFORMATION SHEET

G. Class VII--Soils having very severe limitations that make them unsuited for cultivation and restricts their use largely to grazing, woodland, or wildlife

H. Class VIII--Soils and land forms having limitations that preclude their use for commercial plant production and restrict their use to wildlife, recreation, water supply or scenic purposes

VIII. Suitable uses for capability classes

A. Classes I, II,III,IV--Suited for cultivation and other uses such as grazing, forestry, or wildlife food and cover

B. Classes V, VI, VII--Land not suited for cultivation; suited for grazing, forestry, or wildlife food and cover

C. Class VIII--Land not suited for cultivation, grazing, or forestry; used for wildlife, recreation, water supply, or scenic purposes

IX. General guide for selecting land capability classes

Soil Factor	Best Land Class Possible
A. Texture	
1. Sandy soils	III
2. Loamy soils	I
3. Clayey soils	I
B. Depth	
1. Deep or moderately deep	I
2. Shallow	III
3. Very shallow	VI
C. Permeability	
1. Rapid	III
2. Moderate	I
3. Slow	I
4. Very slow	II

INFORMATION SHEET

D. Slope

1.	Nearly level	0--1%	I
2.	Gently sloping	1%--3%	II
3.	Moderately sloping	3%--5%	III
4.	Strongly sloping	5%--8%	IV
5.	Steep	8%--12%	VI
6.	Very steep	12% (and over)	VI

E. Erosion

1.	None to slight erosion	I
2.	Moderate	II
3.	Severe or very severe	VI

F. Runoff (Surface)

1.	Rapid	III
2.	Moderate	I
3.	Slow	I
4.	Very slow	II

X. Recommended land treatments

A. Vegetative practices normally used

1. Use soil conserving and/or soil improving crops
   a. Every fourth or fifth year--Applies to Class I
   b. Every third or fourth year--Applies to Class II
   c. Every second year--Applies to Class III
   d. Every year--Applies to Class IV
2. Do not burn crop residue--Applies to Classes I, II, III, IV
3. Use residue management and/or minimum tillage--Applies to Class I, II, III, IV

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INFORMATION SHEET

4. Establish recommended grass or grass and legumes--Applies to Class V, VI, VII

5. Use proper pasture and range management--Applies to Class V, VI, VII

6. Protect land from burning--Applies to Classes V, VI, VII, VIII

7. Use control grazing--Applies to Classes V, VI, VII

8. Plant recommended trees--Applies to land needing a windbreak or whenever operator desires to go into timber production or post lot production

9. Harvest trees selectively--Applies to land operator who desires to go into timber production or who desires post lot or wood lot

10. Use land only for wildlife or recreation area--Applies to Class VIII

B. Mechanical land treatments that may be used

1. Control brush or trees--This sometimes is used in all capability classes with the exception of Class VIII

2. Terrace and farm on contour--May apply to Classes II, III, and IV depending on soil, slope, cover, erosion and intensive use

3. Maintain terraces--This practice should be used anytime terracing and farming on contour is recommended

4. Construct diversion terraces -- This practice should be used whenever field has overhead water problem

5. Install drainage system--Used where wetness is a factor

6. Control gullies--This practice should be used when gullies are a problem

7. A field can be found that would need no mechanical treatment--This could apply to Classes I, II, III, IV, V, VI, and VII

C. Fertilizer and soil amendments that might be applied

1. Lime--Necessary when soil test reveals acid condition

2. Phosphate (P)--Necessary when soil test reveals deficiency in phosphorus

3. Potash (K)--Necessary when soil test reveals deficiency in potassium

INFORMATION SHEET

4. Nitrogen (N)--Necessary when soil test reveals deficiency in nitrogen

5. Nitrogen, phosphate, and potash--Necessary when soil test reveals deficiency in nitrogen, phosphorus, and potassium

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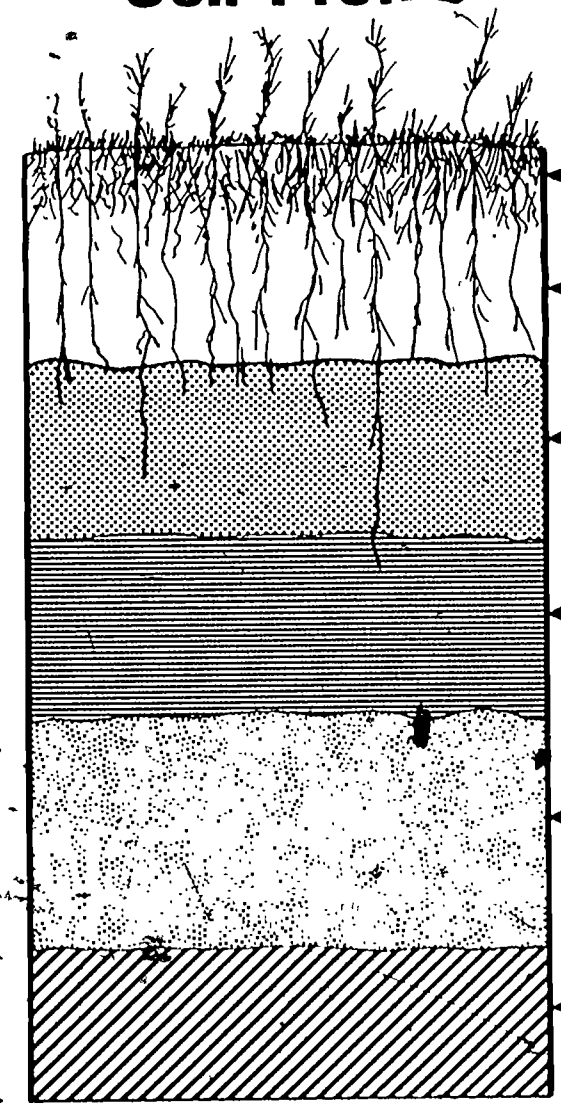
Soil Profile

Cecil Sandy Loam

TOPSOIL
(A Horizon)
Sandy Loam

SUBSOIL
(B Horizon)
Clay

SUBSTRATUM
(C Horizon)
Rock



Humus

Less Humus

Friable Clay

Stiff Clay

Soft Rock

Solid Rock

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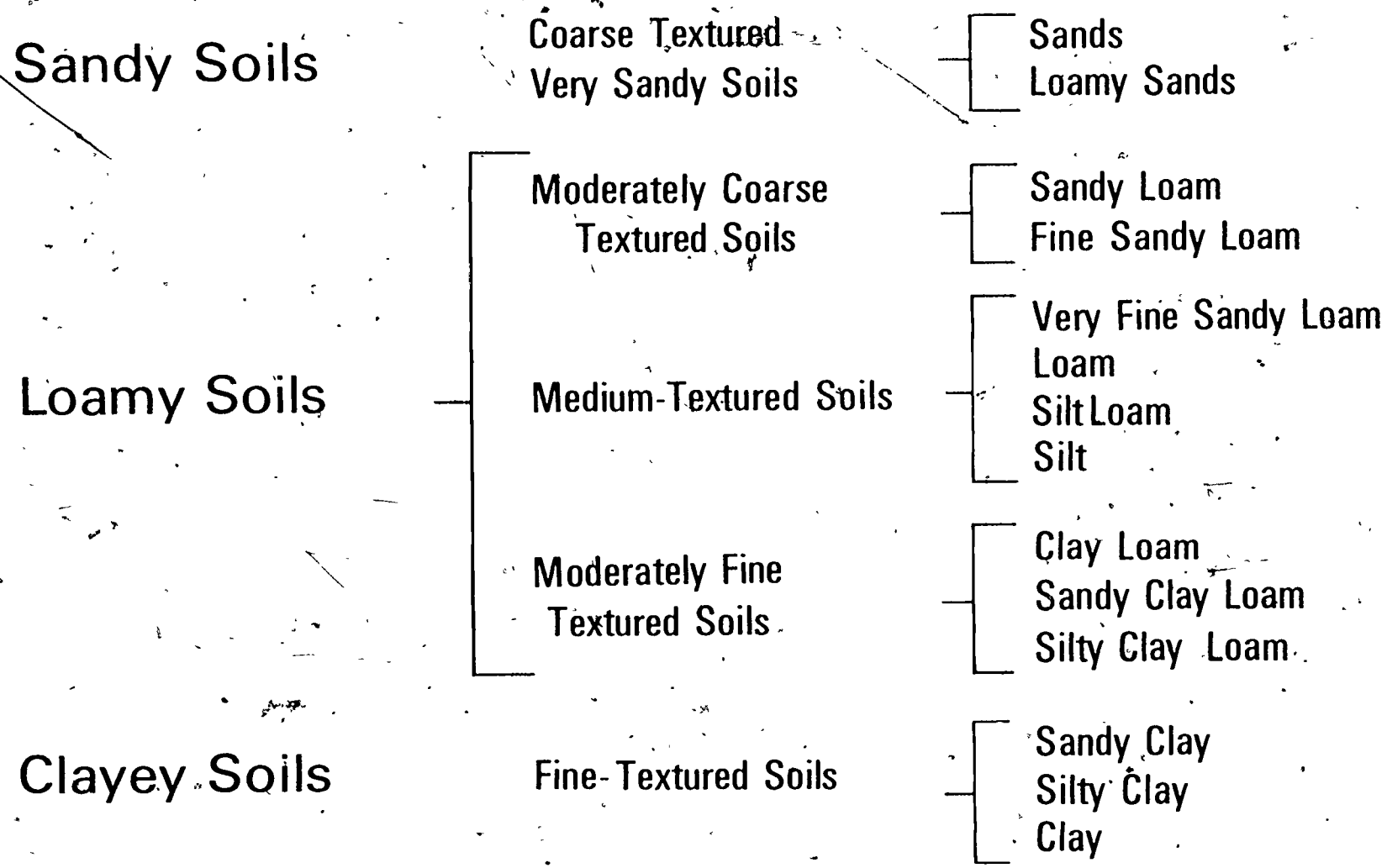
285

TM 1

Textural Groups and Soil Textures



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LAND JUDGING
UNIT I

ASSIGNMENT SHEET #1--SELECTING PROPER FERTILIZER AND SOIL AMENDMENTS

Select the proper amendments for the following deficiencies.

1. _____Soil deficient in phosphorus
2. _____Soil deficient in potassium
3. _____Soil deficient in nitrogen and potash
4. _____Soil deficient in N, P, and K
5. _____Soil deficient in N
6. _____Soil is acid

a. Lime
b. Phosphate
c. Potash
d. Nitrogen
e. Nitrogen, phosphate, and potash

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LAND JUDGING
UNIT I

ASSIGNMENT SHEET #2--COMPLETING LAND JUDGING SCORE CARD

Apply the following land class factors and field conditions to the judging score card.

1. Texture--Feel of wheat flour
2. Permeability--Granular, clay loam
3. Depth--Twenty-six inches
4. Slope--Three and one-half feet fall in each 100 feet
5. Erosion--Thirty percent of top soil removed, no gullies
6. Surface drainage--Excessive runoff
7. Soil tests--Show deficiencies in nitrogen

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ASSIGNMENT SHEET #2

LAND JUDGING SCORE CARD

OKLAHOMA STATE UNIVERSITY EXTENSION

NL-1
Revised 1972

Contestant No. _____ Field No. _____

Name _____

Address _____

County or Chapter _____ Organization _____

Part 1 — Land Class Factors

Indicate by an X in the square with number

Score

A. SURFACE TEXTURE
- [ ] 1. Sandy soils
- [ ] 2. Loamy soils
- [ ] 3. Clayey soils

B. PERMEABILITY
- [ ] 1. Rapid
- [ ] 2. Moderate
- [ ] 3. Slow
- [ ] 4. Very slow

C. DEPTH OF SOIL
- [ ] 1. Deep
- [ ] 2. Moderately deep
- [ ] 3. Shallow
- [ ] 4. Very shallow

D. SLOPE
- [ ] 1. Nearly level
- [ ] 2. Gently sloping
- [ ] 3. Moderately sloping
- [ ] 4. Strongly sloping
- [ ] 5. Steep
- [ ] 6. Very steep

E. EROSION—WIND & WATER
- [ ] 1. None to slight
- [ ] 2. Moderate
- [ ] 3. Severe
- [ ] 4. Very severe

F. SURFACE RUNOFF
- [ ] 1. Rapid
- [ ] 2. Moderate
- [ ] 3. Slow
- [ ] 4. Very slow

G. MAJOR FACTORS that keep area out of Class I
- [ ] 1. Texture
- [ ] 2. Perm.
- [ ] 3. Depth
- [ ] 4. Slope
- [ ] 5. Erosion
- [ ] 6. Runoff
- [ ] 7. Wetness
- [ ] 8. Flooding
- [ ] 9. None

H. LAND CAPABILITY CLASS
- [ ] 1. Class I
- [ ] 2. Class II
- [ ] 3. Class III
- [ ] 4. Class IV
- [ ] 5. Class V
- [ ] 6. Class VI
- [ ] 7. Class VII
- [ ] 8. Class VIII

Part 2
Recommended Land Treatments

Needed for different land capability classes

Score

VEGETATIVE

Use soil conserving and/or soil improving crops:
- [ ] 1. Every 4th or 5th year
- [ ] 2. Every 3rd or 4th year
- [ ] 3. Every 2nd year
- [ ] 4. Every year
- [ ] 5. Do not burn crop residue
- [ ] 6. Residue management and/or minimum tillage
- [ ] 7. Establish recommended grass or grasses and legumes
- [ ] 8. Proper pasture and range management
- [ ] 9. Protect from burning
- [ ] 10. Control grazing
- [ ] 11. Plant recommended trees
- [ ] 12. Harvest trees selectively
- [ ] 13. Use only for wildlife or recreation area

MECHANICAL
- [ ] 14. Control brush or trees
- [ ] 15. Terrace and farm on contour
- [ ] 16. Maintain terraces
- [ ] 17. Construct diversion terraces
- [ ] 18. Install drainage system
- [ ] 19. Control gullies
- [ ] 20. No mechanical treatment needed

FERTILIZER & SOIL AMENDMENTS
- [ ] 21. Lime
- [ ] 22. Phosphate (P)
- [ ] 23. Potash (K)
- [ ] 24. Nitrogen (N)
- [ ] 25. Nitrogen, Phosphate and Potash (NKP)
- [ ] 26. Fertilizer or soil amendments not needed.

SCORE PART 1 (Possible 40) _____ SCORE PART 2 (Possible 30) _____ TOTAL SCORE (Possible 70) _____

LAND JUDGING
UNIT I

ANSWERS TO ASSIGNMENT SHEETS

Assignment Sheet #1

1. b
2. c
3. c and d
4. e
5. d
6. a

Assignment Sheet #2

Part I	Part II
A. 2	3, 5, 6, 15, 16, 24
B. 2	
C. 2	
D. 3	
E. 2	
F. 1	
G. 4, 5, 6	
H. 3	

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LAND JUDGING
UNIT I

TEST

1. Match the terms on the left with the definition on the right.

_____a. Erosion	1. Relative rate water is removed by flow over the soil surface
_____b. Substratum	2. Total thickness of topsoil and subsoil down to parent material
_____c. Permeability	3. Crops that prevent or retard erosion and tend to maintain rather than deplete soil organic matter
_____d. Subsoil	4. Conditions that hinder land and limit its capability
_____e. Topsoil	5. Number of feet fall in each 100 feet
_____f. Soil consistency	6. Classification of land according to its productive capacity and conservation treatment required to check erosion
_____g. Surface texture	7. Improve or replenish rather than deplete soil organic matter; improve soil structure and tilth
_____h. Soil structure	8. Ease with which air and water go down into the soil and return toward the surface
_____i. Surface runoff	9. Soil directly under our feet; "A" horizon zone in which seeds are planted and cultivated
_____j. Soil depth	10. Layer found just below the topsoil; this layer is the "B" horizon and the storehouse for moisture and minerals
_____k. Lime	11. Amount of soil that has been removed
_____l. Slope	12. Area immediately below the subsoil; this is "C" horizon
_____m. Capability class	
_____n. Soil conserving crops	
_____o. Soil improving crops	
_____p. Inhibitory factors	

13. Way that individual soil particles are grouped together to form clusters of particles

14. Way that soil particles hold together or resist being broken apart

15. Proportion of sand, silt, and clay in a soil mass

16. Calcareous ingredient that neutralizes acidity and supplies calcium to the soil

2. Name three reasons for judging land.

a.

b.

c.

3. Name the six factors used in determining the land capability class.

a.

b.

c.

d.

e.

f.

4. Match the terms on the left with the statements on the right indicating slope, erosion, permeability, and soil depth.

a. Slope

1) _____ Gently sloping	a)	Three to 5 feet fall in each 100 feet
2) _____ Nearly level	b)	More than 12 feet fall in each 100 feet
3) _____ Steep	c)	Eight to 12 feet fall in each 100 feet
4) _____ Moderately sloping	d)	Five to 8 feet fall in each 100 feet
5) _____ Very steep		
6) _____ Strongly sloping		

e) Less than 1 foot fall in each 100 feet

f) One to 3 feet fall in each 100 feet

b. Erosion

1) ___Severe

2) ___None to slight

3) ___Moderate

4) ___Very severe

a) Less than 25 percent surface soil removed with no gullies

b) Seventy-five percent or more of the surface soil removed with occasional uncrossable gullies and/or severe accumulation by wind

c) Seventy-five percent or more of surface soil removed with frequent uncrossable gullies and/or severe accumulation by wind

d) Twenty-five to 75 percent of surface soil removed with or without gullies

c. Surface runoff

1) ___Rapid

2) ___Moderate

3) ___Slow

4) ___Very slow

a) Normal runoff from soils with slopes of 1 to 3 percent; rapidly permeable soils excepted

b) Surface water flows rapidly; fields with slopes of 3 percent and above (except rapid permeability soils) would go in this catagory

c) Surface water flows away slowly; surplus water on clayey soils is an occasional problem

d) Surface water flows away very slowly; soils may remain wet for long periods of time

d. Permeability

1) _____Slow	a)	Soils that have sandy subsoils
2) _____Rapid	b)	Soils that have highly granular, clay loam subsoils
3) _____Very slow	c)	Soils that have dense, heavy clay or clay pan subsoils
4) _____Moderate	d)	Soils that have crumbly, clayey subsoils

e. Depth

1) _____Shallow	a)	Less than 10 inches deep
2) _____Deep	b)	Twenty to 36 inches deep
3) _____Very shallow	c)	Ten to 20 inches deep
4) _____Moderately deep	d)	More than 36 inches deep

5. Name the major groups of soil in relation to texture.

a. _____ includes moderately coarse, medium textured, and moderately fine textured soils

b. _____ includes fine-textured soils

c. _____ includes coarse textured, very sandy soils

6. Describe the feeling when the following soils are rubbed by the finger.

a. Loamy soils--

b. Clayey soils--

c. Sandy soils--

7. Match the capability class on the right with the correct definitions.

_____a. Soils having severe limitations that make them generally unsuited for cultivation and limits their use largely to pasture or range, woodland, or wildlife food and cover	1. Class I 2. Class II 3. Class III

_____b. Soils and land forms having limitations that preclude their use for commercial plant production and restrict their use to wildlife, recreation, water supply, or scenic purposes

_____c. Soils having severe limitations that reduce the choice of plants or require special conservation practices or both

_____d. Soils having little or no erosion hazards, but have other limitations that are impractical to remove that limits their use largely to pasture, range, woodland or wildlife food and cover; these may include very poor drainage with wet poorly drained profiles or frequently flood areas

_____e. Soils having very severe limitations that restrict the choice of plants, require very careful management, special conservation or both

_____f. Soils having some limitations that reduce the choice of plants or require moderate conservation practices

_____g. Soils having few limitations that restrict their use; overhead water does not change the land class; treatment is usually on adjacent soils

_____h. Soils having very severe limitations that make them unsuited for cultivation and restricts their use largely to grazing, woodland, or wildlife

4. Class IV
5. Class V
6. Class VI
7. Class VII
8. Class VIII

8. Classify the eight land capability classes according to their proper usage by writing the class number or numbers by the statement

a. Suited for cultivation and other uses such as grazing, forestry, or wildlife food and cover_____

b. Land not suited for cultivation, grazing, or forestry_____

c. Land not suited for cultivation; suited for grazing, forestry, or wildlife food and cover_____

9. Select the best land class possible for each of the following factors.

_____a. Loamy soil

_____b. Shallow depth

_____c. Slow permeability

_____d. Strongly sloping

_____e. Severe erosion

_____f. Very slow surface runoff

10. Select the recommended land treatments for Class V land that has an overhead water problem and soil test indicates a acid soil by placing an "X" in the blank to the left.

Vegetative

_____a. Use soil conserving and/or soil improving crops every fourth or fifth year

_____b. Use soil conserving and/or soil improving crops every third or fourth year

_____c. Use soil conserving and/or soil improving crops every second year

_____d. Use soil conserving and/or soil improving crop every year

_____e. Do not burn crop residue

_____f. Use residue management and/or minimum tillage

_____g. Establish recommended grass or grasses and legumes

_____h. Use proper pasture and range management

_____i. Protect land from burning

_____j. Use control grazing

_____k. Plant recommended trees

_____l. Harvest trees selectively

_____m. Use only for wildlife or recreation area

Mechanical

_____n. Control brush or trees

_____o. Terrace and farm on contour

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_____p. Maintain terraces

_____q. Construct diversion terraces

_____r. Install drainage system

_____s. Control gullies

_____t. No mechanical treatment needed

Fertilizer and soil amendments

_____u. Lime

_____v. Phosphate (P)

_____w. Potash (K)

_____x. Nitrogen (N)

_____y. Nitrogen, phosphate, and potash (NKP)

11. Circle the letter of the soil amendment that would be made to land that was highly acid.

    a. Nitrogen

    b. Nitrogen and potash

    c. Lime

12. Apply the following land class factors and field conditions to the judging score card.

    a. Texture--When rubbed between the fingers the soil feels sticky

    b. Permeability--Crumbly, clayey subsoil

    c. Depth--Eighteen inches

    d. Slope--Six inch fall in each 100 feet

    e. Erosion--Twenty percent of topsoil removed; no gullies

    f. Surface drainage--Surplus water is an occasional problem

    g. Soil test show deficiencies in potash

    h. No mechanical treatment needed

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LAND JUDGING SCORE CARD

OKLAHOMA STATE UNIVERSITY EXTENSION

NL-1
Revised 1972

Contestant No. _____ Field No. _____

Name _____

Address _____

County or Chapter _____ Organization _____

Part 1 — Land Class Factors

Indicate by an X in the square with number

Score

A. SURFACE TEXTURE
- 1 Sandy soils
- 2 Loamy soils
- 3 Cloyey soils

B PERMEABILITY
- 1 Rapid
- 2. Moderate
- 3 Slow
- 4 Very slow

C DEPTH OF SOIL
- 1 Deep
- 2 Moderately deep
- 3 Shallow
- 4 Very shallow

D SLOPE
- 1 Nearly level
- 2. Gently sloping
- 3 Moderately sloping
- 4 Strongly sloping
- 5. Steep
- 6 Very steep

E EROSION—WIND & WATER
- 1. None to slight
- 2 Moderate
- 3 Severe
- 4 Very severe

F SURFACE RUNOFF
- 1 Rapid
- 2. Moderate
- 3. Slow
- 4. Very slow

G. MAJOR FACTORS that keep area out of Class I
- 1. Texture
- 2. Perm.
- 3 Depth
- 4. Slope
- 5. Erosion
- 6. Runoff
- 7. Wetness
- 8. Flooding
- 9. None

H. LAND CAPABILITY CLASS
- 1. Class I
- 2. Class II
- 3. Class III
- 4. Class IV
- 5. Class V
- 6. Class VI
- 7. Class VII
- 8. Class VIII

Part 2

Recommended Land Treatments

Needed for different land capability classes

Score

VEGETATIVE

Uss soil conserving and/or soil improving crops
- 1. Every 4th or 5th year
- 2 Every 3rd or 4th year
- 3. Every 2nd year
- 4. Every year
- 5 Do not burn crop residue
- 6 Residue monagement and/or minimum tillage
- 7 Estoblish recommended gross or grosses and legumes
- 8 Proper pasture and range management
- 9. Protect from burning
- 10 Control grazing
- 11. Plant recommended trees
- 12. Horvest trees selectively
- 13 Use only for wildlife or recreation atea

MECHANICAL
- 14 Control brush or trees
- 15. Terrace and farm on contour
- 16 Maintain terraces
- 17. Construct diversion terraces
- 18. Install drainage system
- 19. Control gullies
- 20. No mechanical treatment needed

FERTILIZER & SOIL AMENDMENTS
- 21. Lime
- 22. Phosphate (P)
- 23. Potash (K)
- 24. Nitrogen (N)
- 25. Nitrogen, Phosphate and Potash (NKP)
- 26. Fertilizer or soil amendments not needed.

SCORE PART 1 (Possible 40)_____ SCORE PART 2 (Possible 30)_____ TOTAL SCORE (Possible 70)_____

(NOTE: The ability to judge a field using the land judging score card (Objective 12b) will be demonstrated at the discretion of the instructor.

LAND JUDGING
UNIT I

ANSWERS TO TEST

1. a. 11
   b. 12
   c. 8
   d. 10
   e. 9
   f. 14
   g. 15
   h. 13
   i. 1
   j. 2
   k. 16
   l. 5
   m. 6
   n. 3
   o. 7
   p. 4

2. Any three of the following:
   a. Aids in the understanding and importance of basic soil differences as they affect crop production and erosion
   b. Helps to determine management practices important to proper use of soil and water
   c. Develops understanding of different soil and water conservation practices
   d. Aids in understanding the influence of land features on production and land protection

3. a. Surface texture
   b. Permeability
   c. Depth of soil
   d. Slope
   e. Erosion
   f. Surface runoff

4. a. 1) f)
      2) e)
      3) c)
      4) a)
      5) b)
      6) d)
   b. 1) b)
      2) a)
      3) d)
      4) c)
   c. 1) b)
      2) a)
      3) c)
      4) d)
   d. 1) d)
      2) a)
      3) c)
      4) b)
   e. 1) c)
      2) d)
      3) a)
      4) b)

5. a. Loamy soil
   b. Clayey soil
   c. Sandy soil

6. a. Loamy soil--Has a touch of velvet or feel of wheat flour
   b. Clayey soil--Sticky feeling when rubbed between fingers
   c. Sandy soil--Rough, gritty feeling

7. a. 6
   b. 8
   c. 3
   d. 5
   e. 4
   f. 2
   g. 1
   h. 7

8. a. I, II, III, IV
   b. VIII
   c. V, VI, VII

9. a. I
   b. III
   c. I
   d. IV
   e. VI
   f. II

10. g
    h.
    i
    j.

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l q
r
u

11. c

12. Part I

LAND JUDGING SCORE CARD

OKLAHOMA STATE UNIVERSITY-EXTENSION

NL-1
Revised 1972

Contestant No. _____ Field No. _____

Name _____

Address _____

County or Chapter _____ Organization _____

Part 1 — Land Class Factors

Indicate by an X in the square with number

Score	
	A. SURFACE TEXTURE ☐ 1 Sandy soils ☐ 2 Loamy soils ☒ 3 Clayey soils
	B PERMEABILITY ☐ 1. Rapid ☐ 2. Moderate ☒ 3. Slow ☐ 4. Very slow
	C. DEPTH OF SOIL ☐ 1. Deep ☐ 2. Moderately deep ☒ 3. Shallow ☐ 4 Very shallow
	D. SLOPE ☒ 1. Nearly level ☐ 2. Gently sloping ☐ 3. Moderately sloping ☐ 4. Strongly sloping ☐ 5 Steep ☐ 6 Very steep
	E. EROSION—WIND & WATER ☒ 1. None to slight ☐ 2. Moderate ☐ 3. Severe ☐ 4. Very severe
	F. SURFACE RUNOFF ☐ 1 Rapid ☐ 2 Moderate ☒ 3. Slow ☐ 4. Very slow
	G. MAJOR FACTORS that keep area out of Class I ☐ 1. Texture ☐ 5. Erosion ☐ 2. Perm. ☐ 6. Runoff ☒ 3. Depth ☐ 7. Wetness ☐ 4. Slope ☐ 8. Flooding ☐ 9. None
	H. LAND CAPABILITY CLASS ☐ 1. Class I ☐ 5. Class V ☐ 2. Class II ☐ 6. Class VI ☒ 3. Class III ☐ 7. Class VII ☐ 4. Class IV ☐ 8. Class VIII

Part 2
Recommended Land Treatments

Needed for different land capability classes

Score	
	VEGETATIVE Use sod conserving and/or soil improving crops. ☐ 1 Every 4th or 5th year ☐ 2. Every 3rd or 4th year ☒ 3. Every 2nd year ☐ 4. Every year ☒ 5 Do not burn crop residue ☒ 6. Residue management and/or minimum tillage. ☐ 7. Establish recommended grass or grasses and legumes ☐ 8. Proper pasture and range management ☐ 9. Protect from burning ☐ 10. Control grazing ☐ 11. Plant recommended trees ☐ 12. Harvest trees selectively ☐ 13. Use only for wildlife or recreation area
	MECHANICAL ☐ 14. Control brush or trees ☐ 15. Terrace and farm on contour ☐ 16. Maintain terraces ☐ 17. Construct diversion terraces ☐ 18. Install drainage system ☐ 19. Control gullies ☒ 20. No mechanical treatment needed
	FERTILIZER & SOIL AMENDMENTS ☐ 21. Lime ☐ 22. Phosphate (P) ☒ 23. Potash (K) ☐ 24 Nitrogen (N) ☐ 25. Nitrogen, Phosphate and Potash (NKP) ☐ 26 Fertilizer or soil amendments not needed.

SCORE PART 1 (Possible 40) _____ SCORE PART 2 (Possible 30) _____ TOTAL SCORE (Possible 70) _____

(NOTE: Objective 12b will be evidenced on a field trip.)

SOIL SAMPLING
UNIT II

TERMINAL OBJECTIVE

After the completion of this unit, the student should be able to demonstrate the proper procedure for obtaining a representative soil sample from a given field and prepare this sample for mailing and or processing. This knowledge will be evidenced through demonstration and by scoring eighty-five percent on the unit test.

SPECIFIC OBJECTIVES

After completion of this unit, the student should be able to:

1. Match terms associated with soil testing with the proper definitions.
2. Explain in writing reasons for testing soil.
3. Select from a list major items for which soils are tested.
4. Select the procedure for collecting representative soil samples from a given field.
5. Select from a list areas from which soil samples should not be taken.
6. Name items of information that should be submitted with soil samples, in order for proper fertilizer recommendations to be made.
7. Identify four tools used in collecting soil samples.
8. Name two locations in Oklahoma where soil samples can be sent for testing.
9. Demonstrate the ability to secure a soil sample and prepare it for mailing or processing.

SOIL SAMPLING
UNIT II

SUGGESTED ACTIVITIES

I. Instructor:

A. Provide students with objective sheet.

B. Provide students with information and assignment sheets.

C. Make transparencies.

D. Discuss terminal and specific objectives.

E. Discuss information and assignment sheets.

F. Conduct field trip to perform the steps of soil sampling.

G. Give test.

II. Student:

A. Read objective sheet.

B. Study information sheet.

C. Complete assignment sheets.

D. Participate in field trip to perform the steps of soil sampling.

E. Take test.

INSTRUCTIONAL MATERIALS

I. Included in this unit:

A. Objectives

B. Information sheet

C. Transparency masters

1. TM 1--Dividing a Field to be Sampled
2. TM 2--Using Sampling Tools
3. TM 3--Tools Used in Collecting Samples

D. Assignment sheets

1. Assignment Sheet #1--Selecting Sampling Sites

2. Assignment Sheet #2--Securing a Soil Sample

E. Answers to assignment sheets

F. Test

G. Answers to test

II. References:

A. *Soils,* Publication AP-8. Blacksburg, Virginia: Agri-Education, College of Education, Virginia Polytechnic Institute and State University, 1972.

B. "Testing Soil for Fertilizer Needs," OSU Extension Fact Sheet No. 2207. Stillwater, Oklahoma: Extension Service, Oklahoma State University.

SOIL SAMPLING
UNIT II

INFORMATION SHEET

I. Terms and definitions

A. Fertilizer--Any natural or manufactured material added to the soil in order to supply one or more plant nutrients

B. Fertilizer analysis--Refers to the minimum percentage of nitrogen, available phosphorus, and water soluble potash in a fertilizer

C. Soil pH--Refers to the degree of acidity or alkalinity of a soil

(NOTE: "pH" is an abbreviation for "potential hydrogen"; used chemically to express the hydrogen ion concentration of a solution.)

D. Alkaline soils--Soils having a pH reading of above 7.0

E. Acidic soils--Those soils having a pH reading less than 7.0

(NOTE: Each pH unit below 7.0 indicates an increase in acidity of ten times over the preceeding pH value. Each unit above 7.0 indicates ten times increase in alkalinity.)

F. Organic matter--That fraction of soil which results from decomposition of vegetable and animal matter through the action of bacteria

(NOTE: The nitrogen in soil is largely stored in the organic matter.)

G. Soil test--A chemical means of determining the nutrient supplying power of a soil

II. Reasons for soil testing

A. Estimates how much of a particular nutrient the soil will provide to a crop

B. Determines the balance of available plant food nutrients

C. Measures the degree of soil acidity and soil alkalinity

III. Major items for which soils are tested

A. Phosphorus

B. Potassium

INFORMATION SHEET

C. Nitrogen

(NOTE: The test is often for organic matter since nitrogen is almost in direct proportion to organic matter.)

D. Calcium

E. Magnesium

F. Hydrogen ion concentration--pH test

IV. Procedure for collecting representative soil samples for a given field (Transparencies 1 and 2)

A. Divide fields to be sampled into uniform areas of not more than ten acres

(NOTE: Uniform areas may be divided into forty acres.)

B. Samples should be taken from plow depth in cropland and from the top two or three inches in pasture land

C. Samples of uniform size should be put in a bucket and mixed

(NOTE: If tests are to be made for micronutrients use only a clean plastic bucket.)

D. Approximately five to ten samples should be taken in each field or area

E. Approximately one pint of the mixed soil should be placed in a suitable container

(NOTE: A small plastic bag is ideal.)

V. Areas from which soil samples should not be taken

A. Eroded spots

B. Areas with visible differences in soils

C. Small areas of noticeable differences in crop growth within a field

D. Back furrows

E. Small depressions

F. Areas in field that have been manured, limed, or otherwise treated differently

G. Fence rows

INFORMATION SHEET

H. Road beds

VI. Information submitted with sample

A. Name of county

B. Name and address of farmer

C. Size and location of field

D. Fertilizer history

E. Cropping history

F. Crop to be grown

G. Expected yield

VII. Tools used in collecting samples (Transparency 3)

A. Soil probe

B. Spade

C. Trowel

D. Soil auger

VIII. Location where soil samples can be sent for testing.

A. Soil and Water Laboratory--Oklahoma State University

B. Noble Foundation--Ardmore, Oklahoma

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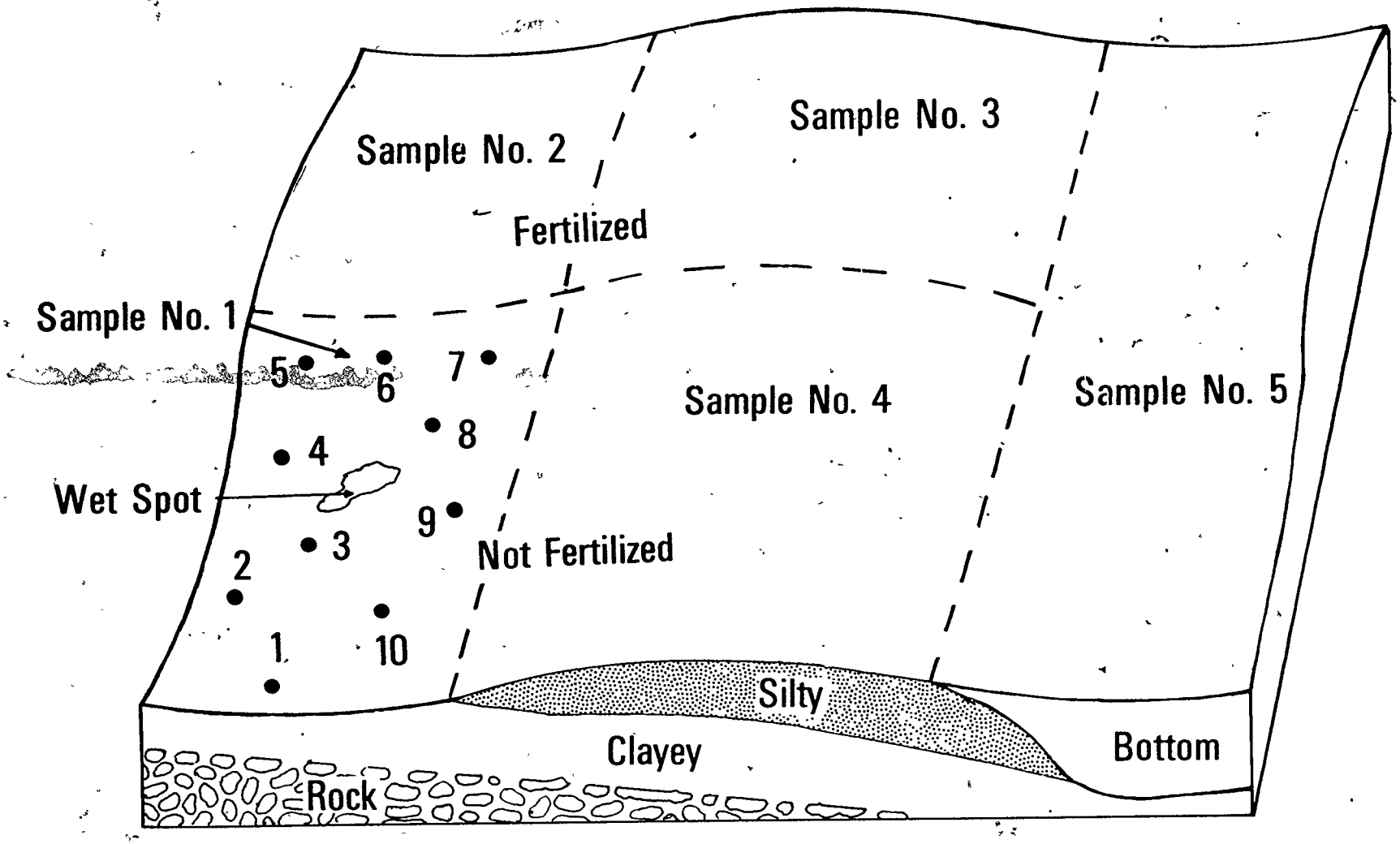
Dividing a Field to be Sampled



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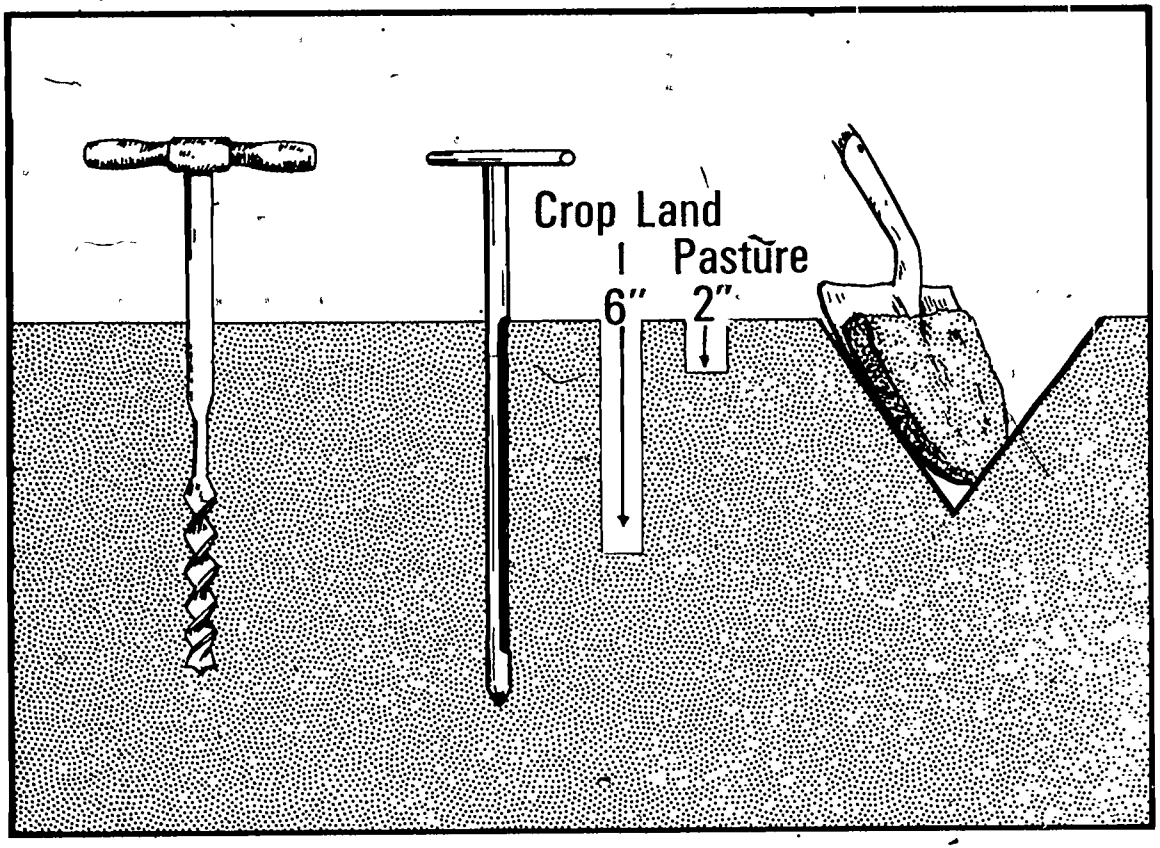
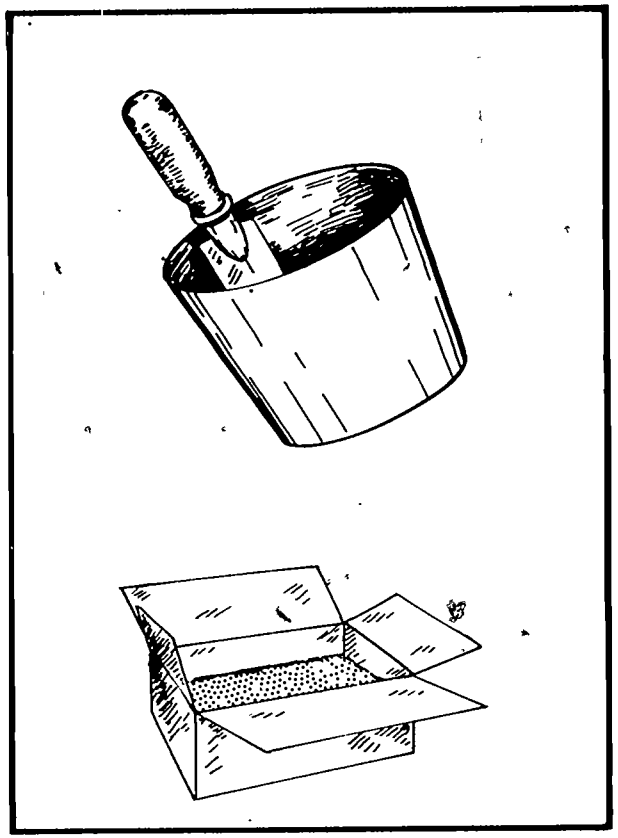
Using Sampling Tools



Use Proper Sampling Tools



Mix Well in a Clean Pail

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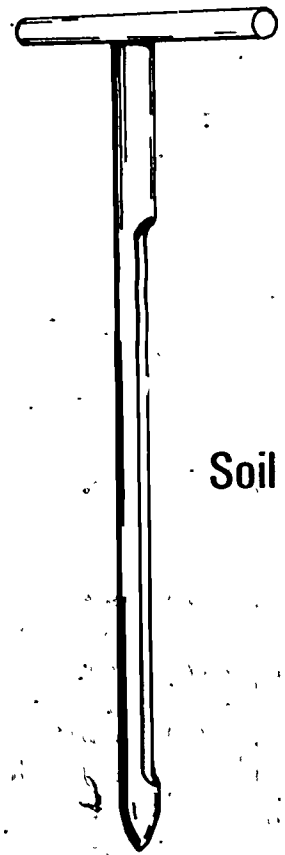
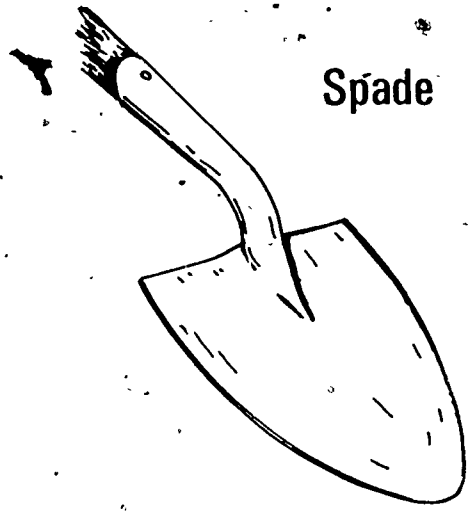
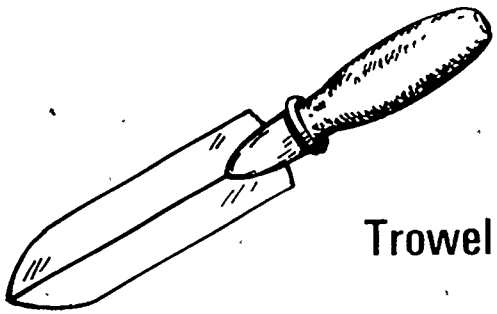
Tools Used in Collecting Samples



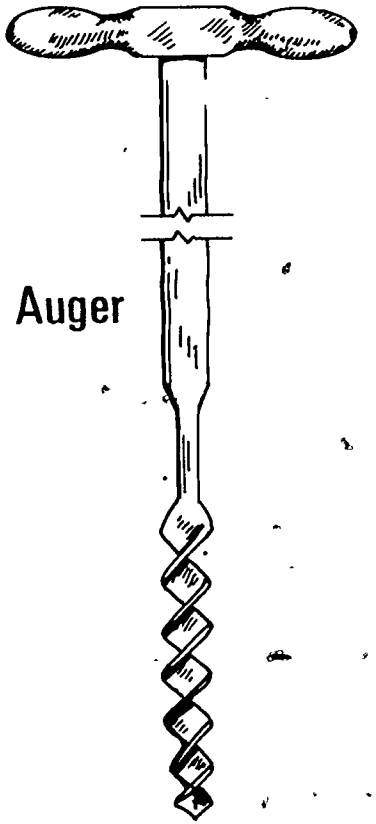
Soil Probe



Spade



Trowel



Soil Auger

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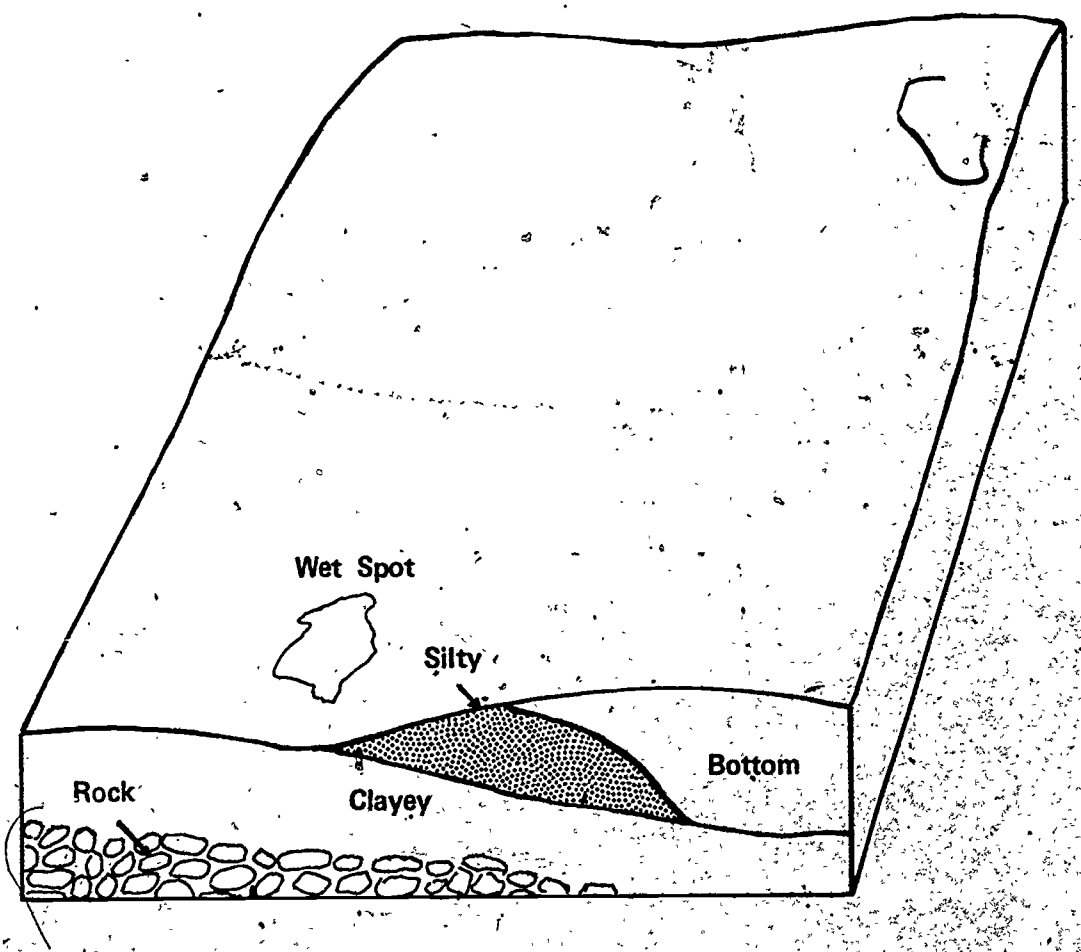
SOIL SAMPLING
UNIT II

ASSIGNMENT SHEET #1--SELECTING SAMPLING SITES

Using the drawing below, complete the following tasks. When completed return to the instructor for his evaluation.

1. Divide a field into sampling areas.
2. Place a small number on each sampling site within one of the divided areas.



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SOIL SAMPLING
UNIT II

ASSIGNMENT SHEET #2--SECURING A SOIL SAMPLE

Survey a field on your home farm or neighboring farm and complete the following steps:

1. Divide the field into sampling areas.
2. Obtain necessary samples from the sampling area.
3. Prepare one composite sample for testing along with the completion of the following information.

Soil & Water Laboratory
Agronomy Department

Oklahoma State University Extension
Stillwater, Oklahoma 74074

Sender's Sample No._____ State Lab No._____

County_____ Farm No._____ Field No._____ Acres_____

Name_____ Address_____

Sample Location_____

Soil is: (circle one in each column)

Level	Not eroded	Upland	Sand	Deep
Gently sloping	Eroded	Bench	Sandy loam	Moderately deep
Rolling	Severely eroded	Bottom	Loam	Shallow
			Clay	Very shallow

CROP HISTORY

Last Year_____ Yield_____ Kind & Amt.of Fert._____

2 Years Back_____ Yield_____ Kind & Amt.of Fert._____

3 Years Back_____ Yield_____ Kind & Amt.of Fert._____

FERTILIZER HISTORY

Lime Used
When?_____ How much?_____

Circle one

Dryland Irrigated (ample water) Irrigated-limited water

Crop to be grown_____ Yield Goal_____

Production Problems_____

ANALYSES			RECOMMENDATION
Soil pH		Lime	
Buffer Index			
% O. M.			
Nitrate (surf)		N	
Nitrate (sub)			
Phosphorus		P_2O_5	
Potassium		K_2O	
Calcium		Ca	
Magnesium		Mg	
Iron		Fe	
Zinc		Zn	
Manganese		Mn	
Boron		B	
Other			

Remarks:_____

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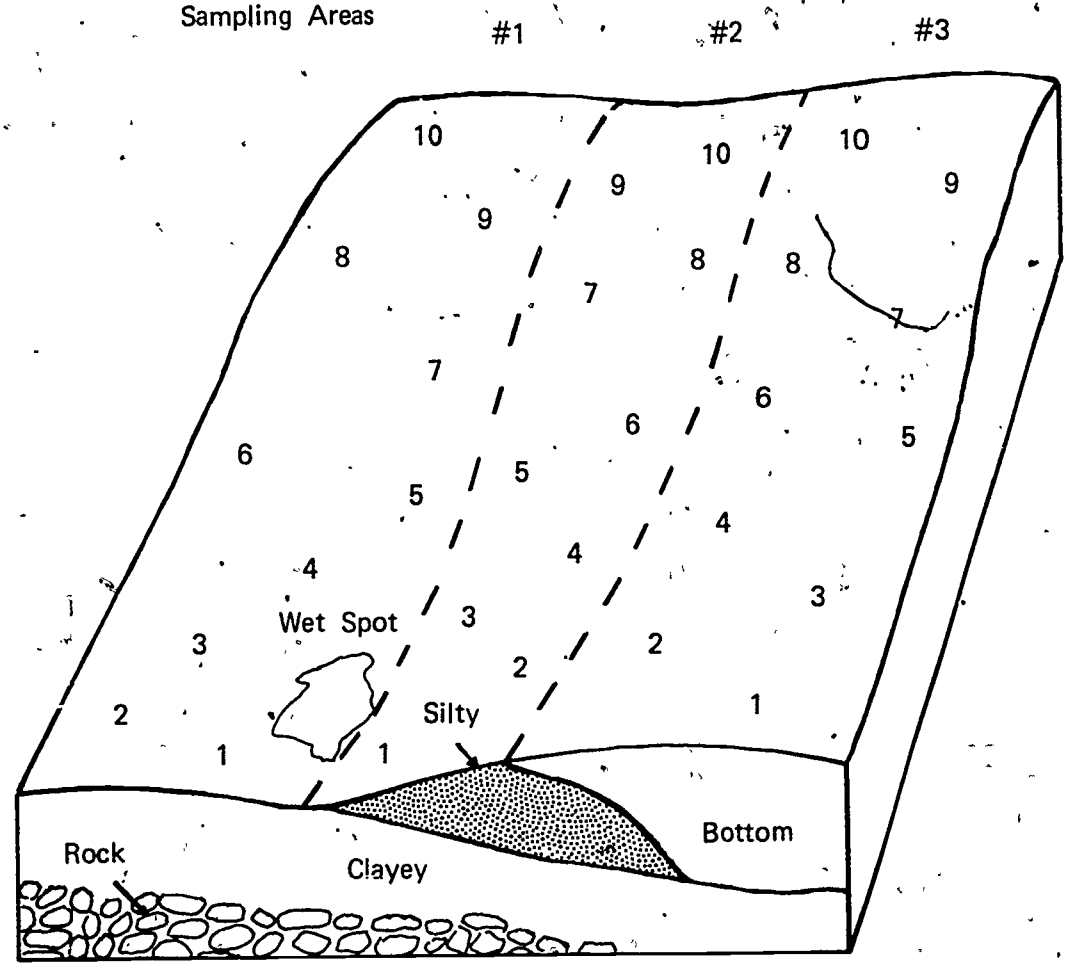
SOIL SAMPLING
UNIT II

ANSWERS TO ASSIGNMENT SHEETS

Assignment Sheet #1



(NOTE: The student is responsible for only one sampling area. The above sampling sites are only suggested but should be representative of the entire sampling area.)

Assignment Sheet #2--Answers will vary with individual students

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SOIL SAMPLING
UNIT II

TEST

1. Match the terms on the right to the correct definition.

_____a.	Refers to the degree of acidity or alkalinity of a soil	1. Fertilizer
_____b.	Refers to the minimum percentage of nitrogen, available phosphorus, and water soluble potash in a fertilizer	2. Soil pH
_____c.	Any natural or manufactured material added to the soil in order to supply one or more plant nutrients	3. Organic matter
_____d.	Soils having a pH reading of above 7.0	4. Soil test
_____e.	A chemical means of determining the nutrient supplying power of a soil	5. Acidic soils
_____f.	Those soils having a pH reading less than 7.0	6. Alkaline soils
_____g.	That fraction of soil which results from decomposition of vegetable and animal matter through the action of bacteria	7. Fertilizer analysis

2. Explain in writing two reasons for testing soil.

   a.

   b.

3. Select from the list below, four major items for which soils are tested. Circle the correct answers.

   a. Nitrogen

   b. Calcium

   c. Zinc

d. Manganese

e. Phosphorus

f. Iron

g. Potassium

4. Place an "X" in the blank to select the procedure to use for collecting a representative soil sample.

_____a. Five to ten samples should be taken in each field or area

_____b. Divide fields to be sampled into uniform areas of not not more than sixty acres

_____c. Samples should be taken from the depth of six to eight inches in cropland and pasture land

_____d. Samples of uniform size should be placed in a bucket and mixed

_____e. Approximately one quart of the mixed soil should be placed in a suitable container

5. Select from the list below, areas from which samples should not be taken. Circle the unsuitable sites.

a. Bottom land

b. Fence rows

c. Pasture land

d. Upland

e. Back furrows

f. Eroded spots

g. Acid soils

6. Name five items of information that should be submitted with the soil sample, in order to make proper fertilizer recommendations.

a.

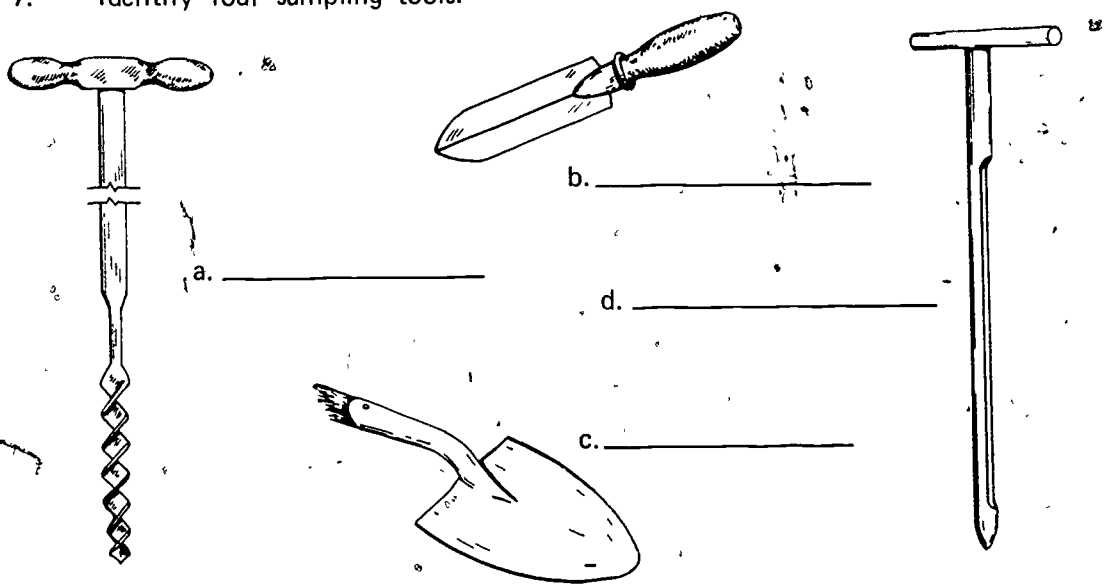
b.

c.

d.

e.

7. Identify four sampling tools.



a. _____

b. _____

c. _____

d. _____

8. Name two locations in Oklahoma where soil samples can be sent for testing.

9. Demonstrate the ability to secure a soil sample and prepare it for mailing or processing.

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SOIL SAMPLING
UNIT III

ANSWERS TO TEST

1. a. 2
   b. 7
   c. 1
   d. 6
   e. 4
   f. 5
   g. 3

2. Any two of the following:
   a. Estimates how much of a particular nutrient the soil will provide to a crop
   b. Determines the balance of available plant food nutrients
   c. Measures the degree of soil acidity and soil alkalinity

3. a
   b
   e
   g

4. a
   d

5. b
   e
   f

6. Any five of the following:
   a. Name of county
   b. Name and address of farmer

c. Size and location of field

d. Fertilizer history

e. Cropping history

f. Crop to be grown

g. Expected yield

7. a. Soil auger

b. Trowel

c. Spade

d. Soil probe

8. a. Soil and Water Laboratory--Oklahoma State University

b. Noble Foundation--Ardmore, Oklahoma

9. Performance skills will be evaluated to the satisfaction of the instructor.

SOIL SURVEY REPORTS AND LEGAL LAND DESCRIPTION
UNIT III

TERMINAL OBJECTIVE

After completion of this unit, the student should be able to interpret a soil survey report and understand the uses and benefits from such a report. The student should be able to interpret a legal land description and identify within the state of Oklahoma any given piece of rural property. This knowledge will be evidenced through demonstration and by scoring eighty-five percent on the unit test.

SPECIFIC OBJECTIVES

After completion of this unit, the student should be able to:

1. Match terms associated with soil survey reports and legal land description.
2. Match the system of surveying with the states or areas in which they apply.
3. Label the principal meridians and base lines when drawn on a map of Oklahoma.
4. Identify the proper section number within the township.
5. Interpret a legal land description by determining the number of acres involved.
6. Identify the exact location of a given piece of rural property using legal description.
7. List procedures used in making a soil survey report.
8. Select from a list six items of information contained in a soil survey report.
9. Select from a list five groups of people that benefit most from soil survey reports.
10. Select, when given a list, the uses a farmer can make of soil survey reports.
11. Demonstrate the ability to follow listed steps in locating information contained in a soil survey report.

SOIL SURVEY REPORTS AND LEGAL LAND DESCRIPTION
UNIT III

SUGGESTED ACTIVITIES

I. Instructor:

A. Provide students with objective sheet.

B. Provide students with information sheet.

C. Make transparencies.

D. Discuss terminal and specific objectives.

E. Discuss information sheet.

F. Provide students with assignment sheets.

G. Provide a Soil Survey Report for student reference.

H. Give test.

II. Student:

A. Read objectives.

B. Study information sheet.

C. Complete material contained in assignment sheets.

D. Take test.

INSTRUCTIONAL MATERIALS

I. Included in this unit:

A. Objectives

B. Information sheet

C. Transparency masters

1. TM 1--Numbering River Lots and Correction Lots
2. TM 2--A Soil Profile
3. TM 3--Locating Principal Meridians and Base Lines in Oklahoma

4. TM 4--Numbering Sections Within Township

5. TM 5--Dividing Sections into Smaller Tracts

6. TM 6--Reading a Map

D. Assignment sheets

1. Assignment Sheet #1--Identifying the Section Number Within a Township

2. Assignment Sheet #2--Interpreting Number of Acres Involved in Legal Land Descriptions

3. Assignment Sheet #3--Identifying Rural Property in Oklahoma

4. Assignment Sheet #4--Locating Information Within a Soil Survey Report

E. Answers to assignment sheets

F. Test

G. Answers to test

II. References:

A. OSU Extension Facts. *Legal Land Descriptions in Oklahoma.* Extension Service, Oklahoma State University, Stillwater, Oklahoma.

B. *Soil*, Extension Bulletin #9, Cooperative Extension Service, North Dakota State University. Fargo, North Dakota.

C. *Soil Survey Ottawa County Oklahoma.* United States Department of Agriculture Soil Conservation Service. U.S. Government Printing Office Washington, D.C.

SOIL SURVEY REPORTS AND LEGAL LAND DESCRIPTION
UNIT III

INFORMATION SHEET

I. Terms and definitions

A. Legal description--Exact location of a property

B. Base line--Line running both east and west that extends across lands to be surveyed

C. Standard parallel lines--Run east or west every twenty-four miles parallel to the base line

(NOTE: These lines are numbered consecutively north or south from the base line.)

D. Principal meridian (PM)--Runs both north and south from the initial point and extends across the area to be surveyed

(NOTE: There are twenty-seven principal meridians in U.S., two of which are used for Oklahoma surveys.)

E. Guide meridians lines--Run north or south, every twenty-four miles, almost parallel to the principal meridian and are numbered consecutively east or west from the principal meridian

(NOTE: Convergence because of the earth's shape prevents them from being truly parallel and accounts for the correction made on some north and south public roads.)

F. Township (T)--A division of territory six miles long on its south, east, and west boundaries and is slightly less than six miles on the north, which accounts for the correction lines located every six miles on the base line and on the standard parallel

G. Range (R)--Row or line of north-south townships, six miles apart and numbered consecutively east or west from the principal meridian

H. Section (sec.)--Composed of approximately 640 acres and measures one square mile

(NOTE: North and west tier of sections within a township may be more or less than one square mile, usually less.)

I. Quarter-section (1/4)--Consists of 160 acres

(NOTE: Quarter-section is identified by direction with respect to the section as northeast (NE), southeast (SE), northwest (NW), or southwest (SW).)

INFORMATION SHEET

(NOTE: Quarter-sections bordering the west and north side of township do not always contain 160 acres.)

J. Correction lot--Fractional 40 acre tracts found on the west and north border of a township (Transparency 1)

K. River lot--Fractional 40 acre tracts found along rivers that have a mean high water mark of 132 feet or more (Transparency 1)

(NOTE: The area between the high water mark belongs to the state thus reducing the size to less than a forty acre tract.)

L. Soil survey--Inventory of the soil resources found in a county or area

M. Soil symbol--Manner of identifying soil areas having the same kind of soil

N. Soil association map--Map which gives a broad picture of the distribution of landscapes that have a distinctive pattern of soils that occur together

O. Soil series--Group of soils similar in differentiating characteristics

P. Capability unit--A grouping of soils that shows how suitable soils are for most kinds of farming

Q. Range sites--Kinds of range land that differ from each other in their ability to produce vegetation

R. Engineering classification--Classification of soil properties that are of special interest to engineers

(NOTE: Most important factors are: permeability to water, shear strength, compaction characteristics, soil drainage, shrink-swell characteristics, texture, plasticity and pH.)

S. Permeability--Ease with which air and water go down into the soil and return toward the surface

T. Soil profile--Vertical section of the soil through all its horizons and extending into the parent material (Transparency 2)

U. Soil horizons--A layer of soil that has distinct characteristics produced by soil-forming processes (Transparency 2)

II. Surveying systems used in U.S.

A. Metes-and-bounds--Used by the thirteen original colonies

B. Vara--Used by the state of Texas

C. Rectangular system (U.S. Land Survey System)--Applies primarily to all states except Texas and original thirteen colonies

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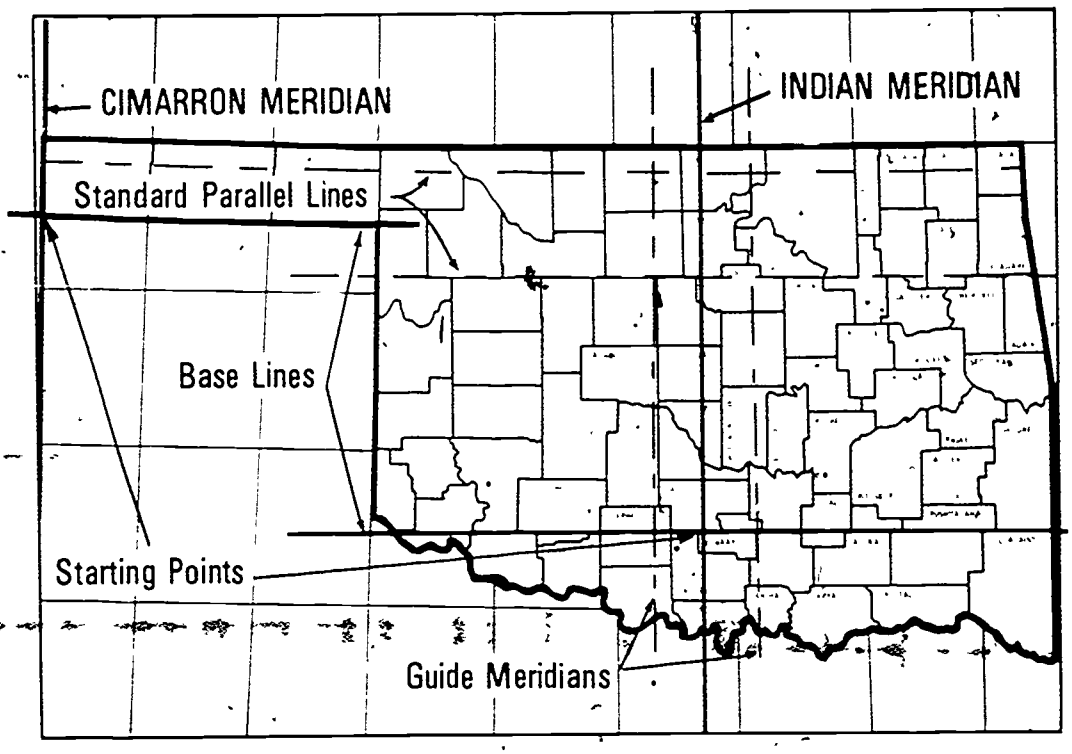
INFORMATION SHEET

III. Principal meridians and base lines--All legal land descriptions in Oklahoma include Indian or Cimarron Meridan (Transparency 3)

Locating Principal Meridians and Base Lines in Oklahoma



INFORMATION SHEET

IV. Procedure for numbering sections within township--Numbering always with 1 in the upper right hand corner and proceeds in a serpentine fashion to the bottom right hand corner of the township to number 36 (Transparency 4)

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

V. Determining number of acres included in legal land description (Transparency 5)

A. Section--Indicates 640 acres

B. Two letters appearing together (SW, NE, NW, or SE) indicates 1/4 of whatever follows

C. One letter (N, S, E, or W) may or may not be followed by 1/2 or 2, always means 1/2 of whatever follows

D. The word "and" means we are beginning the description of another tract

(NOTE: Acreage can quickly be determined by reading the description backward.)

Example: S 1/2 SE 1/4 NW 1/4 SEC. 7 and SE 1/4 SE 1/4 SEC. 7

1. 20 acres referred to in first legal description S 1/2 SE 1/4 NW 1/4 SEC. 7

INFORMATION SHEET

2. 40 acres referred to in last legal description SE 1/4 SE 1/4 SEC. 7

VI. Locating rural property within Oklahoma (Transparency 3)

A. Locate initial or starting point

1. Point where Cimarron Meridian (CM) intersects with base line is initial point for Panhandle counties

2. Point where Indian Meridian (IM) intersects base line is initial point for main body of Oklahoma

B. Locate township--Every township is described with reference to the intersection of the principal meridian and the base line (Transparency 6)

1. Each east-west tier of townships is numbered consecutively, north or south from the base line

Example: Township 2 north (T2N) or township 4 south (T4S)

2. Each range is numbered consecutively east or west from the principal meridian

Example: Range 2 east (R2E) or range 5 west (R5W)

C. Locate section within township--Numbering begins with 1 in upper right hand corner and proceeds in a serpentine fashion to the bottom right hand corner of township

D. Sections are divided into half sections, quarters, or smaller tracts

VII. Procedures for making soil survey report

A. Soil scientist studies area to be mapped acre by acre

B. Profiles are compared with other soil profiles in the area and other areas

C. Soils that have profiles almost alike make up soil series

(NOTE: Soil series is named for town or other geographic feature where first mapping occurred.)

D. Soil series having different textures are divided into soil types

E. Soil types are further divided into soil phases

F. Boundaries of the individual soils are drawn on aerial photographs

INFORMATION SHEET

G. Data on yields of crops are assembled from farm records and from field or plot experiments

H. Soils are grouped as to suitability for each specified use

VIII. Information contained in soil surveys

A. History of area surveyed

B. Climate of area

C. Type of agriculture in area

D. Geology, relief and drainage of soil

E. Soil association map

F. Soil series description

G. Interpretations--Refers to response and behavior of soils to various kinds of management

H. Other soils data--This includes soil type, horizon color, permeability, percent slope, and many other factors

IX. Groups that benefit from soil survey reports

A. Farmers, ranchers, and farm managers

B. Banks, land appraisers, and tax assessors

C. Vocational agriculture teachers and county extension agents

D. Wildlife and recreational departments

E. Planning boards, health officials, and municipal officials

F. Engineers (highway and others)

G. Soil conservation service

H. Agriculture Stablization and Conservation Service

X. Uses farmer can make of soil survey reports

A. Aids in determining management and treatment practices

B. Provides information pertaining to yields of principal crops

C. Provides recommended grass and tree species for a given soil area

D. Contains tables giving irrigation ratings, limitations, and management problems for each soil

INFORMATION SHEET

E. Includes basic soil characteristics that are converted into eight land capability classes

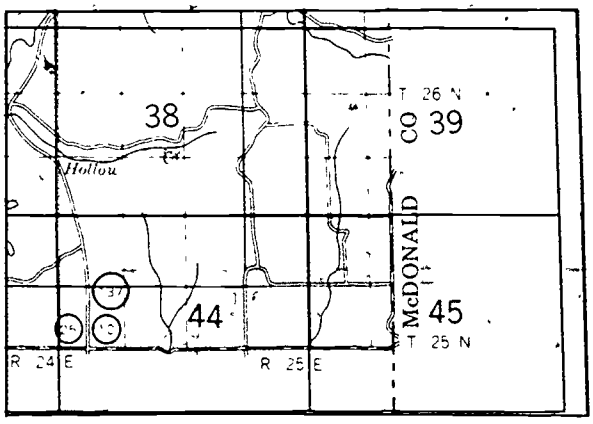
F. Useful for determining building site

G. Useful in determining the location of septic tank

XI. Locating information found in soil survey report

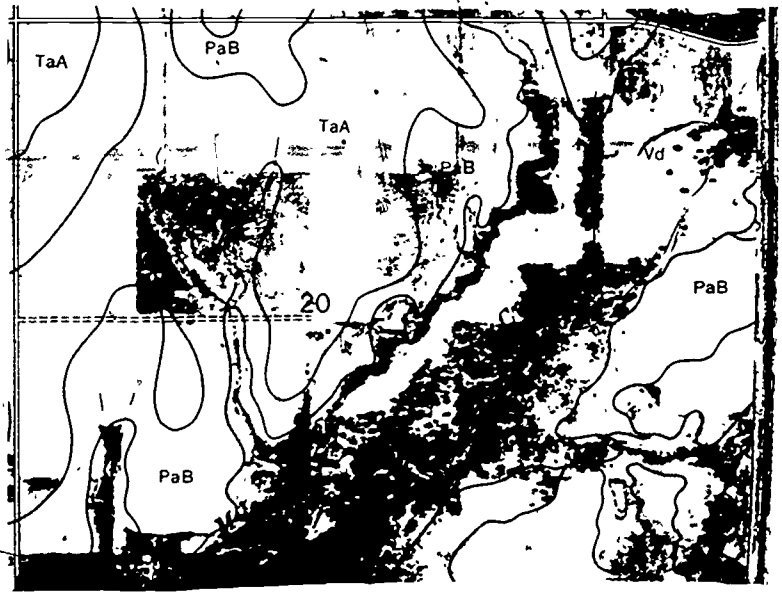
A. Refer to index maps sheets page in the back of report

Example:



B. From the sheet number showing your farm area, determine the map symbols occuring on your farm.

Example:



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INFORMATION SHEET

C. Refer to the Guide to Mapping Units, Capability Units, and Range Sites to find page numbers where the soils are described

(NOTE: These pages give needed references helpful in locating recommendations for managing soils under cropland, range, woodland, and windbreak conditions.)

Example:

GUIDE TO MAPPING UNITS, CAPABILITY UNITS, AND RANGE SITES

See table 7, p. 31, for the approximate acreage and proportionate extent of the soils, and table 1, p. 14, for the estimated average acre yields of crops. For information significant to engineering, see section beginning p. 21. Dashes indicate that the particular mapping unit was not assigned to a range site because it was not suited to range]

Map symbol	Soil name	Page	Capability unit		Range site	
			Symbol	Page	Name	Page
Ad	Alluvial land	34	Vw-1	12		15
BaB	Bates loam, 1 to 3 percent slopes	35	IIe-2	10	Loamy Prairie	15
BaC	Bates loam, 3 to 5 percent slopes	35	IIIe-1	10	Loamy Prairie	15
BaC2	Bates loam, 2 to 5 percent slopes, eroded	35	IIIe-3	11	Loamy Prairie	15
Bb	Bates loam, shallow	35	IVe-3	12	Loamy Prairie	16
BcB	Baxter silt loam, 1 to 3 percent slopes	36	IIe-2	10	Smooth Chert Savannah	16
BcC	Baxter silt loam, 3 to 5 percent slopes	36	IIIe-1	10	Smooth Chert Savannah	16
BdB	Bodine cherty silt loam, 0 to 3 percent slopes	36	IVs-1	12	Smooth Chert Savannah	16
BnD	Bodine very cherty silt loam, 1 to 8 percent slopes	36	IVs-1	12	Smooth Chert Savannah	16
BoE	Bodine stony silt loam, steep	37	VIIs-1	12	Steep Chert Savannah	15
Br	Breaks-Alluvial land complex	37	VIe-1	12	Loamy Prairie	15
ChA	Choteau silt loam, 0 to 1 percent slopes	37	I-2	9	Loamy Prairie	15
ChB	Choteau silt loam, 1 to 3 percent slopes	37	IIe-2	10	Loamy Prairie	15
Co	Collinsville soils	37	VIIs-2	13	Shallow Prairie	15
CrB	Craig silt loam, 1 to 3 percent slopes	38	IIe-2	10	Loamy Prairie	15
CrC	Craig silt loam, 3 to 5 percent slopes	38	IIIe-1	10	Loamy Prairie	15
DnA	Dennis silt loam, 0 to 1 percent slopes	38	I-2	9	Loamy Prairie	15
DnB	Dennis silt loam, 1 to 3 percent slopes	38	IIe-2	10	Loamy Prairie	15
DnC	Dennis silt loam, 3 to 5 percent slopes	38	IIIe-1	10	Loamy Prairie	15
DnC2	Dennis silt loam, 2 to 5 percent slopes, eroded	39	IIIe-3	11	Loamy Prairie	15
Ed	Eldorado soils	39	VIs-1	12	Loamy Prairie	16
EhD	Etowah gravelly silt loam, 3 to 8 percent slopes	39	IVe-2	12	Smooth Chert Savannah	16
EtA	Etowah silt loam, 0 to 3 percent slopes	39	IIe-2	10	Smooth Chert Savannah	16
Hg	Huntington gravelly silt loam	40	IIw-1	10		
Hu	Huntington silt loam	40	I-1	9		
Ka	Kaw silty clay loam	41	I-1	9	Loamy Bottomland	16
La	Lawrence silt loam	41	IIs-1	10		
Ln	Lightning silt loam	41	IIIw-1	11	Heavy Bottomland	16
Mp	Ming pits and dumps	41	VIIIs-1	13		
NaB	Newtonia silt loam, 1 to 3 percent slopes	42	IIe-2	10	Loamy Prairie	15
NaC	Newtonia silt loam, 3 to 5 percent slopes	42	IIIe-1	10	Loamy Prairie	15
NaC2	Newtonia silt loam, 2 to 5 percent slopes, eroded	42	IIIe-3	11	Loamy Prairie	15
Ns	Newtonia-Sogn complex	42	VIs-1	12	Loamy Prairie and Very Shallow	15
Os	Osage silty clay	43	IIIw-1	11	Heavy Bottomland	16
PaA	Parsons silt loam, 0 to 1 percent slopes	43	IIs-1	10	Claypan Prairie	15
PaB	Parsons silt loam, 1 to 3 percent slopes	43	IIIe-2	11	Claypan Prairie	15
PaB2	Parsons silt loam, 1 to 3 percent slopes, eroded	43	IVe-2	11	Claypan Prairie	15
RvC	Riverton gravelly loam, 3 to 5 percent slopes	44	IIIe-1	10	Loamy Prairie	15
SuB	Summit silty clay loam, 1 to 3 percent slopes	44	IIe-1	9	Loamy Prairie	15
TaA	Taloka silt loam, 0 to 1 percent slopes	45	IIs-1	10	Loamy Prairie	15
Vd	Verdigris silt loam	45	I-1	9	Loamy Bottomland	16
WoA	Woodson silty clay loam, 0 to 1 percent slopes	45	IIs-1	10	Claypan Prairie	15
WoB	Woodson silty clay loam, 1 to 3 percent slopes	45	IIIe-2	11	Claypan Prairie	15

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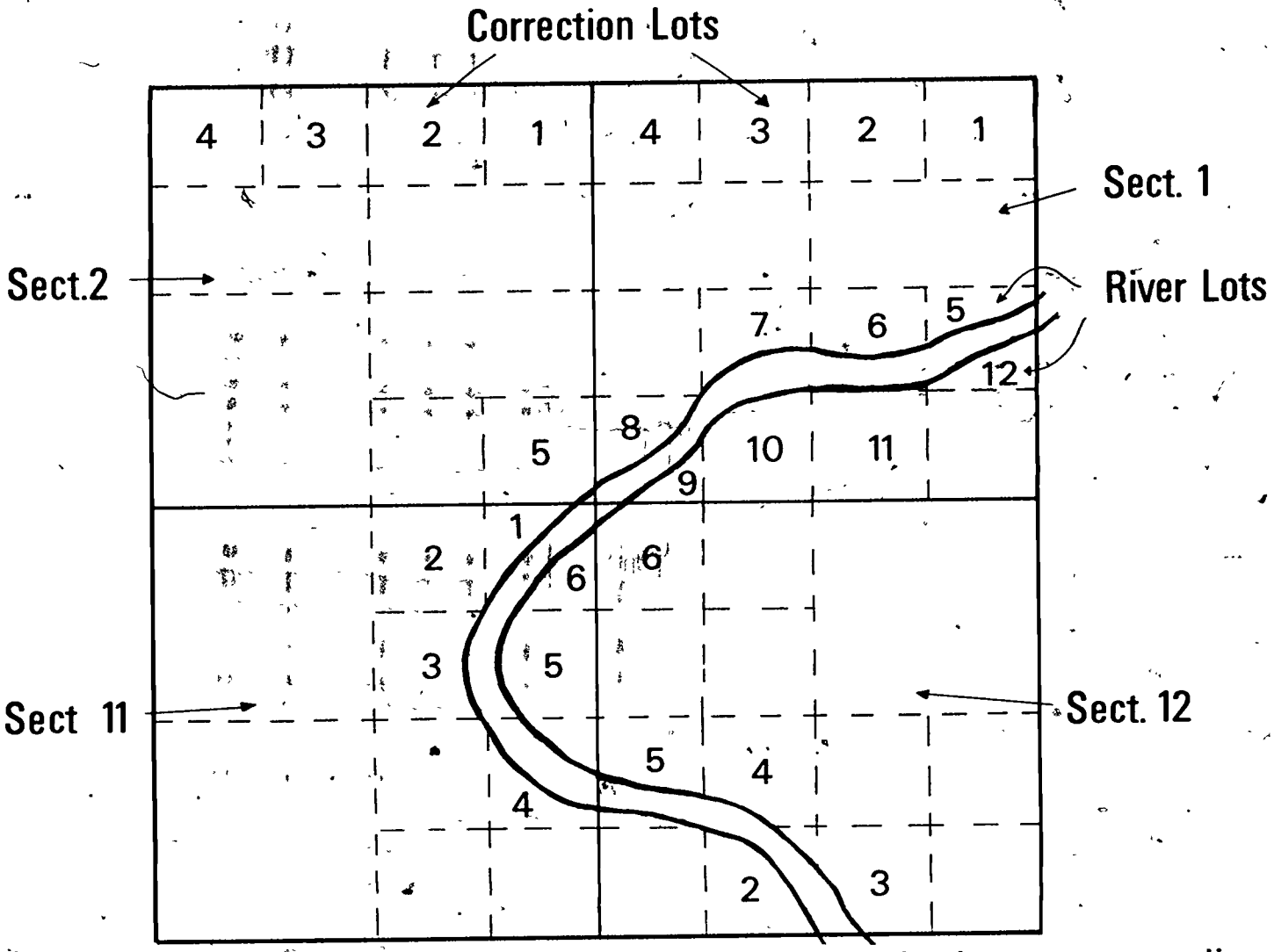
Numbering River Lots and Correction Lots



Lot numbers usually run downstream to section Line then back upstream to line.

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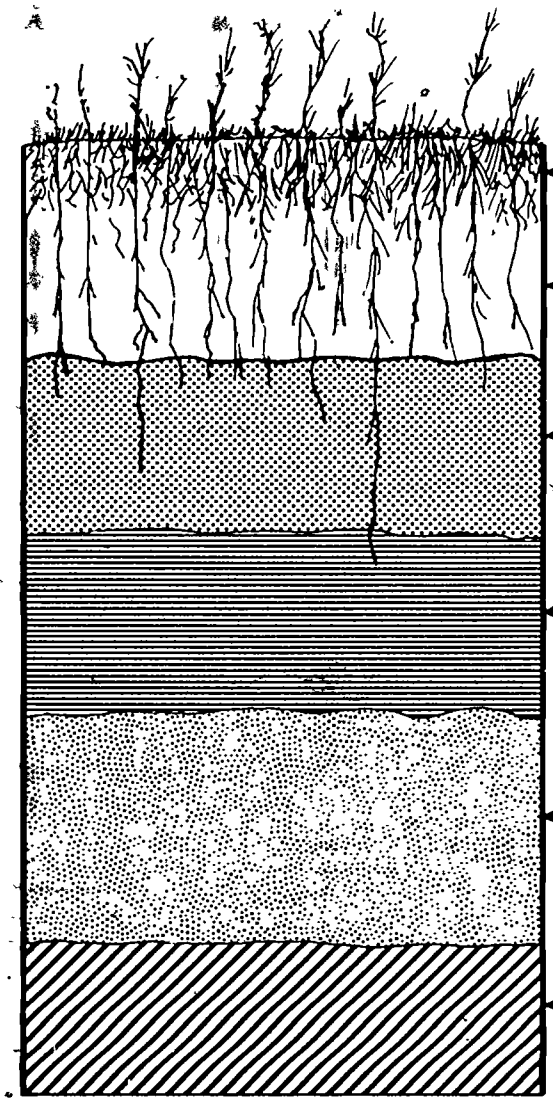
A Soil Profile



Cecil Sandy Loam

TOPSOIL
(A Horizon)
Sandy Loam

SUBSOIL
(B Horizon)
Clay

SUBSTRATUM
(C Horizon)
Rock

Humus

Less Humus

Friable Clay

Stiff Clay

Soft Rock

Solid Rock

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TM #2

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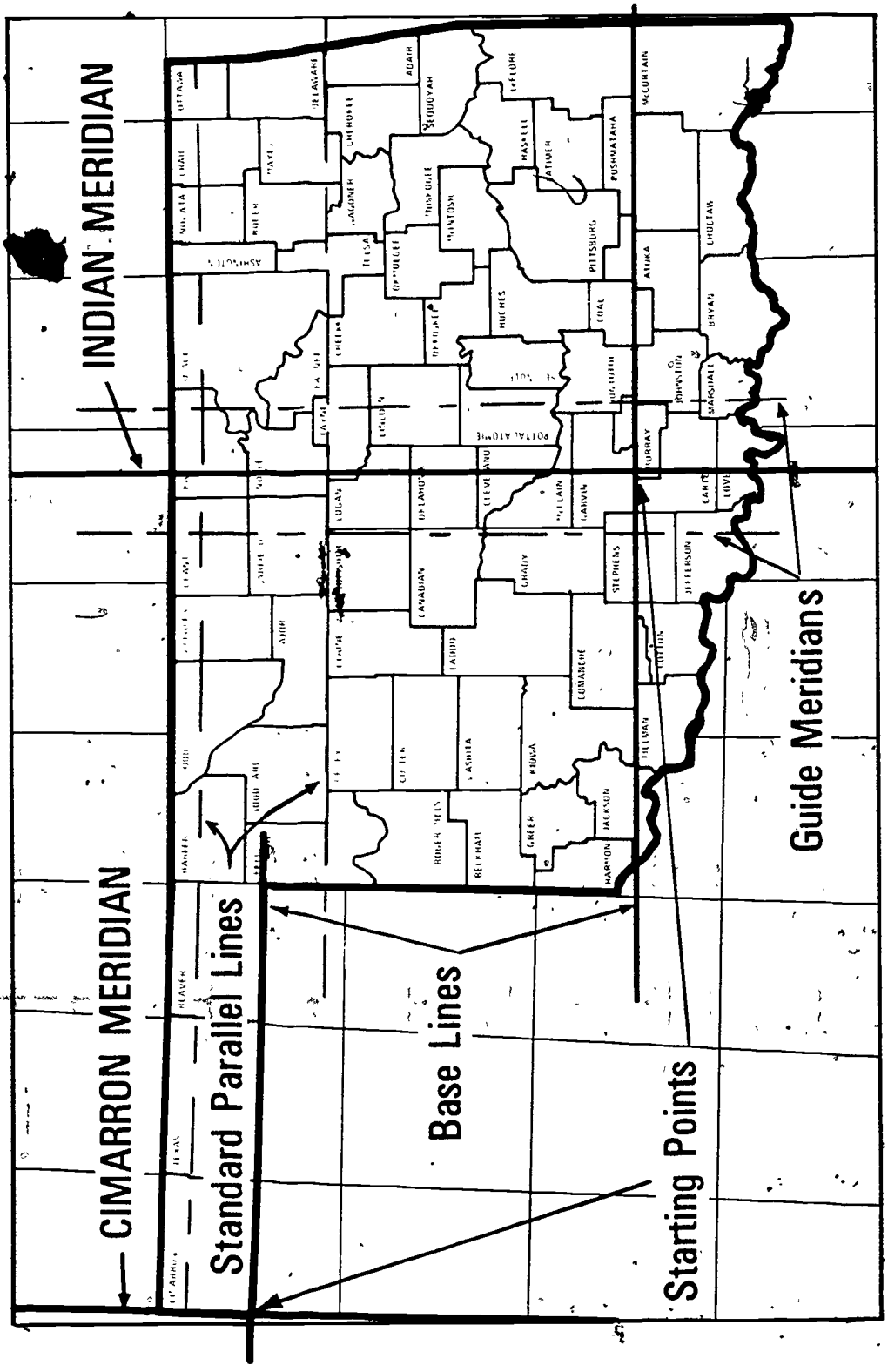
Locating Principal Meridians and Base Lines in Oklahoma



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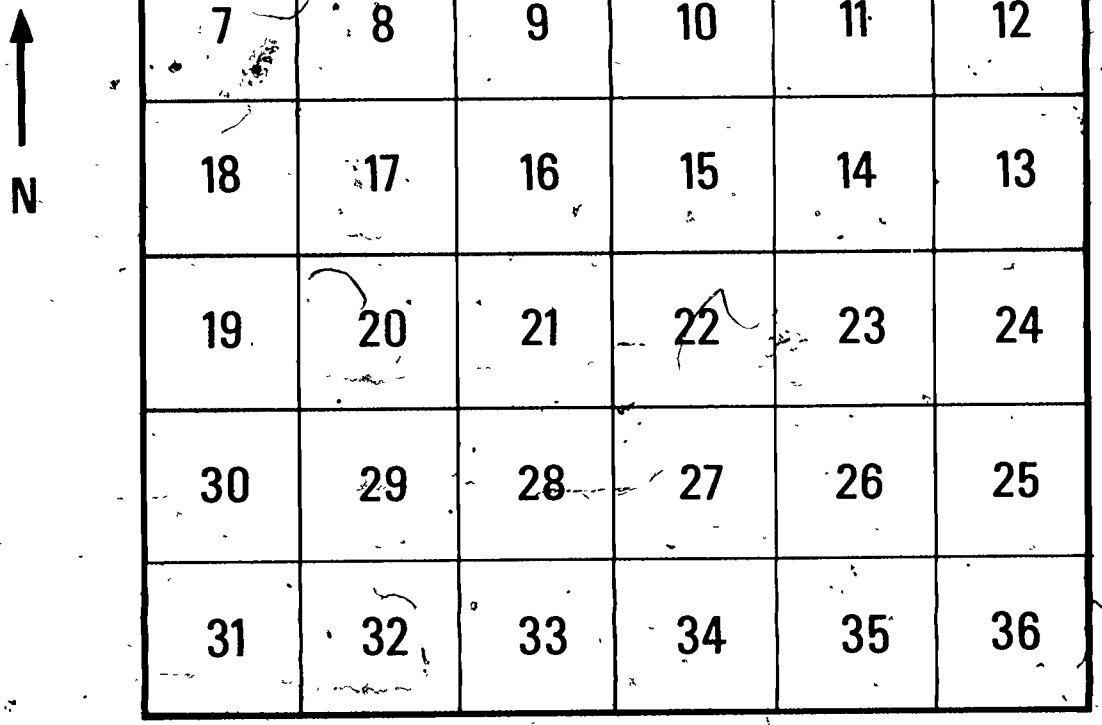
Numbering Sections Within Township



Townships are divided into 36 one-mile-square sections.

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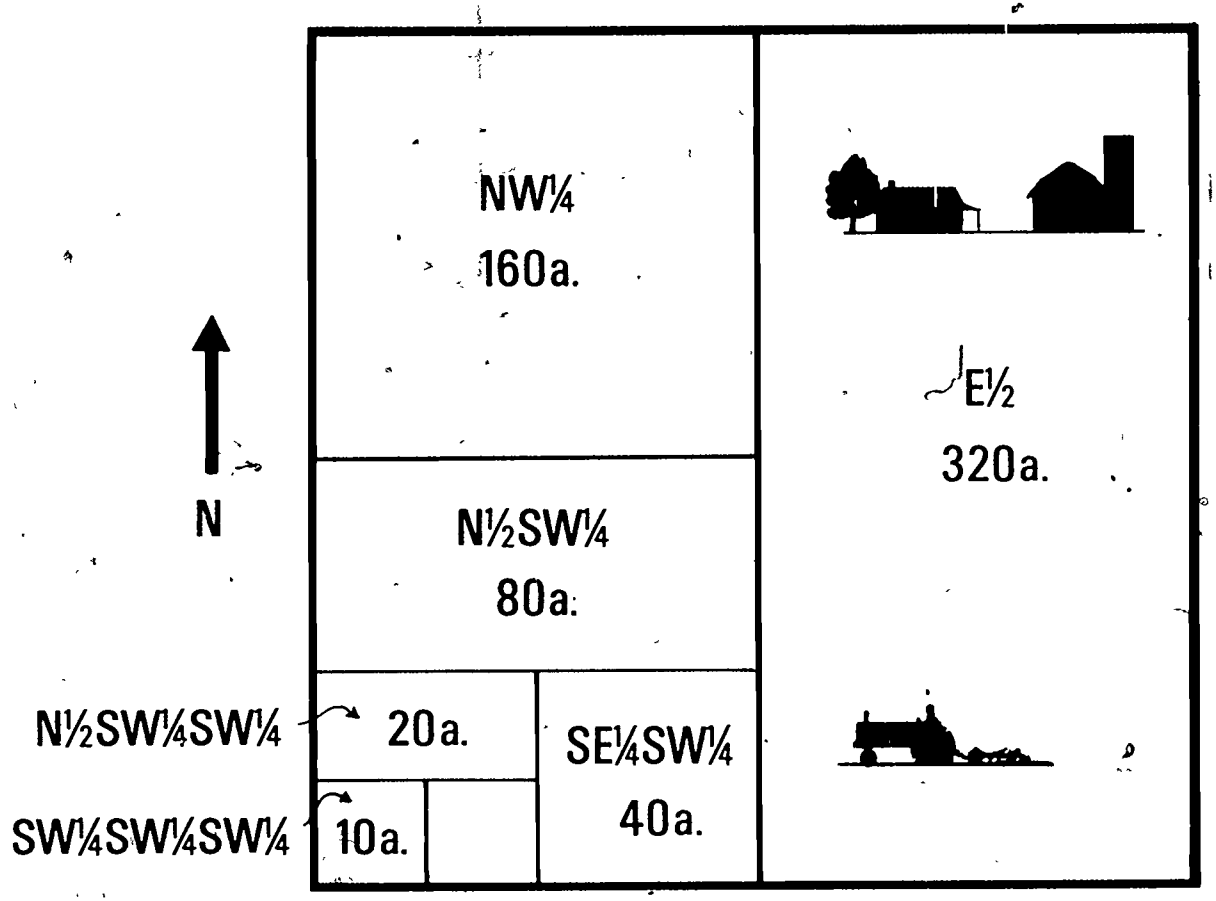
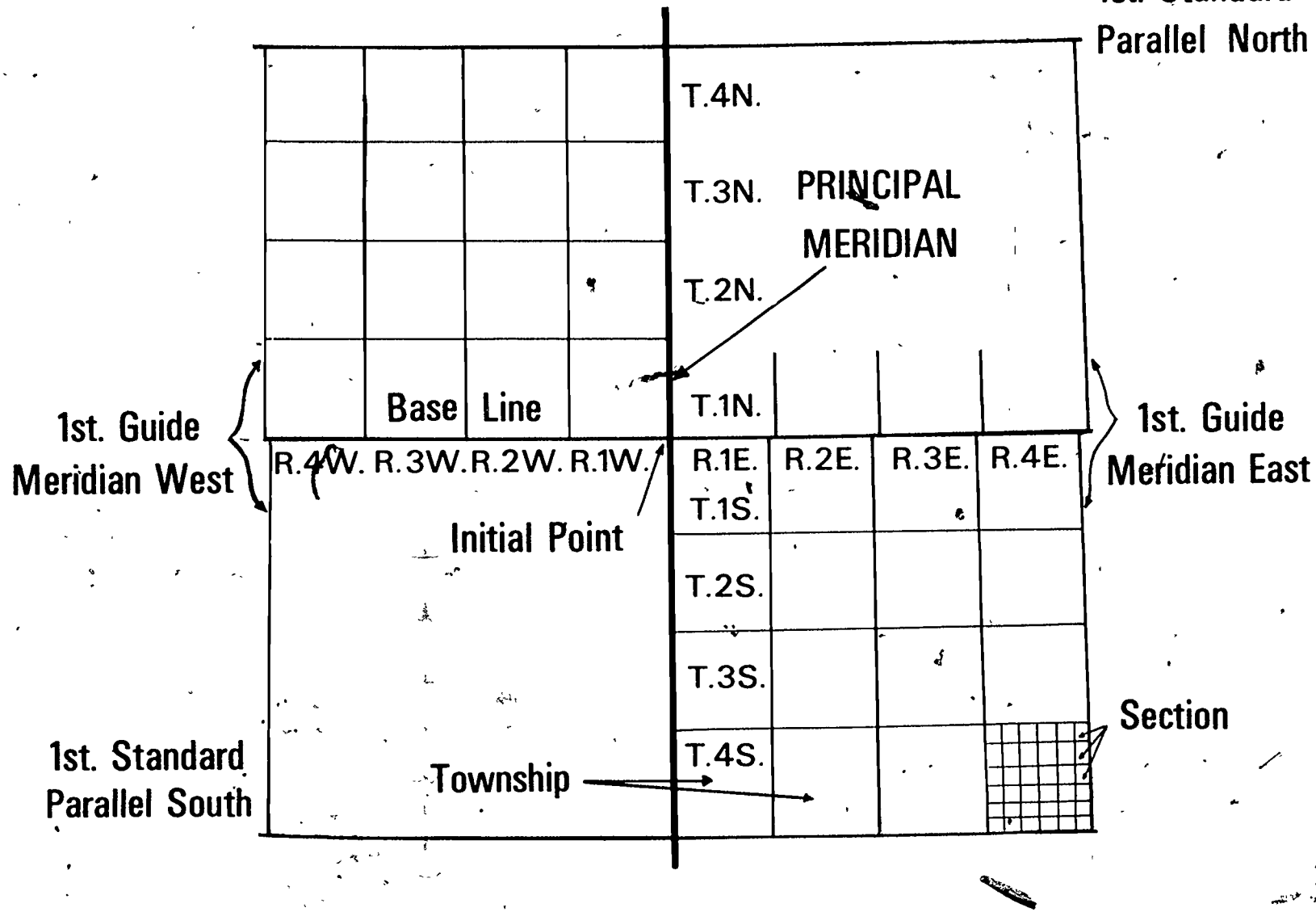
Dividing Sections into Smaller Tracts



Sections of land are divided into quarters or smaller tracts.

ERIC

Reading a Map



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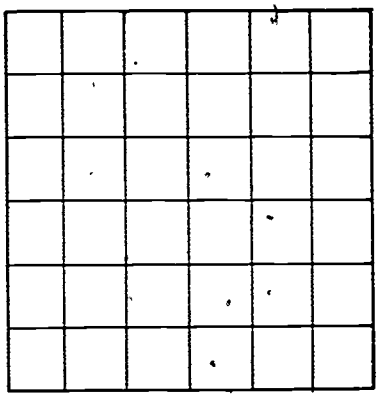
SOIL SURVEY REPORTS AND LEGAL LAND DESCRIPTION
UNIT III

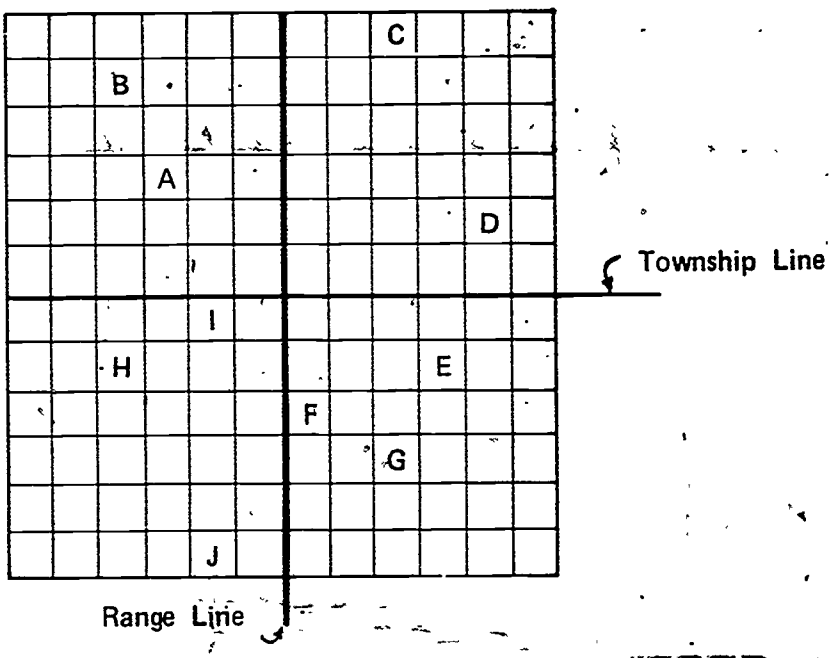
ASSIGNMENT SHEET #1--IDENTIFYING THE SECTION NUMBER WITHIN A TOWNSHIP

Answer the following problems relating to the numbering of sections

1. Number the sections within the township drawn below.



2. Using the illustration below, list the section number of:
A_____, B_____, C_____, D_____, E_____, F_____, G_____,
H_____, I_____, J_____



SOIL SURVEY REPORTS AND LEGAL LAND DESCRIPTION
UNIT III

ASSIGNMENT SHEET #2--INTERPRETING NUMBER OF ACRES INVOLVED IN LEGAL LAND DESCRIPTIONS

Solve the following problems:

1. How many acres are in the following described tracts?

   a. NW 1/4 and S 1/2 SEC. 11 _____

   b. N 1/2 N 1/2 SW 1/4 and S 2 NE 1/4 of SEC. 10 _____

   c. SE 1/4 and SE 1/4 SW 1/4 SEC. 12 and N 1/2 N 1/2 S 1/2 SEC. 13 _____

   d. S 15 acres of N 2 NW 1/4 NW 1/4 and S 1/2 NW 1/4 NW 1/4 SEC. 8 _____

   e. N 1/2 SW 1/4 NW 1/4 SEC. 8 _____

2. Describe in legal terms the fractional parts of the below drawing.

   a. _____

   b. _____

   c. _____

   d. _____

   e. _____

   f. _____

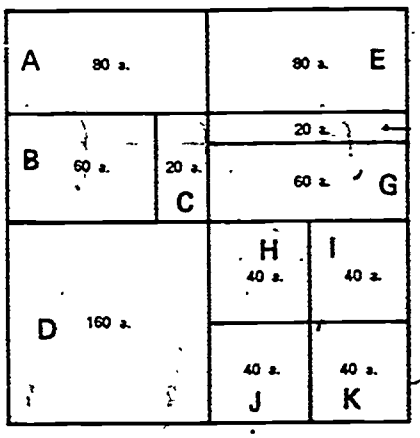
   g. _____

   h. _____

   i. _____

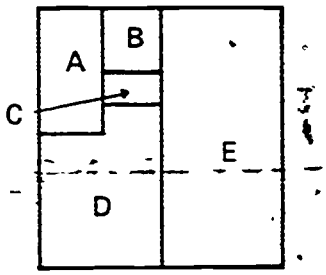
   j. _____

   k. _____



ASSIGNMENT SHEET #2

3. Give the legal description and acreage in the following tracts in SEC. 21 T16N R 14W IM



a. Description

Acres

b. Description

Acres

c. Description

Acres

d. Description

Acres

e. Description

Acres

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SOIL SURVEY REPORTS AND LEGAL LAND DESCRIPTION
UNIT III

ASSIGNMENT SHEET #3--IDENTIFYING RURAL PROPERTY IN OKLAHOMA

Using the enclosed map, answer the following questions:

1. According to the map, what is located on the following property?

   a. SEC. 20 T6N R19W IM _____

   b. SEC. 36 T6N R 21W IM _____

   c. SEC. 18 T6N R19W IM _____

2. Using the map, what is the legal description for the following listed names?

   a. Cambridge _____ _____ _____ _____

   b. Barton's Store _____ _____ _____

   c. Town of Granite _____ _____ _____

3. Approximately how many miles west of the Indian Meridian is the town of Lone Wolf?

4. Approximately how far north from the base line is the town of Granite?

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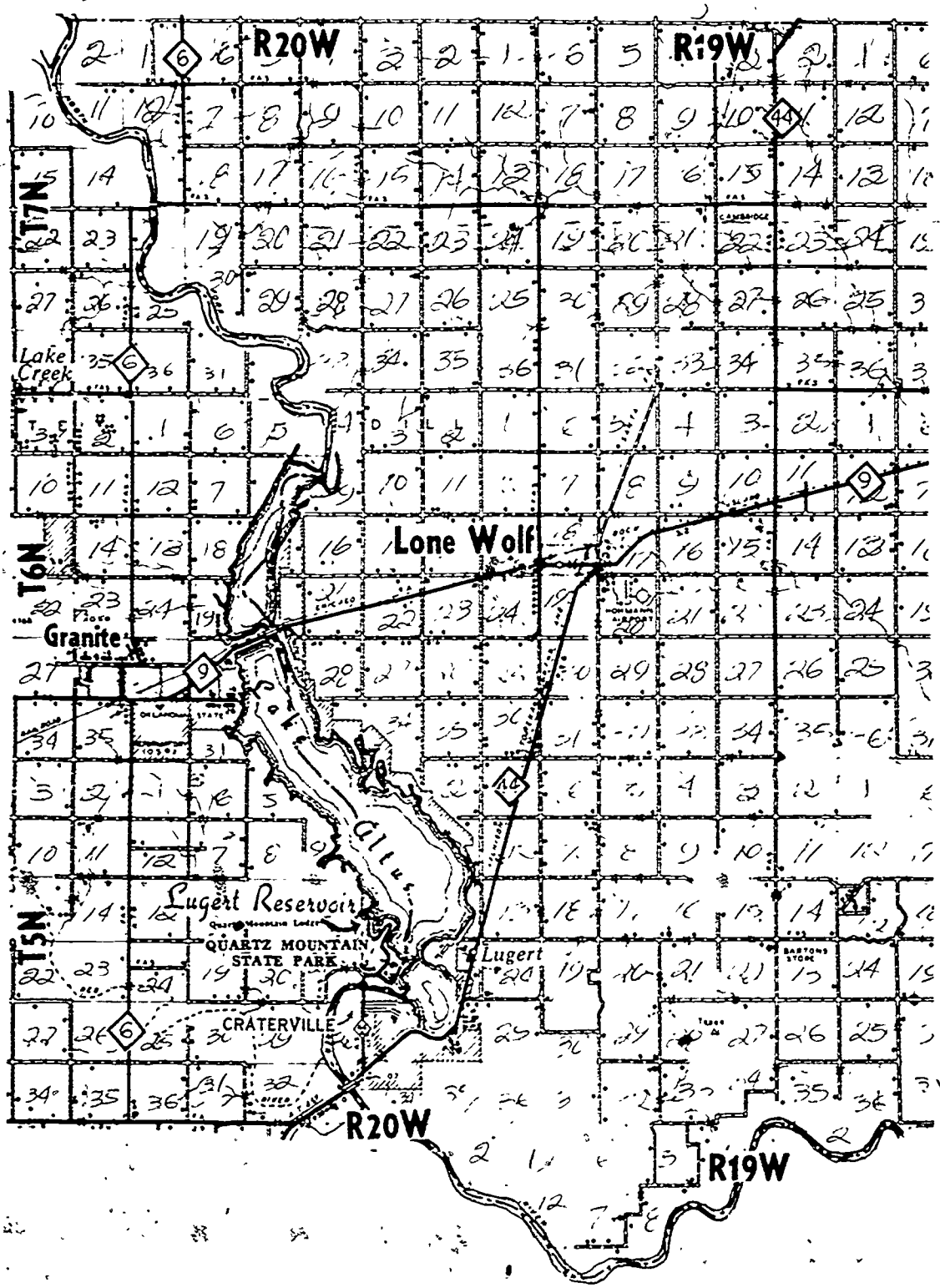
ASSIGNMENT SHEET # 3



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SOIL SURVEY REPORTS AND LEGAL LAND DESCRIPTION
UNIT III

ASSIGNMENT SHEET #4--LOCATING INFORMATION WITHIN A SOIL SURVEY REPORT

Using the work sheet provided and your county soil survey report, complete the information relating to one soil found on your farm or a given farm.

(NOTE: In event your county has no soil survey report, copies of County survey reports may be obtained from your soil conservation service.)

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ASSIGNMENT SHEET #4

County _____ Legal Description of Farm _____

Map Symbol	Soil Name	Land Slope	Soil Profile (surface soil, subsoil, substratum or parent material)	Depth of Root Zone	Permeability	Crop Yields	Capability Unit	Engr. Class.	Range Site
Dn B	Dennis Silt Loam	1-3%	A1 - 0-14" Silt Loam B1 - 4" Light Silty Clay B2 - 11" Clay Loam C - 13" Heavy Clay Loam Parent Material - Sandy & Clayey Shale	42"	Moderate	Wheat - 30 bu. Corn - 42 bu. Alfalfa - 2 ton	IIe-2	A1-ML-A-4 B1-ML-A-4 B2-ML, CL > A7 C- ML, CL > A7	Loamy Prairie

EXAMPLE

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SOIL SURVEY REPORTS AND LEGAL LAND DESCRIPTIONS
UNIT III

ANSWERS TO ASSIGNMENT SHEETS

Assignment Sheet #1

1.

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

2. a. 22
   b. 9
   c. 4
   d. 26
   e. 10
   f. 18
   g. 21
   h. 9
   i. 2
   j. 35

Assignment Sheet #2

1. a. 480
   b. 120
   c. 280

d. 35

e. 20

2. a. N 1/2 NW 1/4

b. SW 1/4 NW 1/4 and W 1/2 SE 1/4 NW 1/4

c. E 1/2 SE 1/4 NW 1/4

d. SW 1/4

e. N 1/2 NE 1/4

f. N 1/2 N 1/2 S 1/2 NE 1/4

g. S 1/2 S 1/2 NE 1/4 and S 1/2 N 1/2 S 1/2 NE 1/4

h. NW 1/4 SE 1/4

i. NE 1/4 SE 1/4

j. SW 1/4 SE 1/4

k. SE 1/4 SE 1/4

3. a. W 1/2 NW 1/4 SEC. 21 T16N R14W IM--80 acres

b. NE 1/4 NW 1/4 SEC. 21 T16N R14W IM--40 acres

c. N 1/2 SE 1/4 NW 1/4 SEC. 21 T16N R14W IM--20 acres

d. SW 1/4 and S 1/2 SE 1/4 NW 1/4 SEC. 21 T16N R14W IM--180 acres

e. E 1/2 SEC. 21 T16N R14W IM--320 acres

Assignment Sheet #3

1. a. Hohmann Airport

b. Oklahoma Reformatory

c. Lone Wolf

2. a. SEC. 22 T7N R19W IM

b. SEC. 23 T5N R19W IM

c. SEC. 25 and SEC. 26 T6N R21 IM

3. 6 miles per range x19RW = 114 miles

4. 6 miles per township x5TN plus 1 mile into 6TN + 31 miles

Assignment Sheet #4--Evaluated to the satisfaction of the instructor

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SOIL SURVEY REPORTS AND LEGAL LAND DESCRIPTION
UNIT III

TEST

1. Match the terms on the right to the correct definition.

_____a.	Runs both north and south from the initial point and extends across area to be surveyed	1.	Soil profile
_____b.	A division of territory six miles long on its south, east, and west boundaries and is slightly less than six miles on the north, which accounts for the correction lines located every six miles on the base line and on the standard parallel	2.	Engineering classification
		3.	Soil symbol
		4.	Base line
		5.	Township
		6.	Capability unit
		7.	Soil series
_____c.	Run north or south, every twenty-four miles almost parallel to the principal meridian and are numbered consecutively east or west from the principal meridian	8.	Range
		9.	Soil association map
		10.	Legal description
		11.	Principal meridian
		12.	Permeability
_____d.	Exact location of a property	13.	Range sites
		14.	Soil survey
_____e.	Line running both east and west that extends across lands to be surveyed	15.	Correction lot
		16.	Section
_____f.	Run east or west every twenty-four miles parallel to the base line	17.	Standard parallel lines
		18.	Guide meridian lines
_____g.	Row or line of north-south townships six miles apart and numbered consecutively east or west from the principal meridian	19.	Quarter section
		20.	River lot
		21.	Soil horizons
_____h.	Consists of 160 acres		

_____i. Composed of approximately 640 acres and measures one square mile

_____j. Fractional 40 acre tracts found on the west and north border of a township

_____k. Fractional 40 acre tracts found along rivers that have a mean high water mark of 132 feet or more

_____l. Manner of identifying soil areas having the same kind of soil

_____m. Inventory of the soil resources found in a county or area

_____n. Map which gives a broad picture of the distribution of landscapes that have a distinctive pattern of soils that occur together

_____o. Grouping of soils that shows how suitable soils are for most kinds of farming

_____p. Group of soils similar in differentiating characteristics

_____q. Classification of soil properties that are of special interest to engineers

_____r. Kinds of range land that differ from each other in their ability to produce vegetation

_____s. Ease with which air and water go down into the soil and return toward the surface

_____t. A layer of soil that has distinct characteristics produced by soil-forming processes

_____u. Vertical section of the soil through all its horizons and extending into the parent material

2. Match the system of surveying with the states or areas in which they apply.

_____a. Vara

_____b. Metes-and-bounds

_____c. Rectangular system

1. Applies primarily to all states except Texas and the original thirteen colonies

2. Used by the state of Texas

3. Used by the thirteen original colonies

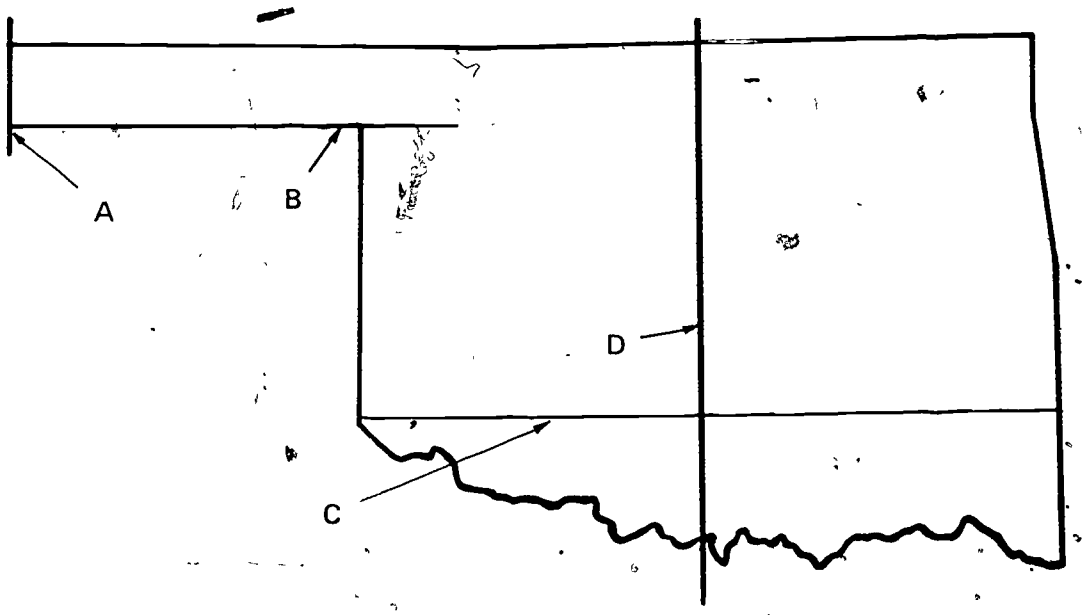
3. Label the principal meridians and base lines on the map below.

a.

b.

c.

d.



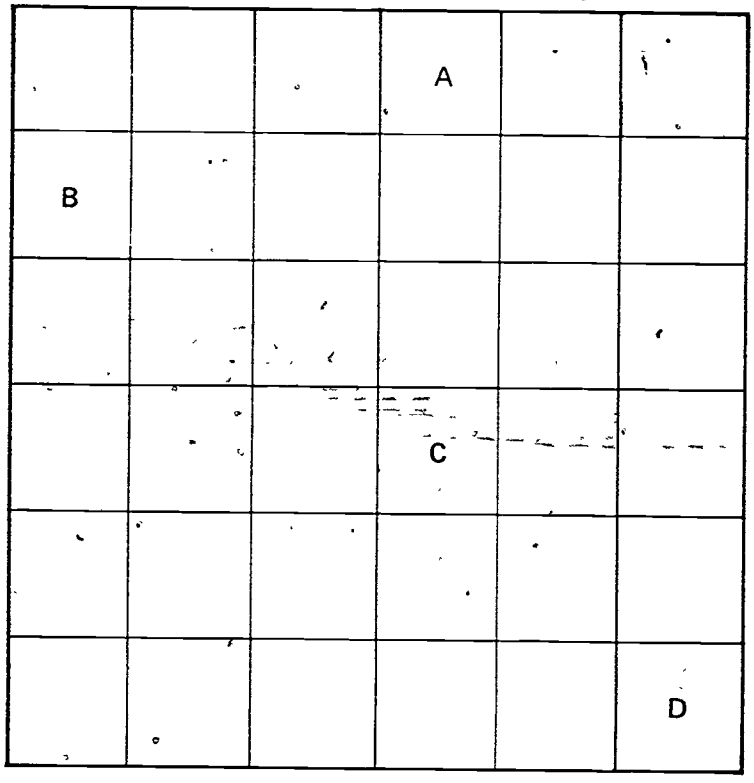
4. Using the illustration below, identify the proper section number within the township.

a.

b.

c.

d.



5. Interpret the following legal land description by determining the number of acres involved. N 1/2 SE 1/4 NE 1/4 SEC. 7 and SE 1/4 SEC. 7

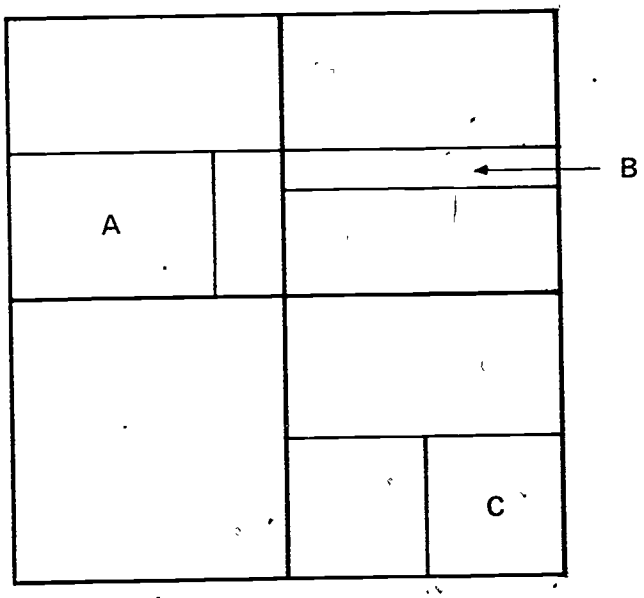
Total Acres:_____

6. Identify the exact location of the property listed in the section below. Use legal descriptive terms.

a.

b.

c.



7. List four procedures used in making a soil survey report.

8. Select from the list below six items of information contained in a soil survey report. Place an "X" by the correct answer.

_____a. Soil association map

_____b. Soil series description

_____c. Geology, relief and drainage of soil

_____d. Suggested building sites

_____e. Climate of area

_____f. Fertilizer recommendations

_____g. Type of agriculture in area

_____h. History of area surveyed

_____i. Crop yields for each farm

9. Select the five groups of people that benefit most from soil survey reports. Place an "X" by correct answers.

_____a. Farmers, ranchers, and farm managers

_____b. School superintendent

_____c. Engineers (highway and others)

_____d. Planning boards, health officials, and municipal officials

_____e. Insurance companies

_____f. County clerk

_____g. Banks, land appraisers, and tax assessors

_____h. Wildlife and recreational departments

10. Selects from the enclosed list, four uses a farmer can make of soil survey reports. Place an "X" by the proper answers.

_____a. Aid in determining management and treatment practices

_____b. Useful for determining building sites

_____c. Useful reference for training land judging teams

_____d. Provides information pertaining to yields of principal crops

_____e. Contains tables showing fertilizer recommendations

_____f. Useful in determining the location of septic tank

11. Demonstrate the ability to follow listed steps in locating information contained in a soil survey report.

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SOIL SURVEY REPORTS AND LEGAL LAND DESCRIPTION
UNIT III

ANSWERS TO TEST

1. a. 11
   b. 5
   c. 18
   d. 10
   e. 4
   f. 17
   g. 8
   h. 19
   i. 16
   j. 15
   k. 20
   l. 3
   m. 14
   n. 9
   o. 6
   p. 7
   q. 2
   r. 13
   s. 12
   t. 21
   u. 1

2. a. 2

b. 3

c. 1

3. a. Cimmaron Meridian (PM)

b. Base line (for Panhandle counties)

c. Base line (for main body of Oklahoma)

d. Indian Meridian (PM)

4. a. 3

b. 7

c. 22

d. 36

5. 180

6. a. SW1/4 NW 1/4 and W 1/2 SE 1/4 NW 1/4 of SEC.

b. N 1/2 N 1/2 S 1/2 NE 1/4 of SEC.

c. SE 1/4 SE 1/4 of SEC.

7. Any four of the following:

a. Soil scientist studies area to be mapped acre by acre

b. Profiles are compared with soil profiles in the area and other areas

c. Soils that have profiles almost alike make up soil series

d. Soil series having different textures are divided into soil types

e. Soil types are further divided into soil phases

f. Boundaries of the individual soils are drawn on aerial photographs

g. Data on yields of crops are assembled from farm records and from field or plot experiments

h. Soils are grouped as to suitability for each specified use

8. a

b

c

e
g
h

9. a
c
d
g
h

10. a
b
d
f

11. Performance skills will be evaluated to the satisfaction of the instructor.

SOIL CONSERVATION SERVICE AND CONSERVATION DISTRICTS
UNIT IV.

TERMINAL OBJECTIVE

After completion of this unit, the student should be able to match terms associated with Conservation Districts and the Soil Conservation Service and distinguish between the responsibilities of a Conservation District and the Soil Conservation Service. He should be able to select from a list the assignments made to the Soil Conservation Service by Congress and the Secretary of Agriculture. The student should be able to select from a list the occupational opportunities available in the Soil Conservation Service and explain in writing how the student trainee program works. This knowledge will be evidenced by scoring eighty-five percent on the unit test.

SPECIFIC OBJECTIVES

1. Match terms associated with Conservation Districts and Soil Conservation Service.
2. Distinguish between the responsibilities of a Conservation District and the Soil Conservation Service.
3. Explain in writing how Conservation Districts are organized and managed.
4. Identify the five conservation areas within the state of Oklahoma.
5. Select from a list the assignments made to the Soil Conservation Service by Congress and the Secretary of Agriculture.
6. List the benefits that land users derive from the Soil Conservation Service.
7. Select from a list the occupational opportunities available in the Soil Conservation Service.
8. Explain in writing how the Soil Conservation Service Student Trainee Program works.
9. Complete a survey indicating the names of district directors and types of services available through the Soil Conservation Service and Conservation Districts.

SOIL CONSERVATION SERVICE AND CONSERVATION DISTRICTS
UNIT IV

SUGGESTED ACTIVITIES

I. Instructor:

A. Provide students with objective sheet.

B. Provide students with information and assignment sheets.

C. Make transparencies.

D. Discuss terminal and specific objectives.

E. Discuss information and assignment sheets.

F. Arrange for a Soil Conservation Service employee to visit class and explain present work plans for district.

G. Contact local Conservation District or Soil Conservation Service and secure a resource conservation plan.

H. Give test.

II. Students:

A. Read objectives.

B. Study information sheet.

C. Complete assignment sheet and turn in to instructor.

D. Take test.

INSTRUCTIONAL MATERIALS

I. Included in this unit:

A. Objectives

B. Information sheet

C. Transparency masters

1. TM 1--Organizational Chart
2. TM 2--Oklahoma Conservation Districts

D. Assignment Sheet #1--How the Soil Conservation Service and Conservation District Serve My Family.

E. Test

F. Answers to test

II. References:

A. Assistance available from the Soil Conservation Service, USDA Bulletin No. 345, Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, 1970.

B. *Careers in Soil Conservation Service*, USDA Miscellaneous Publication No. 717. Washington, D.C.: U.S. Government Printing Office, 1971.

C. *Students, Start Your Career in Soil Conservation Service Before You Graduate*. USDA Publication No. 714, Washington, D.C.: U.S. Government Printing Office, 1966.

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SOIL CONSERVATION SERVICE AND CONSERVATION DISTRICTS
UNIT IV

INFORMATION SHEET

I. Terms and definitions

A. Conservation District--A legal subdivision of the state, organized under the Conservation District Law enacted in 1937 and as later amended

(NOTE: Conservation Districts are responsible for carrying out a program of conservation of our natural resources of lands within the district boundaries.)

B. Soil Conservation Service--Agency of the U.S. Department of Agriculture which is one of the principle sources of federal government assistance to Conservation Districts

(NOTE: By the will of Congress and by direction of the Secretary of Agriculture, the primary function of the Soil Conservation Service is to give technical help--through districts--to individuals, groups, and communities who make decisions about the conservation development and use of natural resources.)

C. Long-range program--Program that identifies present and future needs and opportunities for the conservation and development of natural resources within the district

D. Annual work plan--Outlines the current year's steps to be taken toward the goals and objectives of the long range plan

(NOTE: This is the district's plan and not that of the Soil Conservation Service or any other public agency. Once developed the district work plan makes it possible for the Soil Conservation Service to develop its own annual plan of operations and thus properly plan for its assistance to the district.)

II. Conservation District and Soil Conservation Service responsibilities

A. Conservation District

1. Furnishing effective local leadership in the form of a properly constituted governing body

2. Holding regular and special meetings to plan work and to determine community needs for conservation and resource development

3. Developing a long-range program that recognizes the interests of all the people in the district and is compatible with the area or regional development plans

INFORMATION SHEET

4. Developing, with help from the Soil Conservation Service and other agencies, an annual work plan related to the long-range program which states what will be needed to reach objectives and accomplish work scheduled for the year ahead

5. Enlisting needed assistance from whatever source is available

6. Coordinating the several conservation and resource development programs which may operate within the district

7. Determining priorities for Soil Conservation Service and other assistance to individuals, public bodies, private organizations, and other district cooperators

8. Supervising employees of the district

9. Managing all funds, facilities, and equipment belonging to the district; Soil Conservation Service employees will not engage in these activities

10. Cooperating with other districts and governmental units in multi-district resource activities such as comprehensive and functional planning, watershed development, river basin programs, and other resource development projects

11. Correlation of district programs with those of other agencies engaged in resource planning and development such as planning commissions, economic development districts, sanitary commissions, conservation commissions, and others

12. Reporting to the public on resource conservation needs and progress and the work of the district

13. Following up with cooperators to insure effectiveness of the program

B. Soil Conservation Service

1. Furnishing qualified technical help, as available, on the basis of needs outlined by the district

2. Locating its staff, insofar as possible, at headquarters mutually satisfactory to the district and Soil Conservation Service and providing such facilities as its employees may require

3. Gathering and providing soil survey, water management, and other resource data and interpretations for use by the district and others in making plans and decisions

INFORMATION SHEET

4. Developing a workload analysis for an annual plan of operations for its own staff, after review of the district annual work plan

5. Keeping the district governing body informed about Soil Conservation Service work in the district and any new developments that would affect the district program or alter the assistance available from the Soil Conservation Service

6. Supervising and managing Soil Conservation Service personnel, equipment, and facilities made available to the district by Soil Conservation Service

7. Cooperating with other resource agencies assisting the district

8. Assisting the district with information and education activities in the community, area, and state

9. Helping the district meet demands from local governments and others seeking technical help on land use and related resource needs and opportunities

(NOTE: The Conservation Districts and Soil Conservation Service work together as partners--each looks to the others for assistance and guidance in meeting the needs in soil, water, and related resource conservation and in providing effective technical assistance to landowners and operator's who make the final decisions on land use and conservation treatment to be applied.)

III. Organization and management of Conservation Districts (Transparency 1)

A. Districts are organized under state law by local people

B. Districts are managed by an elected and unsalaried board made up of local citizens

C. Each district is legally responsible under state law for soil and water conservation work within its boundaries

(NOTE: Districts operate under the guidance of a state commission, board, or committee usually appointed by the governor.)

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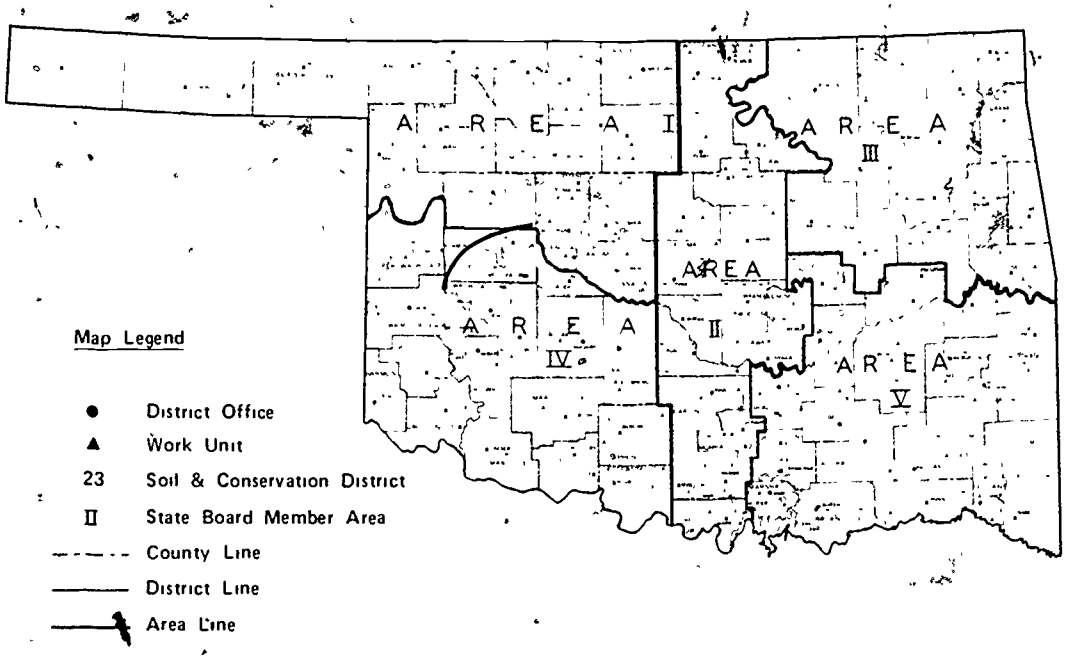
INFORMATION SHEET

IV. Conservation District Areas in Oklahoma (Transparency 2)



(NOTE: State divided is into five (5) areas for purpose of selecting the members of the Oklahoma Conservation Commission. The Governor shall appoint one member from each of the five areas.)

V. Soil Conservation Service assignments from Congress and Secretary of Agriculture

A. Develops and carries out a national soil and water conservation program through conservation districts

B. Helps develop and carry out watershed protection and flood-prevention projects

C. Administers the Great Plains Conservation Program

D. Helps local sponsors develop and carry out multicounty resource conservation and development projects

E. Has primary responsibility for the national cooperative soil survey

F. Heads the National Inventory of Soil and Water Conservation Needs Committee

G. Makes and coordinates snow surveys for water forecasting in the West

INFORMATION SHEET

H. Helps establish income-producing recreation areas on privately owned land and public recreation areas

I. Gives technical assistance to land users participating in the conservation-credit program of the Farmers Home Administration

J. Gives technical assistance to all land-owners including non-farming and urban groups

VI. How Soil Conservation Service benefits land users

A. Develops a soil and land-capability map of the land unit, a range-site and range-condition map of rangeland, and a woodland-suitability map of woodlands

B. Compiles information about the different uses and adaptation of crops (including grasses, trees, and wildlife) for each kind of soil

C. Assembles information about conservation measures needed on each kind of soil for each of the different safe uses

D. Gives onsite assistance to the individual in making a conservation plan for his land unit

E. Gives technical assistance in designing, laying out, and checking the construction and maintenance of dams, terraces, or other structures

F. Gives technical assistance in selecting plant varieties, seeding methods and rates, and in solving problems that arise in managing pastures, woodlands, or wildlife habitat

G. Services are extended to nonfarm rural land users as well as to urban land users

VII. Occupational opportunities of the Soil Conservation Service

A. Conservation technician

(NOTE: Helps professional conservationists prepare conservation farm plans. Helps land users establish measures called for in conservation plans.

Qualifications--Experience in conservation farming; farm or ranch background required for most positions. Vocational Agriculture training will normally be sufficient for the qualifications.)

INFORMATION SHEET

B. Engineering technician

(NOTE: Helps engineers with surveys, plotting notes, engineering computations, drafting, layout work in the field, and inspection of construction operations.

Qualifications--Experience on survey crews running levels and transits; work on construction, layout, and inspection. Vocational Agricultural training is highly desirable.)

C. Soil conservationist

(NOTE: Helps local people in rural and rural-fringe areas prepare conservation development plans for communities and individual operating units to meet local needs. Gives onsite technical assistance in carrying out planned conservation improvements.

Qualifications--A college degree with major study in soil conservation or a closely related natural resource or agricultural field. Specified courses are listed in the examination announcement.)

D. Soil scientist

(NOTE: Collects information about the soil through examination and records the information on maps and as field notes which are published later. Presents the information for use by farmers and ranchers, urban planners, and technical specialists in other fields.

Qualifications--A college degree with major study in soil science or a closely related field of study. Specified courses are listed in the examination announcement.)

E. Engineer

(NOTE: Plans, designs, and supervises construction of: earth fill and reinforced-concrete dams for flood prevention, water supply, wildlife, and water-based recreation; streambank-protection and channel-stabilization work; chutes, drops, spillways, diversions, waterways, and terraces for erosion control and water conservation; and irrigation and drainage systems. Makes hydrologic studies and prepares soil mechanics reports on foundation and earth embankment materials.

Qualifications--College degree in engineering with major emphasis on hydraulics, hydrology, structural design, drainage, or irrigation.)

INFORMATION SHEET

F. Range conservationist

(NOTE: Helps ranchers and other range users to determine the potential of their land for producing forage from native plant communities for livestock, wildlife, and recreation and to prepare conservation plans to improve the condition of their range. Gives onsite technical assistance in range inventories, proper forage utilization, reseeding, brush control, water development, systems of grazing, and ecosystem management.

Qualifications--College degree with major study in range management or range conservation. Specified courses are listed in the examination announcement.)

G. Economist

(NOTE: Participates in planning watersheds, river basins, and resource conservation and development areas. Estimates benefits, allocates costs, and determines economic justification of plans for flood prevention, irrigation, drainage, municipal and industrial water supply, recreation, and other types of resource development projects. Collects and analyzes data on economic growth indicators and uses economic projections in evaluating water and related land resource planning. Collects cost-and-return data for conservation measures.

Qualifications--A college degree with major study in economics. Specified courses are listed in the examination announcement.)

H. Woodland conservationist

(NOTE: Gives technical guidance, training, and other assistance in woodland conservation to Soil Conservation Service employees and soil and water conservation district cooperators. Develops specifications for woodland practices in collaboration with forestry agencies. Soil Conservation Service employees use this information in providing assistance to land users in conserving their woodlands as part of coordinated soil and water conservation programs. Interprets forestry techniques and experimental data for field use. Helps to evaluate soil-tree relationships and determine woodland conservation practices in relation to specific soil or site conditions.

Qualifications--A college degree with major study in forestry. Specified courses are listed in the examination announcement.)

I. Agronomist

(NOTE: Provides technical guidance on agronomic problems to Soil Conservation Service employees, and to land owners and operators who are carrying out soil and crop experimental data for field use of Soil Conservation Service personnel, and to land owners and operators who are

planning and applying conservation plans. Conducts field trials to evaluate adaptability and handling of grasses and legumes useful in soil and water conservation. Determines methods of establishing herbaceous vegetation for soil and water conservation purposes.

Qualifications--A college degree with major study in agronomy or a closely related field. Specified courses are listed in the examination announcement.)

J. Biologist

(NOTE: Provides guidance and training to Soil Conservation Service employees in biological principles and practices that make cropland, grazing land, woodland, and farm or ranch water more productive of fish and wildlife. Develops biological practices and standards, converts new knowledge into technical recommendations, and assembles and makes available other information relating to fish and wildlife for the use of Soil Conservation Service employees and land owners and operators.

Qualifications--A college degree with at least thirty semester hours in biological science. Specified courses are listed in the examination announcement.)

K. Geologist

(NOTE: Investigates and interprets surface and subsurface conditions in relation to: planning, designing, and constructing engineering structures; ground water--supply, management, and recharge; sediment--yield, sources, damage, and control.

Qualifications--A college degree with major in geology. Specified courses are listed in the examination announcement.)

L. Plant materials specialist

(NOTE: Brings together plants from many sources for conservation uses. Tests and evaluates these plants to determine adaptation, erosion control, and soil-improving values. Determines the cultural requirements and the management practices necessary for success. Increases and field tests selected plants for such specialized uses as pond margins, ground cover, forage, sand dunes, wind barriers, wildlife food and shelter, and turfs and screens on land used for recreation.

Qualifications--A college degree with a major in agronomy, range conservation, or other plant science.)

VIII. How Soil Conservation Service Student Trainee Program works

A. Program designed for college freshmen, sophomores, or juniors that are majoring in Agriculture

B. Students qualify in a civil service examination

INFORMATION SHEET

C. The Soil Conservation Service hires student to work during nonschool periods at GS-3 after completing one year in college

D. Student works each summer during the vacation period, goes on leave from the job in the fall, and returns to college

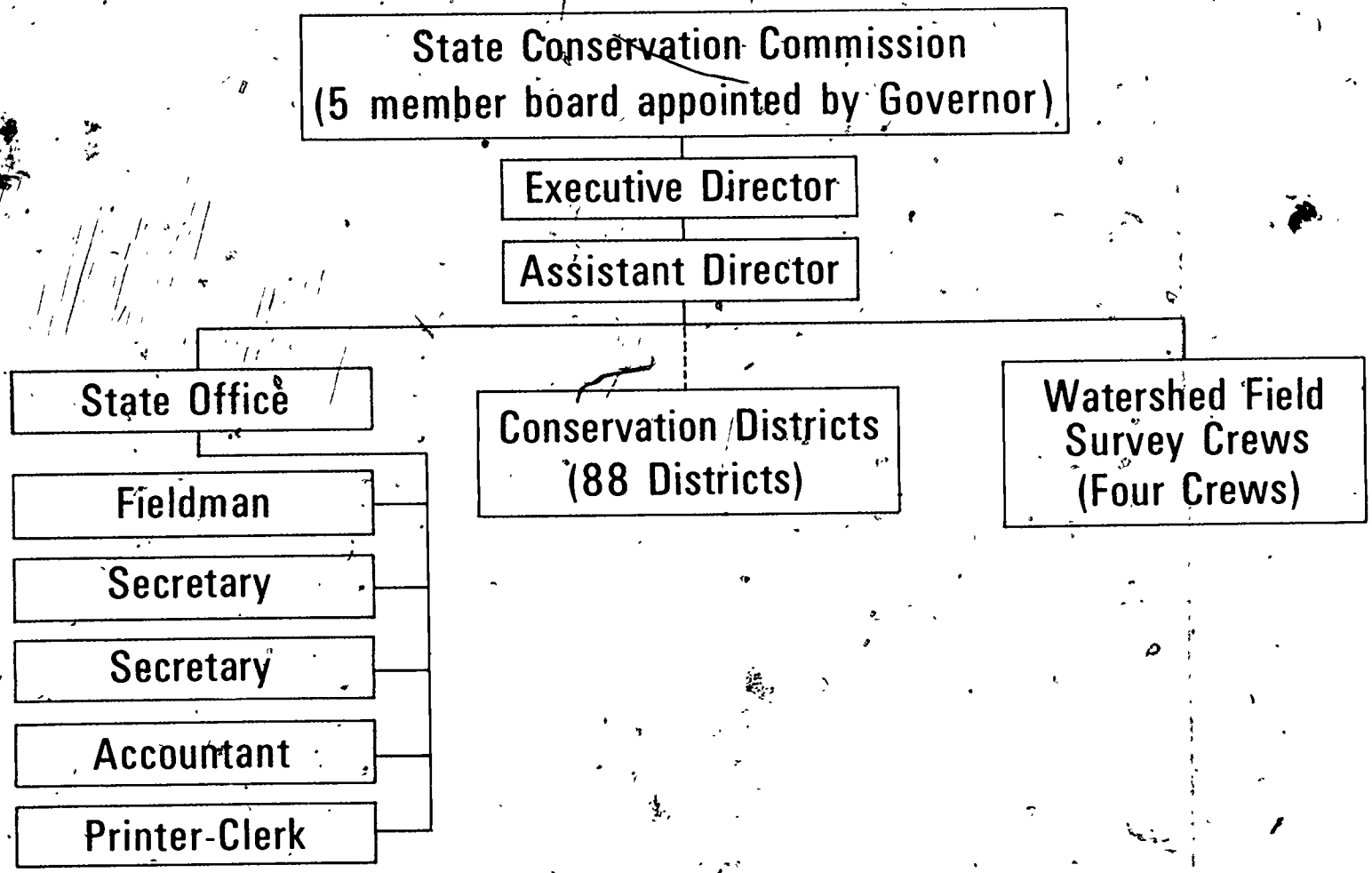
E. Between sophomore and junior year, the student will be eligible for promotion to GS-4

F. Between junior and senior year, student is eligible for promotion to GS-5

G. Upon successful completion of work assignment and graduation and without further civil service examination, student is assigned to a full-time professional job

(NOTE: Soil Conservation Service offers a student creative, challenging outdoor work, on-the-job training by recognized authorities in the science of soil and water conservation, and an opportunity to gain broad experience in all phases of soil and water conservation or to specialize in one technical field.)

Organizational Chart



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Oklahoma Conservation Districts

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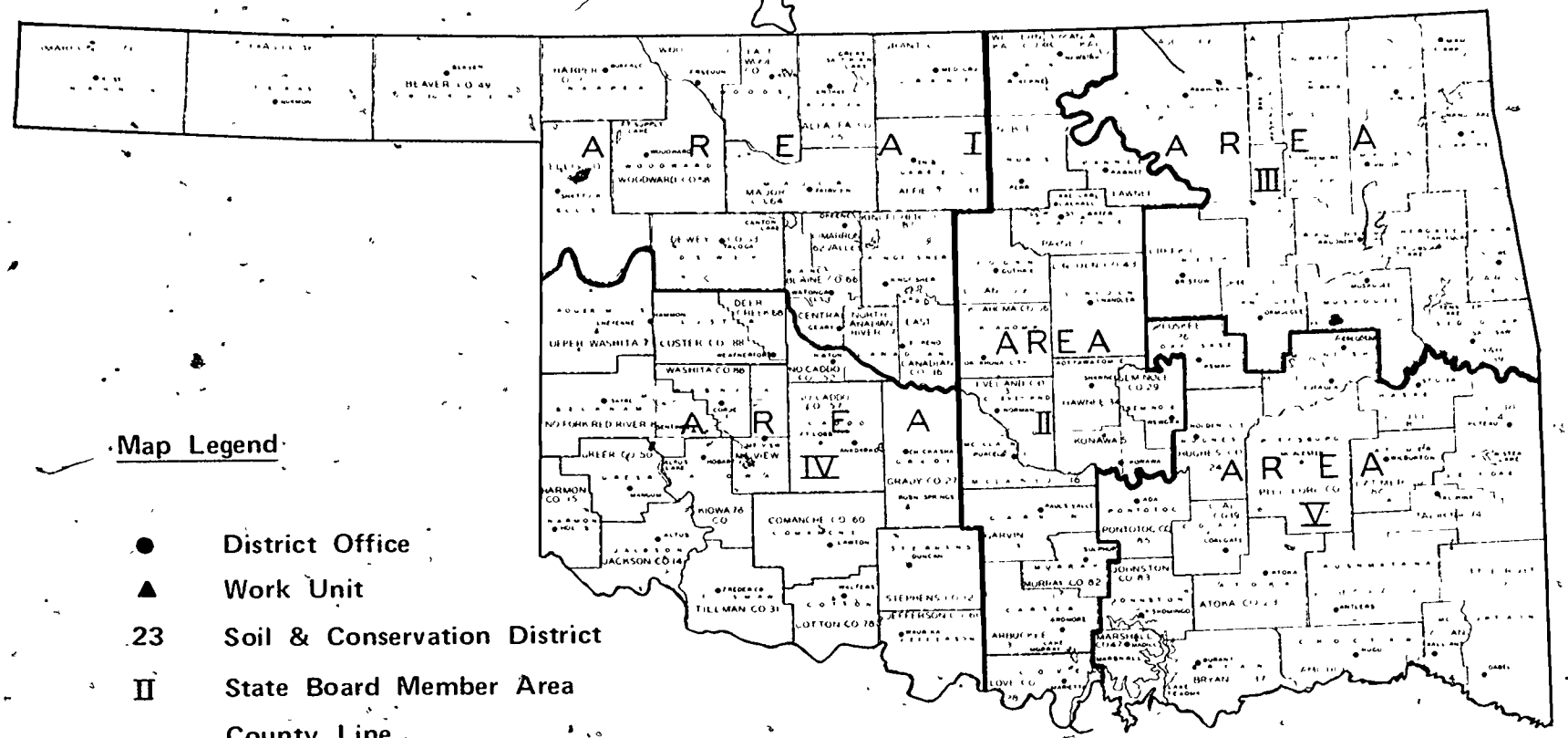
AREA I
AREA II
AREA III
AREA IV
AREA V
BEAVER CO 49
WOODWARD CO 58
MAJOR CO 64
ALFALFA CO 15
GRANT CO
KAY CO
GARFIELD CO
NOBLE CO
PAWNEE CO
OSAGE CO
WASHINGTON CO
NOWATA CO
CRAIG CO
OTTAWA CO
DELAWARE CO
ROGERS CO
MAYES CO
WAGONER CO
CHEROKEE CO
ADAIR CO
SEQUOYAH CO
LE FLORE CO
MCCURTAIN CO
HASKELL CO
LATIMER CO
PUSHMATAHA CO
MCINTOSH CO
SEMINOLE CO
OKFUSKEE CO
OKMULGEE CO
MUSKOGEE CO
CREEK CO
TULSA CO
WAGONER CO
ROGERS CO
MAYES CO
CHEROKEE CO
ADAIR CO
SEQUOYAH CO
LE FLORE CO
MCCURTAIN CO
HASKELL CO
LATIMER CO
PUSHMATAHA CO
MCINTOSH CO
PITTSBURG CO
COAL CO
HUGHES CO
OKFUSKEE CO
OKMULGEE CO
MUSKOGEE CO
CREEK CO
TULSA CO
WASHINGTON CO
NOWATA CO
CRAIG CO
OTTAWA CO
DELAWARE CO
ROGERS CO
MAYES CO
WAGONER

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SOIL CONSERVATION SERVICE AND CONSERVATION DISTRICTS
UNIT IV

ASSIGNMENT SHEET #1--HOW THE SOIL CONSERVATION SERVICE AND CONSERVATION DISTRICT SERVE MY FAMILY

Complete the following survey either by visiting a Soil Conservation Service office or listing a Soil Conservation Service employee that has visited your class.

1. Identify your Conservation District.

2. Name the five district directors in your Conservation District and list their occupations

   a.

   b.

   c.

   d.

   e.

3. How has the Soil Conservation Service and the Conservation District served your family in the past?

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ASSIGNMENT SHEET #1

4. In what ways could the Soil Conservation Service and Conservation District be of service to you and your family in the future.

SOIL CONSERVATION SERVICE AND CONSERVATION DISTRICTS
UNIT IV

TEST

1. Match the terms on the right to the proper definition.

_____a. Program that identifies present and future needs and opportunities for the conservation and development of natural resources within the district

_____b. A legal subdivision of the state, organized under the Conservation District Law enacted in 1937 and as later amended

_____c. Agency of the U.S. Department of Agriculture which is one of the principle sources of federal government assistance to Conservation Districts.

_____d. Outlines the current year's steps to be taken toward the goals and objectives of the long-range plan

1. Conservation District
2. Soil Conservation Service
3. Long-range program
4. Annual work plan

2. Place "D" by the responsibilities of a Soil Conservation District and "S" by the responsibilities of the Soil Conservation Service.

_____a. Furnishing effective local leadership in the form of a properly constituted governing body

_____b. Developing a workload analysis for an annual plan of operations for its own staff, after review of the district annual work plan

_____c. Gathering and providing soil survey, water management, and other resource data and interpretations for use by the district and others in making plans and decisions

_____d. Developing a long-range program that recognizes the interests of all the people in the district and is compatible with the area or regional development plans

_____e. Cooperating with other districts and governmental units in multi-district resource activities such as comprehensive and functional planning, watershed development, river basin programs, and other resource development projects

_____f. Holding regular and special meetings to plan work and to determine community needs for conservation and resource development

_____g. Locating its staff, insofar as possible, at headquarters mutually satisfactory to the district and Soil Conservation Service and providing such facilities as its employees may require

_____h. Following up with cooperators to insure effectiveness of the program

_____i. Supervising and managing Soil Conservation Service personnel, equipment, and facilities made available to the district by Soil Conservation Service

_____j. Assisting the district with information and education activities in the community, area, and state

_____k. Reporting to the public on resource conservation needs and progress and the work of the district

_____l. Furnishing qualified technical help, as available, on the basis of needs outlined by the district

3. Explain in writing how Conservation Districts are organized and managed.

4. Identify the five Conservation Districts Areas in Oklahoma.

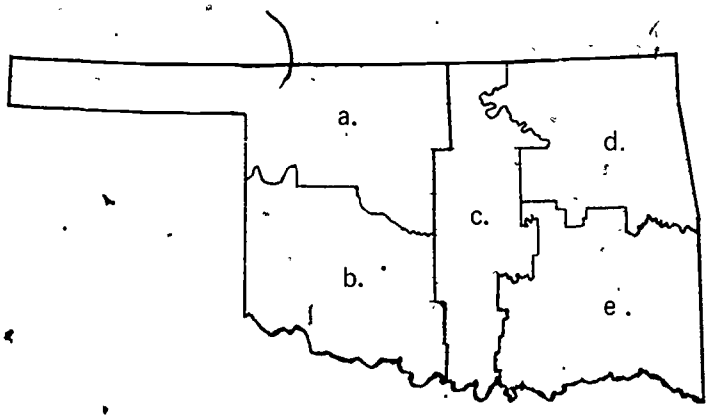
a. Area#_____

b. Area#_____

c. Area#_____

d. Area#_____

e. Area#_____



5. Select from the list below the assignments made to Soil Conservation Service by Congress and the Secretary of Agriculture by the correct functions.

_____a. Helps local sponsors develop and carry out multicounty resource conservation and development projects

_____b. Assists the counties in making soil surveys

_____c. Administers the Great Plains Conservation program

_____d. Develops and carries out a county soil and water conservation program through conservation areas

_____e. Heads the National Inventory of Soil and Water Conservation Needs Committee

_____f. Makes and coordinates rainfall and temperature surveys for weather forecasting in the West

_____g. Helps establish income-producing recreation areas on privately owned land and public recreation areas

_____h. Gives technical assistance to all land owners including nonfarming and urban groups

6. List three benefits that land users derive from the Soil Conservation Service.

a.

b.

c.

7. Select from the list below the occupational opportunities available in the Soil Conservation Service. Place an "X" by the correct answers.

_____a. Engineering technician

_____b. Agronomist

_____c. Plant materials specialists

_____d. Entomologist

_____e. Range conservationist

_____f. Conservation technician

_____g. Animal scientist

_____h. Woodland conservationist

_____i. Soil conservationist

8. Explain in writing how the Soil Conservation Service Student Trainee Program works.

9. Complete a survey indicating the names of district directors and types of services available through the Soil Conservation Service and Conservation Districts.

(NOTE: This activity should be completed prior to this test.)

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SOIL CONSERVATION SERVICE AND CONSERVATION DISTRICTS
UNIT IV

ANSWERS TO TEST

1. a. 3
   b. 1
   c. 2
   d. 4
2. a. D
   b. S
   c. S
   d. D
   e. D
   f. D
   g. S
   h. D
   i. S
   j. S
   k. D
   l. S
3. Conservation districts are organized by local people. They are managed by an elected and unsalaried board made up of local citizens. Each district is legally responsible for soil and water conservation work within its boundaries.
4. a. I
   b. IV
   c. II
   d. III
   e. V.

5. a

   c

   e

   g

   h

6. Any three of the following:

   a. Develops a soil and land-capability map of the land unit, a range-site and range-condition map of rangeland, and a woodland-suitability map of woodlands

   b. Compiles information about the different uses and adaptation of crops (including grasses, trees, and wildlife) for each kind of soil

   c. Assembles information about conservation measures needed on each kind of soil for each of the different safe uses

   d. Gives onsite assistance to the individual in making a conservation plan for his land unit

   e. Gives technical assistance in designing, laying out, and checking the construction and maintenance of dams, terraces, or other structures

   f. Gives technical assistance in selecting plant varieties, seeding methods and rates, and in solving problems that arise in managing pastures, woodlands, or wildlife habitat

   g. Services are extended to nonfarm rural land users as well as to urban land users

7. a

   b

   c

   e

   f

   h

   i

8. a. Program designed for college freshmen, sophomores, or juniors that are majoring in Agriculture

   b. Students qualify in a civil service examination

   c. The Soil Conservation Service hires student to work during nonschool periods at GS-3 after completing one year in college

   d. Student works each summer during the vacation period, goes on leave from the job in the fall, and returns to college

   e. Between sophomore and junior year, the student will be eligible for promotion to GS-4

   f. Between junior and senior year, student is eligible for promotion to GS-5

   g. Upon successful completion of work assignment and graduation and without further civil service examination, student is assigned to a full-time professional job

9. Evaluated to the satisfaction of the instructor.

AGRICULTURAL STABILIZATION AND CONSERVATION SERVICE
UNIT V

TERMINAL OBJECTIVE

After the completion of this unit, the student should be able to match terms associated with the Agricultural Stabilization and Conservation Service, select from a list the farm legislative acts that have been enacted through the years to control production, and explain in writing how the Agricultural Stabilization and Conservation Service is organized on the state and county level. The student should be able to select the primary responsibilities of the Agricultural Stabilization and Conservation Service and list the principal activities of the Agricultural Stabilization and Conservation Service. This knowledge will be evidenced by scoring eighty-five percent on the unit test.

SPECIFIC OBJECTIVES

1. Match terms and definitions associated with the ASCS.
2. Select from a list the farm legislative acts that have been enacted through the years to control production.
3. Explain in writing how the ASCS is organized on the state and county level.
4. Select from a list the primary responsibilities of the ASCS.
5. List the principal activities of the ASCS.
6. Complete a form listing facts about the county ASCS office and programs.

AGRICULTURAL STABILIZATION AND CONSERVATION SERVICE
UNIT V

SUGGESTED ACTIVITIES

I. Instructor:

A. Provide students with objective sheet.

B. Provide students with information and assignment sheets.

C. Discuss terminal and specific objectives.

D. Discuss information and assignment sheets.

E. Arrange for a representative from the county ASCS to talk to class.

F. Give test.

II. Students:

A. Read objectives.

B. Study information sheet.

C. Complete assignment sheet and turn in to instructor.

D. Take test.

INSTRUCTIONAL MATERIALS

I. Included in this unit:

A. Objectives

B. Information sheet

C. Assignment Sheet #1--Local Facts About ASCS

D. Test

E. Answers to test

II. References:

A. *ASCS Background Information*, Production Adjustment Programs. USDA BI No. 5, 1972.

B. *ASCS Background Information, The Agricultural Stabilization and Conservation Service.* USDA BI No. 1, June 1972.

C. *Glossary of Terms Used in ASCS and Related Programs.* USDA, Agricultural Handbook No. 371, Nov. 1971.

D. *A Short History of Price Support, Adjustment Legislation, and Programs for Agriculture, 1933-65.* Economic Research Service, ERS-303, July 1966.

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AGRICULTURAL STABILIZATION AND CONSERVATION SERVICE
UNIT V

INFORMATION SHEET

I. Terms and definitions

A. Adjustment payment--A payment made to a producer for compliance with the terms and conditions of a CAP or CCP agreement

B. Cropland Adjustment Program (CAP)--Designed to assist farmers, through long-term agreements, to divert land from the production of crops to uses that would promote the development and conservation of soil, water, forest, wildlife, and recreational resources

(NOTE. The program also was designed to establish, protect, and conserve open spaces and natural beauty and to prevent air and water pollution. Program provisions also permitted grants to public bodies, through Greenspan projects, to help them buy cropland and to change it to permanent public use to meet community needs for recreation, beautification, wildlife conservation, and prevention of air and water pollution.)

C. Cropland Conversion Program (CCP)--Designed to provide for long-term agreements with farm- and ranch-owners and operators to make changes in their cropping systems and land uses

(NOTE: Examples are to (1) change permanently to better productive use, cropland that was not well suited for crop use, and (2) temporarily shift to better productive use land that was suitable for crop use, but was not currently needed for crops that were in oversupply. Program aims included those to help any farmer stay on the farm, find better use for his land, and to earn income from the land by using it for purposes other than surplus crop production.)

D. Agricultural Stabilization and Conservation Service--Agency of the U.S. Department of Agriculture that administers specified commodity and related land use programs designed for voluntary production adjustment, resource protection, and price, market, and farm income stabilization

E. County committee--Persons elected within a county as the county committee under the regulations governing the selection and functions of Agricultural Stabilization and Conservation county and community committees

F. Compliance--Meeting the terms and conditions of a program agreement or contract

INFORMATION SHEET

G. Conserving base--The average acreage of cropland on the farm devoted in 1959 and 1960 to conserving uses as adjusted.

(NOTE: Permanent or rotation cover of grasses and legumes; summer or winter cover crops consisting principally of small grains, annual legumes or annual grasses; small grain cover crops when used for any purpose other than grain; idle cropland including clean tillage and summer fallowed cropland; and volunteer cover.)

H. Conserving use--An approved cultural practice or use authorized by the county committee on cropland required to be in a diverted or conserving status under a production adjustment program

I. Set aside payment--Payment for the diversion of cropland from the production of a designated crop

J. Set aside acreage--Acreage taken out of production and devoted to soil conserving uses

K. Enrollment or "signup" period--A prescribed period of time publicized throughout the nation during which farmers may sign an intention to participate in a voluntary production adjustment program

L. Compliance by certification--The method of determining compliance with acreage allotments or other acreage requirements by accepting a certification of crop or land use acreage from the farm operator

M. Feed grain base--This represents the average acreage of corn and grain sorghums on the farm in crop years 1959 and 1960, adjusted to reflect abnormal factors affecting acreage; it also includes the 1959-60 average acreage of barley when included in the feed grain program

N. Indemnity payments (milk and bees)--Payments to dairy farmers and bee keepers to compensate them for losses incurred as a result of using pesticides in accordance with the Department's recommendations

O. New farm--Any farm which does not have history other than zero in the base period and for which an allotment or feed grain base is established for the current year

P. Parity--This is the price which will give agricultural commodities the same purchasing power in terms of goods and service farmers buy that the commodities had in a specified base period

(NOTE: When used alone, the term is synonymous with equality.)

INFORMATION SHEET

Q. Parity ratio--This measures the general or overall relationship between the price level of the commodities farmers sell and the prices of things farmers buy

(NOTE: More specifically, it is the ratio of (1) the index of prices received by farmers to (2) the index of prices paid by farmers, including an allowance for interest, taxes, and wages paid hired labor. When this relationship is 100, that is, the two indexes are equal, agricultural prices in general are considered at parity. In general, a traditional measure of whether farmers are getting fair prices in relation to their costs.)

R. Price support--Support is achieved through loans, purchases, and payments for some commodities, all at announced levels

(NOTE: Recent legislation is designed to make some export commodities more competitive in world markets through market price support at or near world price levels. At the same time, growers' incomes are protected by supplementary price support payments, and -- in the case of wheat -- issuance of wheat marketing certificates which bring returns to participating growers to full parity on the domestically-consumed portion of the crop.

ASCS administered price-support programs for wheat, corn, cotton (upland and extra long staple), peanuts, rice, tobacco, butterfat, milk, wool, mohair, tung nuts, barley, oats, grain sorghum, rye, flaxseed, soybeans, dry edible beans, cottonseed, honey, and crude pine gum.)

S. Projected yield--Using actual production during a historical period (base period) as the starting point to project forward, usually the five years preceding the year in which the yields are determined

(NOTE: For example, projected yield for the 1968 crop year would use as a base period the years 1962-66 with yield adjusted for abnormal weather, significant changes in production practices, and for trend. Projected yields have been used for cotton, wheat, and feed grains.)

T. Proven yield--Yield established using actual yields per acre based upon production data for a specified number of years

U. Referendum--Referral of a question to voters to be resolved by balloting (quotas, etc.)

V. State committee--Three to five persons in a state appointed by the secretary of Agriculture as members of the Stabilization and Conservation State Committee

INFORMATION SHEET

II. History of farm legislation enacted to control production

A. Agricultural Adjustment Act of 1933 (AAA)

(NOTE: The Agricultural Adjustment Act was passed May 12, 1933. Its goal was to restore prices to farmers at a level which would give agricultural commodities their 1909 to 1914 purchasing power. A Supreme Court decision of 1936 invalidated the production control provisions, including the tax on marketing, provided under the AAA of 1933.)

B. Soil Conservation and Domestic Allotment Act of 1936

(NOTE: This act combined the objective of promoting soil conservation and profitable use of agricultural resources with that of reestablishing and maintaining farm income at fair levels. The goal of income parity, as distinguished from price parity, was introduced into legislation for the first time.)

C. Agricultural Adjustment Act of 1938

(NOTE: The Agricultural Adjustment Act of 1938 combined the conservation program of the 1936 legislation with new features designed to meet drought emergencies as well as the price and income crisis resulting from surplus production. A marketing control approach was substituted for direct production control. Authority was based on congressional power to regulate interstate and foreign commerce. The new features of the legislation included mandatory non-recourse loans for cooperating producers of corn, wheat, and cotton under certain supply and price conditions (if marketing quotas had not been rejected). Loans were at the option of the U.S. Secretary of Agriculture for producers of other commodities. Marketing quotas were to be proclaimed for corn, cotton, rice, tobacco, and wheat when supplies reached certain levels. Referendums were to be used to determine whether the marketing quotas proclaimed by the Secretary should be put into effect. Another feature was parity payments to producers of corn, cotton, rice, tobacco, and wheat in amounts which would provide a return as nearly equal to parity as available funds would permit. These payments were to supplement and not replace other payments. In addition to payments authorized under the continued Soil Conservation and Domestic Allotment Act for farmers in all areas, special payments were made in ten states to farmers who cooperated in a program to retire land unsuited to cultivation as part of a restoration land program initiated in 1938. The attainment of parity prices and parity income was stated as a goal of the legislation. Another goal was the protection of consumers by the maintenance of adequate reserves of food and fiber. Systematic storage of supplies made possible by non-recourse loans was the basis for the department's "Ever-Normal-Granary" plan.)

INFORMATION SHEET

D. Agricultural Trade Development and Assistance Act (Public Law 480) of 1954

(NOTE: This act, which served as the basic authority for sale of surplus agricultural commodities for foreign currency, proved to be of major importance in disposing of farm products abroad.

The Agricultural Act of 1954 established price supports for the basic commodities on a flexible basis, ranging from 82.5 percent of parity to 90 percent for 1955, and from 75 percent to 90 percent thereafter.)

E. Agricultural Act of 1956--(Soil Bank)

(NOTE: The Soil Bank was a large-scale effort, similar in some respects to programs of the 1930's, to bring about adjustments between supply and demand for agricultural products by taking farmland out of production. The program was divided into two parts: (1) an acreage reserve; and (2) a conservation reserve. The specific objective of the acreage reserve was to reduce the amount of land planted to allotment crops wheat, cotton, corn, tobacco, peanuts, and rice. Under its terms, farmers cut land planted in these crops below established allotments; or, in the case of corn, their base acreage, and received payments for the diversion of such acreage to conserving uses. In 1957, 21.4 million acres were in the acreage reserve. The last year of the acreage reserve program was 1958. The specific objective of the conservation reserve program was to secure the diversion of some of the land from production of Agricultural commodities into specific conservation uses. Agreements called for diversion of the cropland for five to ten years.)

F. The Feed Grain Act of 1961

(NOTE: It provided that the 1961 crop of corn should be supported at not less than sixty-five percent of parity (the actual rate was seventy-four percent) and established a special program for diverting corn and grain sorghum (and barley if designated by the Secretary of Agriculture) acreage to soil-conserving crops or practices. Producers were eligible for price supports only after retiring at least twenty percent of the average acreage devoted to the two crops in 1959 and 1960. Subsequent acts in 1962, 1963, and 1964 included wheat and cotton as well as the feed grains.)

G. The Food and Agriculture Act of 1965

(NOTE: Programs established by the Food and Agriculture Act of 1965 were in effect from 1966 through 1969, The Wool Act of 1954 and the voluntary feed grain program begun in 1961 were extended through 1969. The voluntary wheat certificate program begun in 1964 was extended through 1969 with only limited changes.

INFORMATION SHEET

The Act established a cropland adjustment program. The secretary was authorized to enter into five- to ten-year contracts with farmers calling for conversion of cropland into practices or uses which would: conserve water, soil, wildlife, or forest resources; or establish, protect, or conserve open spaces, national beauty, wildlife, or recreational resources; or prevent air or water pollution. Limited funding to enter into CAP contracts was provided in 1966 and 1967. Since that time the Congress has not authorized funds for any new CAP contracts.)

H. Agricultural Act of 1970

(NOTE: This legislation was enacted November 30, 1970. Major features of this act were:

1) Producers had more flexibility in making their farm-operating decisions.

2) It emphasized more reliance on the marketplace as the principal source of farm income.

Significant changes were made in the supply management programs for wheat, feed grains, and cotton. The existing adjustment programs for peanuts, tobacco, and rice which were a part of the agricultural legislation were continued without change.

The act included for the first time a limitation ($55,000) on the payments a participating producer would be entitled to receive. This limitation applied to each program (wheat, feed grains, and cotton) separately.

The portion of the act relating to wheat, feed grains, and cotton cover only the 1971, 1972, and 1973 crops. If new or extending legislation is not enacted during the 1973 legislative session, production adjustment work in 1974 will follow the provisions of prior legislation. The 1970 Act also included a provision whereby farmers participating in the Set Aside program could receive additional payments for permitting the public to hunt or fish on the farm. In 1972 and 1973 this portion of the act was operated on a pilot basis in fifty counties (10 states, 5 counties each). The test pilot program has been well received by both farmers and the public.)

III. Organization of ASCS field organization

A. State committees include three to five members, appointed by the Secretary of Agriculture

(NOTE: State director of the Agriculture Extension Service is an ex-officio member.)

INFORMATION SHEET

B. County committees include three farmer-members elected by farmer-elected delegates to a county convention

(NOTE: County extension director is an ex-officio member.)

(NOTE: One committeeman is elected each year for a three year term, with two committeemen as holdovers.)

C. To assist the county committee in carrying out program administration, community committees of three farmers each are elected annually by other farmers in each of several local communities within the county

D. Each ASC county committee employs a county executive director who hires the necessary employees for officework and fieldwork, and sees that the day-to-day office and field operations are effectively and efficiently performed

IV. Primary responsibilities of the ASCS

A. To improve the economic stability of agriculture by aiding farmers to achieve supply-demand balances that result in an equitable share of both domestic and export markets, and an equitable return on those markets

B. To maintain an even flow of quality products to market at reasonable price to both producer and consumer

C. To improve and protect soil and water resources by aiding farmers to carry out conservation and land use practices

V. Principal activities of ASCS

A. Commodity support operations

Examples: 1) Loans to farmers on specified crops and facilities for storing those crops, 2) Direct purchases of commodities from farmers and processors, 3) Acreage set-aside payments on specified commodities, 4) Production payments for wool and mohair, and 5) wheat marketing certificates issued to eligible producers on wheat grown for domestic use.

B. Production adjustment to balance supply and demand, for specified commodities

(NOTE: Through cropland set-aside, acreage allotments, marketing quotas, and commodity acreage diversions, when applicable.)

INFORMATION SHEET

C. Conservation assistance through sharing with farmers and ranchers the cost of installing needed soil, water, woodland, and wildlife conservation and pollution abatement practices under the Rural Environmental Assistance program (REAP)

(NOTE: REAP Program was terminated in 1972.)

D. Management of the Commodity Credit Corporation inventories acquired under commodity programs

(NOTE: This was managed through sales, donations, storage, and related processing and shipping arrangements. The Export Marketing Service is responsible for programs dealing with the export of privately-owned agricultural commodities.)

E. The sugar program to provide an equitable sharing of the U.S. sugar market among domestic and foreign supplying areas, to protect the income of domestic producers, and to assure consumers a stable supply of sugar at reasonable prices

F. Disaster and defense activities to augment feed supplies for farmers and ranchers in areas where natural disasters have reduced feed, to provide emergency conservation assistance in restoring farmlands seriously damaged by widespread flood or drought, and to assist in preparedness planning for civil defense

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AGRICULTURAL STABILIZATION AND CONSERVATION SERVICE
UNIT V

ASSIGNMENT SHEET #1--LOCAL FACTS ABOUT ASCS

Determine the following information by either visiting a ASCS office or listening to a ASCS employee talk to your class.

1. Name the members of the county ASCS committee.

2. Name the town where your ASCS office is located.

3. List the types of commodity support programs available to the farmers in your county.

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ASSIGNMENT SHEET #1

4. List the production adjustment programs along with the principal participation requirements as they apply to your county.

   a. Cotton (If grown in your county)

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ASSIGNMENT SHEET #1

c. Feed grains

d. Peanuts (If grown in your county)

e. Others

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ASSIGNMENT SHEET #1

5. List conservation assistance through cost sharing arrangement with farmers and ranchers in your county.

6. List disaster and defense activities that have been provided to farmers in your county through the ASCS. (In the past five years)

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AGRICULTURAL STABILIZATION AND CONSERVATION SERVICE
UNIT V

TEST

1. Match the terms on the right with the proper definition. Terms 1 through 11 will be the answers to "a" through "k" definitions.

_____a.	Designed to provide for long-term agreements with farm- and ranch-owners and operators to make changes in their cropping systems and land uses	1. Adjustment payment
_____b.	A payment made to a producer for compliance with the terms and conditions of a CAP or CCP agreement	2. Cropland Adjustment Program (CAP)
_____c.	Agency of the U.S. Department of Agriculture that administers specified commodity and related land use programs designed for voluntary production adjustment, resource protection, and price, market, and farm income stabilization	3. Cropland Conversion Program (CCP)
_____d.	Meeting the terms and conditions of a program agreement or contract	4. Agricultural Stabilization and Conservation Service
_____e.	Designed to assist farmers, through long-term agreements, to divert land from the production of crops to uses that would promote the development and conservation of soil, water, forest, wildlife, and recreational resources	5. County Committee
_____f.	A prescribed period of time publicized throughout the nation during which farmers may sign an intention to participate in a voluntary production adjustment program	6. Compliance
_____g.	Payment for the diversion of cropland from the production of a designated crop	7. Conserving base
_____h.	The average acreage of cropland on the farm devoted in 1959 and 1960 to conserving uses as adjusted	8. Conserving use
		9. Set aside payment
		10. Set aside acreage
		11. Enrollment or "signup" period

_____i. Persons elected within a county as the county committee under the regulations governing the selection and functions of Agricultural Stabilization and Conservation county and community committees

_____j. An approved cultural practice or use authorized by the county committee on cropland required to be in a diverted or conserving status under a production adjustment program

_____k. Acreage taken out of production and devoted to soil conserving uses

(NOTE: Terms 12 through 22 will be the answers to definitions "l" through "v".)

_____l. This is the price which will give agricultural commodities the same purchasing power in terms of goods and service farmers buy that the commodities had in a specified base period

_____m. This measures the general or overall relationship between the price level of the commodities farmers sell and the prices of things farmers buy

_____n. Any farm which does not have history other than zero in the base period and for which an allotment on feed grain base is established for the current year

_____o. The method of determining compliance with acreage allotments or other acreage requirements by accepting a certification of crop or land use acreage from the farm operator

_____p. This represents the average acreage of corn and grain sorghums on the farm in crop years 1959 and 1960, adjusted to reflect abnormal factors affecting acreage; it also includes the 1959-60 average acreage of barley when included in the feed grain program

12. Compliance by certification
13. Feed Grain Base
14. Indemnity payments (milk and bee)
15. New farm
16. Parity
17. Parity ratio
18. Price support
19. Projected yield
20. Proven yield
21. Referendum
22. State committee

_____q. Payments to dairy farmers and to bee keepers to compensate them for losses incurred as a result of using pesticides in accordance with the Department's recommendations

_____r. Support is achieved through loans, purchases, and payments for some commodities, all at announced levels

_____s. Three to five persons in a state appointed by the Secretary of Agriculture as members of the Agricultural Stabilization and Conservation State Committee

_____t. Yield established using actual yields per acre based upon production data for a specified number of years

_____u. Referral of a question to voters to be resolved by balloting (quotas, etc.)

_____v. Using actual production during a historical period (base period) as the starting point to project forward, usually the five years preceding the year in which the yields are determined

2. Select from the list below the farm legislative acts that have been enacted through the years to control production. Place an "X" by the correct answers.

_____a. Soil Conservation and Domestic Allotment Act of 1936

_____b. Agricultural Adjustment Act of 1933

_____c. Agricultural Adjustment Act of 1941

_____d. Agricultural Trade Development and Assistance Act (Public Lay 480) of 1954

_____e. Agricultural Act of 1964 (Soil Bank)

_____f. The Feed Grain Act of 1961

_____g. Agricultural Act of 1970

3. Explain in writing how the ASCS is organized on the state and county level.

   a. State--

   b. County--

4. Select from the list below the primary responsibilities of the ASCS. Place an "X" by the correct answers.

   _____a. To maintain an even flow of quality products to market at a reasonable price to both producer and consumer

   _____b. To force farmers to carry out conservation and land use practices

   _____c. To improve the economic stability of agriculture by aiding farmers to achieve supply-demand balances that result in an equitable share of both domestic and export markets, and an equitable return on those markets

5. Name three activities of the ASCS.

   a.

   b.

   c.

6. List facts about your county ASCS.

   (NOTE: If this has not been accomphish prior to the test, ask your instructor when the above activity should be completed.)

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AGRICULTURAL STABILIZATION AND CONSERVATION SERVICE
UNIT V

ANSWERS TO TEST

1. a. 3
   b. 1
   c. 4
   d. 6
   e. 2
   f. 11
   g. 9
   h. 7
   i. 5
   j. 8
   k. 10
   l. 16
   m. 17
   n. 15
   o. 12
   p. 13
   q. 14
   r. 18
   s. 22
   t. 20
   u. 21
   v. 19

2. a

   b

   d

   f

   g

3. a. State--Committees include three to five members, appointed by the Secretary of Agriculture

   b. County--County committees include three farmer-members elected by farmer-elected delegates to a county convention; to assist the county committee in carrying out program administration, community committees of three farmers each are elected annually by other farmers in each of several local communities within the county. Each county ASC county committee employees a county executive director who hires the necessary employees for officework and fieldwork, and sees that the day-to-day office and field operations are effectively and efficiently performed

4. a

   c

5. Any three of the following:

   a. Commodity support operations

   b. Production adjustment to balance supply and demand, for specified commodities

   c. Conservation assistance through sharing with farmers and ranchers the cost of installing needed soil, water, woodland, and wildlife conservation and pollution abatement practices under the Rural Environmental Assistance Program (REAP)

   d. Management of the Commodity Credit Corporation inventories acquired under commodity programs

   e. The sugar program to provide an equitable sharing of the U.S. sugar market among domestic and foreign supplying areas, to protect the income of domestic producers, and to assure consumers a stable supply of sugar at reasonable prices

   f. Disaster and defense activities to augment feed supplies for farmers and ranchers in areas where natural disasters have reduced feed, to provide emergency conservation assistance in restoring farmlands seriously damaged by widespread flood or drought, and to assist in preparedness planning for civil defense

6. Evaluated to the satisfaction of the instructor.

BUILDING FARM FENCES
UNIT I

TERMINAL OBJECTIVE

After the completion of this unit, the student should be able to match terms associated with farm fencing. He should be able to plan the location of a farm fence and arrange in order the procedure for setting line post and the procedure for placing, stretching, and attaching a fence. He should be able to construct a wood anchor-and-brace assembly. This knowledge will be evidenced through demonstration and by scoring eighty-five percent on the unit test.

SPECIFIC OBJECTIVES

After completion of this unit, the student should be able to:

1. Match terms associated with fence construction when given the proper definition.
2. Select from a list the factors to consider when planning the location and arrangement of fences.
3. Arrange in order the steps to follow in planning the fencing layout on a farm.
4. List the kinds of temporary and permanent pasture fences.
5. Name the factors that influence the kind of fence to construct.
6. Select the advantages and disadvantages of electric fences.
7. Name the factors that determine fence life.
8. Distinguish between the two types of joints generally recognized in woven wire.
9. Arrange in order the steps to follow when constructing fences in: open level areas, open rolling areas, areas with heavy undergrowth, and contour areas.
10. Match the types of anchor-and-brace assemblies when given the length and contour of the fence.
11. Select from the illustrations proper and improper methods of bracing ends and corners.
12. Arrange in order the proper steps for constructing the steel anchor-and-brace assembly.

13. Arrange in order the procedures for setting line post.

14. Arrange in order the steps to follow when placing a woven fence for stretching.

15. Arrange in order the steps to follow when stretching a woven fence.

16. Arrange in order the steps for attaching a woven fence to the second anchor post or brace-line post.

17. Select from a list the correct procedure for attaching a fence to line post.

18. Arrange in order the steps used in unrolling and stretching barbed wire.

19. Explain in writing the reason fences should be grounded for lightning protection.

20. Name the factors that determine the number and kind of line post to use.

21. Identify tools and materials needed to construct farm fences.

22. Determine the cost of constructing various type fences.

23. Demonstrate the ability to construct a wood anchor-and-brace assembly.

BUILDING FARM FENCES
UNIT I

SUGGESTED ACTIVITIES

I. Instructor:

A. Provide students with objective sheet.

B. Provide students with information, assignment, and job sheets.

C. Make transparencies.

D. Discuss terminal and specific objectives.

E. Discuss information and assignment sheets.

F. Demonstrate and discuss procedures outlined in the job sheets.

G. Give test.

II. Students:

A. Read objectives.

B. Study information sheet.

C. Complete assignment sheet.

D. Demonstrate the ability to accomplish the procedures outlined in the job sheets.

E. Take test.

INSTRUCTIONAL MATERIALS

I. Included in this unit:

A. Objectives

B. Information sheet

C. Transparency masters

1. TM 1--Laying Out Fields to Fit Land Capability
2. TM 2--Protective Coating
3. TM 3--Life of Wire According to Coating
4. TM 4--Tools and Materials Used in Fencing

D. Assignment Sheet #1--Determine the Cost of Fences

E. Job Sheet #1--Construct the Wood Anchor-and-Brace Assembly

F. Test

G. Answers to test

II. References:

A. American Association for Agricultural Engineering and Vocational Agriculture. *Planning Farm Fences.* Athens, Georgia: Foote and Davis (Division of McCall Printing), 1966.

B. American Association for Agricultural Engineering and Vocational Agriculture. *Building Farm Fences.* Doraville, Georgia: Foote and Davis (Division of McCall Printing Company), 1969.

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BUILDING FARM FENCES
UNIT I

INFORMATION SHEET

I. Terms and definitions

A. Permanent fence--Fence left in the same location for several years; under normal conditions the fence will exert 3000 to 4500 pounds pull on the anchor-and-brace assembly

B. Movable fences--Intended to stay in one location for only a few weeks

C. Line wires--Wires that run lengthwise

D. Stay wires--Vertical wires that tie the line wires together

E. Filler wires--Wires between the top and bottom line wires

(NOTE: These are the horizonal wires in woven fences.)

F. Suspension fences--Used for cross or boundary fencing on cattle ranges

G. Tension curve--Spring effect that is present in woven wire

H. Wire clip--Fastener used on steel post

I. Staple--Fastener used on wooden post

J. Wood preservative--Product used to treat wood to increase life

II. Factors to consider when planning the location and arrangement of fences

A. Land capability

B. Coordination of fields to cropping plans

C. Relation of fences to soil conservation practices

D. Arrangement of fields and passageways for convenience and labor savings

E. Placement justification of permanent and moyable fences

F. Building order of permanent fences

III. Steps to follow in planning the fencing layout on a farm

A. Sketch layout of farm

(NOTE: An aerial map is helpful in planning a fencing program.)

INFORMATION SHEET

B. Divide the farm into areas best suited to: (Transparency 1)

1. Permanent pastures or hay production
2. Woodlands not pastured
3. Woodlands pastured
4. Cultivated areas

(NOTE: Lay out fields to fit their land capability. Fences should be planned parallel to the waterways and on the pasture or wood-area side of the waterway.)

C. Divide each area into the number and size of fields needed for specific types of cropping systems as related to land capability

D. Sketch proposed lane to connect farm building with permanent pastures

(NOTE: Locate permanent lanes to avoid erosion, yet allow access to as many fields as possible.)

E. Indicate gates and other passageways

1. If possible, locate gates and passageways for livestock and equipment in the corner of each field closest to the buildings
2. If fields are on opposite sides of the highway, place gates directly opposite each other

IV. Kinds of temporary and permanent pasture fences

A. Woven wire
B. Barbed wire
C. Electric fence
D. Combination of above

V. Factors that influence the kind of fence

A. Kind of livestock to be fenced
B. Combination of different kinds of livestock in the same field
C. Frequency livestock are checked
D. Necessity to fence out dogs or wolves

INFORMATION SHEET

E. Size of area in which animals are confined

F. Money available for fencing

G. Estimated life of fence

VI. Advantages and disadvantages of electric fences

A. Advantages

1. Use of low-cost, simple fencing materials and methods
2. Inexpensive to operate
3. Easy to build or remove
4. Protects livestock or poultry from many predatory animals
5. Protects and extends the usefulness of old permanent fences
6. Easy to keep fence rows clean

B. Disadvantages

1. Requires training livestock in beginning usage
2. The charged wire may short and become less effective when grass, weeds, or brush touch the wire
3. Requires full time operation for maximum effectiveness
4. Sometimes ineffective in extra dry weather if controller is not well grounded

(NOTE: Do not build your own controller as this practice is extremely dangerous to both humans and livestock.)

VII. Factors that determine fence life

A. Kind of protective coating

1. Line (commonly called galvanizing) and aluminum coating are widely used
2. Aluminum-coated steel wire is three to five times more resistant to corrosion than an equal thickness of zinc coating

(NOTE: Aluminum-coated wire is damaged from oak leaf drippings. Avoid using this wire where oak trees are grown.)

INFORMATION SHEET

B. Thickness of protective coating (Transparencies 2 and 3).

1. Period of service before rusting depends on whether it is being used in dry, humid, coastal, or industrial areas

2. Smaller size wires are coated with less zinc

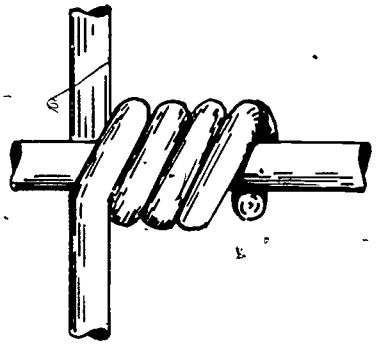
C. Size of wire

D. Type of steel in wire

VIII. Two types of joints generally recognized in woven wire fences

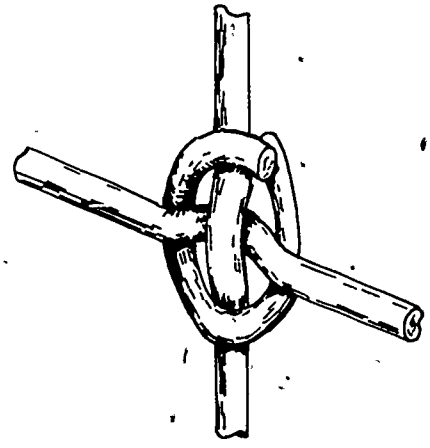
A. Hinge joint

(NOTE: The hinge joint is the most common fence manufactured at the present time.)



B. Stiff-stay joint

(NOTE: This joint will not move sideways, but after being straightened several times, the stay wires may break.)

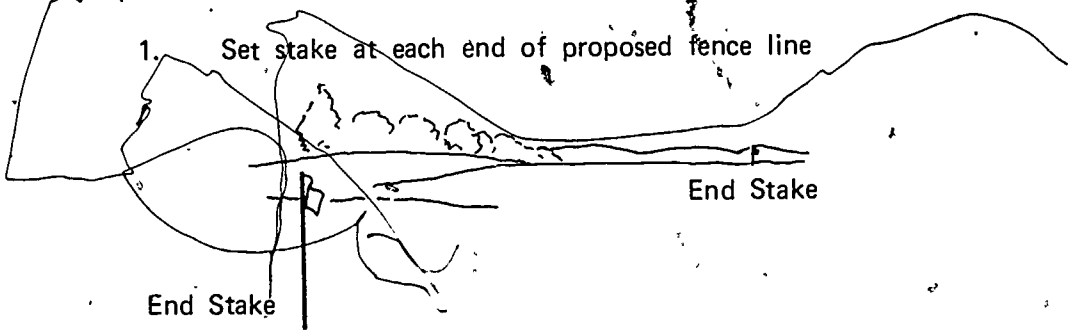


INFORMATION SHEET

IX. Steps in constructing fences in:

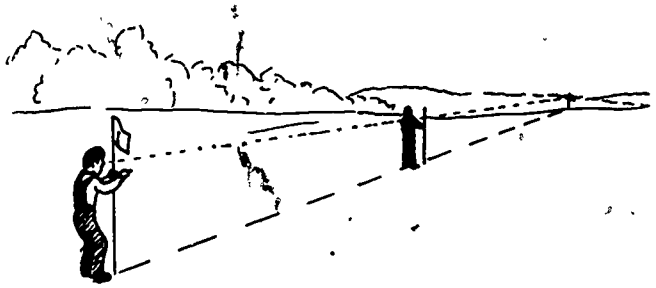
A. Open level areas

1. Set stake at each end of proposed fence line

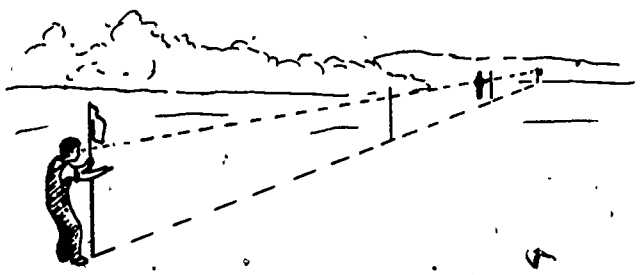


2. Station someone at one of the end stakes to help with alignment of remaining stakes

3. Proceed about 100 feet toward other end; align the posts



4. Proceed about 100 feet further and set another stake even with all three stakes

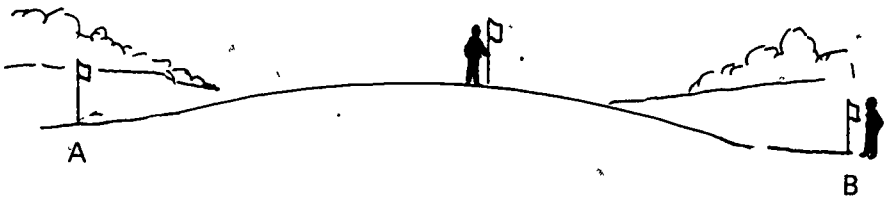


5. Continue setting additional stakes about every 100 feet until complete fence line is staked

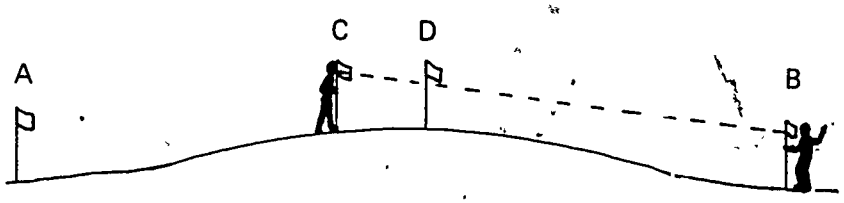
INFORMATION SHEET

B. Open rolling areas

1. Set stake at each end of proposed fence line



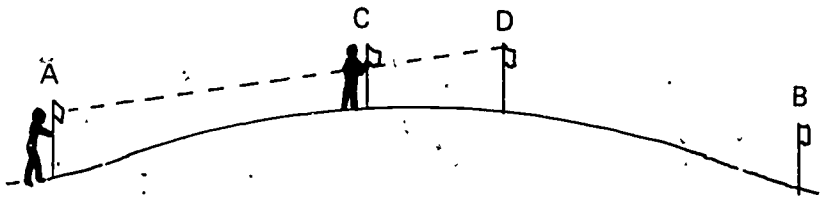
2. Place two stakes about ten feet apart on top of hill so both are visible from either end stake



3. Align two center stakes (C and D) from one of the end stakes

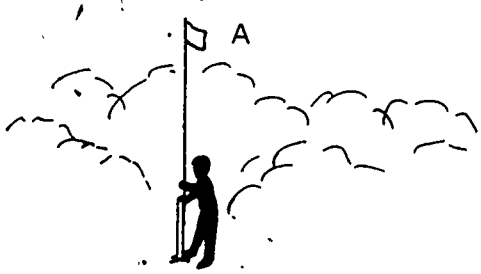
4. Check alignment of center stakes from other end stakes

(NOTE: Center stakes may have to be moved several times before satisfactory alignment can be secured from both end stakes.)



C. Areas with heavy undergrowth

1. Mount a 12 to 15 foot pole at end of fence line with heaviest growth



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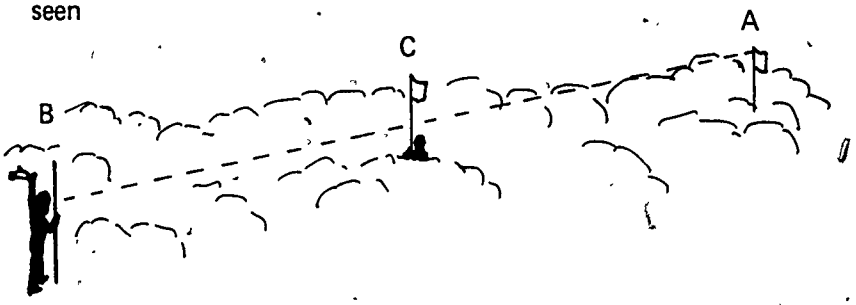
2. Check pole or pipe with level to make sure it is vertical

3. Place stake at other end of fence line

4. While sighting from short end, stake "B" to pole "A" at other end; align second stake "C" as far inside thicket as it can be seen



5. Clear area between stakes "B" and "C" and some distance beyond stake "C"

6. Establish another stake in the same manner working until line is completely established

D. Contour areas

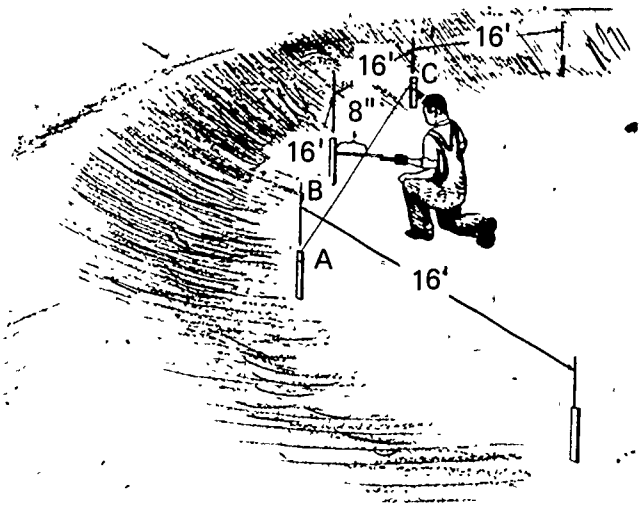
1. Stake out smooth curve along contour strip or terrace

2. If there is excessive curve at any one point, select three stakes at point of greatest curvature

3. Stretch string between first "A" and third "C" stakes

INFORMATION SHEET

4. Measure distance from center "B" stake to string



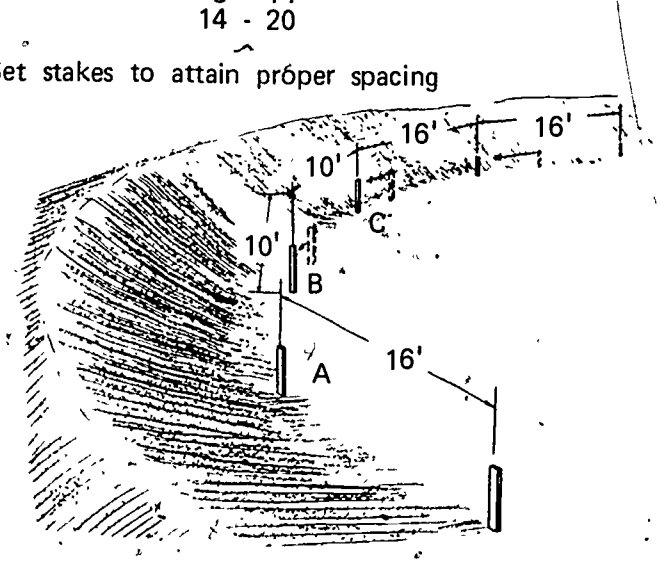
5. Decrease post spacing as shown in table below if measurement is more than four inches

Example:

POST SPACING FOR CONTOUR FENCES

Distance from center stake to string (Inches)	Recommended post spacing (Feet)
4 or less	16
4 - 5	15
5 - 6	14
6 - 8	12
8 - 14	10
14 - 20	8

6. Set stakes to attain proper spacing



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7. Repeat steps three to six any place there appears to be surplus curvature

8. Check to see that no single post is out of line with the curve

(NOTE: By keeping the curve smooth, fence wire will pull equally against each post.)

X. Types of anchor-and-brace assemblies used

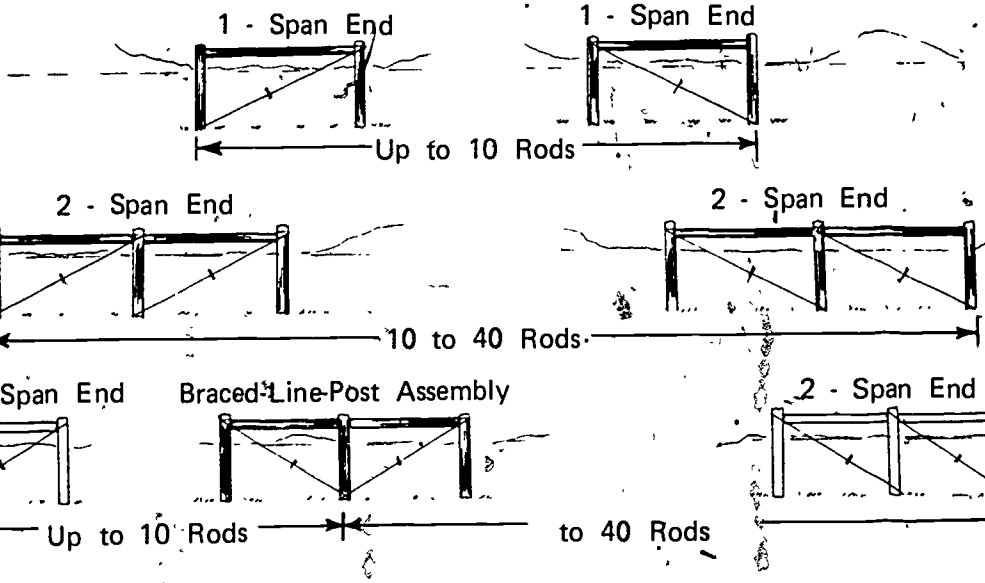
(NOTE: The type of assembly varies according to the length and contour of the fence.)

A. Straight fences on flat land

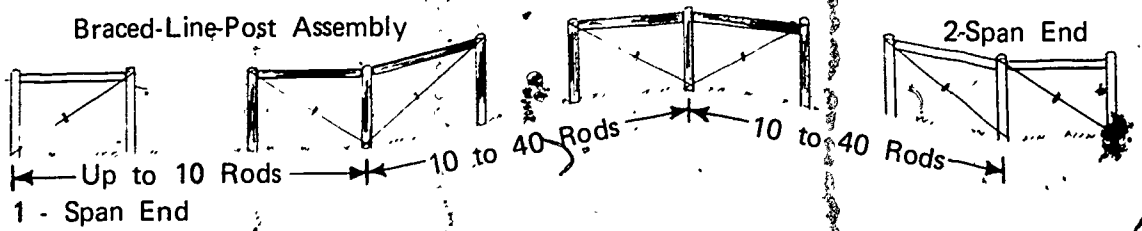
1. For fence lengths of 10 rods or less, use single-span end construction

2. For fence lengths of 10 to 40 rods, use double-span end construction

3. For fences more than 40 rods long, use a braced-line-post assembly to divide the fence lengths



B. Straight fences on rolling land--Fence stretching is easier if braced-line-post assemblies are located at the foot and top of each hill



INFORMATION SHEET

C. Contour fences

1. Coutour fences more than 20 rods long should have a braced-line-post assembly installed to keep the stretches to 20 rods or less

2. Install in a straight section at least one post span away from a curve

(NOTE: Do not install on a curve; it will not hold well.)

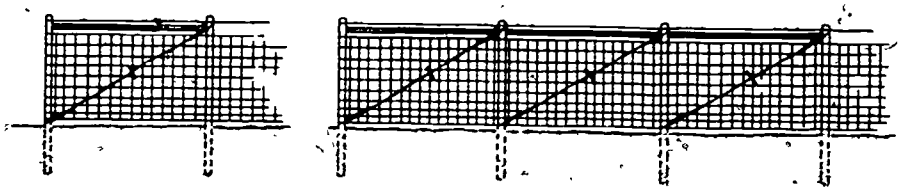
Braced-Line-Post Assembly

End End

XI. Methods of bracing ends and corners

A. Proper methods

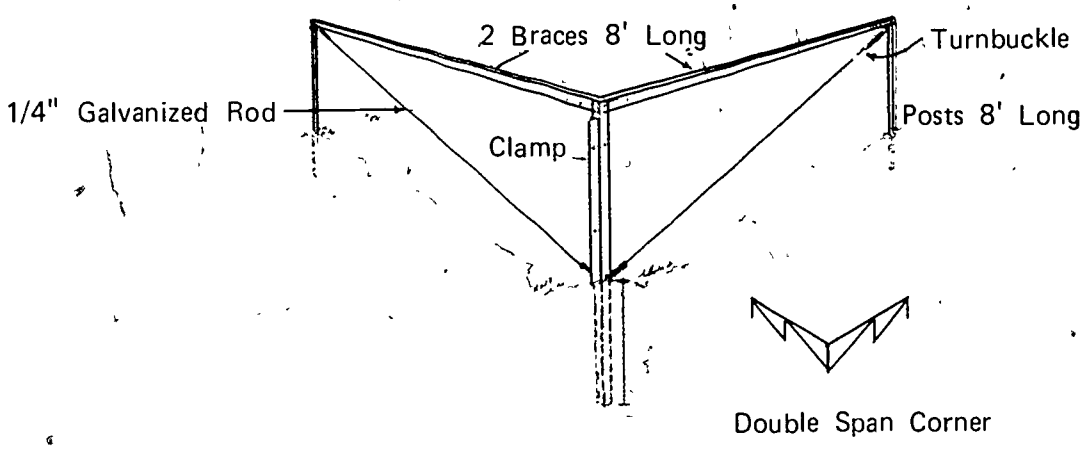
1. Wood horizontal-brace assembly



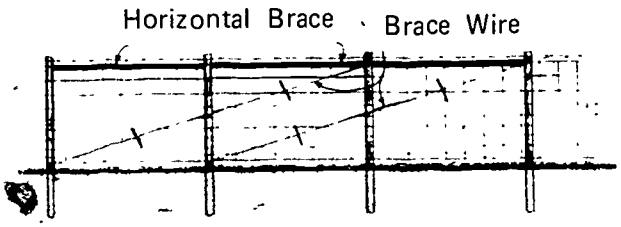
10 Rods or Less Over 40 Rods

INFORMATION SHEET

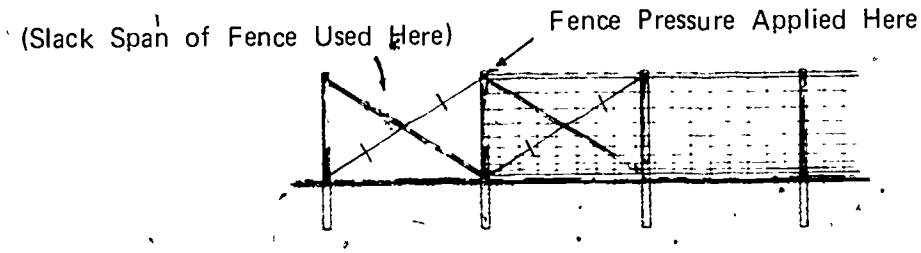
2. Steel end and corner horizontal-brace assembly



3. Rose-mount anchor-and-brace assembly--Designed for extra heavy fence pull caused by wind or snow

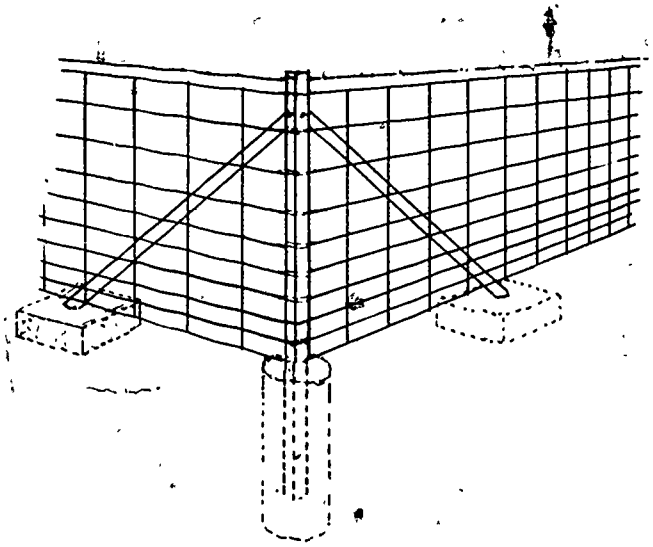


4. Cross-braced, double-span assembly--Used for extra heavy fence pull



INFORMATION SHEET

5. Steel anchor post and steel diagonal brace, set in concrete



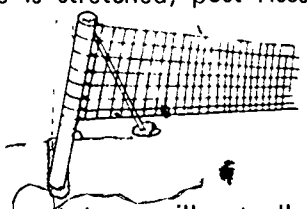
(NOTE: Use minimum size post for end or corner assemblies.)

INFORMATION SHEET

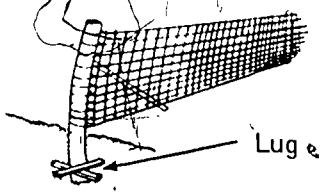
B. Improper methods

1. Simple anchor-and-brace assembly

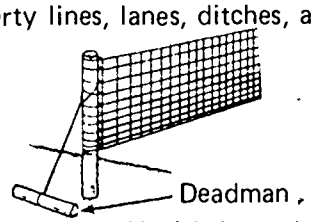
(NOTE: When fence is stretched, post rises out of ground.)



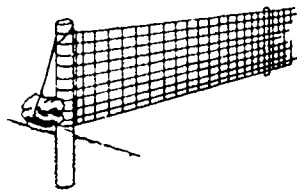
2. Lugs on bottom of post--Lugs will rot allowing fence to give



3. "Deadman"--Takes extra time to install and is unsatisfactory for fences along property lines, lanes, ditches, and road right-of-ways



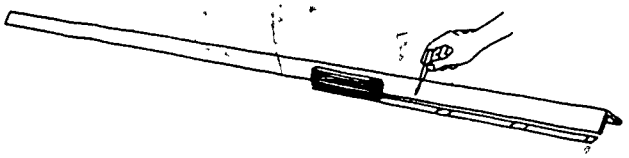
4. Boulder hung on the post--Unsightly and inadequate



XII. Constructing the steel anchor-and-brace assembly

A. Mark ground line on post with chalk

(NOTE: You can also mark your digger or auger handle.)



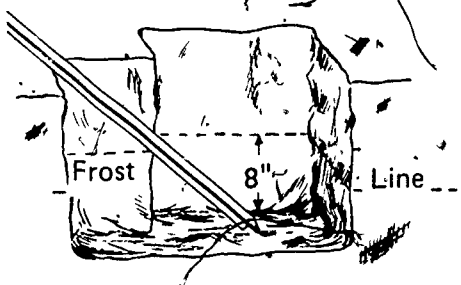
B. Dig anchor post hole 12 inches in diameter and 3 1/2 feet deep

INFORMATION SHEET

C. Attach brace to anchor post

D. Dig hole where brace contacts ground

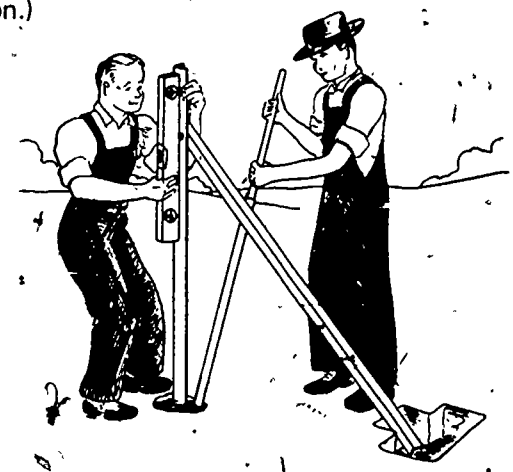
(NOTE: In areas where ground freezes deeply, hole must be deepened to provide eight inches of concrete below frost line. If this is not done, frost may raise concrete pier.)



E. Repeat steps "C" and "D" if second brace is used for corner construction

F. Mix and place concrete around anchor post--Slope concrete away from post to drain away water

(NOTE: Avoid a 'soupy' mixture of concrete as it is weak and will not hold post in plumb position.)



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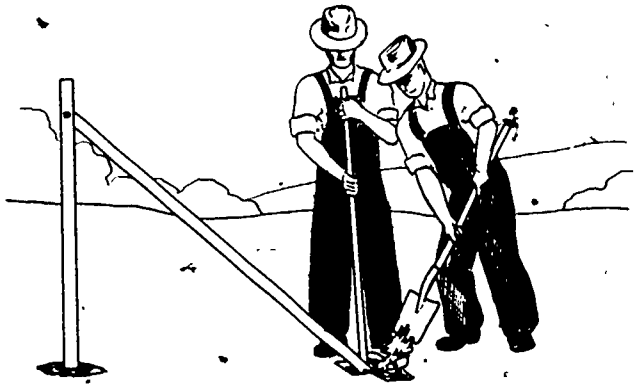
G. Place concrete for brace pier--Tamp concrete as it is placed

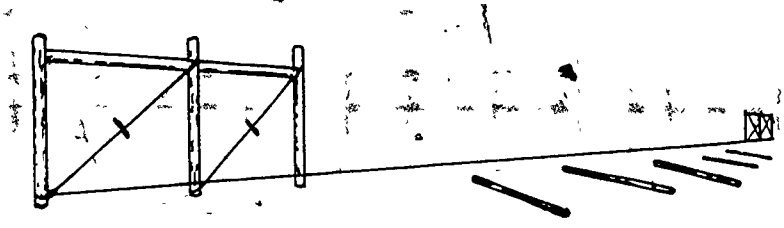


H. Repeat same steps for remaining anchors and braces

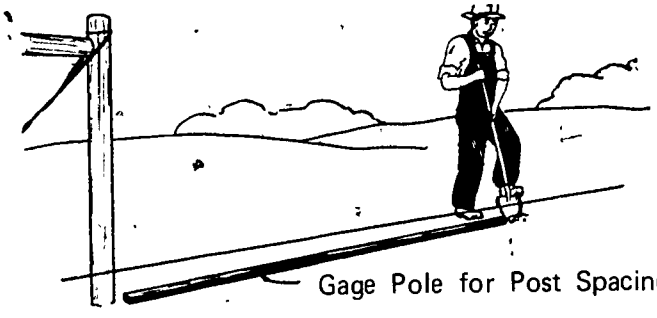
(NOTE: Concrete should cure for at least one week before fence is attached.)

XIII. Procedure for setting line post

A. Stretch cord, rope, or strand of barbed wire between two anchor-post assemblies



B. Measure line post spacing with gauge pole



Gage Pole for Post Spacing

INFORMATION SHEET

C. Mark ground line on post or digging tool with chalk or crayon.

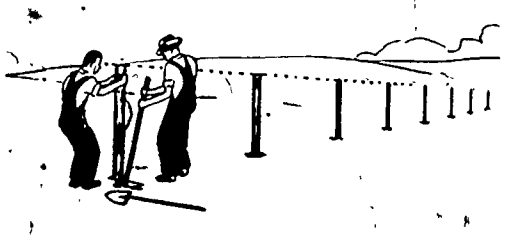
(NOTE: Ground line is determined by figuring overall height of fence plus about three or four inches to allow for post extending above fence.)

D. Dig or bore hole for post.

(NOTE: Drive steel post into ground with tubular fence post driver.)

E. Align post as dirt is backfilled into hole

(NOTE: If you are contour fencing, lean top of post to outside of curve about two inches.)

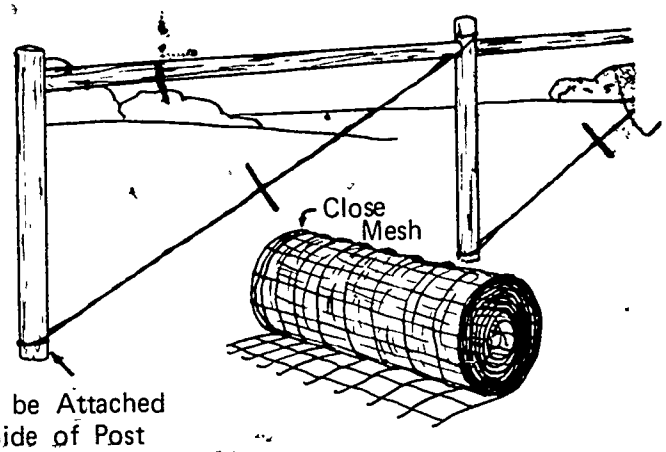


INFORMATION SHEET

XIV. Placing a woven fence for stretching

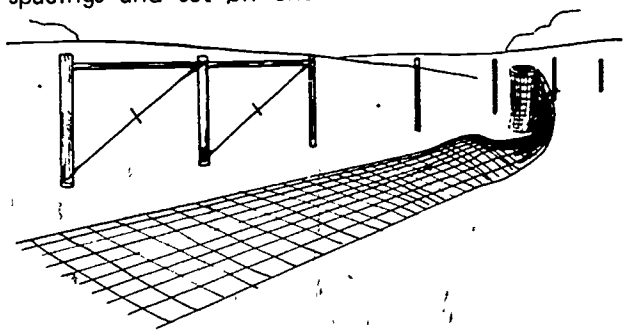
A. Examine fence roll to determine from which end of the line fence should be unrolled

(NOTE: The fence is in proper position to unroll when the bottom of the roll (close mesh end) is next to post line.)

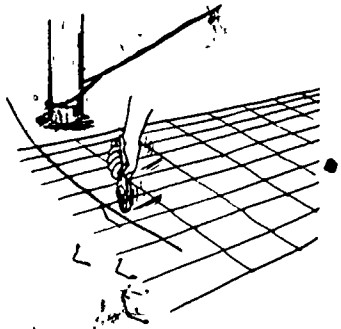


Fence to be Attached to this Side of Post

B. Starting ahead of anchor post (at least two feet), unroll fence one or two line post spacings and set on end



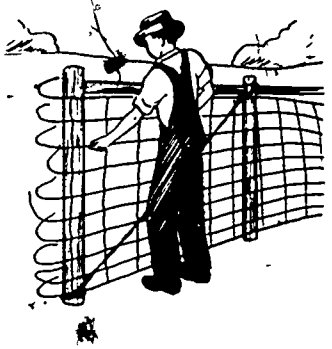
C. Remove one stay wire from top to bottom



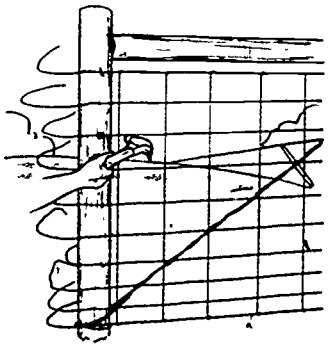
INFORMATION SHEET

D. Stand fence against anchor post and adjust to desired height

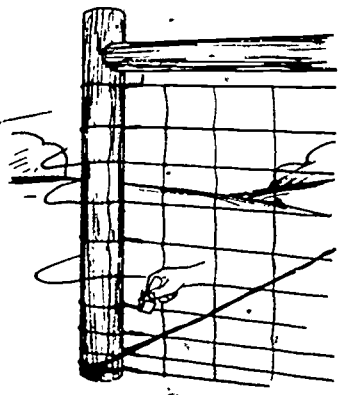
(NOTE: Lift about three inches if barbed wire is to be used under woven wire. If barbed wire is not used under fence, lower to height of about one-half inch above ground.)



E. Staple fence into position

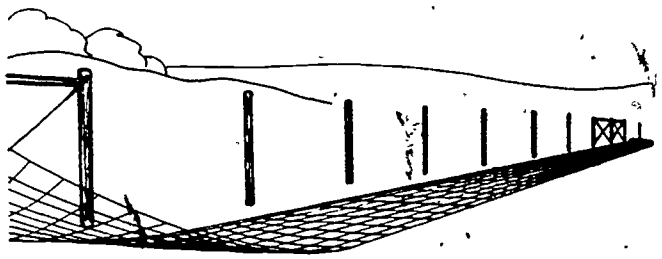


F. Extend each line around post and wrap wire on itself



INFORMATION SHEET

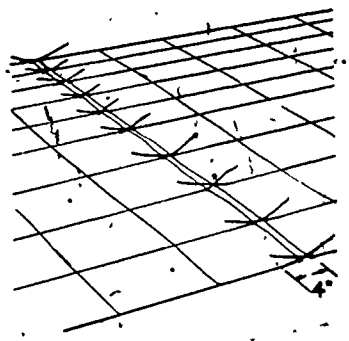
G. Complete unrolling of fence to next anchor post assembly



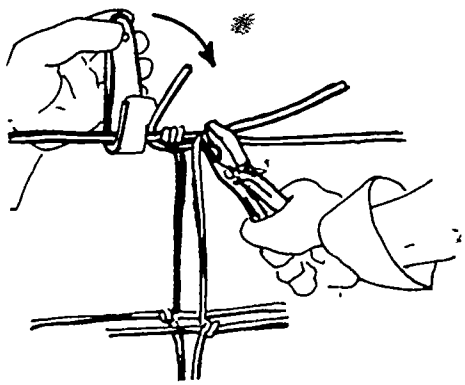
H. If it is necessary for you to splice two sections of fence together, proceed as follows:

1. Cut ends of line wires on each section so about 4 inches of each line wire extends beyond stay wire

2. Pull ends of fence sections together until stay wires meet

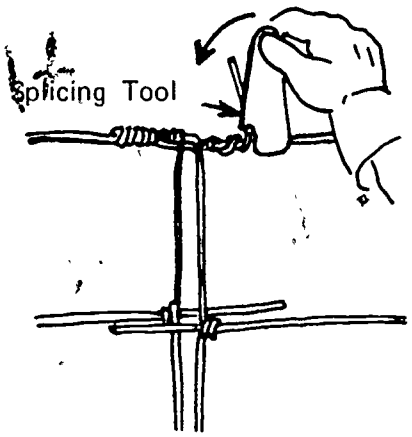


3. Bend top line wire of one fence section around top line wire of other fence section and wrap



INFORMATION SHEET

4. Wrap remaining top line wire in opposite direction

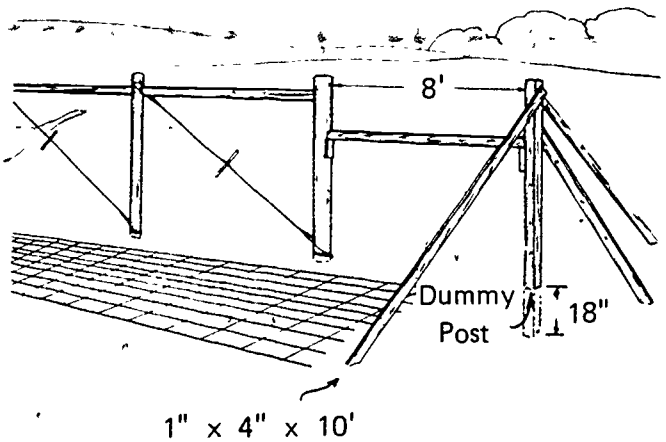


5. Follow same procedure with remaining line wires

XV. Steps to follow when stretching a woven fence

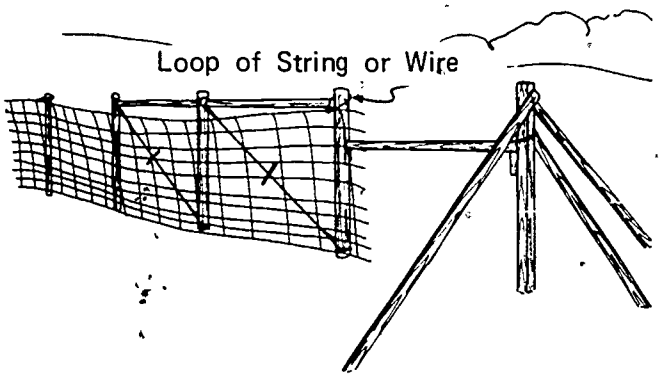
(NOTE: Procedures given here are for double-jack, single-jack, or block-and-tackle fence stretchers.)

A. Erect dummy post for attaching stretchers

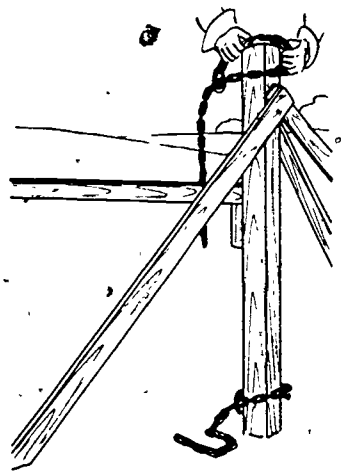


INFORMATION SHEET

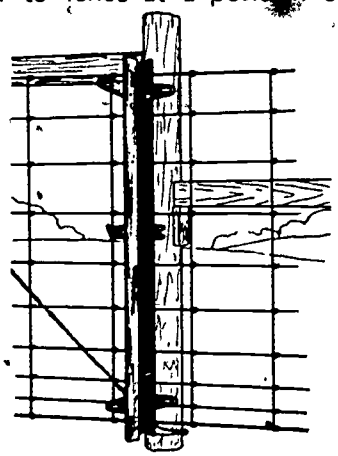
B. Stand fence against line post



C. Attach chain (or cable) of stretchers to dummy post

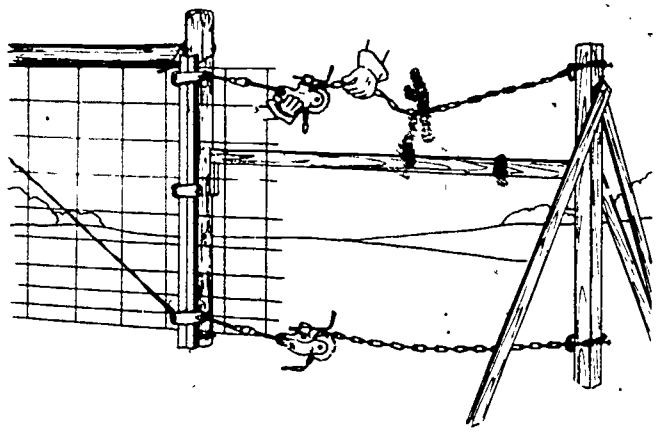


D. Attach clamp bar to fence at a position opposite anchor post

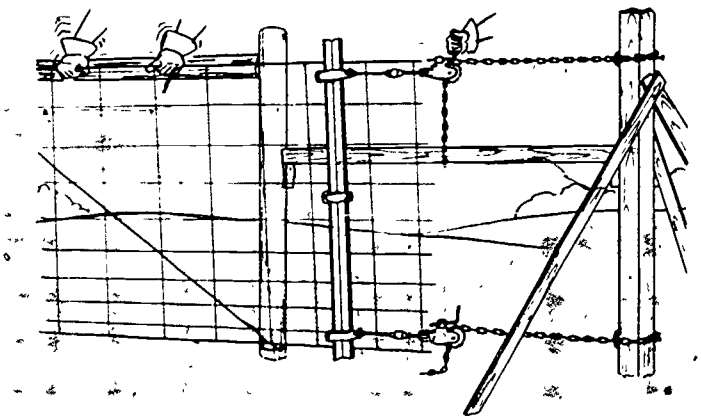


INFORMATION SHEET

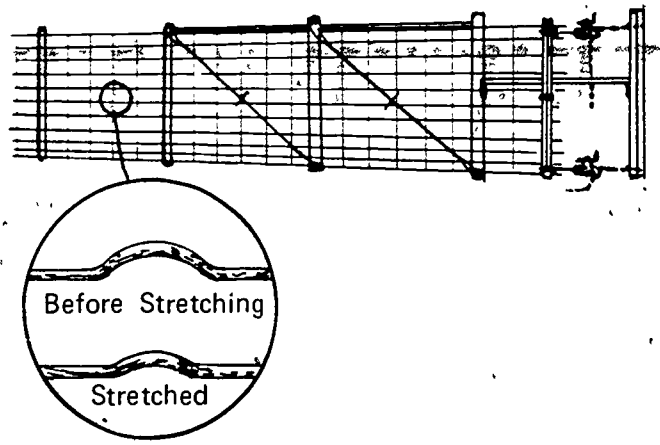
E. Attach rachets to clamp bar



F. Tighten fence slowly by turning top rachet, then lower rachet, alternating back and forth to maintain even wire tension at top and bottom



G. Continue stretching until tension curves are approximately one-third removed



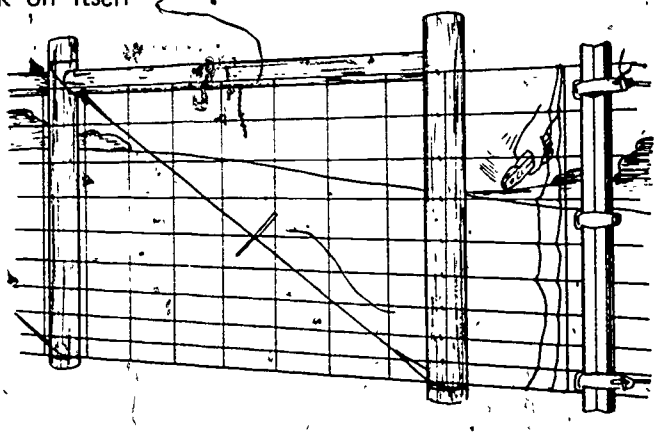
(NOTE: If you are building a contour fence, stretch from one-third to two-thirds as much as for a straight fence.)

INFORMATION SHEET

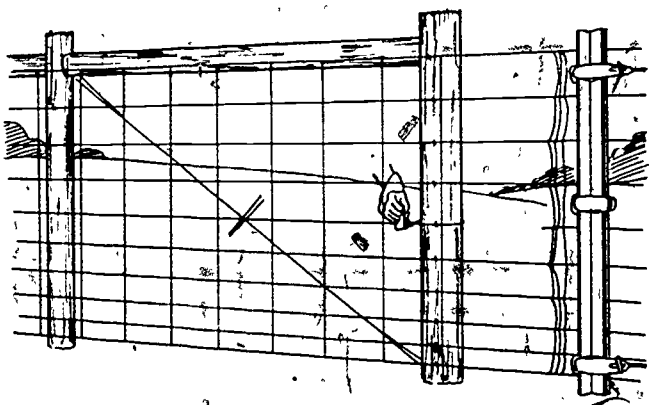
XVI. Attaching fence to second anchor post or brace-line post

A. Staple each line wire securely to anchor post

B. Remove stay wires a sufficient distance to extend around anchor post and wrap back on itself



C. Cut middle line wire, extend around post, and wrap back on itself



D. Repeat procedure with every other wire working toward top and bottom

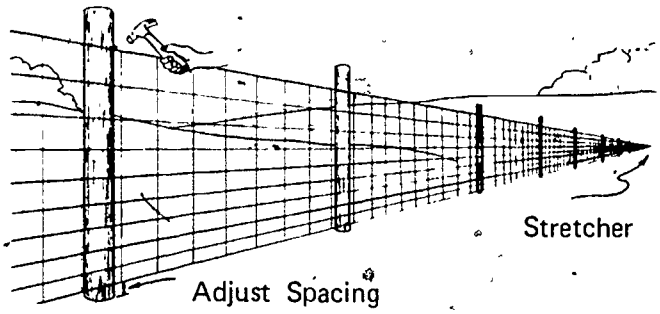
E. Cut and wrap remaining wires, leaving top wire until last

INFORMATION SHEET

XVII. Attaching fence to line post

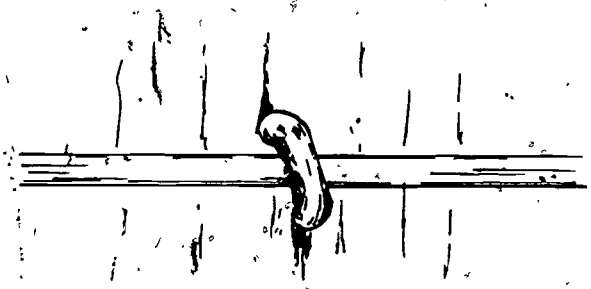
(NOTE: Begin at point farthest from stretcher.)

A. Attach top wire



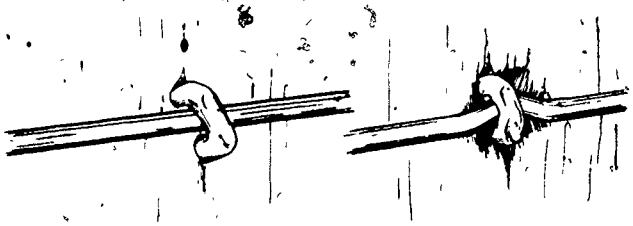
1. Wood posts

a. Set staple cross-wise of grain



b. Drive staple into post; wire should be held closely, not snugly or tightly

(NOTE: Do not bury staple into post, it damages the wire.)

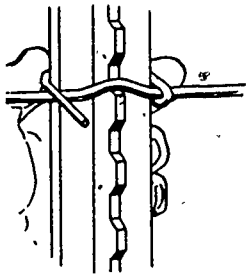


This Way Not This Way

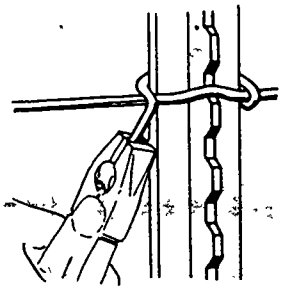
INFORMATION SHEET

2. Steel posts

a. Hook post clamp over line wire and snap into postion around post



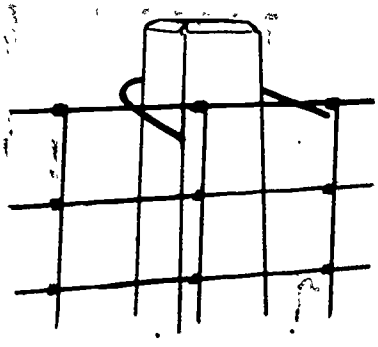
b. Bend other side over line wire to form hook



3. Concrete posts

a. Extend wire around post to form loop

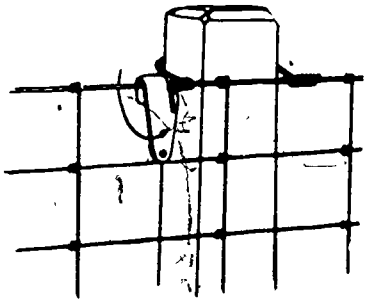
(NOTE: Use twelve gauge galvanized wire or larger.)



b. Cut wire ends to desired length for wrapping

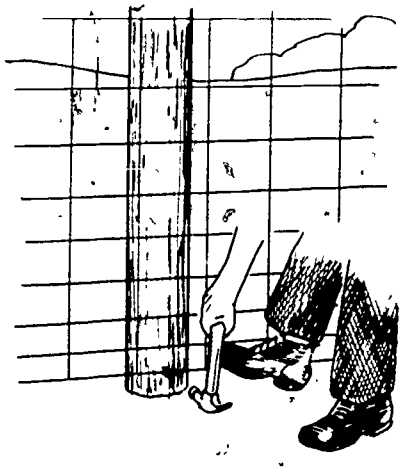
INFORMATION SHEET

c. Pull fence against post and wrap loop ends around line wire.



B. Attach bottom wire

(NOTE: This can be done easily by putting your foot on bottom line wire to hold it in position until staple is driven into place.)



C. Attach every other wire on remainder of post

D. Attach fence to remaining post in the same manner

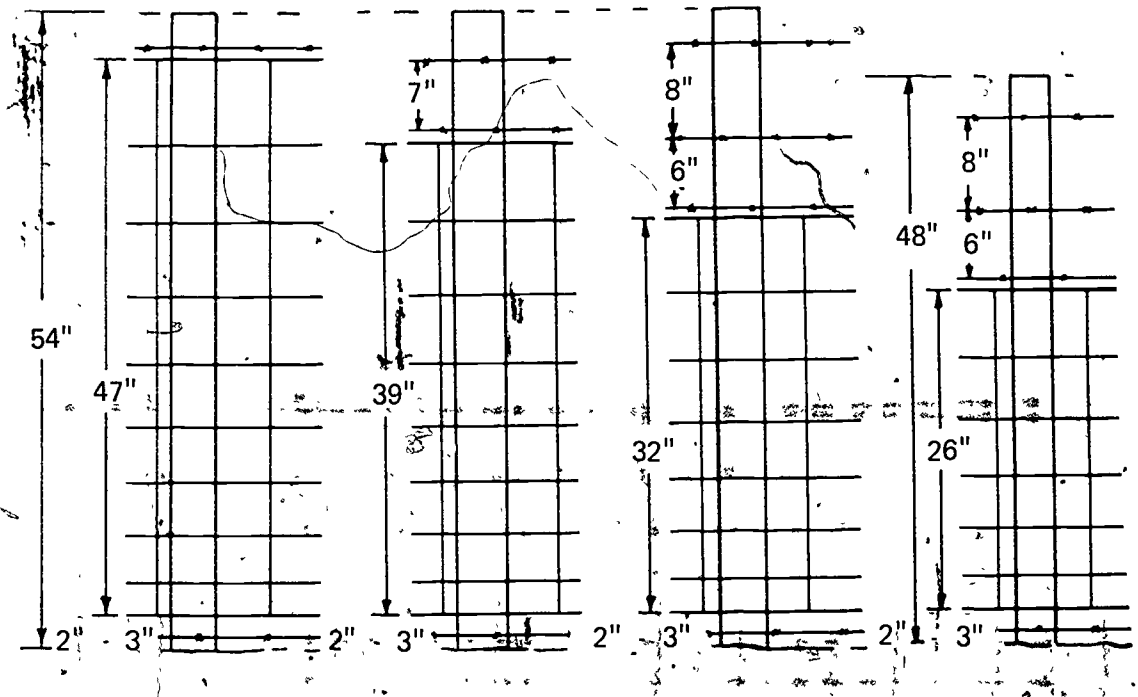
INFORMATION SHEET

XVIII. Unrolling and stretching barbed wire

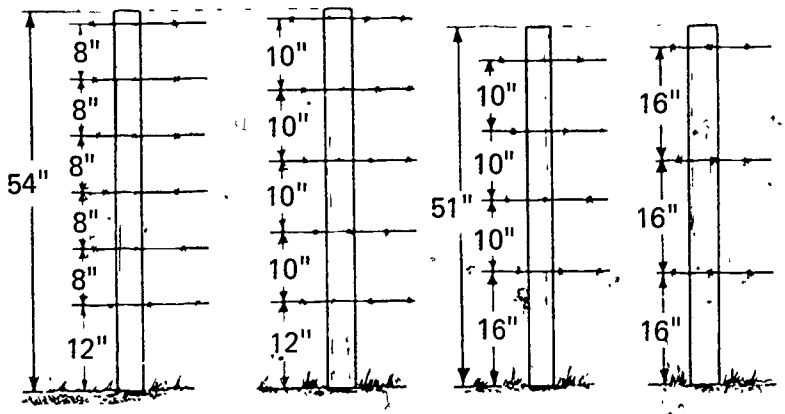
A. Mark position on anchor post where barbed wire is to be attached.

(NOTE: If you are using barbed wire under your fence, stretch and attach it first. Next, attach first barbed wire above woven wire. Continue with as many additional barbed wires as planned, working toward top of posts.)

Example:



(NOTE: If you are building a barbed-wire fence, consider the spacing between lines and whether to start at the top or bottom of your post when stretching and attaching wire. You may want to start at top since the top wire will take most of the slack out of your anchor-and-brace assemblies so remaining wires will stay tight.)



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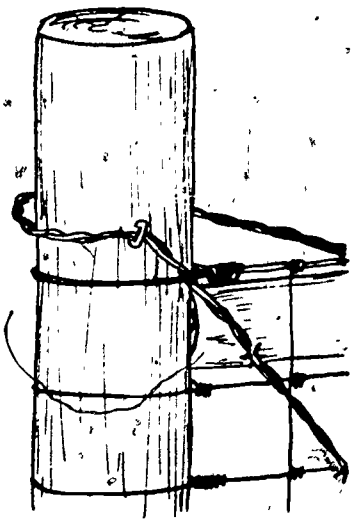
INFORMATION SHEET

B. For gate post, remove barbs on wire for sufficient length to wrap around anchor post and allow for splice

(NOTE: This avoids possibility of animal injury if anchor post is at a passageway.)

C. Staple wires in position on wood post



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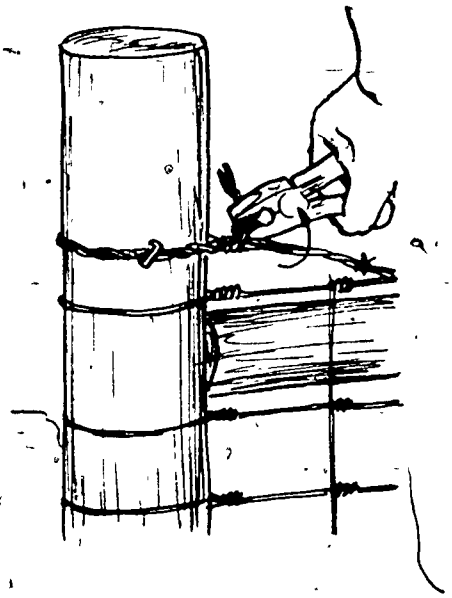
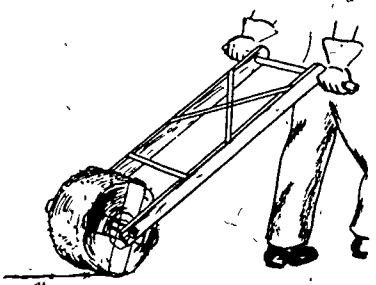
INFORMATION SHEET

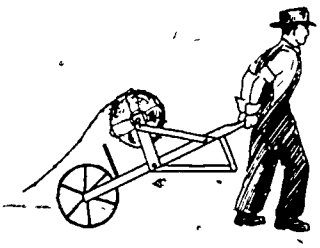
D. Extend wires around post and wrap

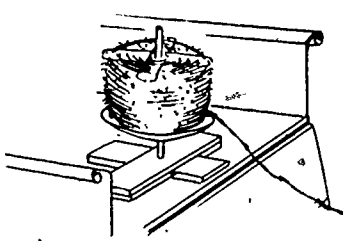


E. Unroll barbed wire to next anchor post

(NOTE: Do not loop wire off side of roll. This makes it difficult and dangerous to work and creates kinks.)



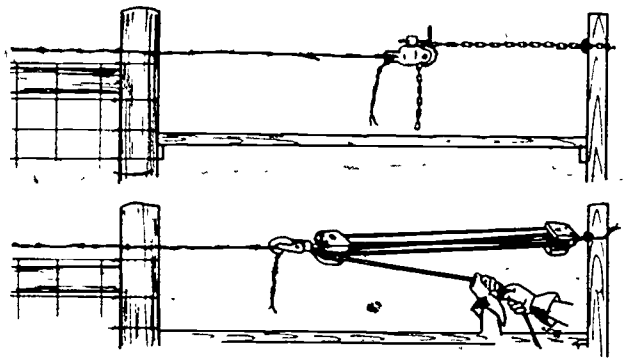




F. Attach rachet to dummy post

INFORMATION SHEET

G. Attach barbed wire to fence stretcher

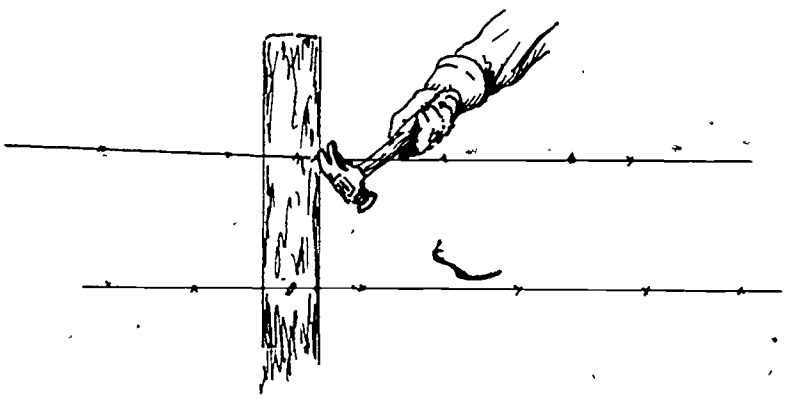


H. Stretch barbed wire until fairly tight

(NOTE: Barbed wires have no tension curves, so the strain is transferred directly to the anchor-brace assembly. A barbed-wire fence 40 rods long that has the wires stretched tightly when the temperature is 80 degrees will shorten three inches when the temperature drops to 20 degrees. It takes a well built anchor-brace-assembly to stand this kind of pull.)

I. Check wire to make sure it is free.

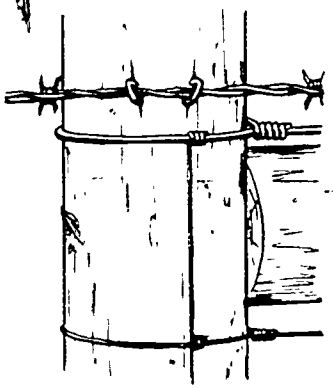
(NOTE: Use pliers or hammer to free wire. Avoid catching wire with hands. If stretched wire breaks, you could be severely cut.)



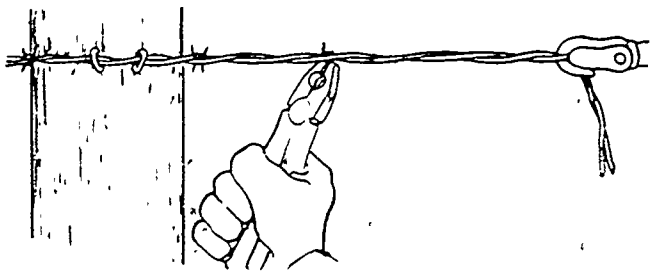
INFORMATION SHEET

J. Staple barbed wire to wood anchor post with two staples

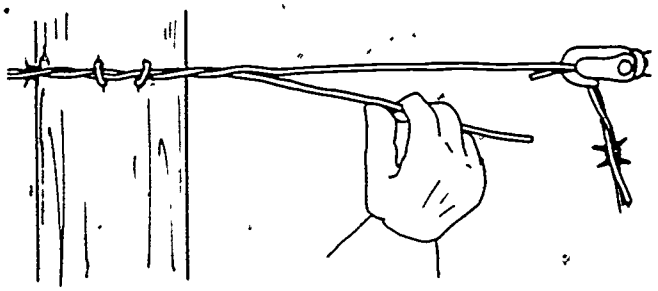
(NOTE: This applies to end of fence where stretchers are attached.)



K. Remove barbs on stretcher end of wire for sufficient length to wrap around anchor post and splice

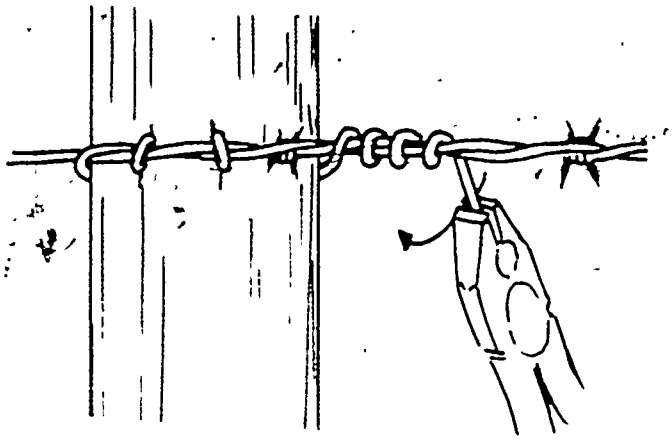


L. Cut one of the two wires where barbs have been removed and untwist

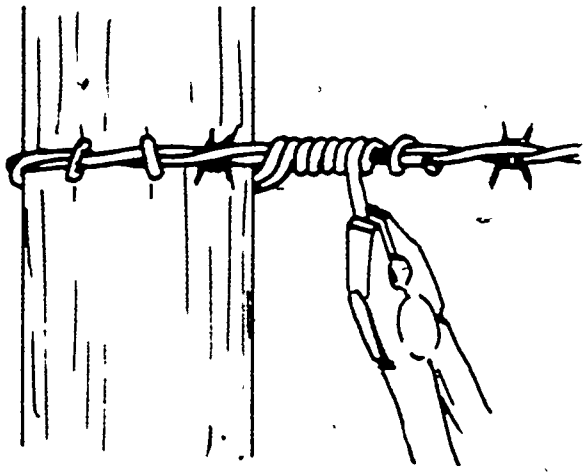


INFORMATION SHEET

M. Extend cut wire around anchor post and wrap leaving space between each wrap



N. Cut remaining wire, extend around post, and wrap in same manner, run second wire wraps between wraps of first wire



O. Attach remaining wires in the same manner

P. Attach wire to line post in a similar manner to that of woven wire

XIX. Reason fences should be grounded for lightning protection--Wire fences that are attached to trees or buildings are most likely to receive and carry lightning discharges, but any ungrounded wire fence with a wooden or steel post set in concrete is a hazard to livestock

(NOTE. Livestock are usually killed instantly when they are near a fence that receives a lightning discharge. Fences having all steel posts provide a good means of grounding fences in humid areas.)

INFORMATION SHEET

XX. Factors that determine the number and kind of line posts to use

- A. Area confinement of livestock
- B. Kind of fence to be used
- C. Anticipated life of fence
- D. Cost of setting post
- E. Kinds of post available
- F. Lightning protection needed
- G. Height of fence

XXI. Tools and materials needed to construct farm fences (Transparency 4)

- A. Spade
- B. Wire splicer
- C. Rule or steel tape
- D. Claw hammer
- E. Sixteen foot gauge pole
- F. Carpenter's level
- G. Wire cutting pliers
- H. Five foot stakes
- I. Post hole digger
- J. Tamping bar
- K. Brace and bit
- L. Steel dowel
- M. Steel post driver
- N. Block and tackle with secure clamp
- O. Wire clamp
- P. Staples
- Q. Eighteen to 24 inch rod (for tightening brace wire)
- R. Handsaw
- S. Leather gloves

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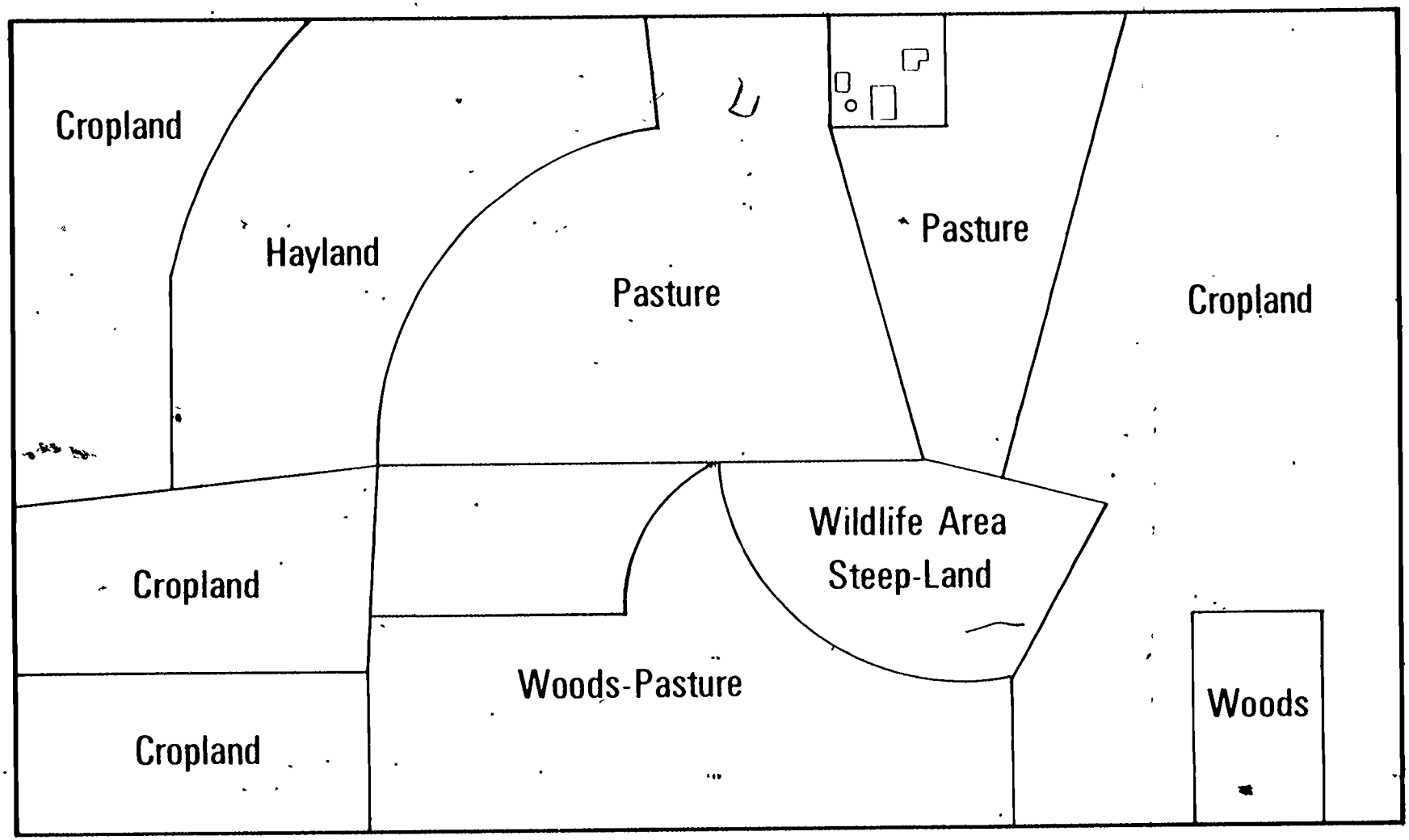
Laying Out Fields to Fit Land Capability



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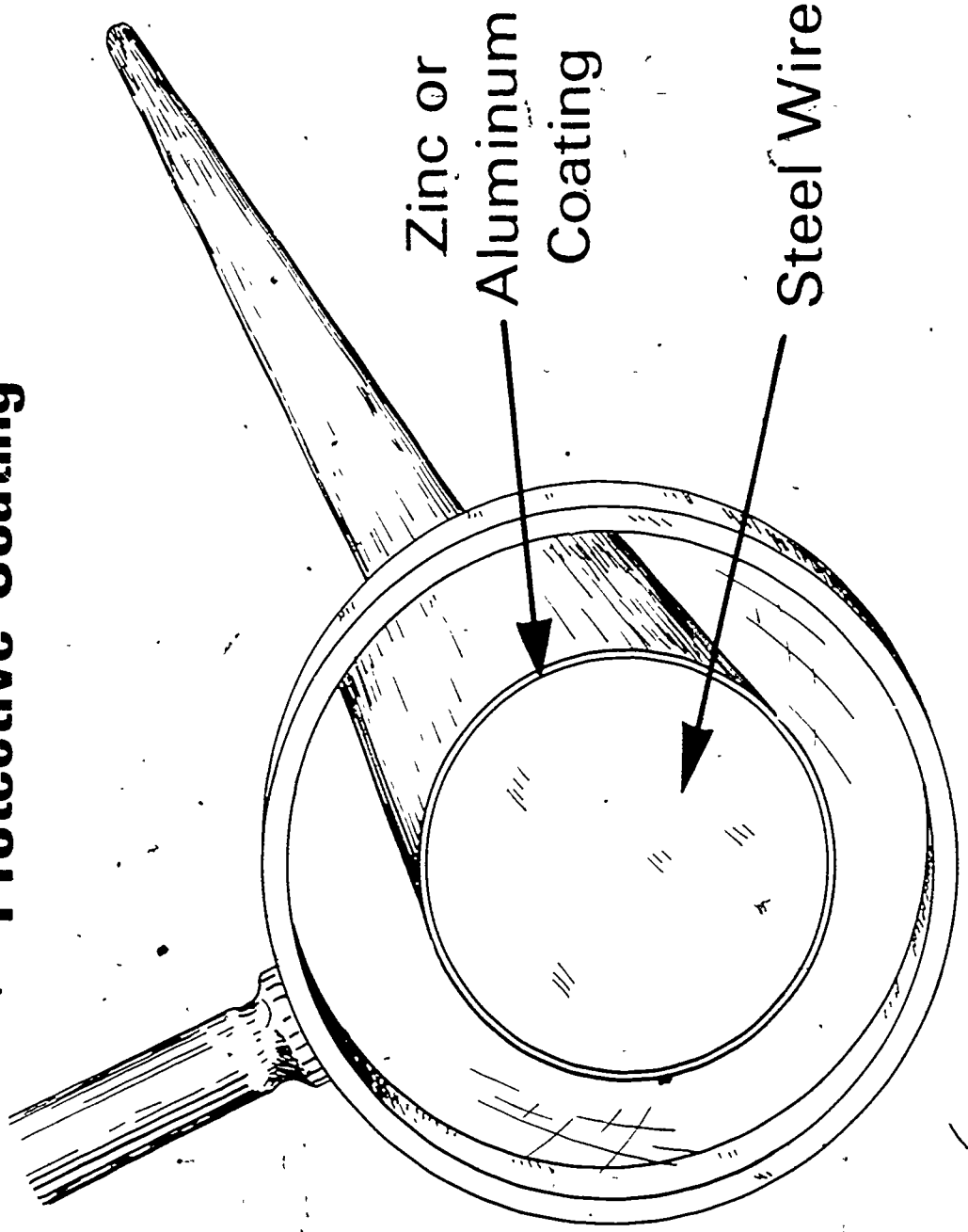

Life of Wire According to Coating

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Minimum Weight of Coating on Zinc-Coated Wire Fencing (Furnished in 20-Rod Rolls)

Size, Steel Wire Gage	Nominal Diameter of Zinc-Coated Wire, in.	Minimum Weight of Coating, oz. per sq. ft. of Uncoated Wire Surface		
		Class 1	Class 2	Class 3
No. 7	0.177	0.40	0.60	0.80
No. 9	0.148	0.40	0 60	0.80
No. 10	0.135	0.30	0.50	0.80
No 11	0.120	0.30	0.50	0.80
No. 12	0.105	0.30	0.50	0.80
No. 12 1/2	0.099	0.30	0.50	0.80
No. 14 1/2	0.076	0.20	0.40	0.60

Approximate Protection Given Wire by Class 1 and Class 3 Galvanizing

Wire Size	Years till rust appears					
	Climatic condition					
	Dry		Humid		Coastal & industrial	
	Class		Class		Class	
	1	3	1	3	1	3
9	15	30	8	13	3	6
11	11	30	6	13	2	6
12 1/2	11	30	6	13	2	6
14 1/2	7	23	5	10	1.5	4.5

Tools and Materials Used in Fencing

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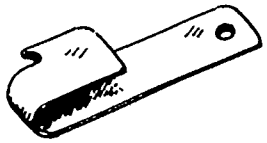
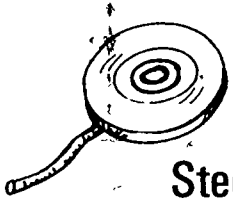
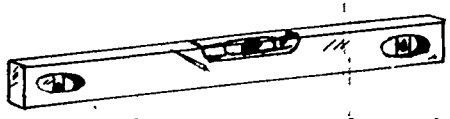


Wire Splicer

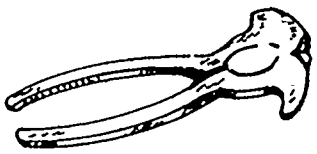


Steel Tape

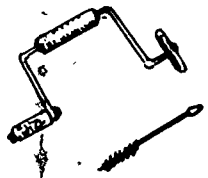


Carpenter's Level

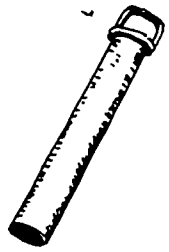
Claw Hammer



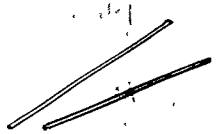
Wire Cutting Pliers



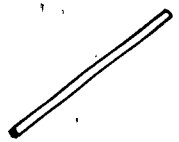
Brace & Bit



Steel Post Driver



Steel Dowels

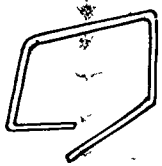


18"-24" Rod

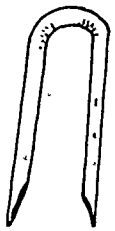
Woven Wire Clamp

Post-Hole Digger

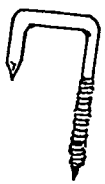
Tamping Bar



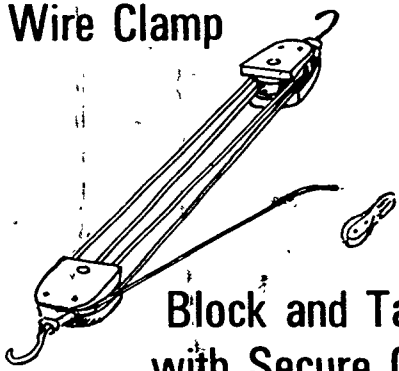
Wire Clamp



U-Staple



L-Staple



Block and Tackle with Secure Clamp

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BUILDING FARM FENCES
UNIT I

ASSIGNMENT SHEET #1--DETERMINE THE COST OF FENCES

Contact your local dealer and determine the cost of constructing one-fourth mile of pasture fence when using the various type materials listed below. After the completion of this exercise, turn in to instructor for his evaluation.

1. Anchor-and-brace assembly

(NOTE: Fence is 1620 feet (80 rods) long.)

a. 6" treated corner post

1) Number needed_____

2) Cost each_____

3) Total cost_____

b. 5" treated end post

1) Number needed_____

2) Cost each_____

3) Total cost_____

c. 4" treated brace post

1) Number needed_____

2) Cost each_____

3) Total cost_____

d. 9 gage smooth galvanized wire

1) Cost per pound_____

2) Total cost_____

e. Steel dowels

1) Number needed_____

2) Cost each_____

3) Total cost_____

f. Total cost of anchor-and-brace assemblies_____

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ASSIGNMENT SHEET #1

2. Fence line post (12' spacing)

a. Number of line post needed____

1) Cost of treated 3" wood post____each

2) Cost of untreated 3" wood post____each

3) Cost of 6 1/2 foot "U" type steel post____each

4) Cost of 6 1/2 foot "T" type steel post____each

5) Cost of 4" concrete post____each

b. Total cost of line post____

(NOTE: Select the type post you would use on your farm. Consider cost, life, labor involved, and appearance.)

3. Cost of wire

a. 32" woven wire with 3 strands of 12 1/2 gage on top of woven wire

(NOTE: Woven wire has 10 gage top and bottom wire and 12 1/2 gage filler wires.)

1) Cost of woven wire____

2) Cost of barbed wire (Use U. S. Steel wire.)

a) Cost per roll____

b) Number rolls needed____

c) Total cost of barbed wire____

3) Total cost of 1) and 2) = ____

b. Five strands of 12 1/2 gage barbed wire (U. S. Steel wire)

1) Number of rolls needed____

2) Cost per roll____

3) Total cost of barbed wire____

c. Total cost of wire____

(NOTE: Select the kind of wire you would use on your home farm.)

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ASSIGNMENT SHEET #1

4. Cost of staples or fasteners

   a. Cost per pound for "U" shaped staples_____

   b. Cost per pound for "L" shaped staples_____

   c. Cost per pound for wire fasteners_____ (Used for steel post)

   d. Cost per pound for 12 gage wire used for fastening concrete post_____

   e. Pounds needed in fastening 5 strands of barbed wire_____

   f. Pounds needed in fastening woven wire and 3 strands of barbed wire_____

   g. Total cost of staples or fence fasteners_____

   (NOTE: Select the kind of fastener that you would use according to the post and wire that you have selected.)

5. Cost of constructing 1/4 mile of fence

   a. Cost of anchor and brace assembly_____

   b. Cost of line post_____

   c. Cost of wire_____

   d. Cost of staples or fasteners_____

   e. Other cost_____

   f. Total cost of constructing fence_____

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BUILDING FARM FENCES
UNIT I

JOB SHEET #1--CONSTRUCT THE WOOD ANCHOR-AND-BRACE ASSEMBLY

I. Tools and materials needed

A. Post-hole digger or post auger

B. Tamping bar

C. Spade

D. Brace and bit

E. Two steel dowels

F. Eighteen to 24 inch rod or strong stick

G. Approximately 40' of 9 gage smooth galvanized wire

H. Wire cutting pliers

I. Claw hammer

J. Carpenter's level

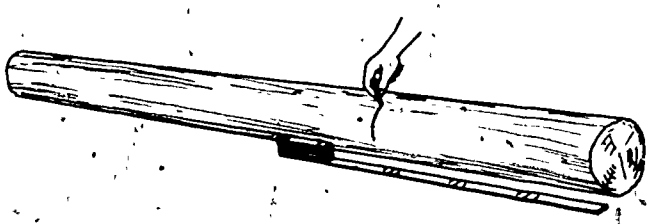
K. Six foot rule or steel tape

L. Wire splicer

M. Staples

II. Procedure

A. Mark ground line on anchor-and-brace post

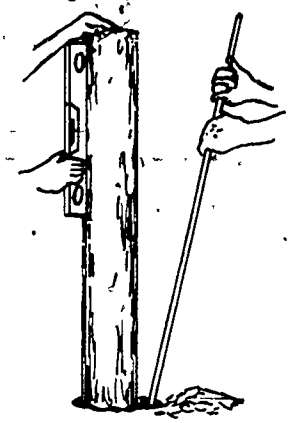


B. Dig hole for anchor post--Post depth should be at least 3 feet 6 inches

JOB SHEET #1

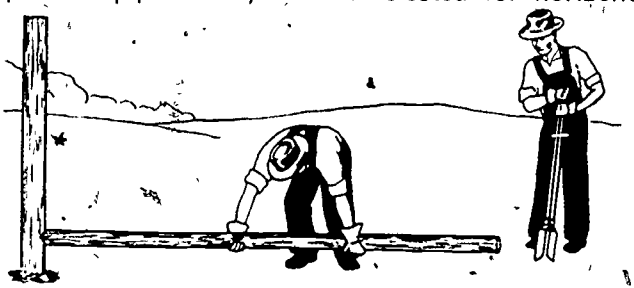
C. Place post in hole and tamp thoroughly from bottom to top

(NOTE: Replace small amount of soil as you tamp and check occasionally to see that it is in proper alignment.)



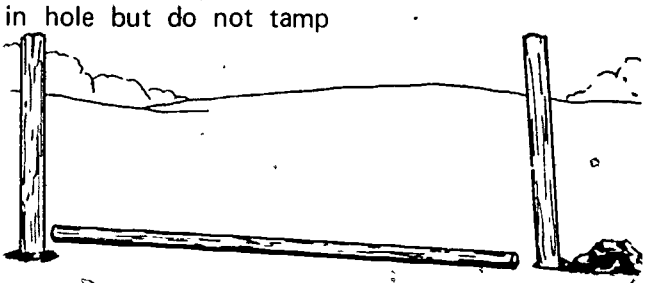
D. Measure from anchor post to first brace post

(NOTE: Use post or pipe that you have selected for horizontal brace.)

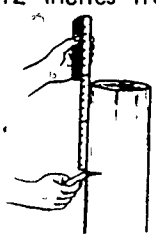


E. Dig a hole for brace post 3 feet, 6 inches deep

F. Place brace post in hole but do not tamp



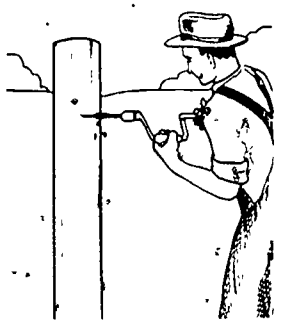
G. Mark hole for dowel 8 to 12 inches from top of anchor post



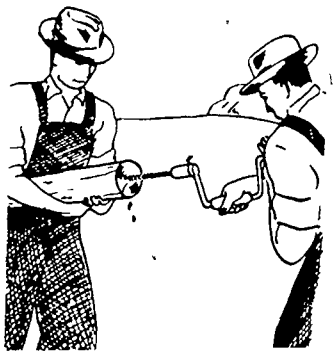
JOB SHEET #1

H. Bore hole same size as dowel, 2 inches deep

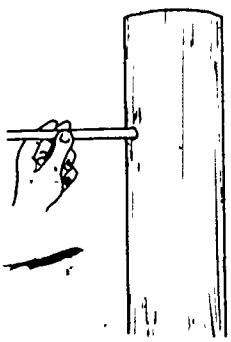
(NOTE: Be sure to remove all shavings. If using pipe or angle iron brace, notch about one-half inch deep.)



I. If using wood brace, bore same size holes to same depth in each end of brace

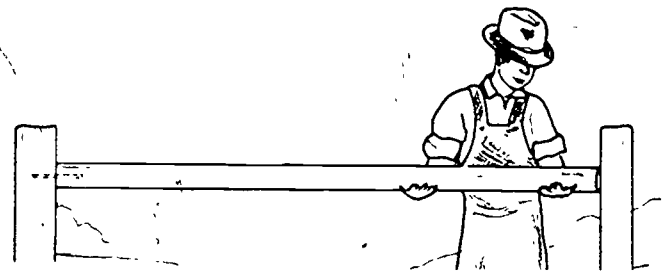


J. Insert dowel in post

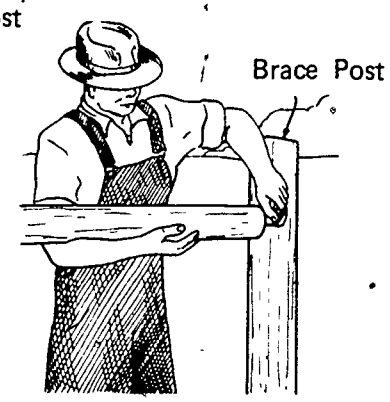


JOB SHEET #1

K. Install brace member on anchor post--Position opposite end on brace post so brace member is parallel to ground line



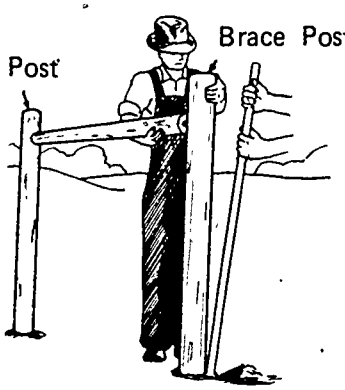
L. Mark hole for dowel in brace post



M. Bore hole in brace post same size as steel dowel, 2 inches deep

N. Insert dowel in brace post

O. Install brace member between anchor post and brace post

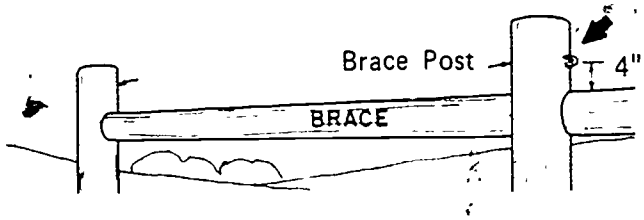


P. Replace soil around brace post and tamp

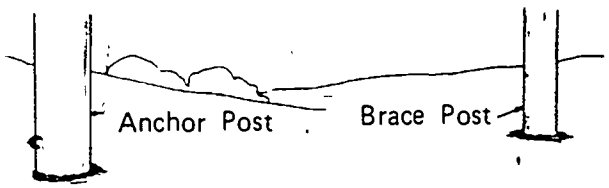
Q. If you are using a two or three brace assembly, repeat steps "D" through "P"

JOB SHEET #1

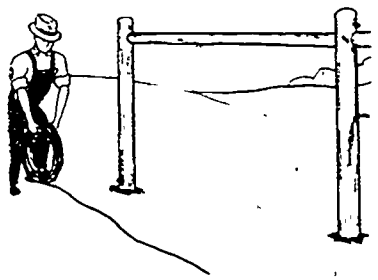
R. Drive staple about half its length into brace post about 4 inches above brace member on opposite side



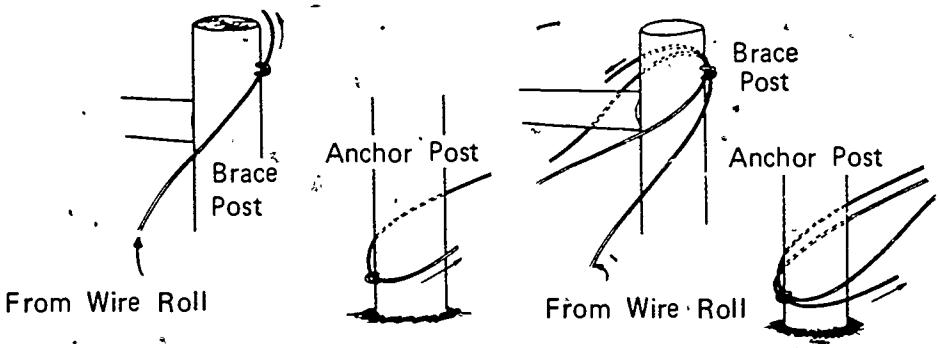
S. Drive staple in a similar manner in anchor post about 4 inches from ground line, opposite side from brace



T. Unroll enough brace wire for two complete loops around anchor and brace posts



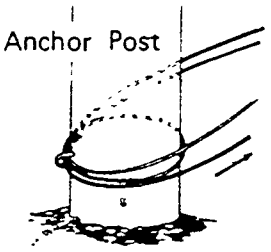
U. Thread end of brace wire through one staple then, through the other--Repeat to form four wire strands



V. Remove rough slack from wire

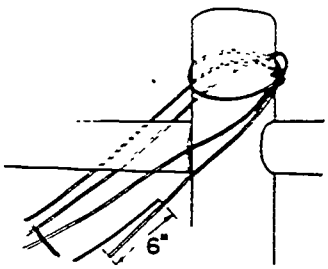
JOB SHEET #1

W. Wrap wire around anchor post and return toward brace post

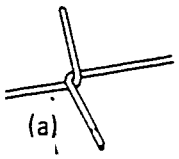


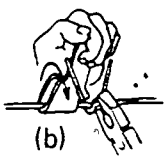
(NOTE. Leave enough wire length so end extends about two-thirds of the way back to brace post.)

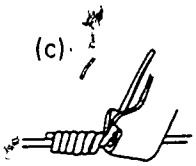
X. Cut brace wire from roll allowing enough wire to wrap around brace post and extend 6 to 12 inches past other wire end

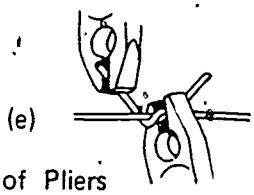


Y. Make splice as shown in drawing below





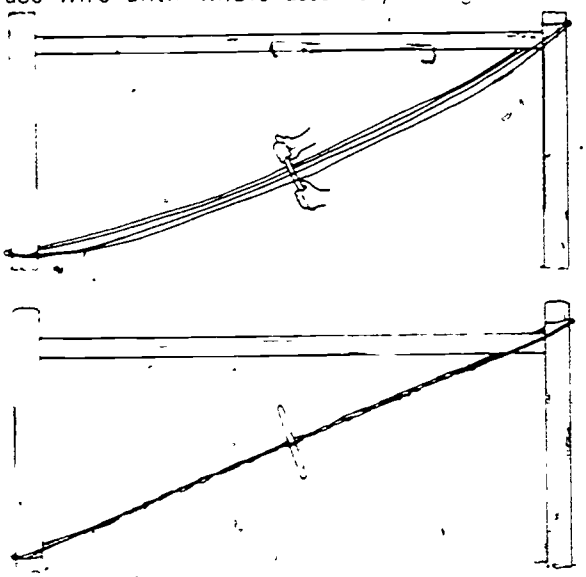




Splice Can Be Made With Two Pairs of Pliers

JOB SHEET #1

Z. Twist brace wire until whole assembly is rigid



(NOTE Use a strong stick, rod, or pipe approximately eighteen to twenty-four inches long. As wire is tightened, tap with hammer where it wraps around post so it will fit smoothly and remain tight.)

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BUILDING FARM FENCES
UNIT I

TEST

1. Match the terms on the right with the proper definition.

_____a. Wires between the top and bottom line wires	1. Staple
_____b. Used for cross or boundary fencing on cattle ranges	2. Wood preservative
_____c. Spring effect that is present in woven wire	3. Line wires
_____d. Fence left in the same location for several years; under normal conditions the fence will exert 3000 to 4500 pounds pull on the anchor-and-brace assembly	4. Permanent fence
_____e. Vertical wires that tie the line wires together	5. Movable fence
_____f. Intended to stay in one location for only a few weeks	6. Stay wires
_____g. Wires that run lengthwise	7. Filler wires
_____h. Fastener used on steel post	8. Suspension fences
_____i. Fastner used on wooden post	9. Tension curve
_____j. Product used to treat wood to increase life	10. Wire clip

2. Select the proper factors to consider when planning the location and arrangement of farm fences. Place an "X" by the proper factors.

_____a. Consider coordinating native pastures to cropping plans

_____b. Consider land capability

_____c. Arrange fields and passageways for convenience and labor savings

_____d. Always build permanent fences first

_____e. Relate fences to soil conservation practices

3. Arrange in order the proper procedure to follow in planning the fencing layout on a farm by numbering the steps below. (Place number to the left of each step.)

_____a. Divide the farm into areas best suited to:

1) Permanent pastures or hay production

2) Woodlands not pastured

3) Woodlands pastured

4) Cultivated areas

_____b. Divide each area into the number and size of fields needed for specific types of cropping systems as related to land capability

_____c. Sketch layout of farm

_____d. Indicate gates and other passageways

1) If possible, locate gates and passageways for livestock and equipment in the corner of each field closest to the buildings

2) If fields are on opposite sides of the highway, place gates directly opposite each other

_____e. Sketch proposed lane to connect farm building with permanent pastures

4. List four kinds of temporary and permanent pasture fences.

a.

b.

c.

d.

5. Name four factors that influence the kind of fence to build.

a.

b.

c.

d.

6. Select the advantages and disadvantages of electric fences by placing an "X" by the correct statement.

_____a. Requires full time operation for maximum effectiveness

_____b. Not necessary to train livestock as with other types of fences

_____c. Expensive to operate

_____d. Use of low-cost, simple fencing materials and methods

_____e. Fence is very effective in dry weather

_____f. Protects and extends the usefulness of old permanent fences

_____g. Difficult to build and remove

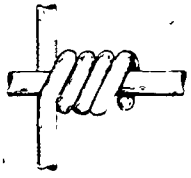
7. Name two factors that determine fence life.

a.

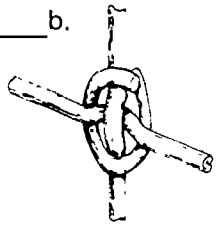
b.

8. Distinguish between a hinge joint and a stiff-stay joint by placing the correct term by the illustrations below.

_____a.



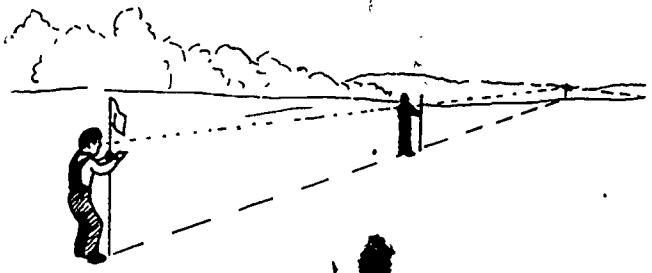
_____b.



9. Arrange in order the steps to follow when constructing a fence in: a. Open level areas, b. Open rolling areas, c. Areas with heavy undergrowth, and d. Contour areas. (Place number to the left of each step.)

a. Open level areas

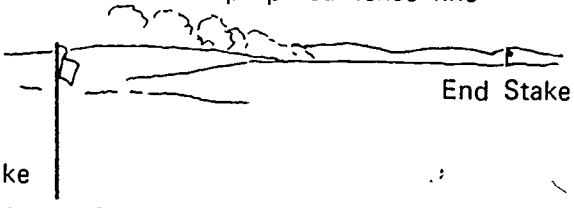
_____1) Proceed about 100 feet towards other end, align the posts



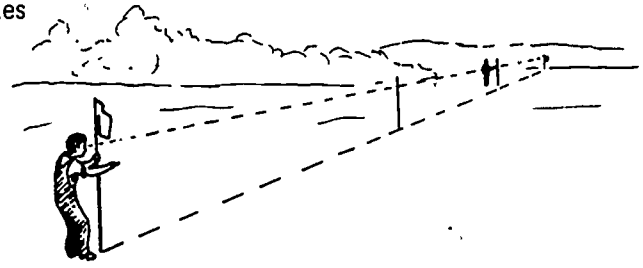
_____2) Station someone at one of the end stakes to help with alignment of remaining stakes

_____3) Continue setting additional stakes about every 100 feet until complete fence line is staked

_____4) Set stake at each end of proposed fence line



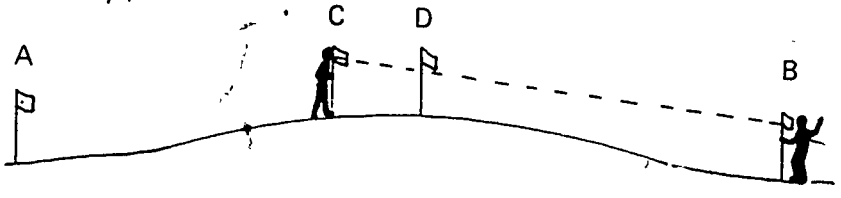
_____5) Proceed about 100 feet further and set another stake even with all three stakes



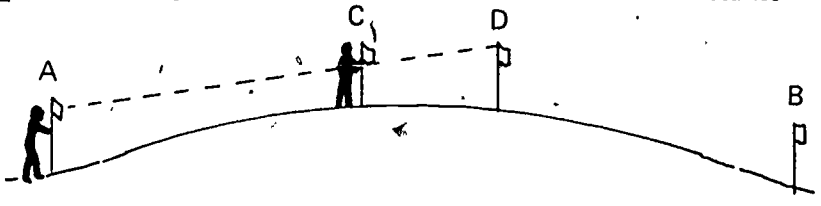
b. Open rolling areas.

_____1) Place two stakes about ten feet apart on top of hill so both are visible from either end stake

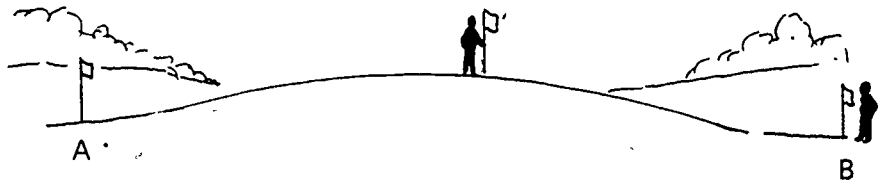
(NOTE: In case of a valley, place stakes at lowest position in valley.)



_____2) Check alignment of center stakes from other end stakes



_____3) Set stake at each end of proposed fence line



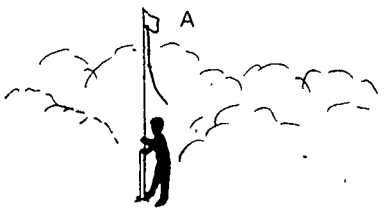
_____4) Align two center stakes (C and D) from one of the end stakes

c. Areas with heavy undergrowth

_____1) Clear area between stakes "B" and "C" and some distance beyond stake "C"

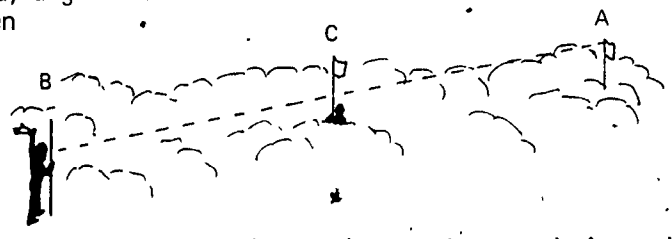
_____2) Establish another stake in the same manner working until line is completely established

_____3) Mount a 12 to 15 foot pole at end of fence line with heaviest growth



_____4) Place stake at other end of fence line

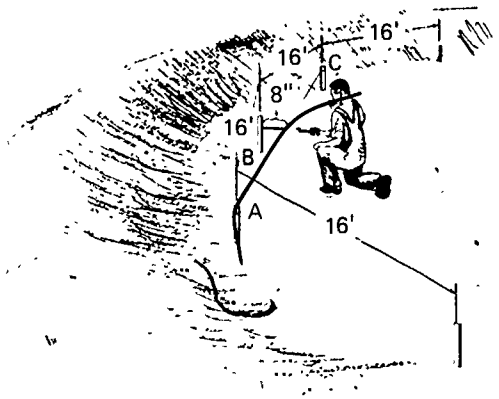
_____5) While sighting from short end, stake "B" to pole "A" at other end; align second stake "C" as far inside thicket as it can be seen



_____6) Check pole or pipe with level to make sure it is vertical

d. Contour areas

_____1) Measure distance from center "B" stake to string



_____2) Stake out smooth curve along coutour strip or terrace

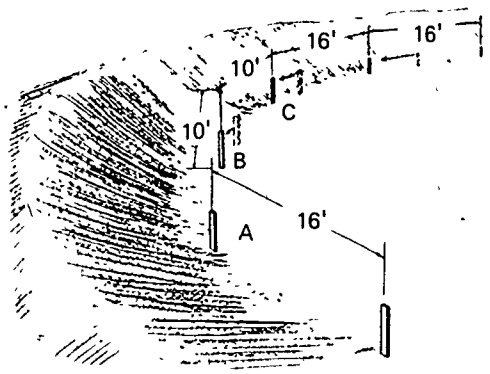
_____3) Decrease post spacing if measurement is more than four inches

_____4) If there is excessive curve at any one point, select three stakes at point of greatest curvature

_____5) Stretch string between first "A" and third "C" stakes

_____6) Repeat steps three to six any place there appears to be surplus curvature

_____7) Set stakes to attain proper spacing



_____8) Check to see that no single post is out of line with the curve

10. Match the illustrations (on the next page) with the proper explanation.

_____a. Straight fences on rolling land

_____b. Straight fences up to 10 rods in length

_____c. Contour fences

_____d. Straight fences 10 to 40 rods in length

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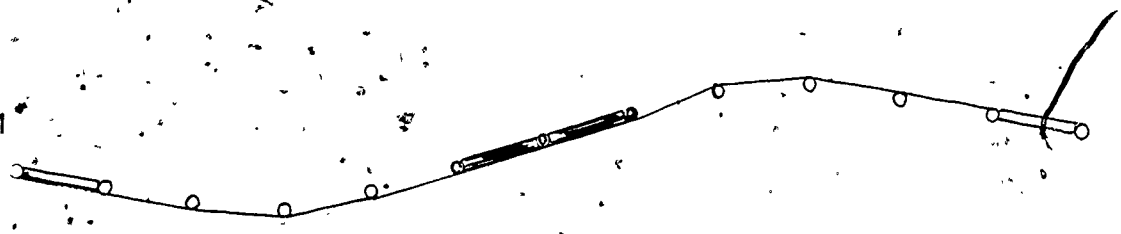
_____e. Straight fences more than 40 rods in length

1



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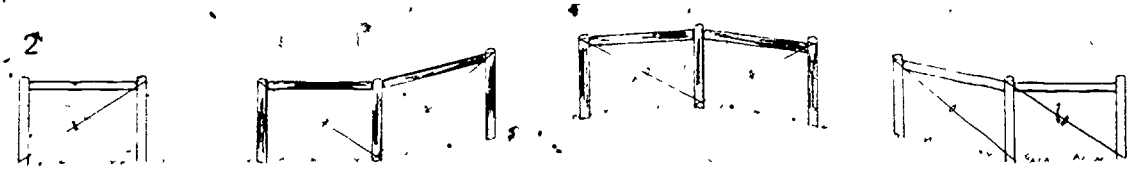

3

4

5

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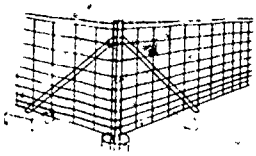
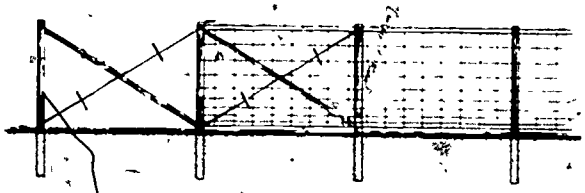
11. Select from the illustrations below the proper and improper methods of bracing ends and corners. Place "I" by improper methods and "P" by proper methods.

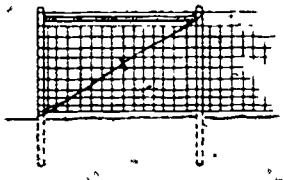
a. _____



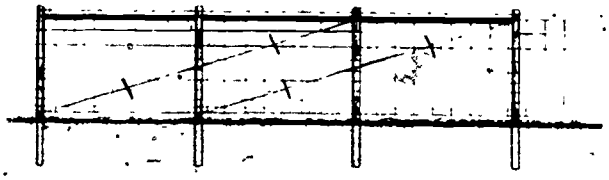
b. _____



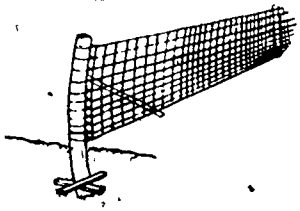
c. _____



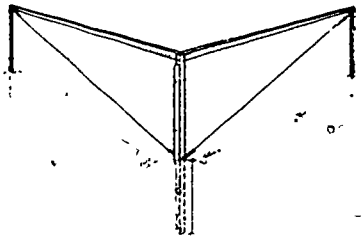
d. _____



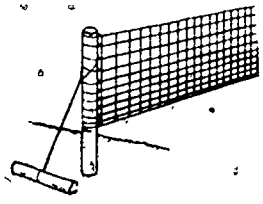
e. _____



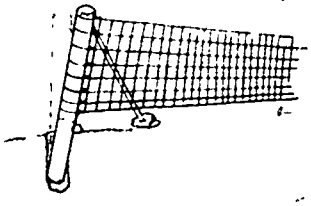
f. _____



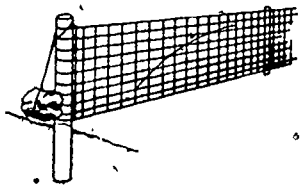
g. _____



h. _____



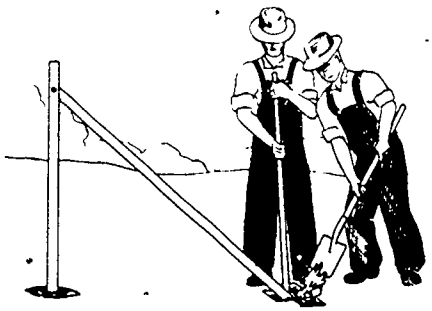
i. _____



12. Indicate the proper steps for constructing the steel anchor-and-brace assembly by numbering the steps below in proper order.

_____a. Attach brace to anchor post

_____b. Place concrete for brace pier. Tamp concrete as it is placed



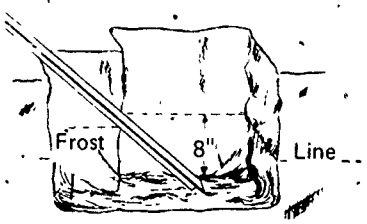
_____c. Dig anchor post hole 12 inches in diameter and 3 1/2 feet deep

__4__d. Mark ground line on post with chalk

_____e. Mix and place concrete around anchor post. Slope concrete away from post to drain away water.

(Continued on next page.)

_____f. Dig hole where brace contacts ground

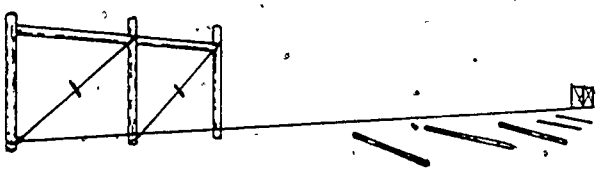


13. Indicate the steps for setting line post by numbering the steps below in the proper order.

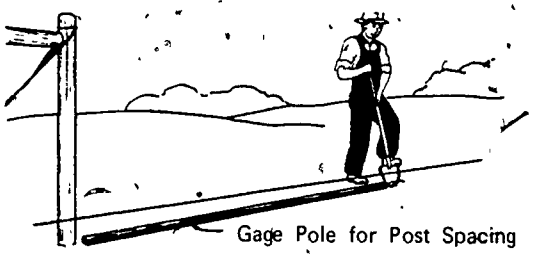
_____a. Dig or bore hole for post

_____b. Mark ground line on post or digging tool with chalk or crayon

_____c. Stretch cord, rope, or strand of barbed wire between two anchor post assemblies

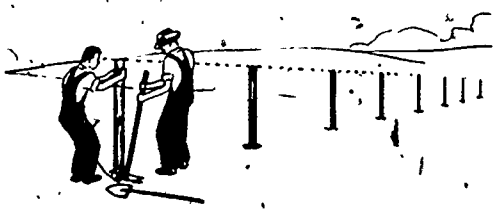


_____d. Measure line post spacing with gauge pole



Gage Pole for Post Spacing

_____e. Align post as dirt is backfilled into hole



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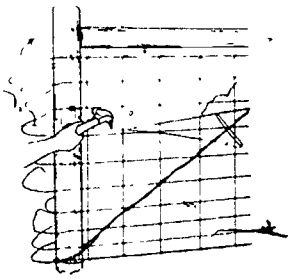
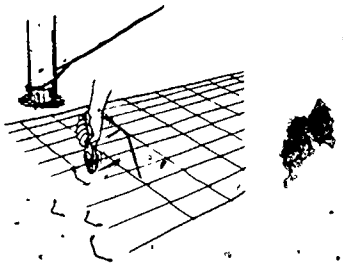
14. Arrange the steps for placing a woven fence for stretching by numbering the explanations below in proper order.

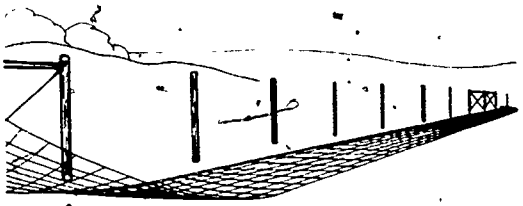
_____a. Staple fence into position



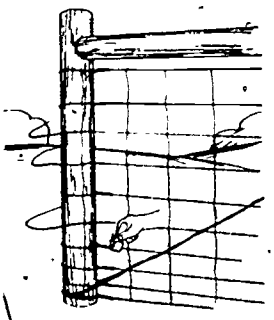
_____b. Remove one stay wire from top to bottom



_____c. Complete unrolling of fence to next anchor post assembly



_____d. Extend each line around post and wrap wire on itself



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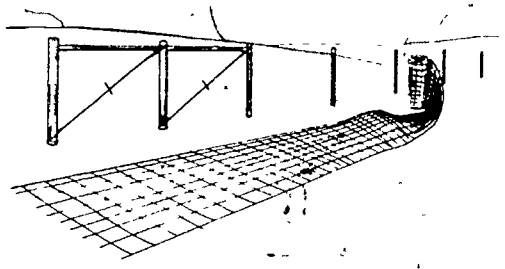
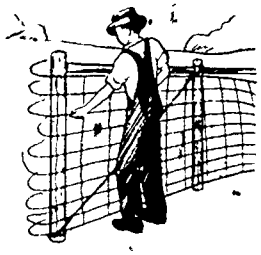
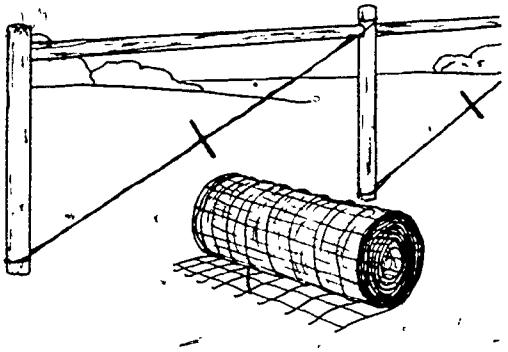
_____e. Starting ahead of anchor post (at least two feet), unroll fence one or two line post spacings and set on end



_____f. Stand fence against anchor post and adjust to desired height

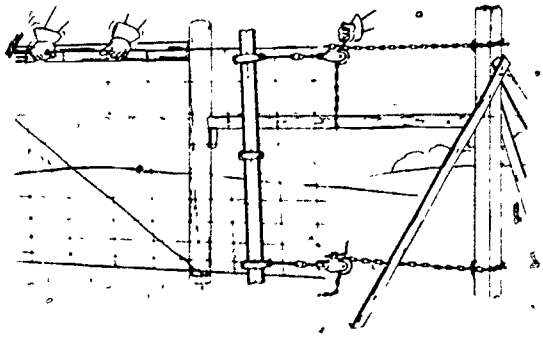


_____g. Examine fence roll to determine from which end of the line fence should be unrolled

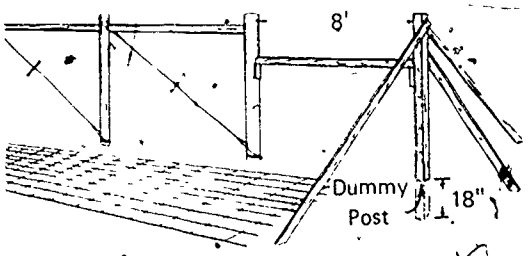


15. Arrange in the proper order the steps to follow when stretching a woven fence.

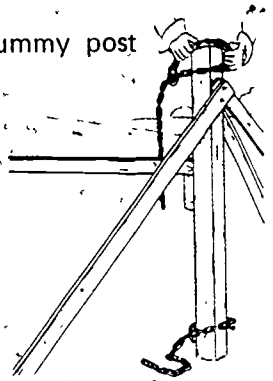
_____a. Tighten fence slowly by turning top rachet, then lower rachet, alternating back and forth to maintain even wire tension at top and bottom



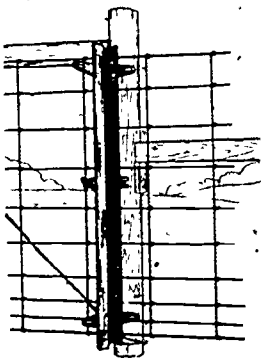
_____b. Erect dummy post for attaching stretchers



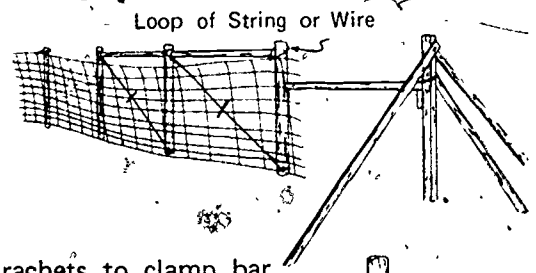
_____c. Attach chain (or cable) of stretchers to dummy post



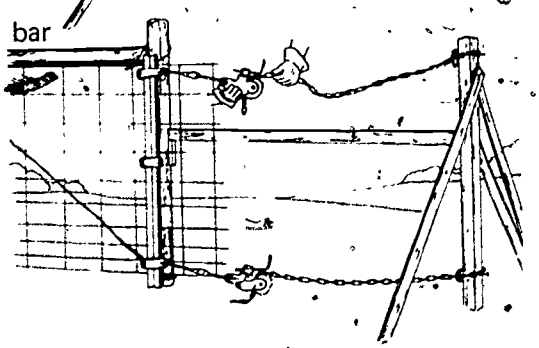
_____d. Attach clamp bar to fence at a position opposite anchor post



_____e. Stand fence against line post



_____f. Attach rachets to clamp bar



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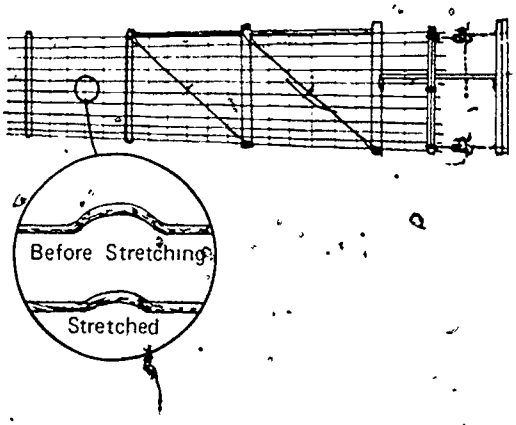
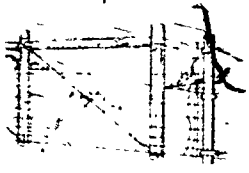
_____g. Continue stretching until tension curves are approximately one-third removed



16. Arrange in the proper order the steps for attaching a woven fence to the second anchor post or brace-line post.

_____a. Repeat procedure with every other wire working toward top and bottom

_____b. Remove stay wires a sufficient distance to extend around anchor post and wrap back on itself



_____c. Cut and wrap remaining wires leaving top wire until last

_____d. Staple each line wire securely to anchor post

_____e. Cut middle line wire, extend around post, and wrap back on itself

17. Select the correct procedure for attaching a fence to line post. Place "X" by each statement that is correct.

_____a. Attach bottom wire first

_____b. Set staple cross-wise of grain

_____c. Drive staple into post very tightly

_____d. A special post clamp is used when attaching fence to steel post

_____e. Use concrete staple to fasten fence to concrete post

18. Arrange in the proper order the steps used in unrolling and stretching barbed wire.

_____a. Attach remaining wires in the same manner; attach wire to line post in similar manner to that of woven wire

_____b. Staple wires in position on wood post; extend wires around post and wrap

_____c. Mark position on anchor post where barbed wire is to be attached; for gate post, remove barbs on wire for sufficient length to wrap around anchor post and allow for splice

_____d. Stretch barbed wire until fairly tight; check wire to make sure it is free

_____e. Unroll barbed wire to next anchor post

_____f. Cut one of the two wires where barbs have been removed and untwist; extend cut wire around anchor post and wrap leaving space between each wrap

_____g. Attach rachet to dummy post; attach barbed wire to fence stretcher

_____h. Staple barbed wire to wood anchor post with two staples; remove barbs on stretcher end of wire for sufficient length to wrap around anchor post and splice

_____i. Cut remaining wire, extend around post, and wrap in same manner, run second wire wraps between wraps of first wire

19. Explain in writing why a fence should be grounded for lightning protection.

20. Name three factors that determine the number and kind of line post to use.

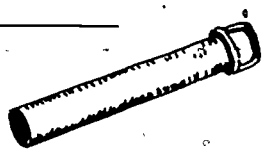
a.

b.

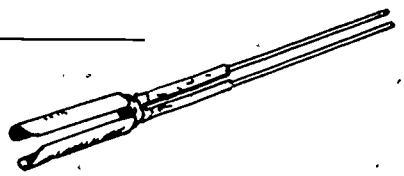
c.

21. Identify the following tools and materials that are used in constructing farm fences.

a._____

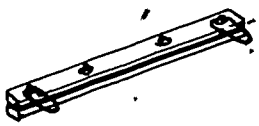


b._____

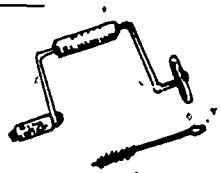


c._____

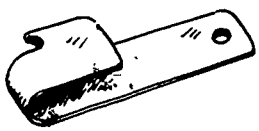
d._____



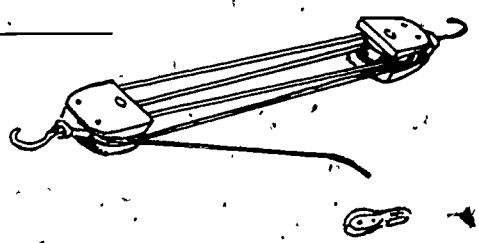
e._____



f._____

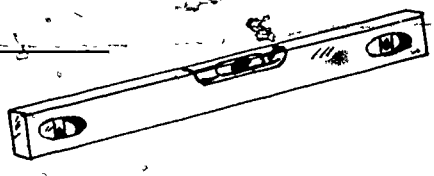


g._____

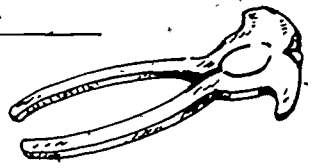


h._____

i._____



j._____



22. Determine the cost of constructing various type fences.

23. Demonstrate the ability to construct a wood anchor-and-brace assembly.

(NOTE: If this has not been accomplished prior to the test, ask the instructor when the above activity should be completed.)

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BUILDING FARM FENCES
UNIT I

ANSWERS TO TEST

1. a. 7
   b. 8
   c. 9
   d. 4
   e. 6
   f. 5
   g. 3
   h. 10
   i. 1
   j. 2
2. b
   c
   e
3. a. 2
   b. 3
   c. 1
   d. 5
   e. 4
4. a. Woven fence
   b. Barbed wire
   c. Electric fence
   d. Combination of above
5. Any four of the following:
   a. Kind of livestock to be fenced

b. Combination of different kinds of livestock in the same field

c. Frequency livestock are checked

d. Necessity to fence out dogs or wolves

e. Size of area in which animals are confined

f. Money available for fencing

g. Estimated life of fence

6. a

d

f

7. Any two of the following:

a. Kind of protective coating

b. Thickness of protective coating

c. Size of wire

d. Type of steel in wire

8. a. Hinge joint

b. Stiff-stay joint

9. a. 1) 3

2) 2

3) 5

4) 1

5) 4

b. 1)

2) 4

3) 1

4) 3

c. 1) 5

2) 6
3) 1
4) 3
5) 4
6) 2

d. 1) 4
2) 1
3) 5
4) 2
5) 3
6) 7
7) 6
8) 8

10. a. 2
b. 4
c. 1
d. 3
e. 5

11. a. P
b. P
c. P
d. P
e. I
f. P
g. I
h. I
i. I

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12. a. 3
    b. 6
    c. 2
    d. 1
    e. 5
    f. 4

13. a. 4
    b. 3
    c. 1
    d. 2
    e. 5

14. a. 5
    b. 3
    c. 7
    d. 6
    e. 2
    f. 4
    g. 1

15. a. 6
    b. 1
    c. 3
    d. 4
    e. 2
    f. 5
    g. 7

16. a. 4
    b. 2
    c. 5
    d. 1
    e. 3

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17. b
    d

18. a. 9
    b. 2
    c. 1
    d. 5
    e. 3
    f. 7
    g. 4
    h. 6
    i. 8

19. Wire fences that are attached to trees or buildings are most likely to receive and carry lightning discharges, but any ungrounded wire fence with wooden post, or steel post set in concrete, is a hazard to livestock.

20. Any three of the following:
    a. Area confinement of livestock
    b. Kind of fence to be used
    c. Anticipated life of fence
    d. Cost of setting post
    e. Kinds of post available
    f. Lightning protection needed
    g. Height of fence

21. a. Steel post driver
    b. Post hole diggers
    c. Tamping bar
    d. Woven wire clamp
    e. Brace and bit
    f. Wire splicer
    g. Block and tackle with secure clamp
    h. Staple
    i. Carpenter's level
    j. Wire cutting pliers

22. Evaluated to the satisfaction of the instructor.

23. Performance skills will be evaluated to the satisfaction of the instructor.

RAFTER FRAMING
UNIT II

TERMINAL OBJECTIVE

After completion of this unit, the student should be able to identify the parts of a steel framing square and be able to interpret the various tables found on the square. Using this information the student should be able to lay out common rafters. The student should be able to score eighty-five percent on a post test.

SPECIFIC OBJECTIVES

After completion of this unit, the student should be able to:

1. Define five terms associated with rafter cutting.
2. Identify the parts of a framing square.
3. Identify the various tables found on the framing square and name one use of each.
4. Identify five types of roofs from an illustration.
5. Identify four kinds of rafters when given a drawing illustrating the various kinds.
6. Name the three methods of determining the length of common rafters.
7. Demonstrate the ability to lay out and cut common rafters.

RAFTER FRAMING
UNIT II

SUGGESTED ACTIVITIES

I. Instructor:

A. Provide students with objective sheet.

B. Provide students with information and job sheets.

C. Make transparencies.

D. Discuss terminal and specific objectives.

E. Discuss information sheet

F. Demonstrate and discuss procedures outlined in job sheets.

G. Give test.

II. Students:

A. Read objective sheet.

B. Study information sheet.

C. Demonstrate the ability to accomplish the procedures outlined in the job sheets.

D. Take test.

INSTRUCTIONAL MATERIALS

I. Included in this unit:

A. Objectives

B. Information sheet

C. Transparency masters

1. TM 1--Parts of Roof
2. TM 2--Parts of Steel Framing Square
3. TM 3--Framing Square Tables
4. TM 4--Types of Roofs

5. TM 5--Kinds of Rafters

6. TM 6--Cutting a Rafter

D. Job Sheet #1--Lay Out and Cut Common Rafters

E. Test

F. Answers to test

II. References:

A. Jones, Mack M. *Shopwork on the Farm*. New York: McGraw-Hill Book Company, 1955.

B. Phipps, Lloyd, J. H. F. McColly, L. L. Scranton, and G. C. Cook. *Farm Mechanics Text and Handbook*. Danville, Illinois: Interstate Publishers and Printers.

C. Bear, W. Forest and Thomas A. Hoerner. *Rafter Layout with the Framing Square for School and Home Workshop*. St. Paul, Minnesota: Hobar Publications.

RAFTER FRAMING
UNIT II

INFORMATION SHEET

I. Terms and definitions (Transparency 1)

A. Span--The distance over the plates

B. Run--The shortest horizontal distance measured from a plumb line through the center of the ridge to the outer edge of the plate

C. Rise--The vertical distance from the top of the ridge to the level of the foot, rise = pitch times 2 times the run

D. Pitch--The slope or slant of a roof expressed as rise in inches per foot of run

E. Plate--The roof member to which rafters are framed at the lower end

F. Ridge board--A horizontal roof member used for connecting the upper ends of the rafters

G. Rafter--A supporting roof member

H. Common rafter--The rafter extending at right angles from the plate to ridge

I. Hip rafter--A rafter extending diagonally from the corner of the plate to the ridge

J. Valley rafter--A rafter extending diagonally from plate to ridge at the point of intersection of two roof surfaces

K. Jack rafter--A rafter that does not extend from plate to ridge

L. Hip jack--The rafters which extend from the plate to the hip rafters

M. Valley jack--The rafters which extend from the ridge to the valley rafters

N. Top cut--The cut end which rests against the ridge

O. Bottom cut--The cut end which rests against the plate

P. Side cuts--The fittings for other roof members

(Example: Hip, valley, and jack rafters have side cuts where they fit against other roof members.)

Q. Measuring line--A line on which the rafter length is measured

R. Tail--The position of a rafter extending beyond the plate

INFORMATION SHEET

S. Foot line--The horizontal plane level with the top of the plate

T. Cripple jack--The rafters which extend from a hip rafter to a valley rafter

II. Steel framing square (Transparency 2)

A. Made in form of right angle

B. Has two arms

1. Body--24 inches long, 2 inches wide

2. Tongue--16 inches long, 1 1/2 inches wide

C. Heel--Where the tongue and body meet

D. Face--The visible side when body is held in left hand and the tongue in right hand, with heel up

E. Back--Opposite side of face

III. Tables found on framing square (Transparency 3)

A. Essex

1. Located on back of the body

2. Used in figuring board feet

B. Octagon

1. Located on face of tongue

2. Used to lay off an eight-sided figure from a four-sided figure

C. Brace

1. Located on back of tongue

2. Used in figuring the length of common braces

D. Rafter

1. Located on face of body

2. Used in determining length and cuts of all rafters

INFORMATION SHEET

IV. Types of roofs (Transparency 4)

A. Lean-to

B. Gable

C. Hip

D. Gable and valley

E. Hip and valley

F. Flat

G. Quonset

H. Deck

V. Kinds of rafters (Transparency 5)

A. Common

B. Jack

C. Valley

D. Hip

VI. Finding lengths of common rafters (Transparency 6)

A. Mathematical method

B. Scaling method

C. Stepping method

D. Rafter table method

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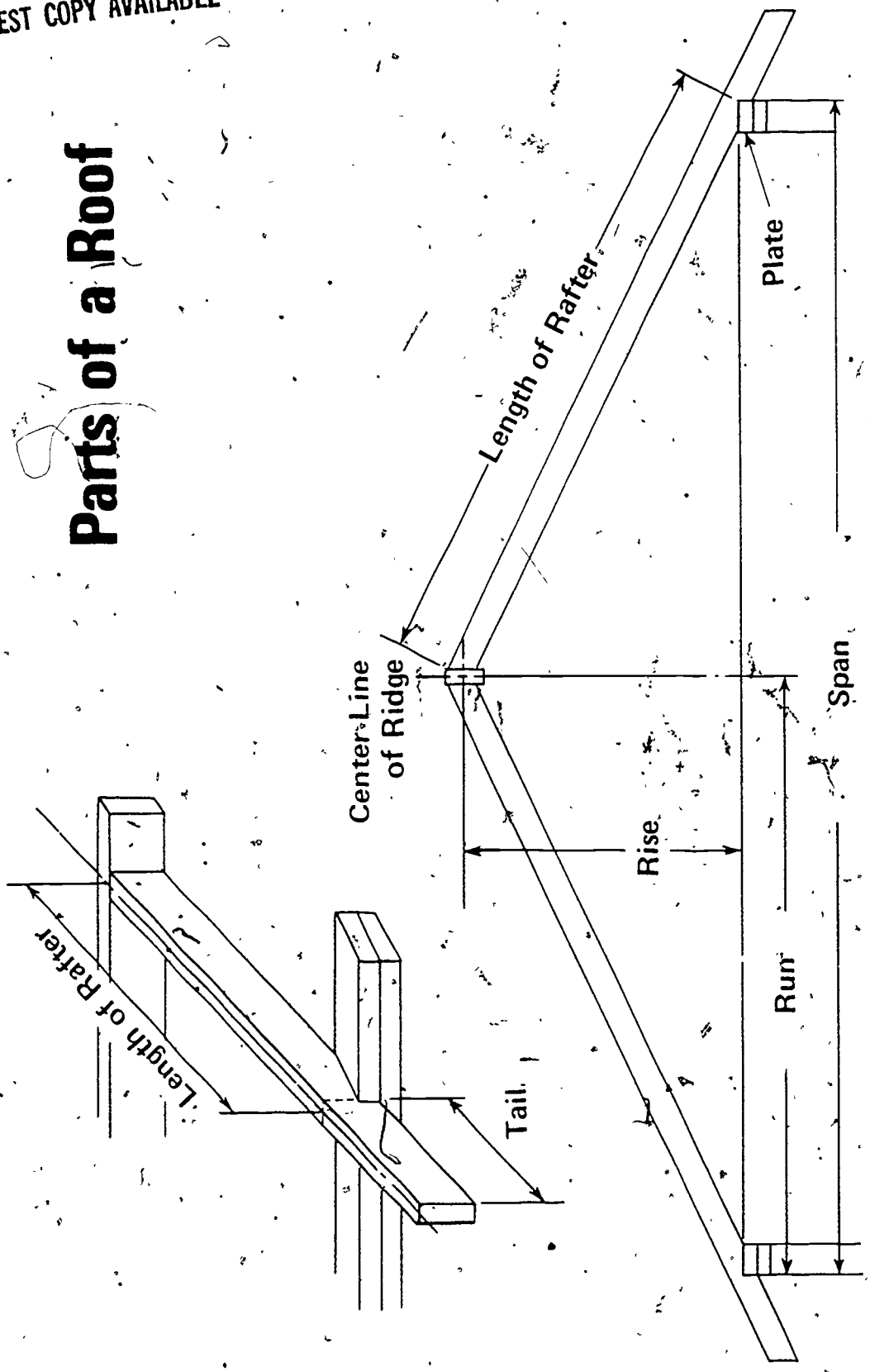
Parts of a Roof



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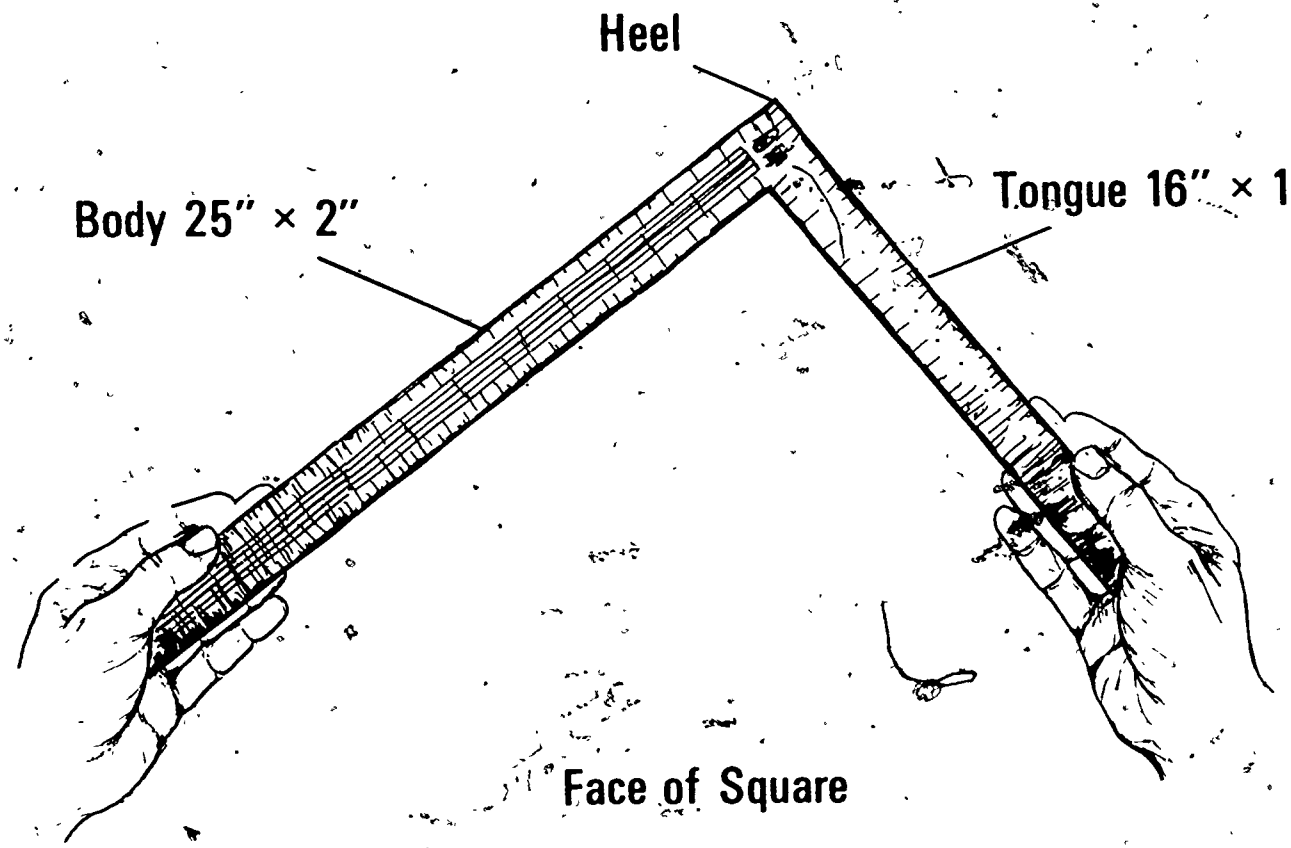
Parts of Steel Framing Square



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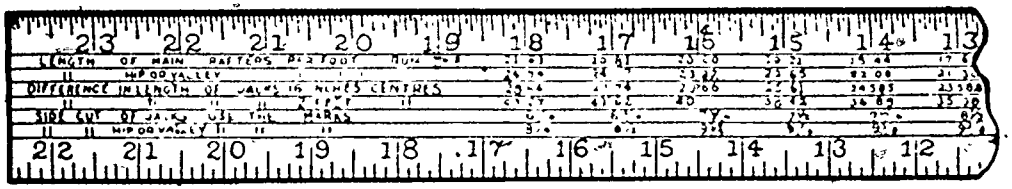
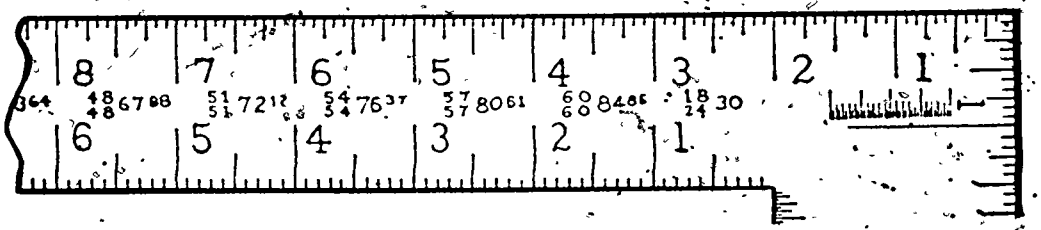
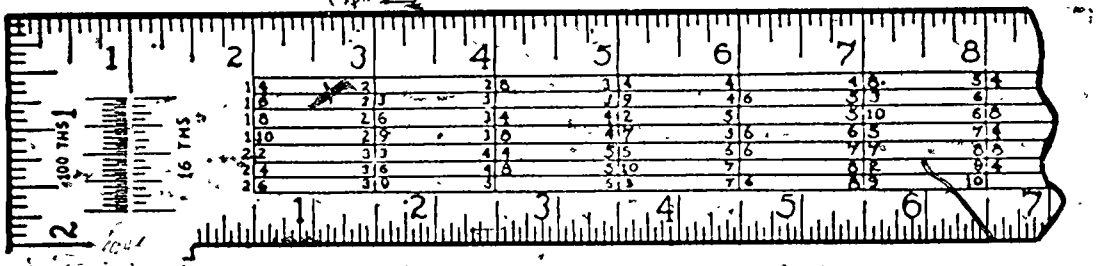
Framing Square Tables



Rafter or Framing Table



Essex Table



Brace Table

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TM 3

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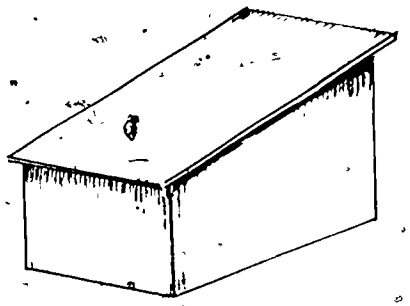
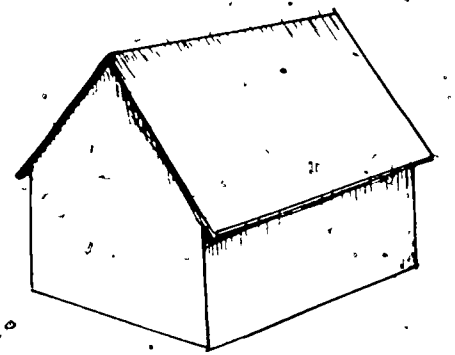
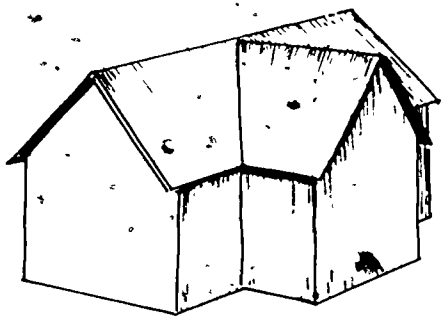
Types of Roofs



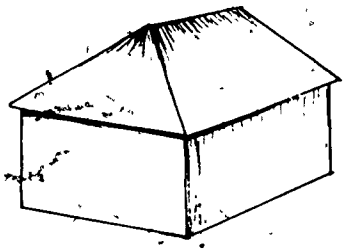
Lean-To



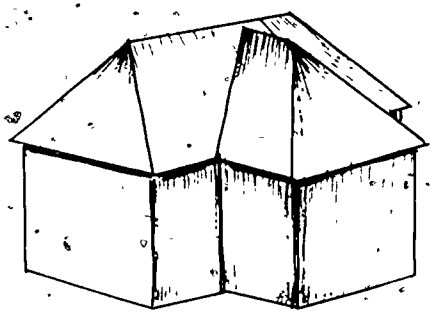
Gable



Gable and Valley



Hip



Hip and Valley

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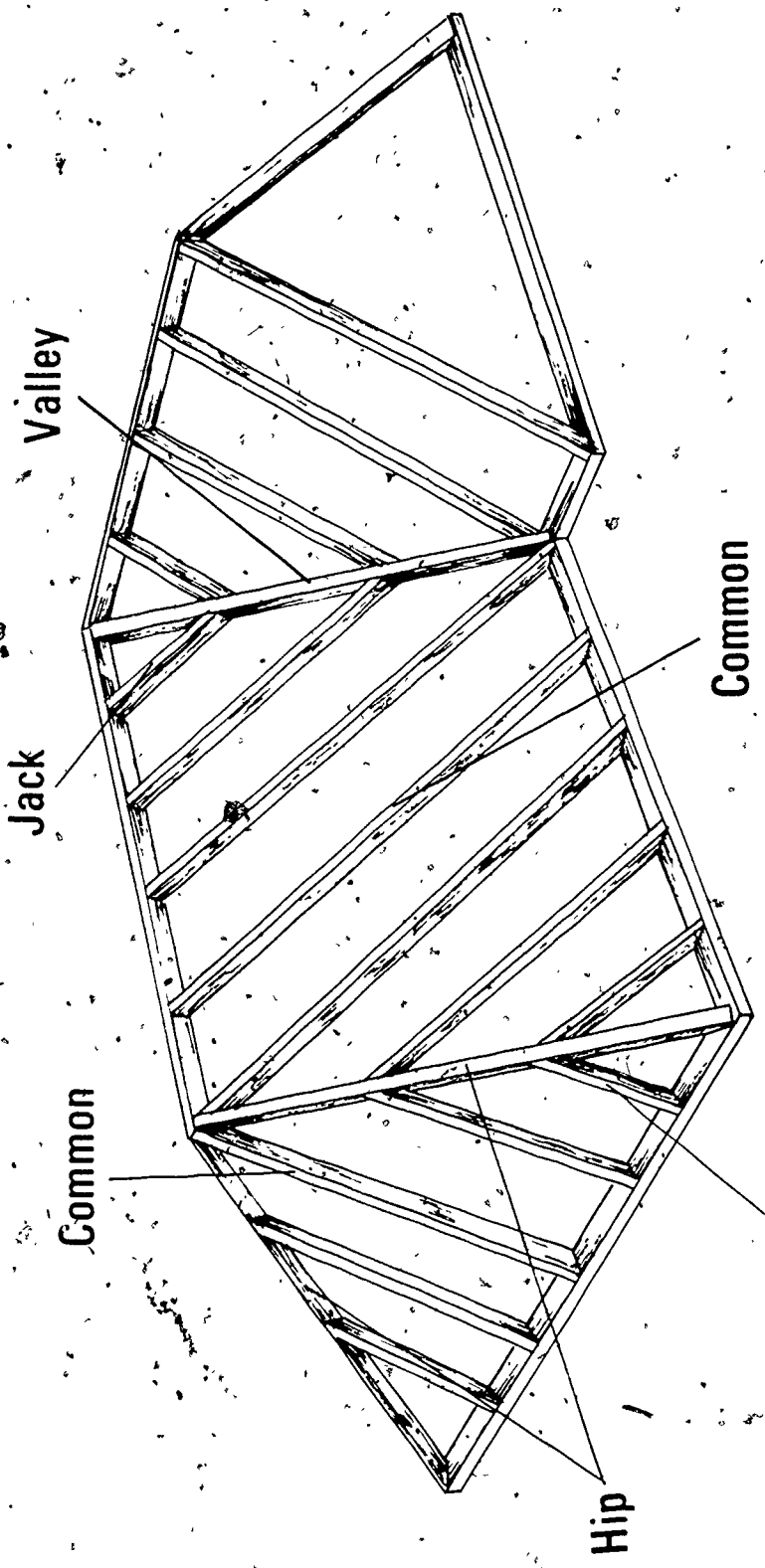
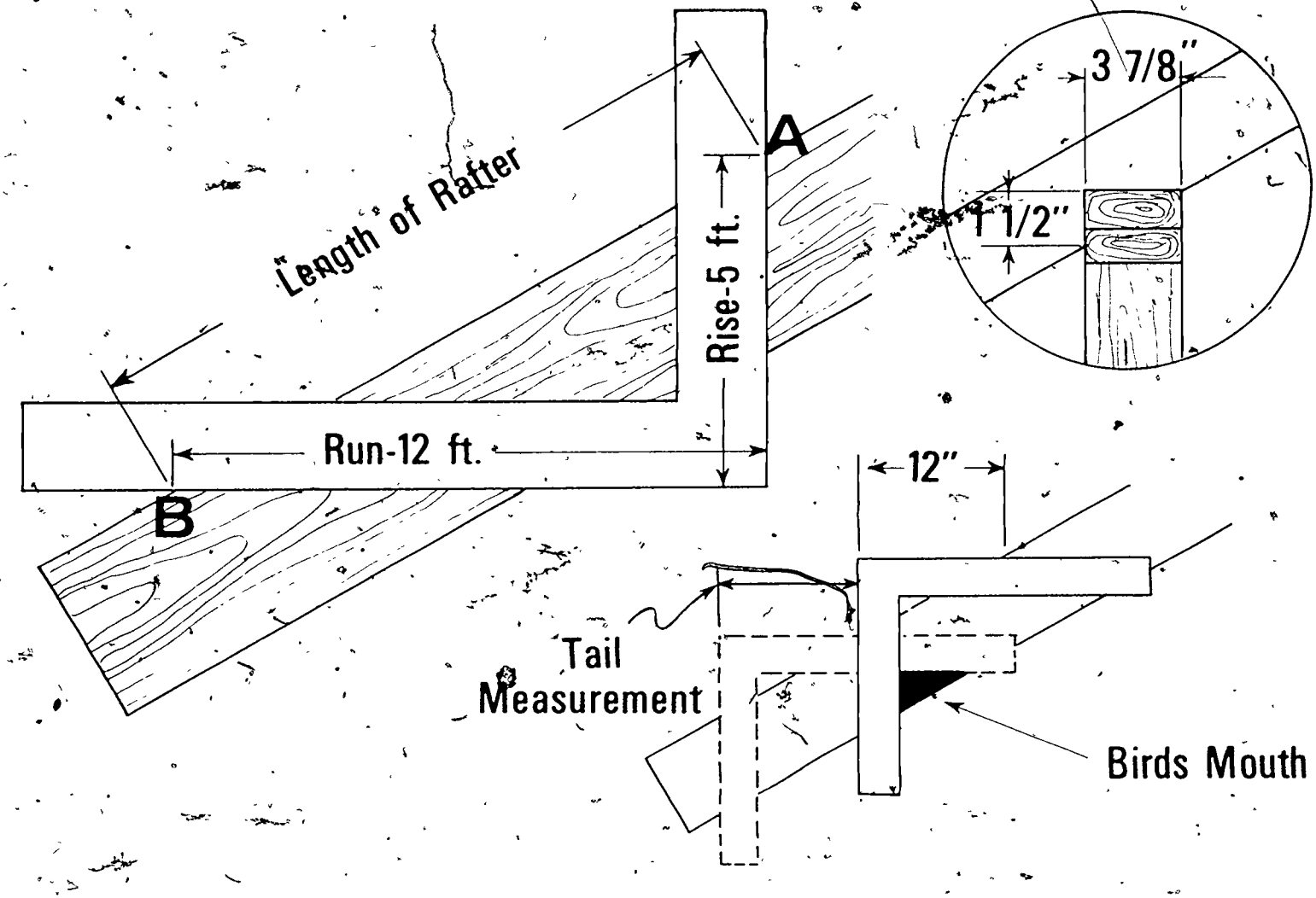
Kinds of Rafters



Cutting a Rafter



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TM 6

Ag. IV - 101-D

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RAFTER FRAMING
UNIT II

JOB SHEET #1--LAY OUT AND CUT COMMON RAFTERS

I. Tools and materials needed

A. Square

B. Pencil

C. Crosscut handsaw

D. Saw horses

E. 2 x 4--Length to be determined by instructor

II. Procedures

A. Figure the span--Width of building, outside of plate to outside of plate

B. Figure run--Run is 1/2 of the span or the horizontal distance covered by one rafter

C. Figure pitch--Rise in inches per foot of run

D. Locate on the tongue of the square the number which represents the rise (See point "A", Figure 1.)

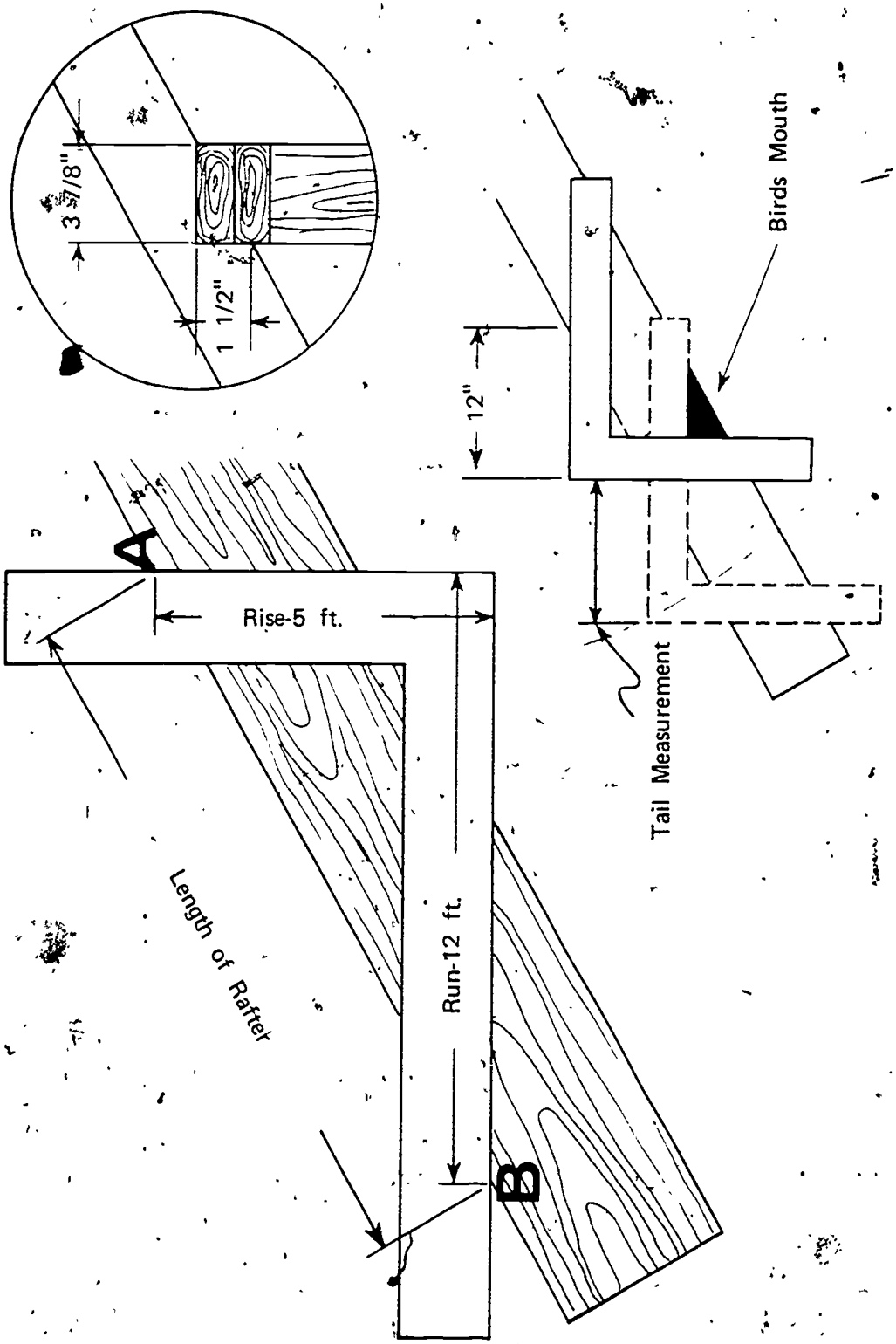
E. Locate on the body of the square the number which represents the run (See point "B", Figure 1.)

F. Measure shortest distance between these points and this measurement will be the length of the rafter in feet (Figure 1)

G. Mark location of cut to be made

H. Make cut and turn in to the instructor for grade

III. Diagram of procedure



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RAFTER FRAMING
UNIT II

TEST

1. Define the following terms.

   a. Pitch--

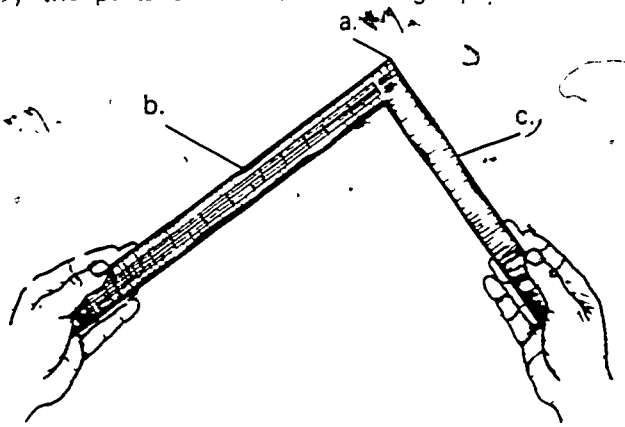
   b. Run--

   c. Rafter--

   d. Common rafter--

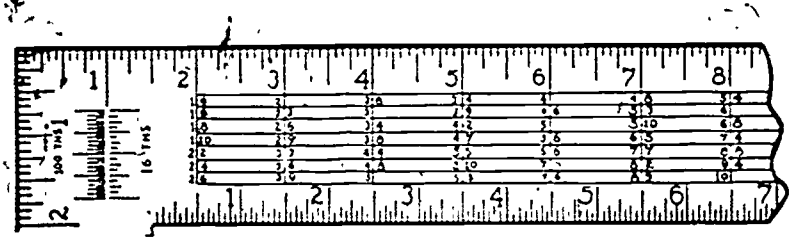
   e. Bottom cut--

2. Identify the parts of the steel framing square.



a. _____ b. _____ c. _____

3. Identify the following tables found on the steel framing square and name one use of each.



d. _____

b. _____

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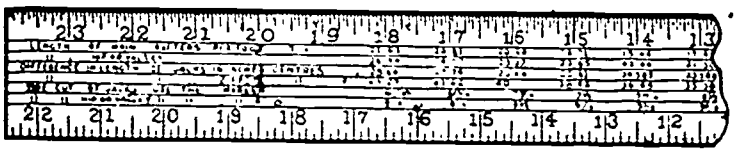
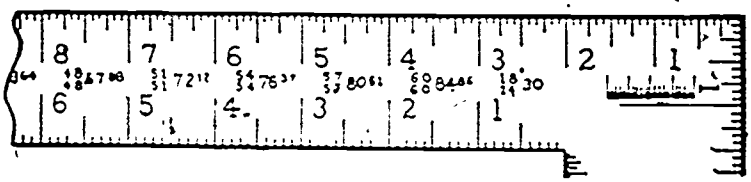


a. _____

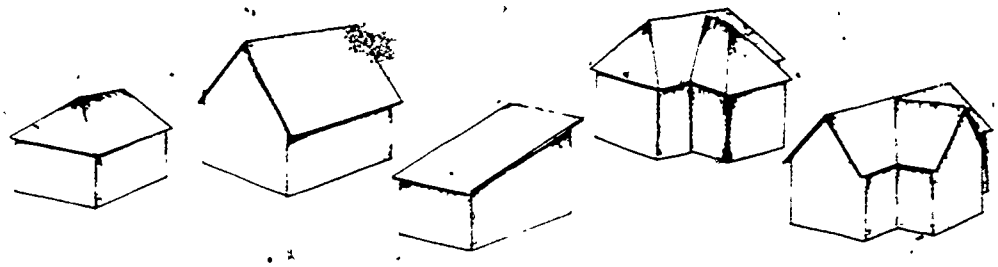
d. _____



e. _____

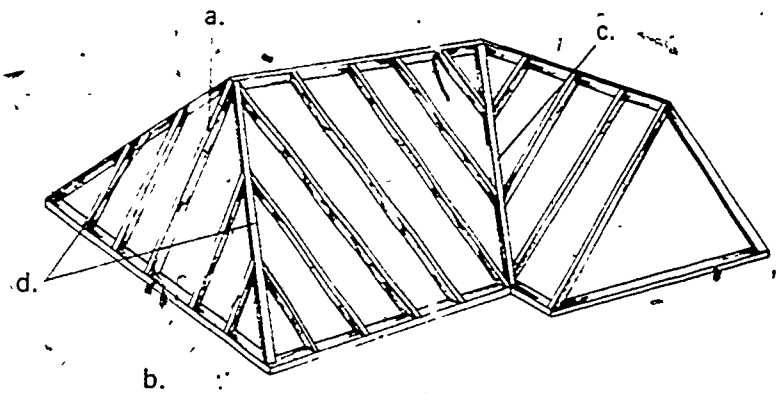
f. _____

4. Identify the following roof types.



a._____ b._____ c._____ d._____ e._____

5. From the drawing below label the various kinds of rafters.



a.____

b.____

c.____

d.____

6. Name three methods of determining the length of common rafters.

   a.

   b.

   c.

7. Demonstrate the procedures for laying out and cutting common rafters.

   (Note: If this has not been accomplished prior to the test, ask the instructor when the above activity is to be completed.)

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RAFTER FRAMING
UNIT II

ANSWERS TO TEST

1. a. Pitch--The slope or slant of a roof expressed as rise in inches per foot of run
   b. Run--The shortest horizontal distance measured from a plumb line through the center of the ridge to the outer edge of the plate
   c. Rafter--A supporting roof member
   d. Common rafter--A rafter extending at right angles from the plate to the ridge
   e. Bottom cut--The cut end which rests against the plate
2. a. Heel
   b. Body
   c. Tongue
3. a. Brace table
   b. Used in figuring length of common braces
   c. Rafter or framing table
   d. Used in determining length of rafters
   e. Essex table
   f. Used in figuring board feet
4. a. Hip roof
   b. Gable roof
   c. Lean-to roof
   d. Hip and valley roof
   e. Gable and valley roof
5. a. Common rafter
   b. Jack rafter

c. Valley rafter

d. Hip rafter

6. Any three of the following

a. Mathematical method

b. Scaling method

c. Stepping method

d. Rafter table method

7. Performance skills will be evaluated to the satisfaction of the instructor.

FARM UTILITY BUILDINGS
UNIT III

TERMINAL OBJECTIVE

After completion of this unit, the student should be able to match terms associated with farm buildings, list the common types of foundations, and identify types of roof framing. He should be able to identify the kinds of roofing materials and the methods of attaching siding. This knowledge will be evidenced by scoring eighty-five percent on the unit test.

SPECIFIC OBJECTIVES

After the completion of this unit, the student should be able to:

1. Match terms associated with farm buildings with the proper definition.
2. List factors to consider when planning a farm building.
3. Name building materials often used in farm utility buildings.
4. Identify the types of farm utility buildings.
5. Select from a list the causes of building failures.
6. List the common types of foundations and wall supports.
7. Identify the various types of roof framing.
8. List factors to consider when selecting roofing materials.
9. Identify the kinds of roofing materials that are commonly used on farm buildings.
10. Identify four methods of attaching siding.
11. Match the advantages and disadvantages of the various floors to the specific types of floors found in farm buildings.
12. List the characteristics to consider when selecting exterior paints.
13. Determine the cost of a farm building.

FARM UTILITY BUILDINGS
UNIT III

SUGGESTED ACTIVITIES

I. Instructor:

A. Provide students with objective sheet.

B. Provide students with information and assignment sheets.

C. Make transparencies.

D. Discuss terminal and specific objectives.

E. Discuss information and assignment sheets.

F. Give test.

II. Students:

A. Read objectives.

B. Study information sheet.

C. Complete assignment sheet.

D. Take test.

INSTRUCTIONAL MATERIALS

I. Included in this unit:

A. Objectives

B. Information sheet

C. Transparency masters

1. TM 1--Framing Terms

2. TM 2--Building Failures

D. Assignment Sheet #1--Determine the Cost of a Farm Building

E. Test

F. Answers to test

II. Reference--American Association for Agriculture Engineering and Vocational Agriculture, Agriculture Engineering Center. *Farm Utility Buildings.* Athens, Georgia: Stein Printing Company, 1969.

FARM UTILITY BUILDINGS
UNIT III

INFORMATION SHEET

I. Terms and definitions (Transparency 1)

A. Sill--Horizontal timbers which form the lowest members of a frame supporting the superstructure of a building

B. Stud--An upright member, usually a piece of dimension lumber, used in the framework of a wall

C. Plate--Term usually applied to a 2 x 4 placed on top of studs in frame walls

D. Purlin--A beam spanning the principle roof supports

E. Ridge--The highest point of a roof composed of sloping sides

F. Truss--A combination of members such as beams, bars, and ties usually arranged in triangular units to form a rigid framework for supporting loads over a long span

G. Rafters--Sloping members of a roof such as the ribs which extend from the ridge or from the hip of a roof to the eaves

H. Girder--A large supporting built-up horizontal member used to support walls or joists

I. Gussett--A brace or angle bracket used to stiffen a corner or angular piece of work

J. Knee brace--A framing member placed across the inside of an angle in a framework to add stiffness to the frame

II. Factors to consider when planning a farm building

A. Decide the size of building needed

B. Decide where to locate the building

C. Decide the type of building needed

(NOTE: Keep in mind the appearance of the building in relationship to other buildings on the farm.)

D. Decide the kind of materials to use

E. Consult persons experienced in building and in the use of agricultural buildings

INFORMATION SHEET

F. Figure bills of materials and the total cost of the building

(NOTE: If hiring a contractor, bids from several contractors should be secured.)

III. Building materials used in agriculture buildings

A. Sawed lumber

B. Logs and poles

C. Concrete

D. Brick

E. Tile

F. Concrete blocks

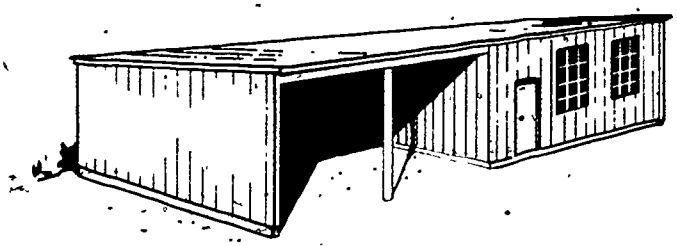
G. Stone

H. Metal

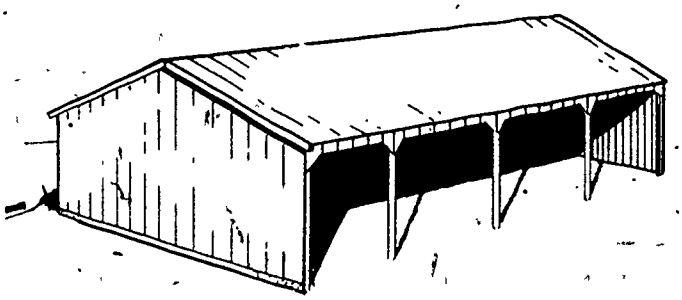
I. Composition board and exterior plywood

IV. Types of farm buildings

A. Shed type

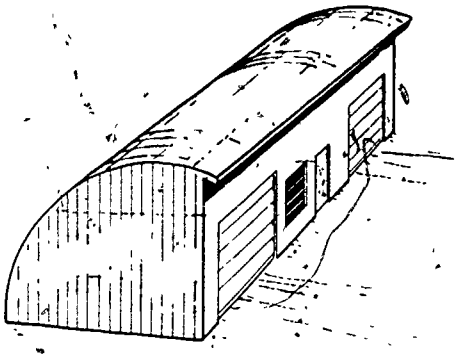


B. Gable type

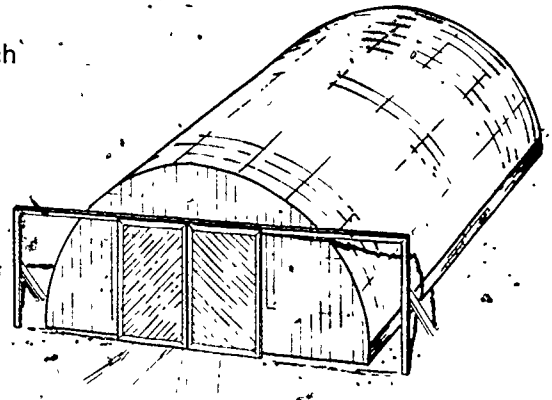


INFORMATION SHEET

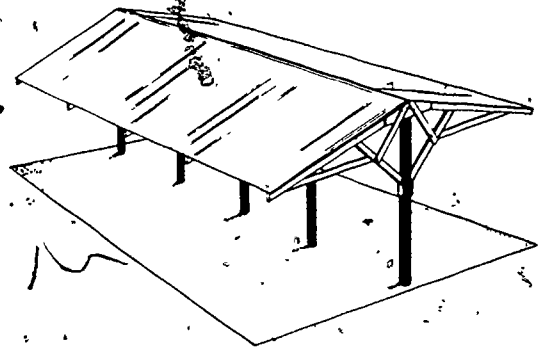
C. Half arch



D. Full arch



E. Umbrella type



V. Causes of building failures (Transparency 2)

A. Builder did not use the grade and type of material called for in the specifications

B. Builder did not make joints as strong as the structural member

(NOTE: The critical joints are where the sills rest on the foundation, where roof rafters or trusses rest on plates, side walls, or columns, and where the roof-ridge members are joined.)

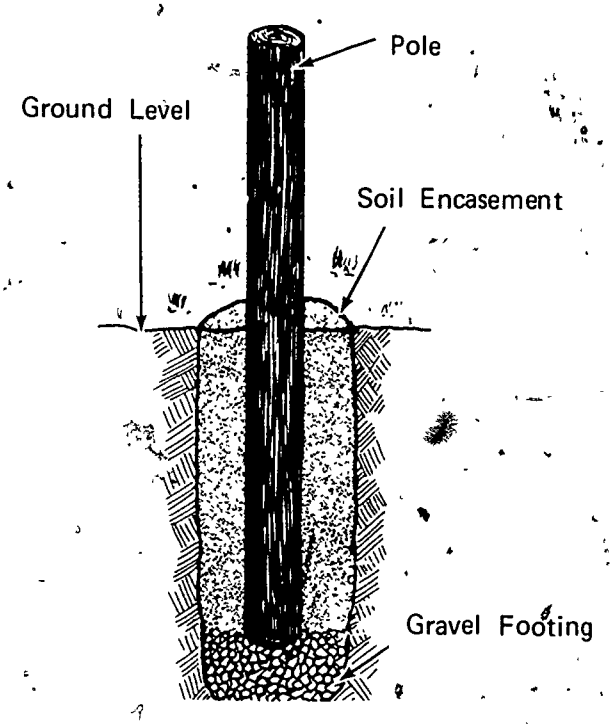
C. Inadequate foundation

INFORMATION SHEET

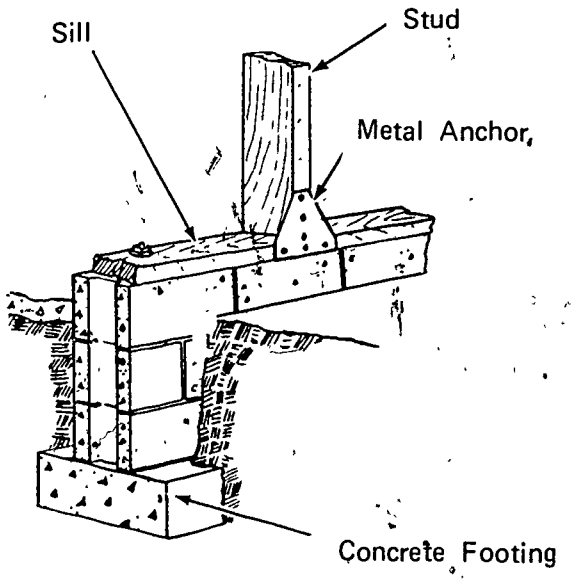
D. Poor design

VI. Common types of foundations and wall supports

A. Wood or steel poles or posts and piers

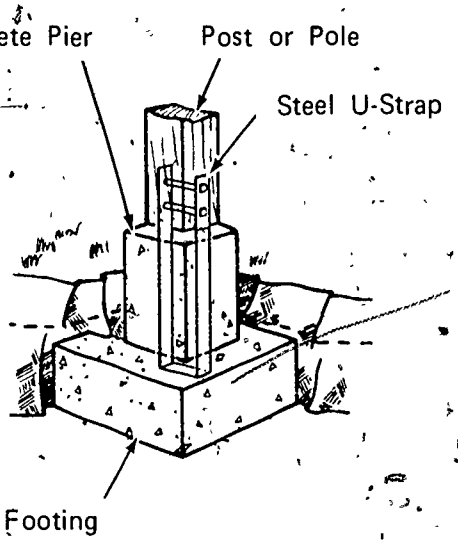


B. Light wood frame with masonry or concrete foundation



INFORMATION SHEET

C. Post and girt with masonry or concrete foundation



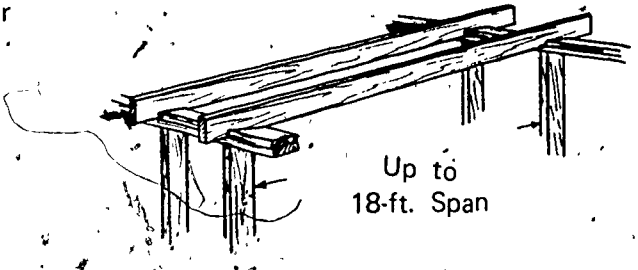
D. Masonry walls on concrete foundations

E. Steel structures

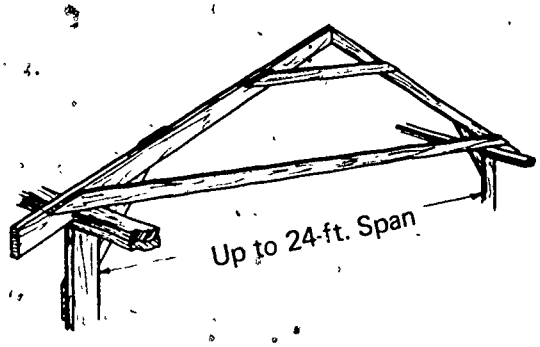
F. Combinations of above

VII. Types of roof framing

A. Common rafter

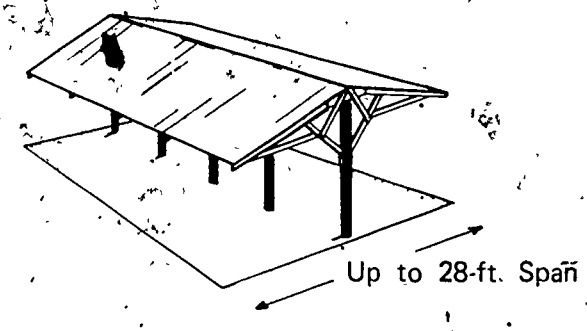


B. Truss

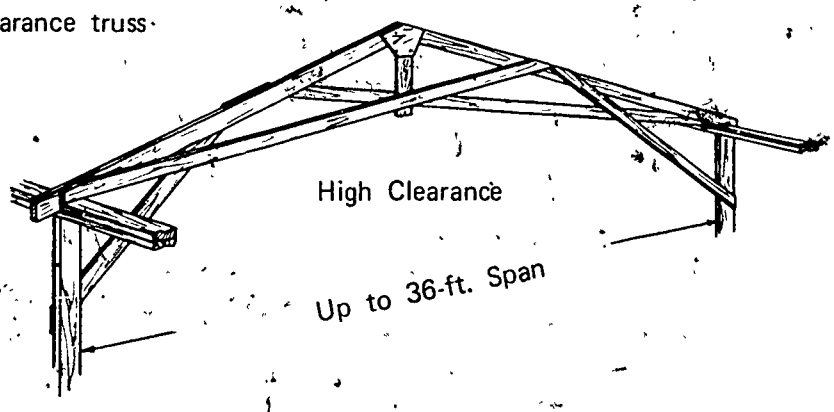


INFORMATION SHEET

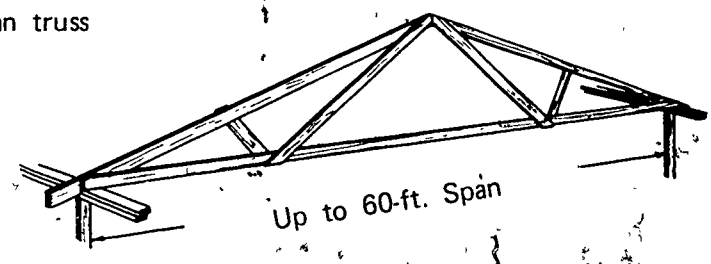
C. Umbrella truss



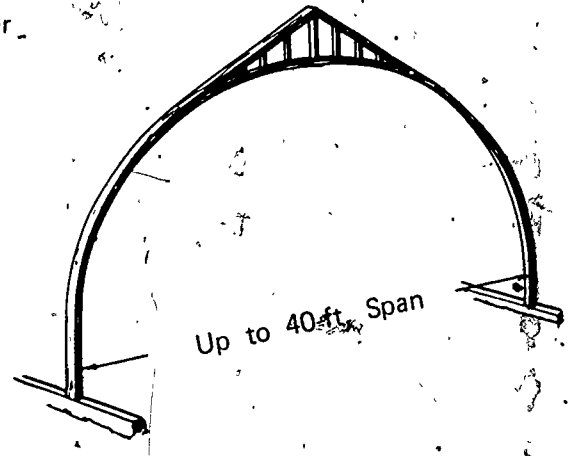
D. High clearance truss



E. Wide span truss



F. Curved-arch rafter



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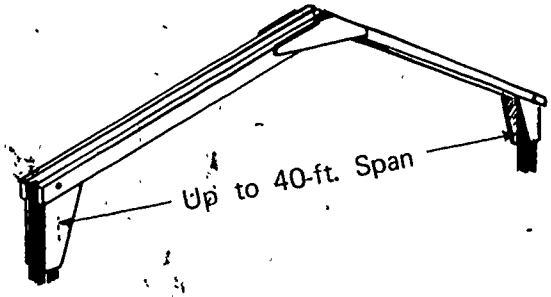
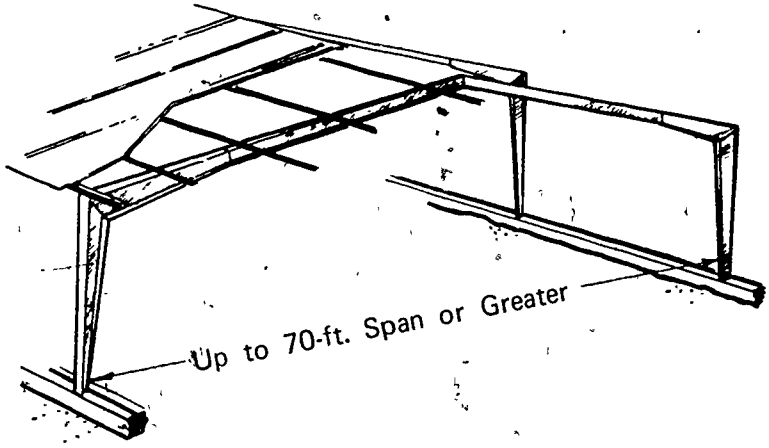
INFORMATION SHEET

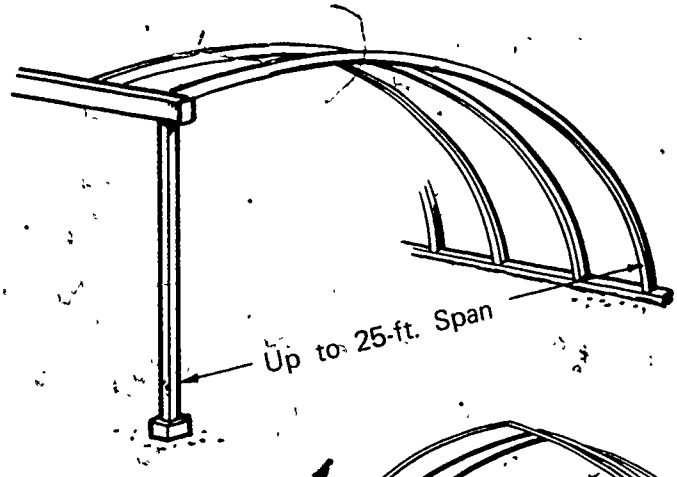
G. Rigid-wood frame



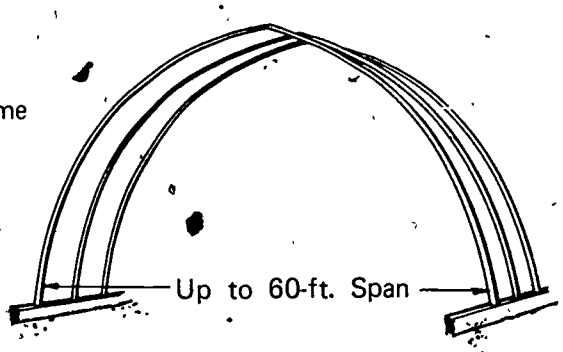
H. Rigid-steel frame



I. Steel frame

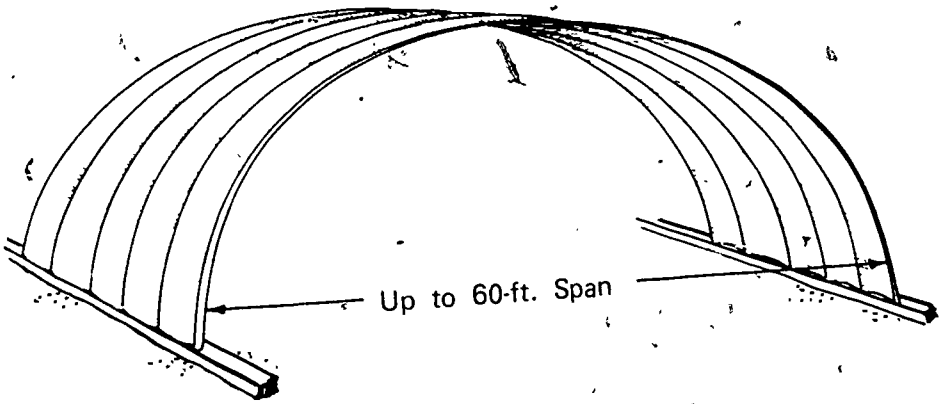


J. Laminated rafters or steel frame



INFORMATION SHEET

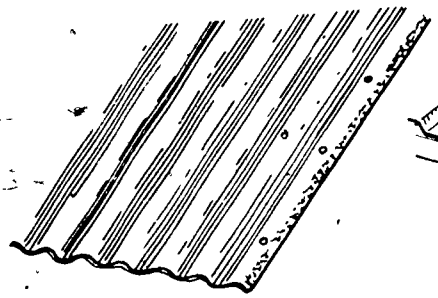
K. Frameless steel (Formed roof sheets)



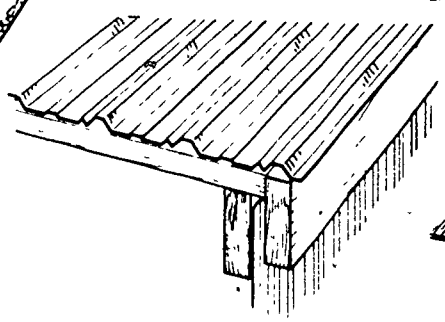
VIII. Factors to consider when selecting roofing materials

A. Probable life expectancy due to weathering
B. Fire resistance
C. Hail resistance
D. Resistance to heat from sun
E. Resistance to strong winds
F. Maintenance
G. Weight
H. Kind of nailing or fastening required
I. Cost
J. Appearance
K. Ease of construction

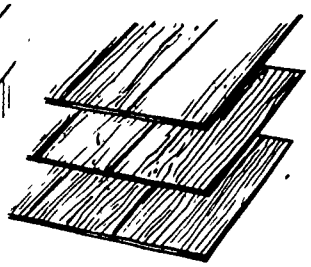
IX. Kinds of roofing materials



Asbestos-Cement Sheets



Galvanized Steel or Aluminum



Wood Shingles

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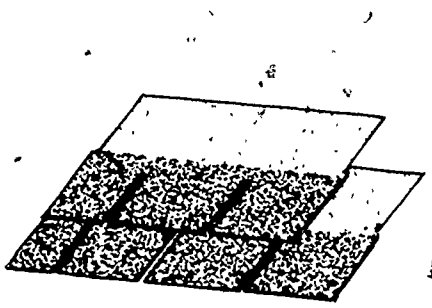
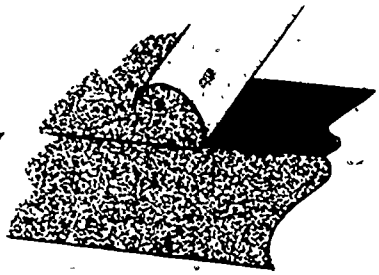
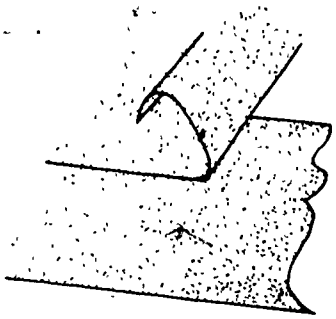


Asphalt Shingles

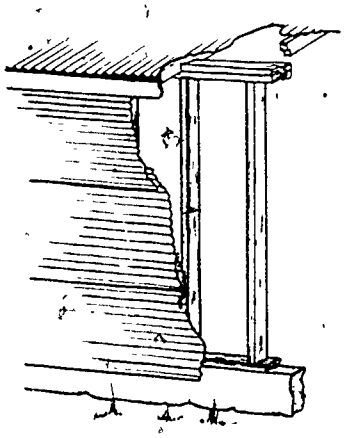


Selvage-Edge (Mineral Surface) Roll Roofing

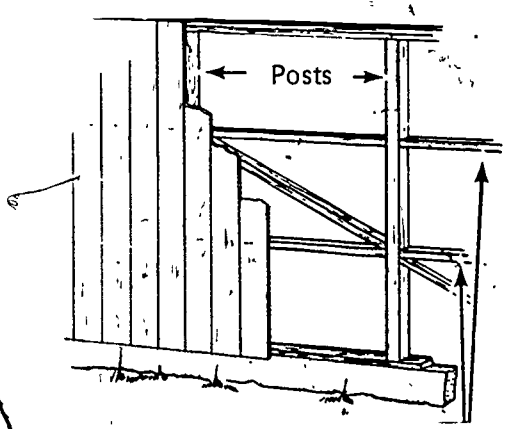


Smooth-Surfaced Roll Roofing

X. Methods of attaching siding



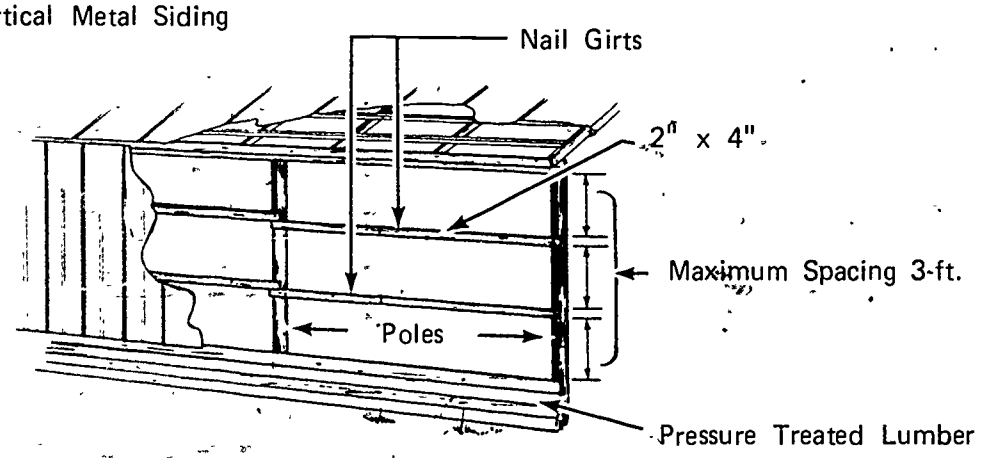
Metal Siding



Vertical Board Siding

Nail Girts

Vertical Metal Siding



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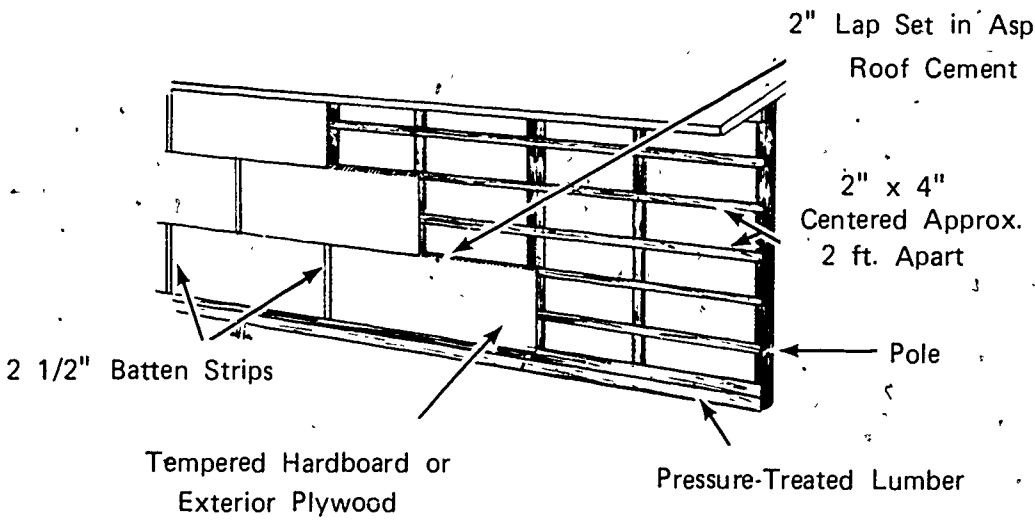


Tempered Hardboard or Exterior Plywood

XI. Advantages and disadvantages of various kinds of floors

A. Dirt

1. Advantages

a. Least costly

b. Absorbs oil and water

2. Disadvantages

a. Tools and equipment sink into the dirt

b. If floor is damp it provides enough moisture to rust tools and equipment

c. If the floor is dry, dust will usually be a problem with each gust of wind

d. Very difficult to clean

B. Crushed rock

1. Advantages

a. Dust is much less of a problem

b. Absorbs oil and water

INFORMATION SHEET

2. Disadvantages

a. Not satisfactory in livestock structure because of cleaning problems

b. It holds dirt and grease

c. Tools and equipment will sink into the surface

C. Concrete

1. Advantages

a. If properly placed, forms a hard dry surface

b. Easy to keep clean

c. Forms an excellent base for equipment and power tools

d. Excellent for livestock structures

e. It is fireproof and usually costs less than a wooden floor

2. Disadvantages

a. Colder than a wooden floor

b. More tiring to stand on when working continuously

c. More expensive than most types of floors

D. Wood

1. Advantages

a. Warmer during cold weather

b. Less tiring to stand on for long periods of time

2. Disadvantages

a. More expensive than most floors

b. May not be strong enough to support heavy equipment

c. Fire hazard especially in a shop

d. Short life compared to concrete

INFORMATION SHEET

XII. Characteristics to consider when selecting exterior paints

A. Durability

1. Good white paint will give 4 - 5 years service
2. Good tinted paint will give 5 - 6 years service
3. Good dark color paint will give 6 - 8 years service

B. Self-cleaning--Wears off gradually and keeps the surface relatively clean

C. Highly reflective--Lighter colors will give a cooler building inside

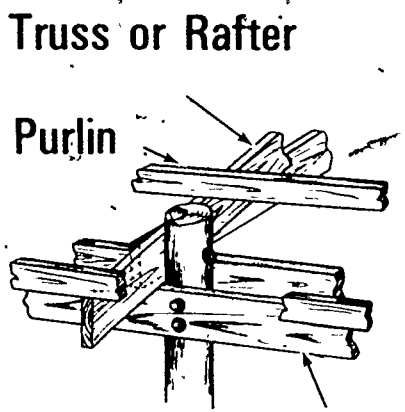
D. Dirt resistant

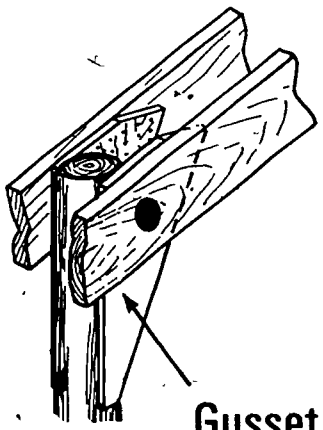
E. Withstands moisture--Resistant to blistering and peeling

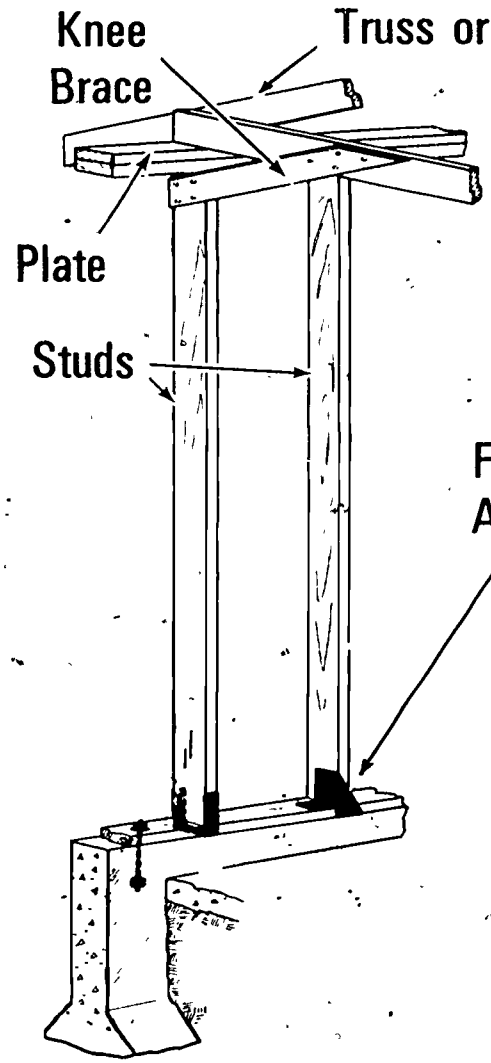
F. Resistant to stain and discoloration

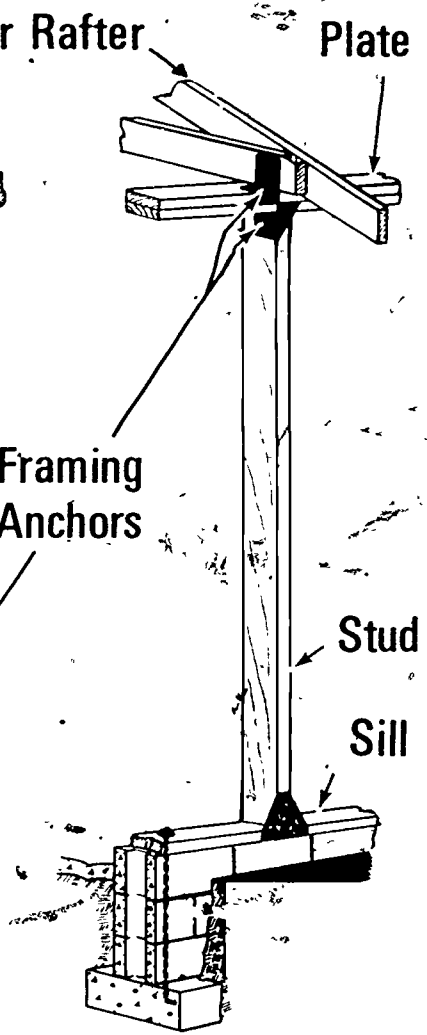
G. Good hiding or covering qualities

Framing Terms









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Building Failures

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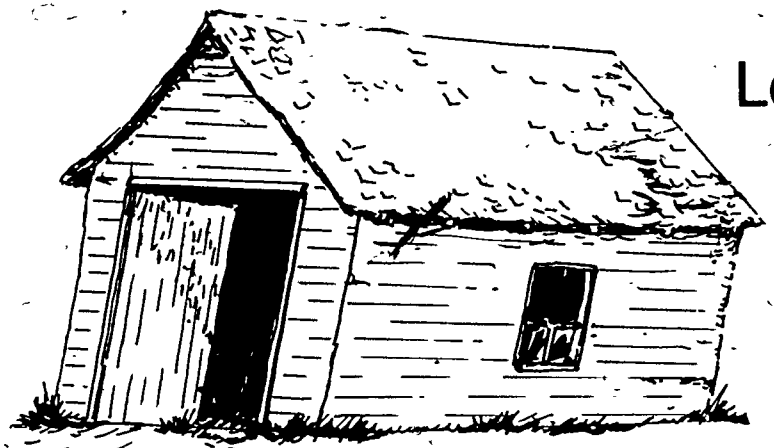
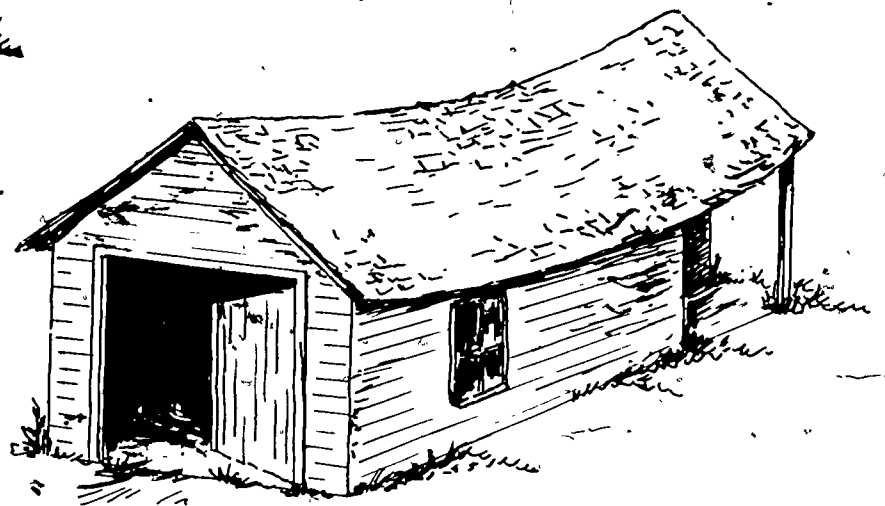


Leaning

Poor Bracing or Weak Joints



Sway-Back

Inadequate Roof Framing

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FARM UTILITY BUILDINGS
UNIT III

ASSIGNMENT SHEET #1--DETERMINE THE COST OF A FARM BUILDING

Consult your local dealer and determine the cost of constructing the following farm building:

1. Type structure--Pole type shed building
2. Specifications
   a. 12' wide x 20' long.
   b. Back and sides enclosed
   c. 8' height in front and 6' height in back
   d. Treated 6" poles--Set 4' in ground
      1) 10' spacing lengthwise
      2) 6' spacing between poles on each end and center
   e. 2" x 6" girder in front, middle, and back
   f. 24" rafter spacing--(2" x 6" lumber)
   g. 12" overhang in front and back
   h. 2" x 4" decking--(2 ft. spacing)
   i. Galvanized steel roofing-(29 gage)
   j. Vertical metal siding--(29 gage)
   k. 2" x 4" nail girts on back and sides--(2 foot spacing between girts)

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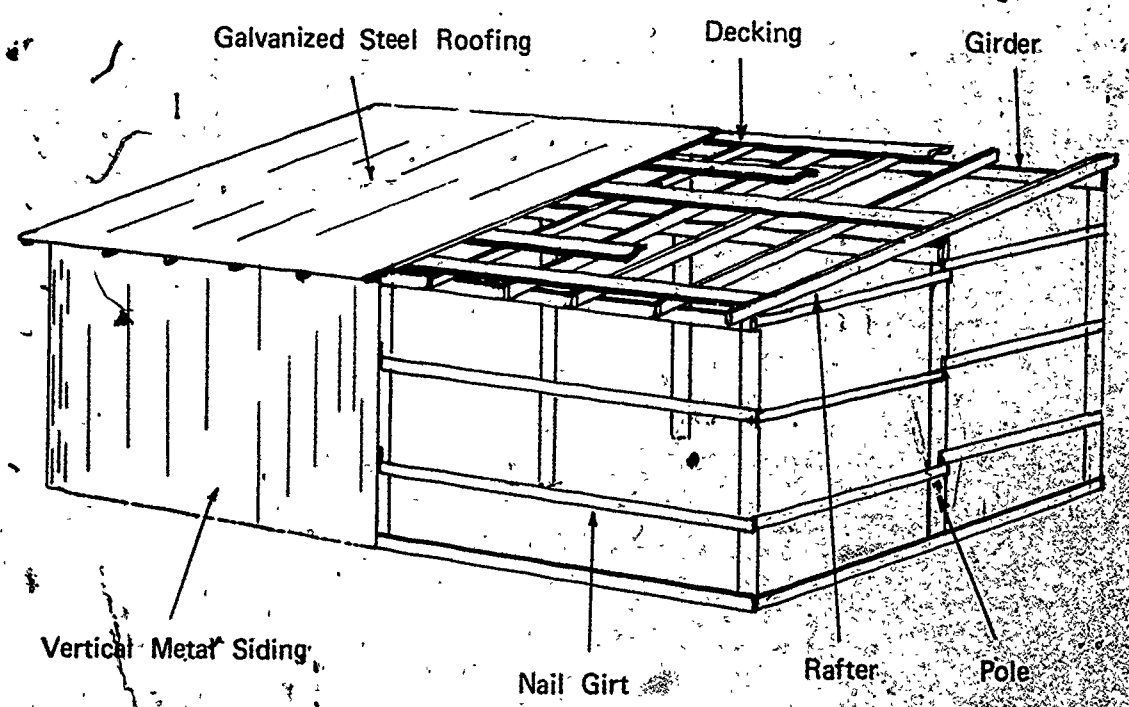
ASSIGNMENT SHEET #1



3. Cost

   a. Poles--(6" diameter)

      1) Number_____ Length_____ Cost each_____

      2) _____ _____ _____

      3) _____ _____ _____

      4) Total cost of poles _____

      (NOTE: Poles should be four feet in ground.)

   b. Girders--(2" x 6")

      1) Number_____ Length_____ Cost/bd. ft._____

      2) Total cost of girders _____

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ASSIGNMENT SHEET #1

c. Rafters--(2" x 6")

1) Number_____ Length_____ Cost/bd. ft._____

2) Total cost of rafters _____

d. Decking--(2" x 4")

1) Number_____ Length_____ Cost/bd. ft._____

2) Total cost of decking/_____

e. Horizonal nail girts--(2" x 4")

1) Back

a) Number_____ Length_____ Cost/bd. ft._____

b) Cost of back girts_____

2) Sides

a) Number_____ Length_____ Cost/bd. ft._____

b) Cost of side girts_____

3) Total cost of nail girts_____

f. Metal roof--(29 gage)

1) Number of sheets (14')_____

2) Cost/square_____ Cost/sheet_____

3) Total cost of metal roof_____

g. Metal siding--(29 gage)

1) Back

a) Number of sheets_____

b) Length_____

c) Cost/sheet_____

2) Sides

a) Length_____ Number of sheets_____ Cost/sheet_____

b) Length_____ Number of sheets_____ Cost/sheet_____

c) Length_____ Number of sheets_____ Cost/sheet_____

3) Total cost of metal siding_____

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ASSIGNMENT SHEET #1

h. Miscellaneous expense--(nails and bolts) $10.00

i. Total cost of 12' x 20' pole shed: _____

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FARM UTILITY BUILDINGS
UNIT III.

TEST

1. Match the terms on the right with the proper definition.

_____a.	A framing member placed across the inside of an angle in a framework to add stiffness to the frame	1. Sill
_____b.	Horizontal timbers which form the lowest members of a frame supporting the superstructure of a building	2. Stud
_____c.	A brace or angle bracket used to stiffen a corner or angular piece of work	3. Plate
_____d.	An upright member, usually a piece of dimension lumber, used in the framework of a wall	4. Purlin
_____e.	Term usually applied to a 2 x 4 placed on top of studs in frame walls	5. Ridge
_____f.	A large supporting built-up horizontal member used to support walls or joists	6. Truss
_____g.	A beam spanning the principle roof supports	7. Rafters
_____h.	The highest point of a roof composed of sloping sides	8. Girder
_____i.	Sloping members of a roof such as the ribs which extend from the ridge or from the hip of a roof to the eaves	9. Gusset
_____j.	A combination of members such as beams, bars and ties, usually arranged in triangular units to form a rigid framework for supporting loads over a long span	10. Knee brace

2. List three factors to consider when planning a farm building

   a.

   b.

   c.

3. Name five building materials used in agriculture buildings.

   a.

   b.

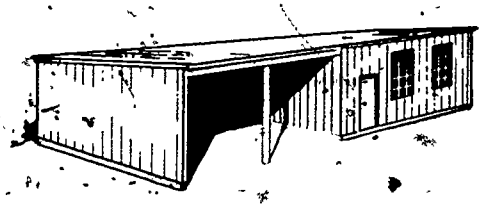
   c.

   d.

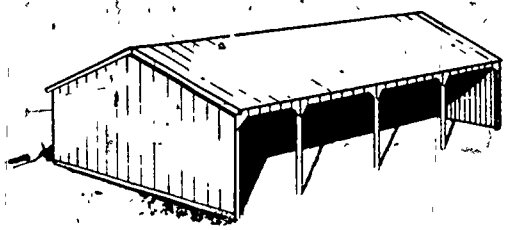
   e.

4. Identify the following types of farm utility buildings.

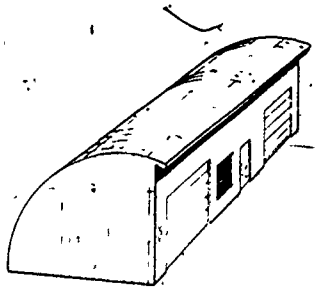
   a.



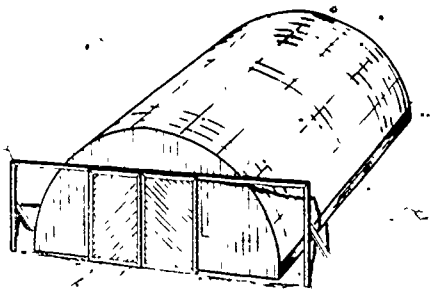
   b.



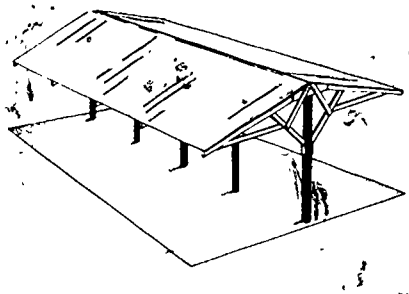
   c.



d.



e.



5. Select from the list below the causes of building failures. Place an "X" by the correct statement.

_____a. Builder did not use the grade and type of material called for in the specifications

_____b. Builder makes joints stronger than structural member

_____c. Inadequate foundation

6. List three common types of foundations and wall supports

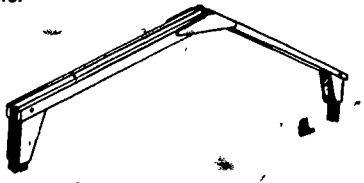
a.

b.

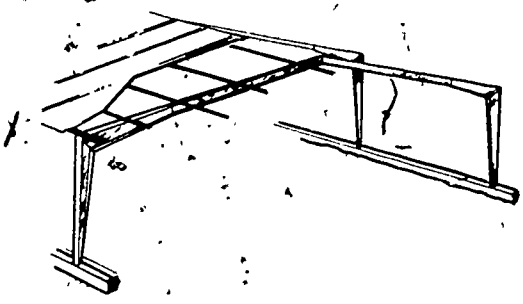
c.

7. Identify the following types of roof framing by matching the proper titles to the illustrations.

_____a.



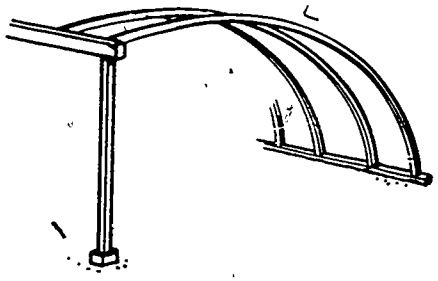
_____b.



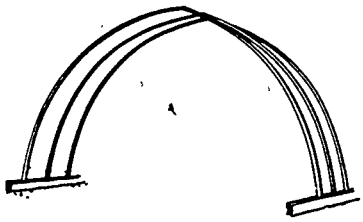
1. Common rafter
2. Truss
3. Umbrella truss
4. High clearance truss
5. Curved-arch rafter
6. Rigid-wood frame
7. Rigid-steel frame

8. Wide span truss
9. Steel frame
10. Laminated rafters or steel frame
11. Frameless steel

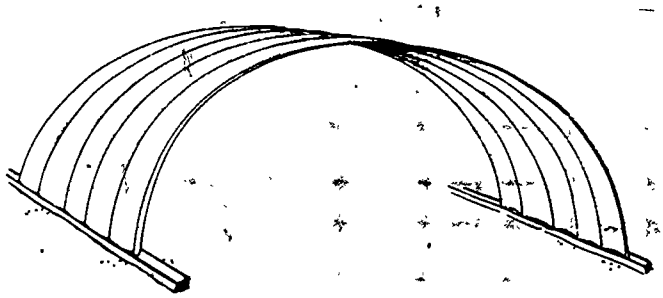
_____e.



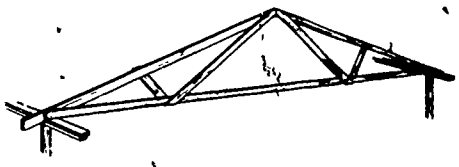
_____d.



_____e.



_____f.



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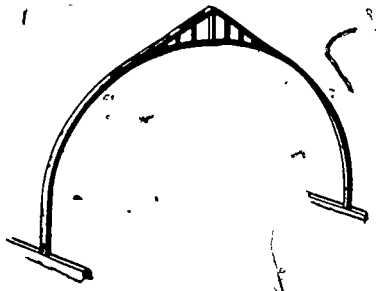
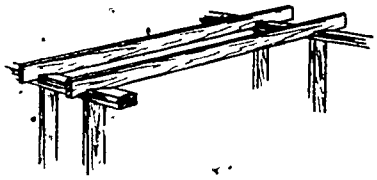
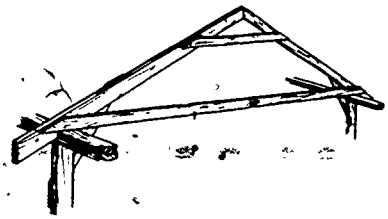
_____g.



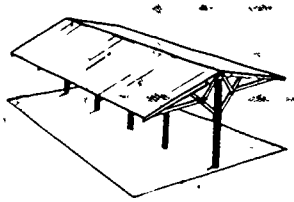
_____h.



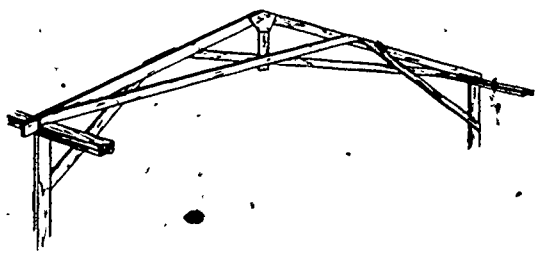
_____i.



_____j.



_____k.



8. Name five factors to consider when selecting roofing materials.

a.

b.

c.

d.

e.

9. Identify the following roofing materials by matching the drawings to the correct materials.

_____a. Selvage-edge (mineral surface) roll roofing

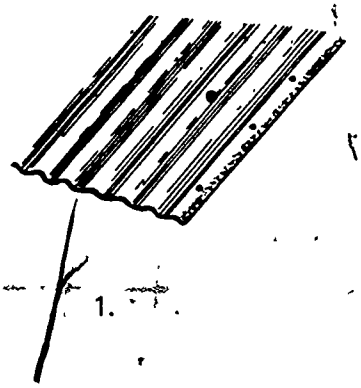
_____b. Asphalt shingles

_____c. Smooth-surfaced roll roofing

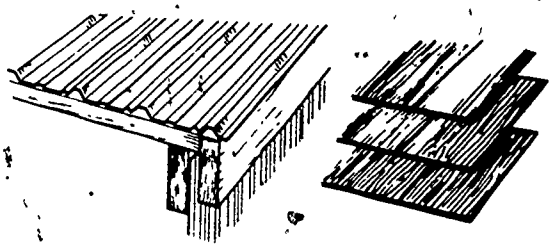
_____d. Asbestos-cement sheets

_____e. Wood shingles

_____f. Galvanized steel or aluminum



1.



2. 3.

4. 5. 6.

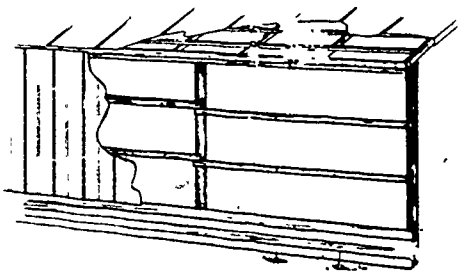
10. Identify the methods of attaching siding by matching the illustration to the proper terms.

_____a. Metal siding

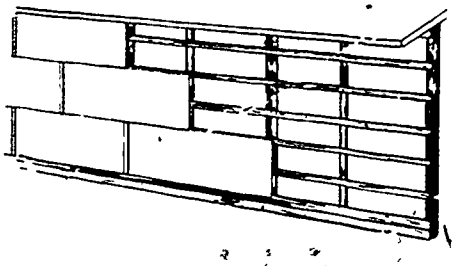
_____b. Vertical metal siding

_____c. Tempered hardboard or exterior plywood

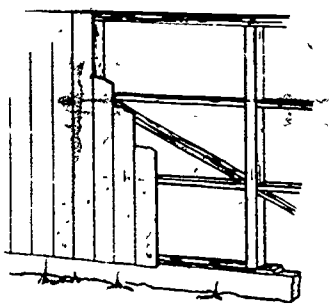
_____d. Vertical board siding



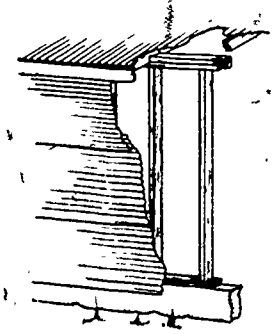
1.



2.



3.



4.

11. Match the advantages and/or disadvantages of the various floors with the specific types of floors found in farm buildings.

(NOTE: Advantages and disadvantages may be used on more than one type floor.)

a. Dirt floor

_____1)

_____2)

_____3)

_____4)

b. Crushed rock

_____1)

_____2)

_____3)

c. Concrete

_____1)

_____2)

_____3)

_____4)

_____5)

_____6)

_____7)

d. Wooden floor

_____1)

_____2)

Advantages:

a) Least costly

b) Absorbs oil and water

c) Easy to keep clean

d) If properly placed, forms a hard dry surface

e) Forms an excellent base for equipment and power tools

f) Excellent for livestock structures

Disadvantages:

g) More expensive than most floors

h) Tools and equipment sink into the surface

i) If the floor is dry, dust will usually be a problem with each gust of wind

j) Not satisfactory in livestock structure because of cleaning problems

k) Colder than a wooden floor

l) More tiring to stand on when working continuously

m) Fire hazard especially in a shop floor

12. List three characteristics to consider when selecting exterior paints.

a.

b.

c.

13. Determine the cost of a farm building.

(NOTE: If this has not been accomplished prior to the test, ask the instructor when the above activity should be completed.)

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FARM UTILITY BUILDINGS
UNIT III

ANSWERS TO TEST

1. a. 10
   b. 1
   c. 9
   d. 2
   e. 3
   f. 8
   g. 4
   h. 5
   i. 7
   j. 6

2. Any three of the following:
   a. Decide the size of building needed
   b. Decide where to locate the building
   c. Decide the type of building needed
   d. Decide the kind of materials to use
   e. Consult persons experienced in building and in the use of agricultural buildings
   f. Figure bills of materials and the total cost of the building

3. Any five of the following:
   a. Sawed lumber
   b. Logs and poles
   c. Concrete
   d. Brick
   e. Tile

f. Concrete blocks

g. Stone

h. Metal

i. Composition board and exterior plywood

4. a. Shed type

b. Gable type

c. Half arc

d. Full arc

e. Umbrella type

5. a and c

6. Any three of the following:

a. Wood or steel poles or posts and piers

b. Light wood frame with masonry or concrete foundation

c. Post and girt with masonry or concrete foundation

d. Masonry walls on concrete foundation

e. Steel structures

f. Combinations of above

7. a. 6

b. 7

c. 9

d. 10

e. 11

f. 8

g. 5

h. 1

i. 2

j. 3

k. 4

8. Any five of the following:
   a. Probable life expectancy due to weathering
   b. Fire resistance
   c. Hail resistance
   d. Resistance to heat from sun
   e. Resistance to strong winds
   f. Maintenance
   g. Weight
   h. Kinds of nailing or fasteners required
   i. Cost
   j. Appearance
   k. Ease of construction

9. a. 5
   b. 4
   c. 6
   d. 1
   e. 3
   f. 2

10. a. 4
    b. 1
    c. 2
    d. 3

11. a. a, b, h, i
    b. b, h, j
    c. c, d, e, f, g, k, l
    d. g, m

12. Any three of the following:
    a. Durability

b. Self-cleaning

c. Highly reflective

d. Dirt resistant

e. Withstands moisture

f. Resistant to stain and discoloration

g. Good hiding or covering qualities

13. Evaluated to the satisfaction of the instructor.

SERVICING THE TRACTOR--AIR SUPPLY SYSTEM
UNIT IV

TERMINAL OBJECTIVE

After completion of this unit, the student should be able to distinguish between the two common types of air cleaners, discuss in writing the importance of proper air-cleaner maintenance, and list the methods of cleaning the filter element. The student should demonstrate the ability to remove and clean the dry-type air cleaner and disassemble and service the oil-bath air cleaner. This knowledge will be evidenced through demonstration and by scoring eighty-five percent on the unit test.

SPECIFIC OBJECTIVES

After completion of this unit, the student should be able to:

1. Distinguish between the two common types of air cleaners when given the characteristics of each.
2. List the advantages of a dry-type air cleaner over an oil-bath cleaner.
3. Discuss in writing the importance of proper air-cleaner maintenance.
4. Select from a list the differences between dry-type air cleaners found in tractors and those found in automobiles.
5. List the methods of cleaning the filter element.
6. Demonstrate the ability to:
   a. Remove and clean the dry-type air cleaner.
   b. Disassemble and service the oil-bath air cleaner.

SERVICING THE TRACTOR--AIR SUPPLY SYSTEM
UNIT IV

SUGGESTED ACTIVITIES

I. Instructor:

A. Provide students with objective sheet.

B. Provide students with information and job sheets.

C. Make transparencies.

D. Discuss terminal and specific objectives.

E. Discuss information sheet.

F. Demonstrate and discuss procedures outlined in the job sheets.

G. Give test.

II. Student

A. Read objectives.

B. Study information sheet.

C. Demonstrate the ability to accomplish the procedures outlined in the job sheets.

D. Take test.

INSTRUCTIONAL MATERIALS

I. Included in this unit:

A. Objectives

B. Information sheet

C. Transparency masters

1. TM 1--Oil-Bath Air Cleaner

2. TM 2--Dry-Type Air Cleaner

D. Job sheets

1. Job Sheet #1--Removing the Dry-Type Air Cleaner
2. Job Sheet #2--Cleaning the Dry-Type Air Cleaner
3. Job Sheet #3--Servicing the Oil-Bath Air Cleaner

E. Test

F. Answers to test

II. References:

A. American Association for Agricultural Engineering and Vocational Agriculture. *Tractor Maintenance.* Athens, Georgia: Foote and Davis (Division of McCall Printing Company), 1970.

B. American Association for Agricultural Engineering and Vocational Agriculture. *Tractor Operation and Daily Care.* Athens, Georgia: Foote and Davis (Division of McCall Printing), 1970.

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SERVICING THE TRACTOR--AIR SUPPLY SYSTEM
UNIT IV

INFORMATION SHEET

I. Two common types of air cleaners

A. Oil-bath type (Transparency 1)

1. Depends on washing the air free of dust particles by pulling it through a bath of oil

2. Oil-bath cleaner should be serviced daily

3. Operating under the conditions for which it is designed, the oil-bath cleaner is highly efficient

(NOTE: It is not always operating under designed conditions, so the efficiency may be lower at times when the air flow drops below its rated capacity.)

B. Dry (paper-filter) type (Transparency 2)

1. Depends on a special paper to filter out dirt particles

2. Dry-type cleaner normally needs servicing every 50 hours

3. Built for two-stage cleaning

a. Pre-cleaning

b. Filtering

II. Advantages of a dry-type air cleaner over an oil-bath cleaner

A. Easier to service

B. Requires less frequent servicing

C. Fuzz and chaff cause less restriction to air passage

D. Less messy

E. More efficient at a wide range of conditions

F. Neglect of air-cleaner servicing does not harm the engine as long as there is no hole in the filter or a loose fitting where dirt can get through

INFORMATION SHEET

III. Importance of proper air-cleaner maintenance

A. Dirt, which enters the intake manifold of an engine and passes into the engine cylinders, mixes with the oil on the cylinder walls to form a grinding compound

B. Tractors operating under dusty conditions without an air filter have been known to wear so rapidly they required a major overhaul after operating fifteen hours or less

(NOTE: Manufacturers have made every effort to equip tractors with the most efficient air cleaner available so the owner will get the longest possible usage before an overhaul is necessary.)

IV. Difference in dry-type cleaner found in tractors and those in automobiles

A. Tractor cleaner is equipped with a pre-cleaner for removing large particles of dirt

B. The tractor cleaner has a filter element that is larger for the same horsepower engine

C. The tractor cleaner has a filter element that is much more ruggedly built to withstand vibration and high engine suction when clogged with dirt

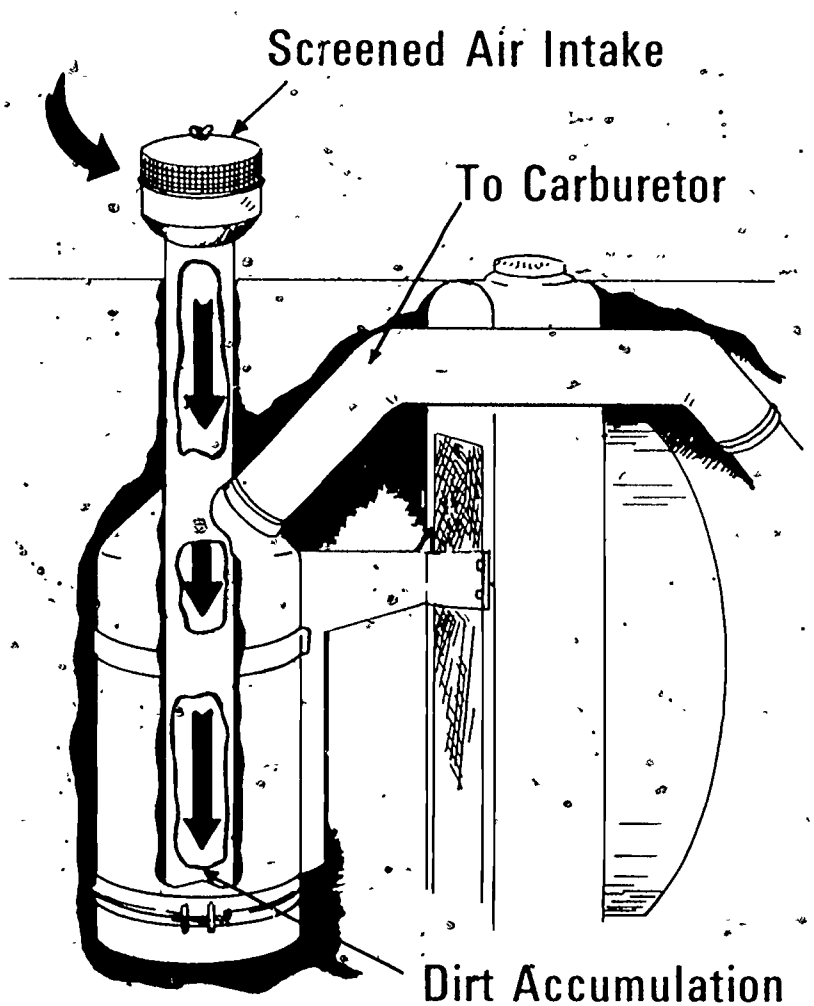
V. Methods of cleaning the filter element

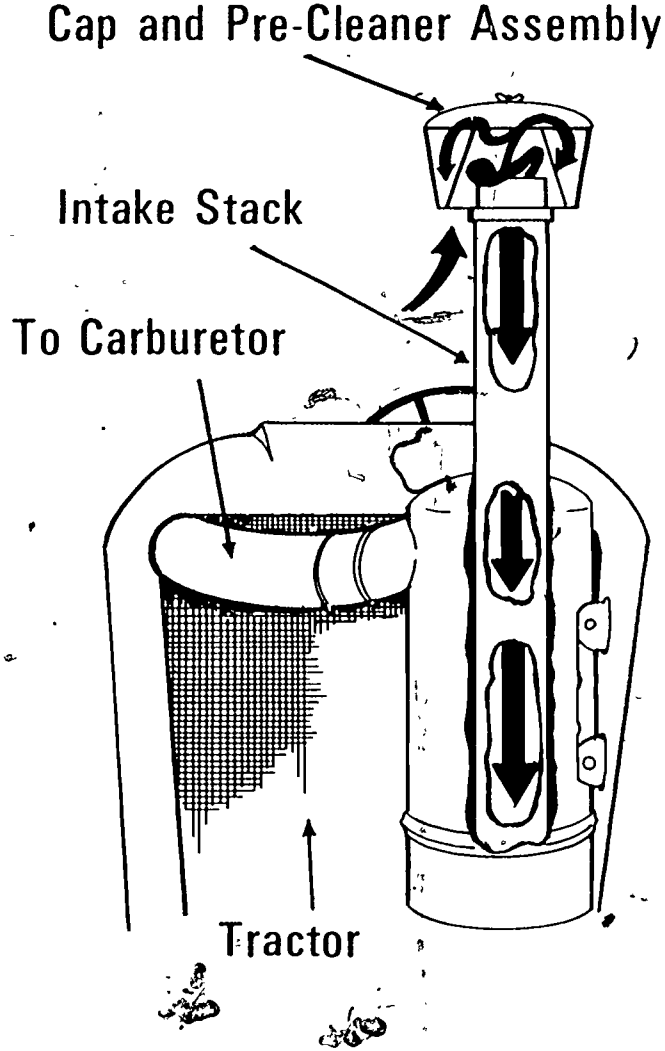
A. Tapping to loosen dust so it can be shaken out

B. Use of compressed air

C. Washing with water and a detergent

Oil-Bath Air Cleaner





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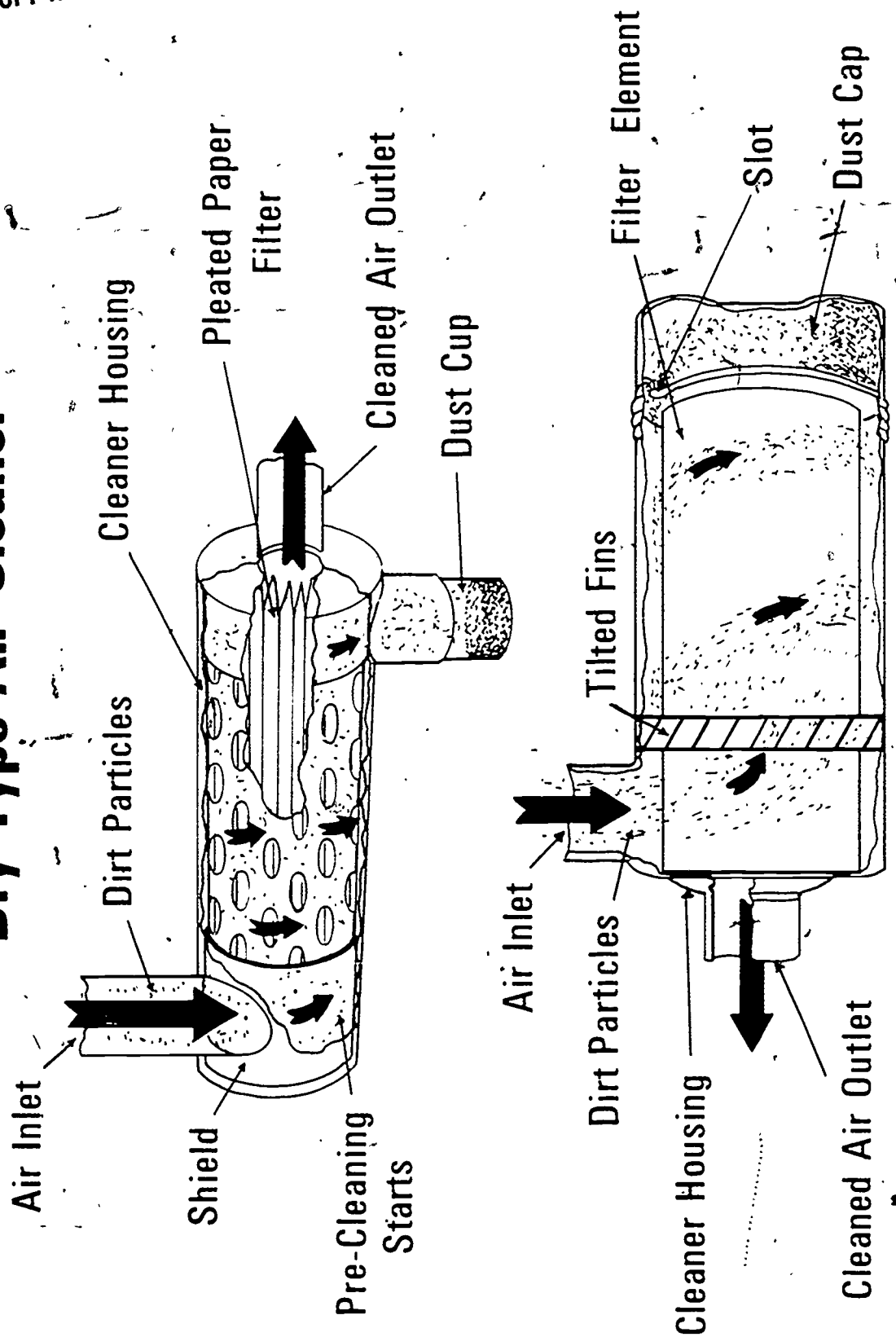
Dry-Type Air Cleaner



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SERVICING THE TRACTOR--AIR SUPPLY SYSTEM
UNIT IV

JOB SHEET #1--REMOVING THE DRY-TYPE AIR CLEANER

I. Tools and materials needed

A. Compressed air not to exceed 100 pounds per square inch of pressure

B. Bucket of warm water with a nonsudsing detergent

C. Water under pressure at not more than 40 pounds per square inch

II. Procedure

A. Stop engine if it is running

B. Squeeze dust unloader if supplied on the air cleaner

(NOTE. Some tractors are equipped with a connection to the engine exhaust system which will automatically unload the dirt from the pre-cleaner.)

C. Remove hood or grill, if necessary, to provide access to air cleaner unit

D. Wipe off dust accumulated around end of cleaner where element will be removed

E. Loosen hand screw or clamp that holds the end cap on the end of the cleaner and remove cap

F. Clean the area around the element and clean the dust cap and baffle on air cleaners having end cups

(NOTE: Use a dry cloth. Do not use gasoline, fuel oil, or solvents.)

G. Check condition of rubber gasket on end of filter element

(NOTE: If the gasket is damaged or missing, replace the filter element with a new one. Do not bother to clean it. If reinstalled, uncleaned air will pass directly from the pre-cleaner into the engine and cause rapid wear.)

SERVICING THE TRACTOR--AIR SUPPLY SYSTEM
UNIT IV

JOB SHEET #2--CLEANING THE DRY-TYPE AIR CLEANER

I. Tools and materials needed

A. Compressed air not to exceed 100 pounds per square inch of pressure

B. Bucket of warm water with a nonsudsing detergent

C. Water under pressure at not more than 40 pounds per square inch

II. Procedure

A. To clean the filter element by tapping, proceed as follows

1. Tap filter element to loosen dirt, but gently enough that element is not damaged (Figure 1)

(NOTE: You may tap the element carefully against the palm of your hand.)

FIGURE 1

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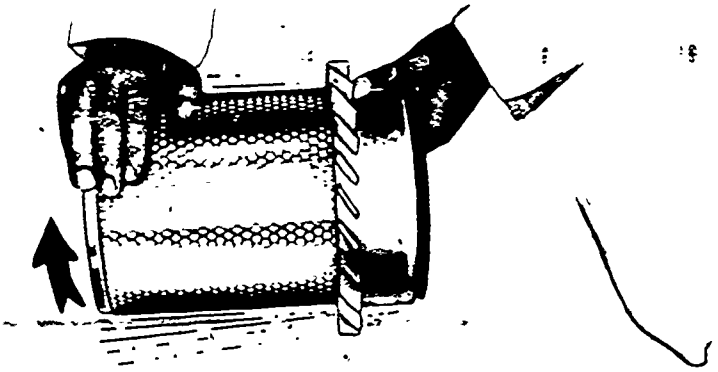

2. Rotate element during tapping procedure and shake out dust

B. To clean the filter element with compressed air, proceed as follows

1. Direct air from air nozzle against inside of filter element

(NOTE: Hold the air nozzle about an inch away from the inner screen of the element. Directing the air from the center to the outside--opposite normal air flow--loosens the outside dirt and opens the small passageways in the paper filter. Blowing air from the outside to the center tends to compact the dirt in the small openings in the paper filter.

It is helpful if the air nozzle is equipped with a deflector to spread the air to avoid blowing a hole in the filter element.

JOB SHEET #2

The air must be dry and pressure at the nozzle not exceed 100 pounds per square inch. (Figure 2)

FIGURE 2

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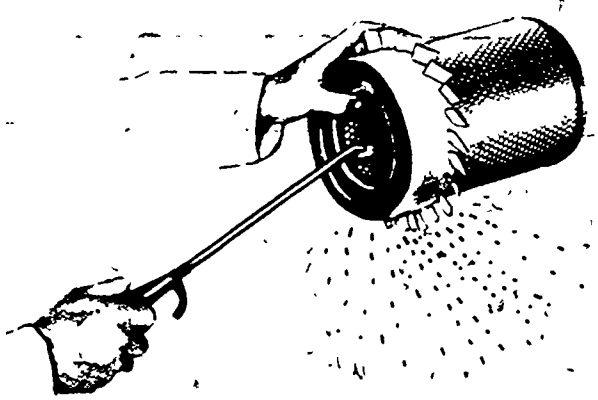
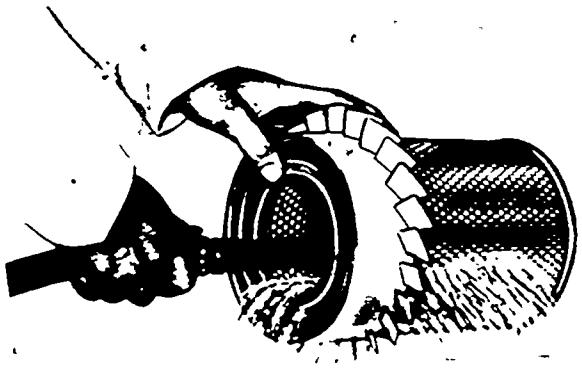


2. Continue blowing and rotating the element until it is clean

C. To clean the filter element by washing, proceed as follows

1. Clean away as much dirt as possible with clean water from a hose or use compressed air (Figure 3)

FIGURE 3



JOB SHEET #2

2. Wash element in warm water and detergent (Figure 4)

(NOTE: Use a nonsudsing detergent. Do not use fuel oil, gasoline, or other petroleum solvents.)

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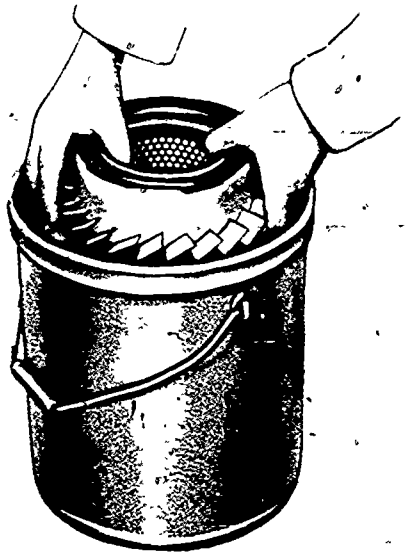
FIGURE 4



3. Rinse the element

(NOTE: Use clean water as shown then shake excess water from element.)

4. Allow element time to dry

(NOTE: Allow approximately 24 hours at 70° F. for the drying time. Be sure you do not leave the wet element where it will be exposed to freezing weather.

Do not use compressed air or engine air flow to dry the filter element. It will probably rupture the paper filter. Do not oven dry.)

5. Inspect element for damage-If there is slight rupture in the paper element, throw it away

6. To install the filter element, proceed as follows

   a. Replace the filter element in the cleaner; be certain engine is not running when the element is replaced

   b. Tighten wing nut (with fingers only) that holds element in place

   c. Complete remaining procedures in reverse order from those used to remove the filter element.

SERVICING THE TRACTOR--AIR SUPPLY SYSTEM
UNIT IV

JOB SHEET #3--SERVICING THE OIL-BATH AIR CLEANER

I. Tools and materials needed

A. Cleaning rags

B. Large container of cleaning solvent (kerosene or diesel fuel)

C. Set of open-end wrenches

D. Screwdriver

E. Pliers

F. Stick about three feet long

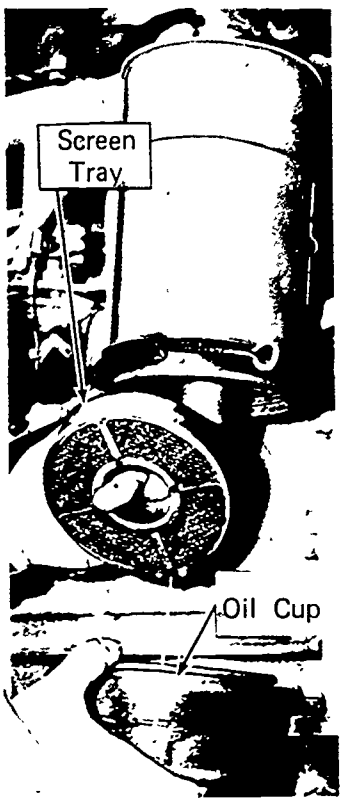
G. Cup or pitcher

II. Procedure

A. Remove oil cup and screen tray (Figure 1)

(NOTE: Some air cleaners have no screen tray.)

FIGURE 1



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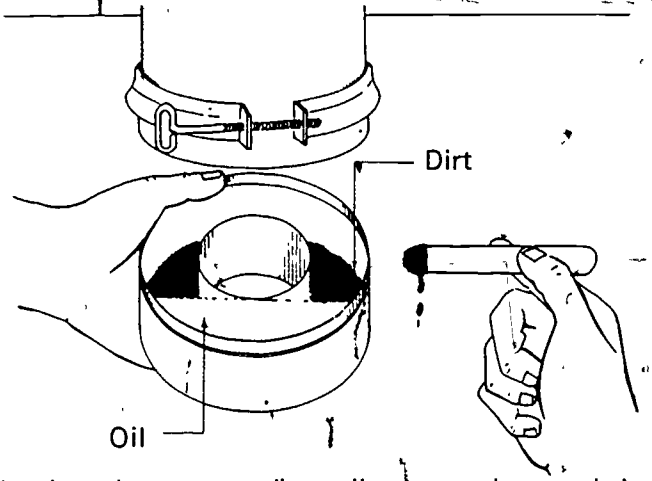
JOB SHEET #3

B. Check depth of sediment deposit in outer chamber (Figure 2)

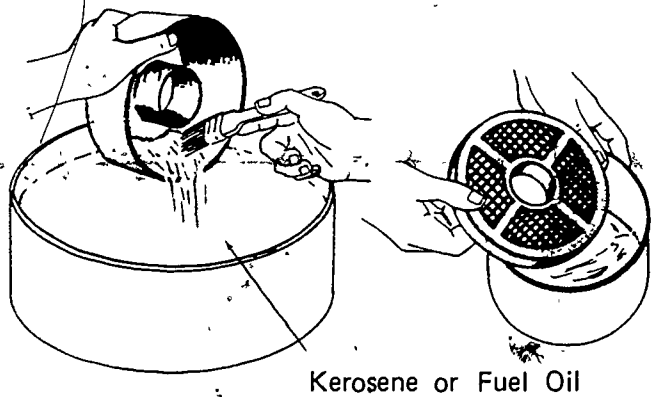
(NOTE: If sediment in the outer compartment is more than 1/2 inch in depth, proceed with cleaning the cup. If the oil has thickened even though the dirt depth may not be 1/2 inch, change the oil.)

FIGURE 2



C. If cup needs cleaning, throw away dirty oil, scrape, then wash inner and outer cups with clean kerosene, mineral spirits, or diesel fuel (Figure 3)

FIGURE 3



JOB SHEET #3

D. Inspect center tube and lower filter element

(NOTE: If both the center tube and lower filter appear dirty, remove the complete filter body for adequate cleaning. If tractor has a vertical stack with a pre-cleaner on top, remove that assembly first. (Figure 4))

FIGURE 4

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JOB SHEET #3

E. Remove dirt from center tube (Figure 5)

(NOTE: Use a lintless cloth soaked with diesel fuel or kerosene and push it through the center tube with a stick. Some center tubes are smaller at the lower end so be careful not to damage the tube.)

FIGURE 5.

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JOB SHEET #3

F. Clean dirt from lower filter

(NOTE: On many filters there is an upper and lower filter (separation screen) that makes up the filter element. On most elements the lower filter can be removed. If the filtering element is held in place by spot welding or other means, flush the cleaning solvent through the mesh as shown in figure below.)

FIGURE 6

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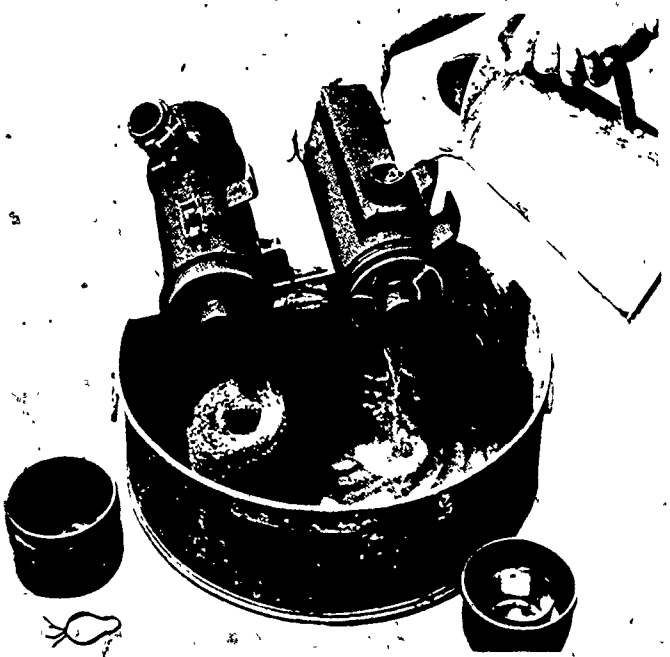

G. Clean shell and upper metal-wool filter

(NOTE: Soak the entire assembly in kerosene or fuel oil, then flush with clean solvent to remove the loosened oil and dust.)

H. Drain filter body and screen for several minutes

(NOTE: Do not use gasoline for cleaning.)

I. Clean the screened air intake cap or pre-cleaner

J. Check hose connections

K. Refill cup with oil to "oil level" mark

(NOTE: Most operator's manuals recommend the same weight oil as used in the engine crankcase.)

JOB SHEET #3

L. Reassemble filter parts

(NOTE: Be sure all connections are tight and any worn or damaged hoses or gaskets replaced. If there is any place where uncleaned air can enter the air ducts, particularly after the air has passed through the cleaner, dirt and grit will enter and greatly increase tractor wear.)

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SERVICING THE TRACTOR--AIR SUPPLY SYSTEM
UNIT IV

TEST

1. Place an "O" by the characteristics that apply to an oil-bath type air cleaner and "D" by the characteristics that apply to a dry-type air cleaner.

   _____a. Normally needs servicing every 50 hours

   _____b. Depends on washing the air free of dust particles by pulling it through a bath of oil

   _____c. Depends on a special paper to filter out dirt particles

   _____d. Should be serviced daily

2. Name three advantages of a dry-type air cleaner over an oil-bath cleaner.

   a.

   b.

   c.

3. Discuss in writing why proper air-cleaner maintenance is important.

4. Select from the list below the differences between dry-type air cleaners found in tractors and those found in automobiles. Place an "X" by the statements that are correct.

   _____a. Tractor cleaner is equipped with a pre-cleaner for removing large particles of dirt

   _____b. The automobile cleaner has a filter element that is larger for the same horsepower engine

   _____c. The tractor cleaner has a filter element that is much more ruggedly built to withstand vibration and high engine suction when clogged with dirt

5. List three methods of cleaning the filter element.

   a.

   b.

   c.

6. Demonstrate the ability to:

   a. Remove and clean the dry-type air cleaner.

   b. Disassemble and service the oil-bath air cleaner.

(NOTE: If this has not been accomplished prior to the test, ask the instructor when the above activities should be completed.)

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SERVICING THE TRACTOR--AIR SUPPLY SYSTEM
UNIT IV

ANSWERS TO TEST

1. a. D
   b. O
   c. D
   d. O

2. Any three of the following:
   a. Easier to service
   b. Requires less frequent servicing
   c. Fuzz and chaff cause less restriction to air passage
   d. Less messy
   e. More efficient at a wide range of conditions
   f. Neglect of air cleaner servicing does not harm the engine as long as there is no hole in the filter or a loose fitting where dirt can get through

3. a. Dirt, which enters the intake manifold of an engine and passes into the engine cylinders, mixes with the oil on the cylinder walls to form a grinding compound
   b. Tractors operating under dusty conditions without an air filter have been known to wear so rapidly they required a major overhaul after operating fifteen hours or less.

4. a
   c

5. a. Tapping to loosen dust so it can be shaken out
   b. Use of compressed air
   c. Washing with water and a detergent

6. Performance skills will be evaluated to the satisfaction of the instructor.

SERVICING WHEEL BEARINGS
UNIT V

TERMINAL OBJECTIVE

After the completion of this unit, the student should be able to name the common causes of wheel bearing failures and identify the components of a wheel assembly. He should be able to disassemble, clean, and pack and assemble wheel bearings. This knowledge will be evidenced through demonstration and by scoring eighty-five percent on the unit test.

SPECIFIC OBJECTIVES

After the completion of this unit, the student should be able to

1. Explain in writing the importance of wheel bearing service.
2. Select from a list the proper service interval for wheel bearings.
3. Name the common causes of wheel bearing failures.
4. Identify the components of a wheel assembly.
5. Demonstrate the ability to:
   a. Disassemble the wheel bearings.
   b. Clean the wheel bearings.
   c. Pack and assemble the wheel bearings.

SERVICING WHEEL BEARINGS
UNIT V

SUGGESTED ACTIVITIES

I. Instructor:

A. Provide students with objective sheet.

B. Provide students with information and job sheets.

C. Make transparency.

D. Discuss terminal and specific objectives.

E. Discuss information sheet.

F. Demonstrate and discuss procedures outlined in the job sheets.

G. Give test.

II. Students:

A. Read objectives.

B. Study information sheet.

C. Demonstrate the ability to accomplish the procedures outlined in the job sheets.

D. Take test.

INSTRUCTIONAL MATERIALS

I. Included in this unit:

A. Objectives

B. Information sheet

C. Transparency master: TM 1--Components of a Wheel Assembly

D. Job sheets

1. Job Sheet #1--Disassemble the Wheel Bearings
2. Job Sheet #2--Clean the Wheel Bearings
3. Job Sheet #3--Pack and Assemble the Wheel Bearings

E. Test

F. Answers to test

II. References:

A. American Association for Instructional Materials. *Tractor Maintenance.* Athens, Georgia: Foote and Davis (Division of McCall Printing Company), 1970.

B. National 4-H Tractor Program Development Committee. *4-H Tractor Program Third Year.* Chicago, Illinois: National 4-H Service Committee, 1963.

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SERVICING WHEEL BEARINGS
UNIT V

INFORMATION SHEET

I. Importance of wheel-bearing service--Due to work in dusty areas, tractor wheel bearings are often subjected to needless wear if not kept properly adjusted and lubricated

(NOTE: If grit and dirt particles are allowed to enter the bearings, damage begins to show on the raceway. If this continues, the bearing will soon be ruined and have to be replaced.)

II. Proper service interval for wheel bearings

A. Interval varies from 500 to 1,200 hours

B. Check tractor operator's manual for recommendations on a given tractor

(NOTE: The wheel-bearing service interval has been gradually lengthened as manufacturers have found better methods of protecting the bearings from dirt and water. The fact that wheel bearings are serviced infrequently makes it all the more important to do it regularly and properly.)

C. If tractor has a grease fitting for gun lubrication, grease daily or twice per day

D. Wheel bearings should be serviced at least once per year

III. Causes of wheel bearing failures

A. Faulty dust seal

B. Improper lubrication

C. Loose bearings

D. Operating wheels under water

E. Operating the tractor with a heavy load on the wheel bearings

F. Operating with bearings too tight

IV. Components of a wheel assembly (Transparency 1)

A. Spindle

B. Oil seal

C. Oil seal cup

INFORMATION SHEET

D. Inner bearing cone and roller

E. Inner bearing cup

F. Hub

G. Outer bearing cup

H. Outer bearing cone and roller

I. Wheel

J. Washer

K. Adjusting nut

L. Cotter pin

M. Gasket

N. Hub cap

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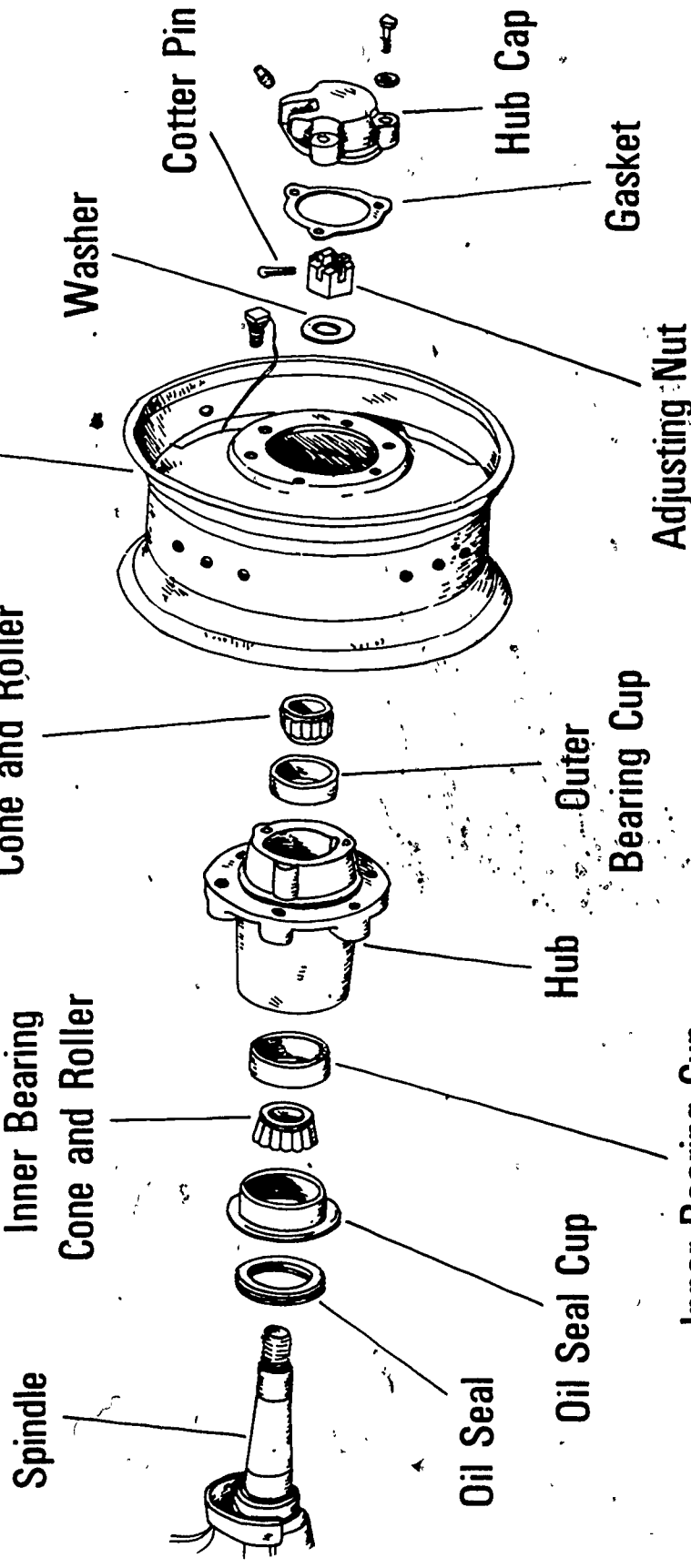
Components of a Wheel Assembly



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SERVICING WHEEL BEARINGS
UNIT V

JOB SHEET #1--DISASSEMBLE THE WHEEL BEARINGS

I. Tools and materials needed

A. Set of open-end wrenches

B. Diagonal pliers

C. Clean rags

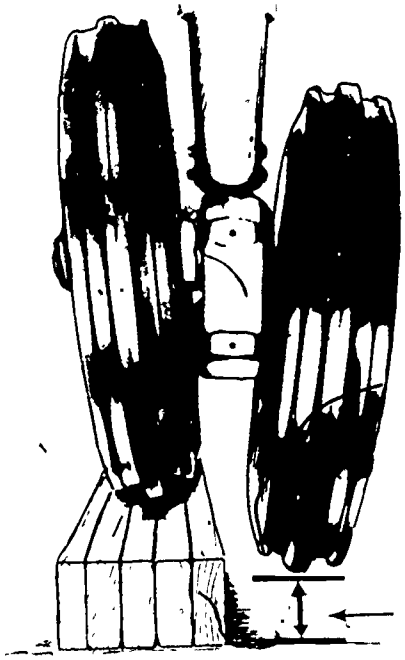
D. Wood block, about 6 inches high (for dual-wheel, tricycle tractors) or small hydraulic jack

II. Procedure

A. Raise wheel off the ground

(NOTE: With many dual-wheel tricycle tractors, you can provide clearance for one wheel by running the other up on a six-inch block as shown in Figure 1. If your tractor has a wide front axle, jack up one wheel at a time. Be sure your tractor is in gear or block the rear wheels so it will not move forward or backward. Use caution to keep tractor from falling off jack. A stand or safety jack should be used.)

FIGURE 1

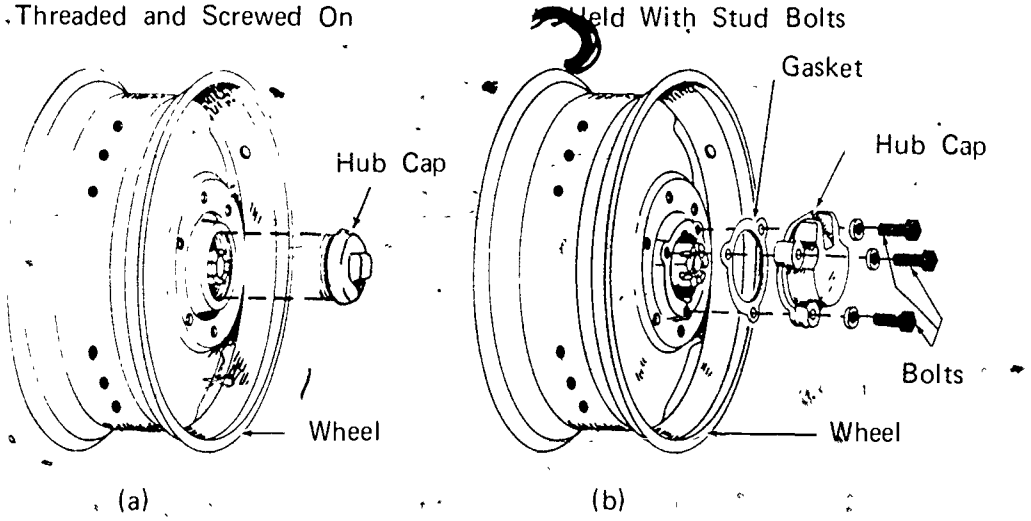


JOB SHEET #1

B. Clean dirt from wheel and hub cap and remove hub cap

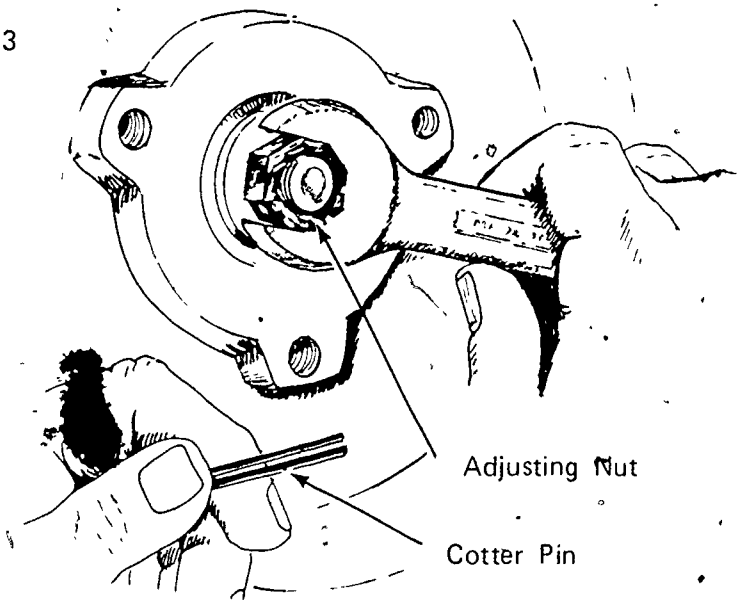
(NOTE: Most hub caps are either threaded and screwed on the hub (Figure 2a) or are held in place with three stud bolts (Figure 2b). The latter has a gasket under it. Remove the cap carefully so as not to damage the gasket.)

FIGURE 2



C. Remove cotter pin and adjusting nut (Figure 3)

FIGURE 3

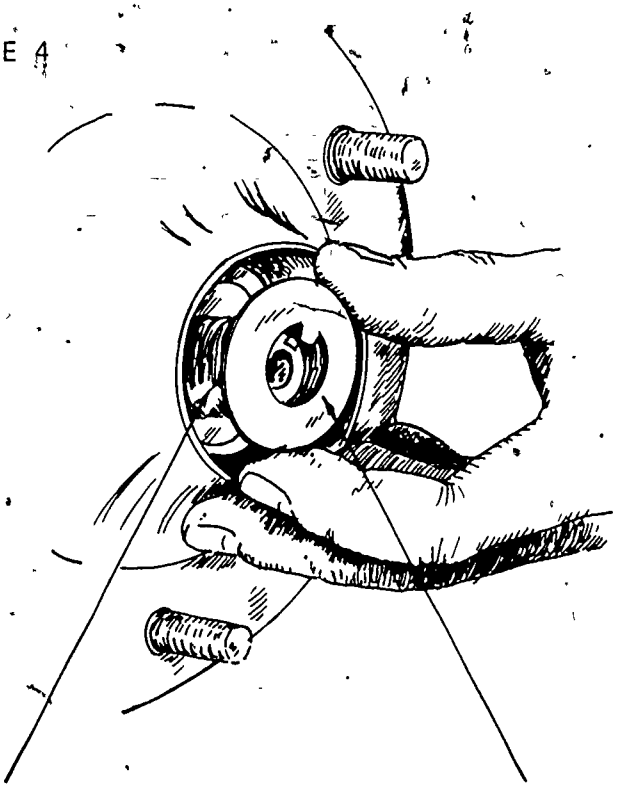


JOB SHEET #1

(NOTE: Use diagonal pliers for straightening cotter pin and for removing it. Lay all parts on a clean cloth or in a clean pan. It is very important to keep all of the bearing parts free from dirt. Once dirt enters the moving parts of a bearing, it is not easily removed, even in the cleaning solution. Do not use the hub cap as a container unless you clean it first, and do not put the bearing parts on the floor.)

D. Remove thrust washer and outer bearing (Figure 4)

FIGURE 4



Outer Bearing Cone and Roller

Thrust Washer

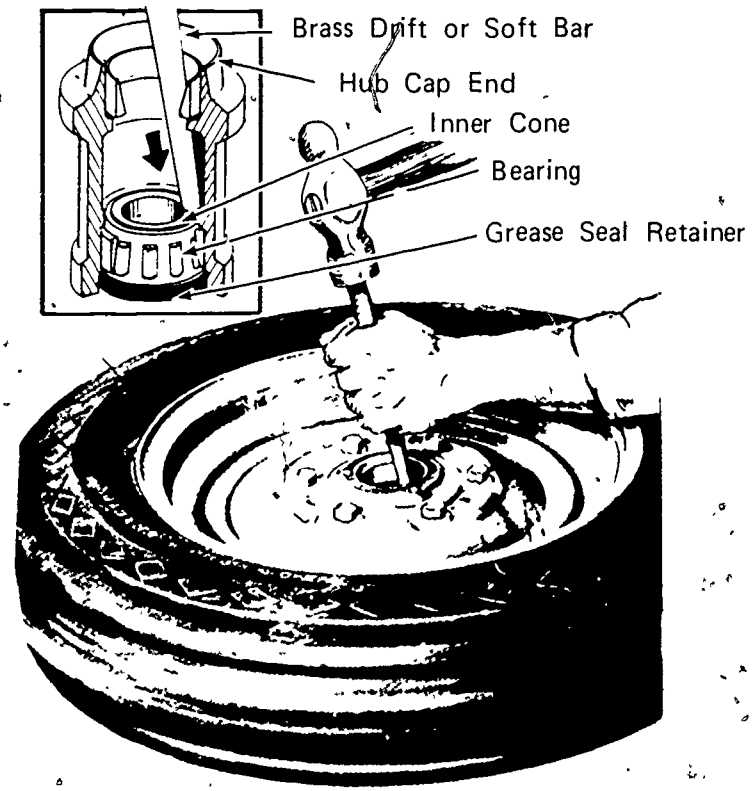
(NOTE: If the washer and outer bearing are not loose, shake the wheel gently to dislodge them. Hold your hand under the hub to keep the parts from falling on the floor.)

JOB SHEET #1

E. Pull wheel off the spindle

NOTE: On some tractors the grease-seal retainer is pressed into the hub and holds the rollers and inner cone in position. With this type the bearing and seal will come off with the wheel and remain in the hub until tapped out. (Figure 5) On other tractors the grease-seal retainer remains on the spindle when the wheel is removed, which leaves the inner-bearing cone free to either come off with the wheel or remain on the spindle. If you are not certain which type of grease retainer seal is used on your tractor, hold your hand so you can catch the inner bearing as you remove the wheel, in case it should be of the latter type.)

FIGURE 5



SERVICING WHEEL BEARINGS
UNIT V

JOB SHEET #2--CLEAN THE WHEEL BEARINGS

I. Tools and materials needed

A. Clean rags

B. Container with cleaning solvent

C. Small (2") brush

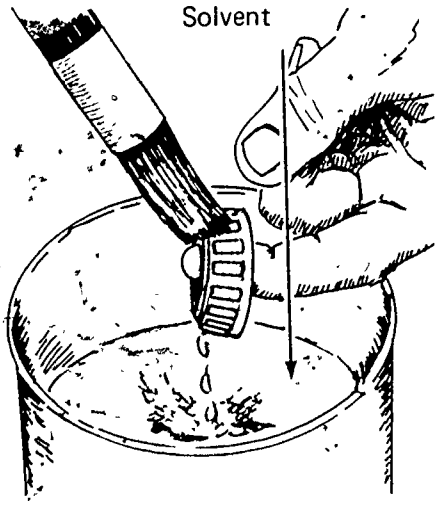
D. Compressed air (if available)

II. Procedure

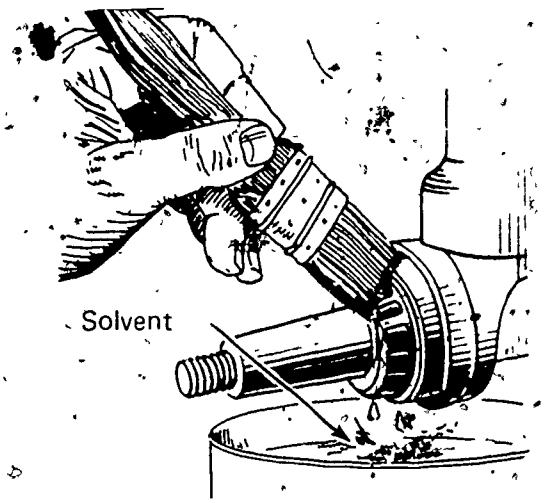
A. Wash bearings thoroughly

(NOTE: "Swish" the bearing in the cleaning solution (kerosene or diesel fuel) and use a stiff-bristle brush to help loosen old grease deposits. (Figure 1a) If the inner bearing is on the spindle and can not be removed easily, clean grease seal and bearing in place.) (Figure 1b)

FIGURE 1



(a)



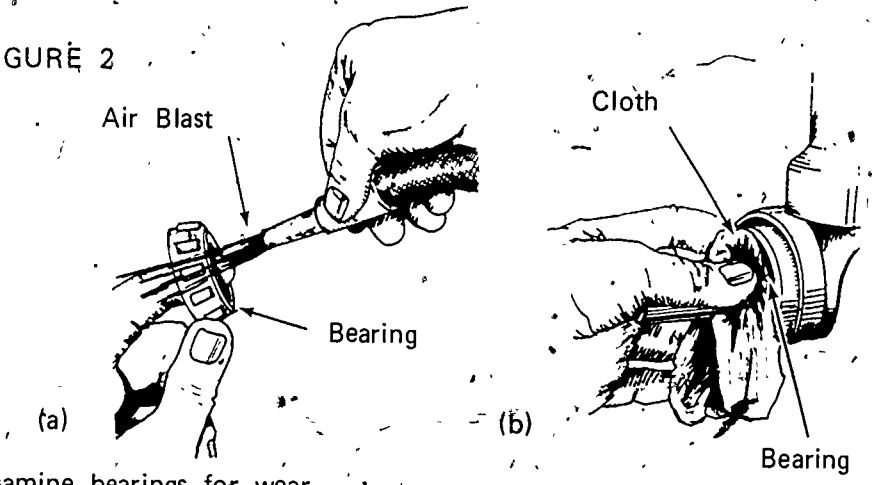
(b)

JOB SHEET #2

B. Remove solvent from bearings and other washed parts

(NOTE: If dry compressed air is available, it may be used for drying the bearings but hold the bearing cone so the air blast will not spin it (Figure 2a). Spinning a dry bearing causes rapid wear and it may ruin both the rollers and raceways. If the air contains moisture, do not use it. Moisture blown into the bearings will cause them to rust. Drying with a clean, dry cloth is satisfactory (Figure 2b), but be sure the cloth is free of dirt, dust, and lint.)

FIGURE 2



C. Examine bearings for wear

(NOTE: If there is evidence of much wear or corrosion, replace both parts of bearing. If inner bearing is tight on the spindle and you wish to remove it, loosen with a wood dowel and hammer. Tap lightly.)

D. Examine grease-retainer ring and seal--Replace if damaged

(NOTE: If it has been damaged (ruptured, distorted, or cracked) it should be replaced particularly for wheels with bearings that are packed only once every 500 hours or once a year. It is this seal that keeps the grease in and keeps out dirt and moisture. Much damage can be done during the interval between wheel packings if the seal leaks. Some manufacturers recommend that the seal be replaced each time a wheel bearing is repacked.)

E. Clean hub, hub cap, and spindle with solvent

SERVICING THE WHEEL BEARINGS
UNIT V

JOB SHEET #3--PACK AND ASSEMBLE THE WHEEL BEARINGS

I. Tools and materials

A. Set of open-end wrenches

B. Diagonal pliers

C. Clean rags

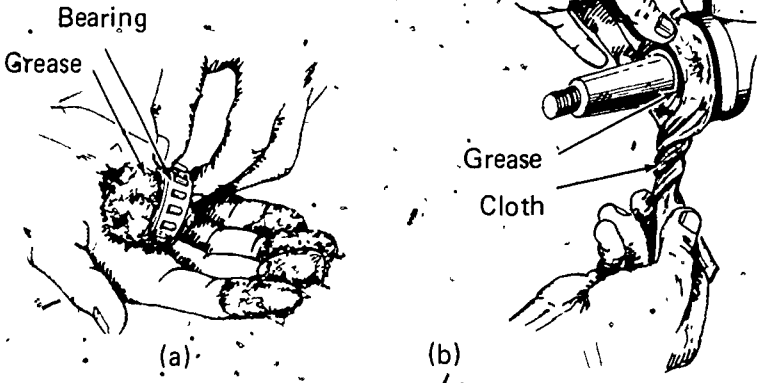
D. Multi-purpose grease

E. New cotter pins

II. Procedure

A. Pack each bearing with grease (Figure 1)

FIGURE 1



(NOTE: Methods of packing bearings. (a) Place grease in hand, then push grease into bearing by pressing bearing against your palm and rotating it. Work grease entirely through bearing and between rollers. (b) If inner bearing is left on spindle, apply about two tablespoons of grease to outer portions, wrap a clean cloth around bearing, twist ends of cloth until it binds tightly around bearing. Use hand to press grease into bearing.)

B. Replace inner bearing and grease-retainer seal if removed originally

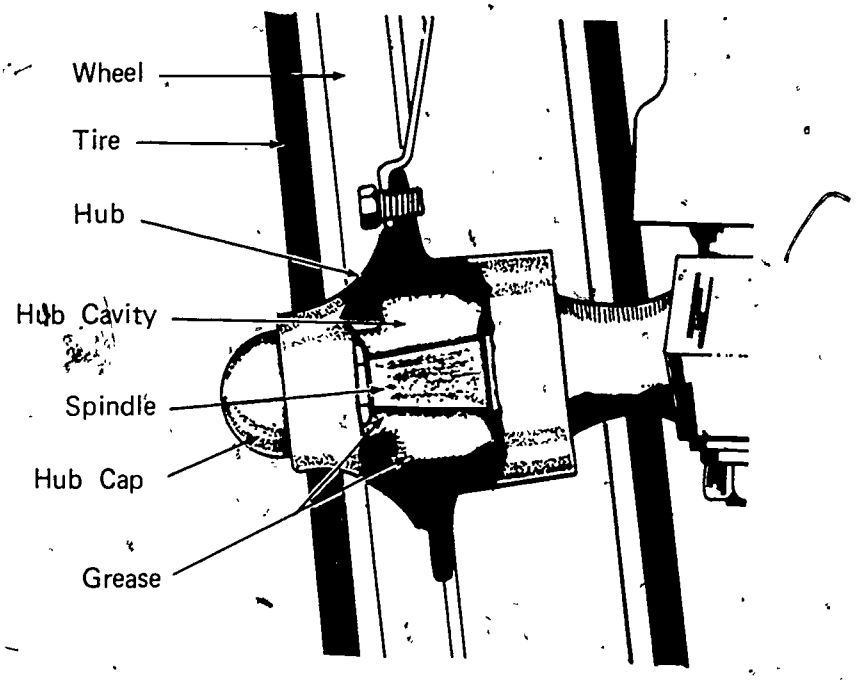
(NOTE: Replace in opposite sequence from that of removal whether being replaced on the spindle or in the hub. You may have to tap the grease-retainer seal lightly and evenly around the edges to seat it.)

JOB SHEET #3

C. Coat spindle and inside of hub with grease

(NOTE: Most manufacturers recommend only a thin coating of grease--just enough to prevent rust and to help prevent entrance of dirt and water. This leaves ample air space in the hub for the grease to expand without building up pressure which will force the grease past the seal. However, there are a few companies that insist the groove, or cavity in the hub between the two roller bearings, should be filled with grease. (Figure 2) Even this practice provides considerable air space around the spindle. Check your operator's manual.)

FIGURE 2



D. Position wheel on spindle and install outer bearing

(NOTE: Be extremely careful that dirt doesn't fall from the tire or wheel on the spindle or bearing.)

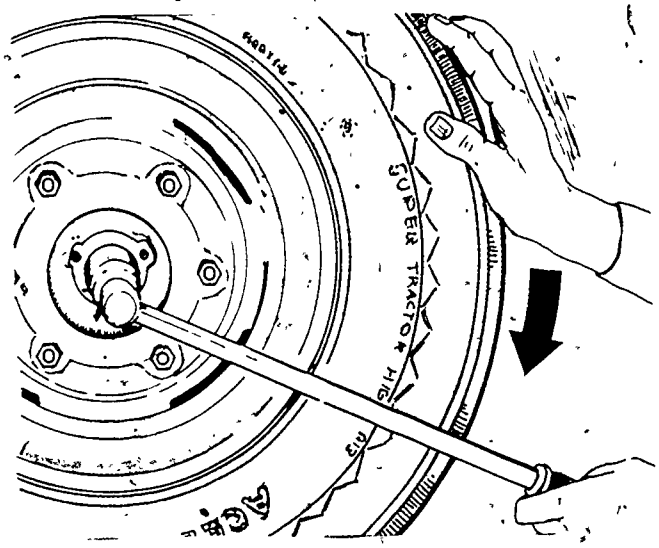
E. Install thrust washer and slotted adjusting nut

JOB SHEET #3

F. Turn wheel and tighten slotted adjusting nut until wheel "drags" then loosen

(NOTE: The slotted adjusting nut is also called a "castellated" nut. Use caution while tightening (Figure 3) to avoid overtightening. Turn the wheel slowly as you tighten the nut until a slight bind is felt. The slight bind means that all surfaces are in contact. Then loosen the nut until the nearest slot (castellation) is aligned with the hole in the spindle. Some manufacturers recommend loosening the nut as much as 1/6 to 1/3 turn.)

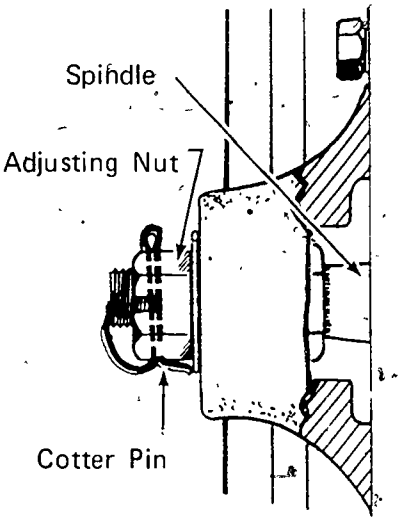
FIGURE 3



G. Lock nut with cotter pin

(NOTE: Use a new cotter pin. Insert pin, then use diagonal pliers and pull one leg of pin outward and up over the end of the spindle. (Figure 4) Cut excess off the other cotter pin leg and bend leg backwards against nut. This assures the pin staying in place. Do not overlook this step! If the pin is not installed, the nut will gradually loosen and the wheel will come off.)

FIGURE 4



H. Replace hub cap

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SERVICING WHEEL BEARINGS
UNIT V

TEST

1. Explain in writing the importance of wheel bearing service.

2. Select from the list below the proper service interval for wheel bearings. Place an "X" by the correct answers.

   _____a. Interval varies from 500 to 1,200 hours

   _____b. In the winter the bearings should be serviced more often

   _____c. If tractor has a grease fitting for gun lubrication, grease daily or twice per day

3. Name three causes of wheel bearing failures.

   a.

   b.

   c.

4. Identify the components of a wheel assembly by matching the terms below with the numbers found on the enclosed drawing.

   _____a. Wheel

   _____b. Cotter pin

   _____c. Outer bearing cone and roller

   _____d. Hub

   _____e. Oil seal

   _____f. Spindle

   _____g. Oil seal cap

   _____h. Inner bearing cone and roller

   _____i. Inner bearing cup

   _____j. Washer

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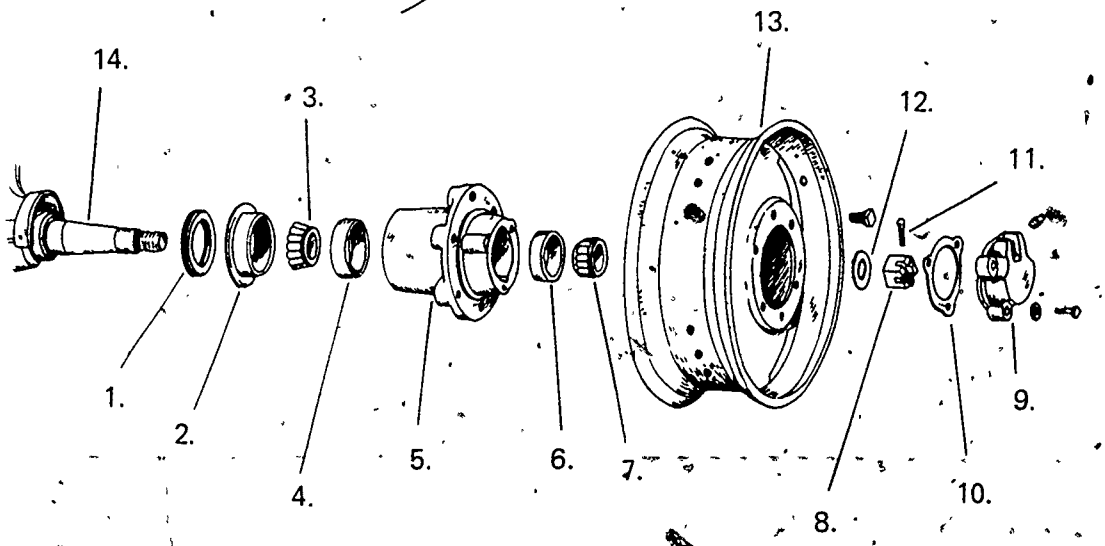
_____k. Adjusting nut

_____l. Hub cap

_____m. Gasket

_____n. Outer bearing cup



5. Demonstrate the ability to:

a. Disassemble the wheel bearings.

b. Clean the wheel bearings.

c. Pack and assemble the wheel bearings.

(NOTE: If this has not been accomplished prior to the test, ask the instructor when the above activities should be completed.)

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SERVICING WHEEL BEARINGS
UNIT V

ANSWERS TO TEST

1. Due to work in dusty areas, tractor wheel bearings are often subjected to needless wear if not kept properly adjusted or lubricated

2. a

   c

3. Any three of the following:

   a. Faulty dust seal

   b. Improper lubrication

   c. Loose bearings

   d. Operating wheels under water

   e. Operating the tractor with a heavy load on the wheel bearings

   f. Operating with bearings too tight

4. a. 13

   b. 11

   c. 7

   d. 5

   e. 1

   f. 14

   g. 2

   h. 3

   i. 4

   j. 12

   k. 8

   l. 9

m. 10

n. 6

5. Performance skills will be evaluated to the satisfaction of the instructor.

BATTERY SERVICE
UNIT VI

TERMINAL OBJECTIVE

After completion of this unit, the student should be able to explain the functions and construction of a battery. He should be able to remove and replace a battery using correct safety procedures. He should be able to clean, service, and check a battery. This knowledge will be evidenced through demonstration and by scoring eighty-five percent on the unit test.

SPECIFIC OBJECTIVES

After completion of this unit, the student should be able to:

1. Match terms and definitions associated with battery construction and testing.
2. Name two functions of a battery.
3. List two rules associated with battery safety.
4. Demonstrate the ability to:
   a. Remove, clean, service, and replace a battery.
   b. Check a battery with a hydrometer.

BATTERY SERVICE
UNIT VI

SUGGESTED ACTIVITIES

I. Instructor:

A. Provide students with objective sheet.

B. Provide students with information and job sheets.

C. Make transparency.

D. Discuss terminal and specific objectives.

E. Discuss information sheet.

F. Demonstrate and discuss procedures outlined in job sheets.

G. Give test.

II. Student:

A. Read objectives.

B. Study information sheet.

C. Demonstrate the ability to accomplish the procedures outlined in the job sheets.

D. Take test.

INSTRUCTIONAL MATERIALS

I. Included in this unit:

A. Objective sheet

B. Information sheet

C. Transparency master: TM 1--Battery Construction

D. Job sheets

1. Job Sheet #1--Remove, Clean, Service, and Replace a Battery

2. Job Sheet #2--Check a Battery With a Hydrometer

E. Test

F. Answers to test

II. References:

A. *Fundamentals of Service Electrical Systems Manual.* Moline, Illinois: John Deere and Company, 1968.

B. Billiet, Walter E. and Leslie F. Goings. *Automotive Electrical Systems.* Third Edition. Chicago, Illinois: American Technical Society, 1970.

C. Crouse, William H. *Automotive Mechanics.* New York: Webster Division, McGraw-Hill Book Company, 1965.

D. *Tractor Maintenance: Principles and Procedures.* American Association for Vocational Instructional Materials.

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BATTERY SERVICE
UNIT VI

INFORMATION SHEET

I. Terms associated with

A. Battery construction (Transparency 1)

1. Plates--Store active materials which bring about the chemical reaction to provide electricity

2. Separators--Insulate the negative plates from the positive plates

3. Electrolyte--Solution of water and sulphuric acid

4. Cell--Consists of plates of two different materials immersed in an electrolyte solution that reacts chemically to produce electricity

5. Battery case--Holds the cells and electrolyte to make up the completed battery

6. Vent caps--Close the opening in each cell cover and provide a vent to allow gases to escape

7. Positive post--The larger of the two battery posts

8. Negative post--The smaller of the two battery posts

B. Battery testing

1. Specific gravity--The weight of a solution compared to distilled water that has a reading of 1.000

2. Hydrometer--An instrument which measures specific gravity of the electrolyte

II. Functions of a battery

A. To supply current for starting the engine

B. To supply current when the demand exceeds the output of the charging system

C. To stabilize the voltage in the system during operation

III. Battery safety

A. Battery electrolyte must not be allowed to spill or come in contact with clothing, skin, eyes, or car paint

INFORMATION SHEET

B. Flames or sparks must be kept away from a battery as the gases given off by a battery are very explosive

C. Avoid shorting or grounding the battery during service or removal

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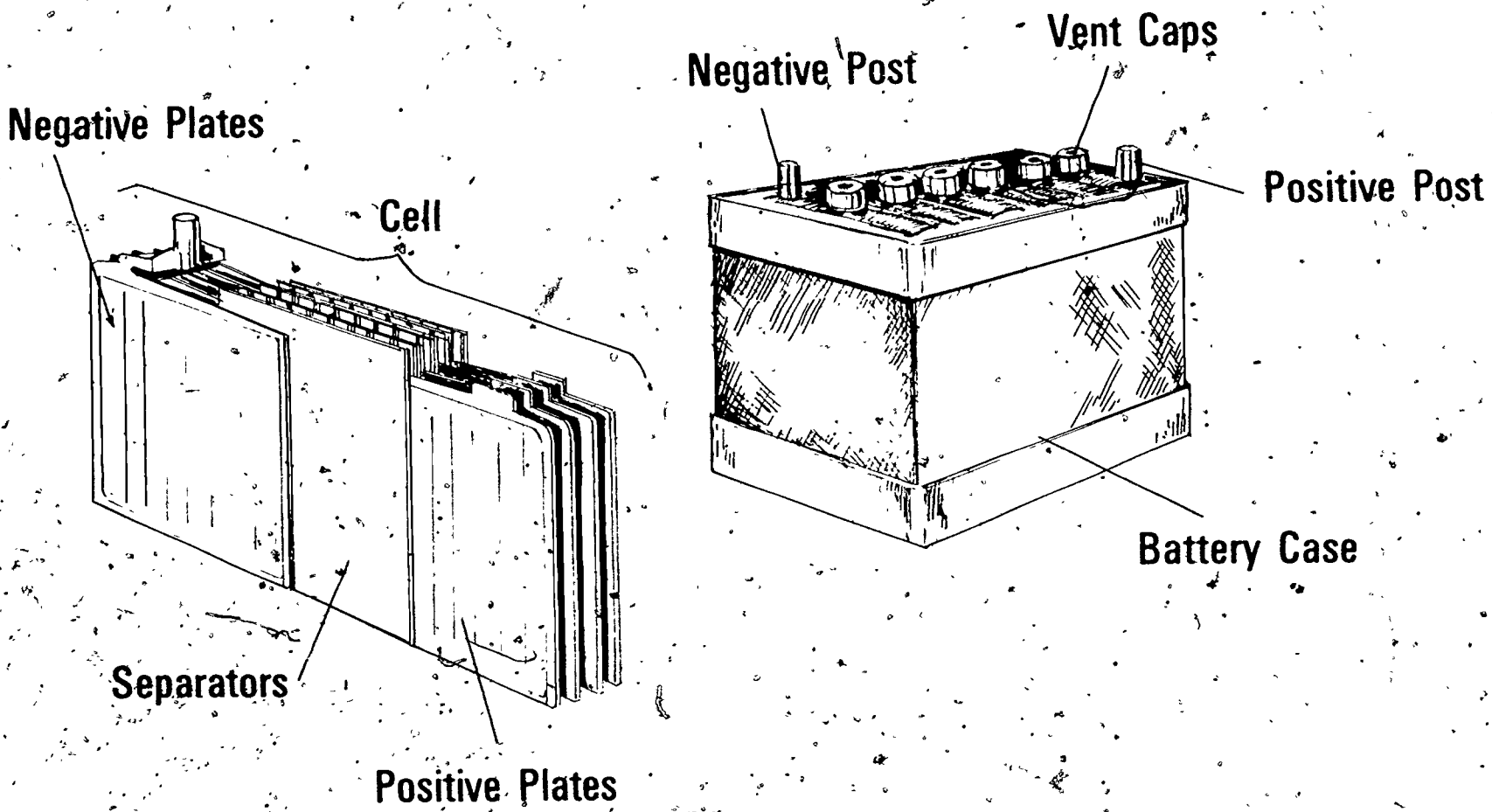
Battery Construction



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BATTERY SERVICE
UNIT VI

JOB SHEET #1--REMOVE, CLEAN, SERVICE, AND REPLACE A BATTERY

I. Tools and equipment

A. Bristle brush

B. Wire brush

C. Screwdriver

D. Battery clamp puller

E. Combination end wrenches, 7/16" - 9/16"

F. Battery cable spreader

G. Baking soda and water solution--(two tablespoons of baking soda to one pint of water)

H. Battery anti-corrosion paste

I. Battery post and cable cleaner

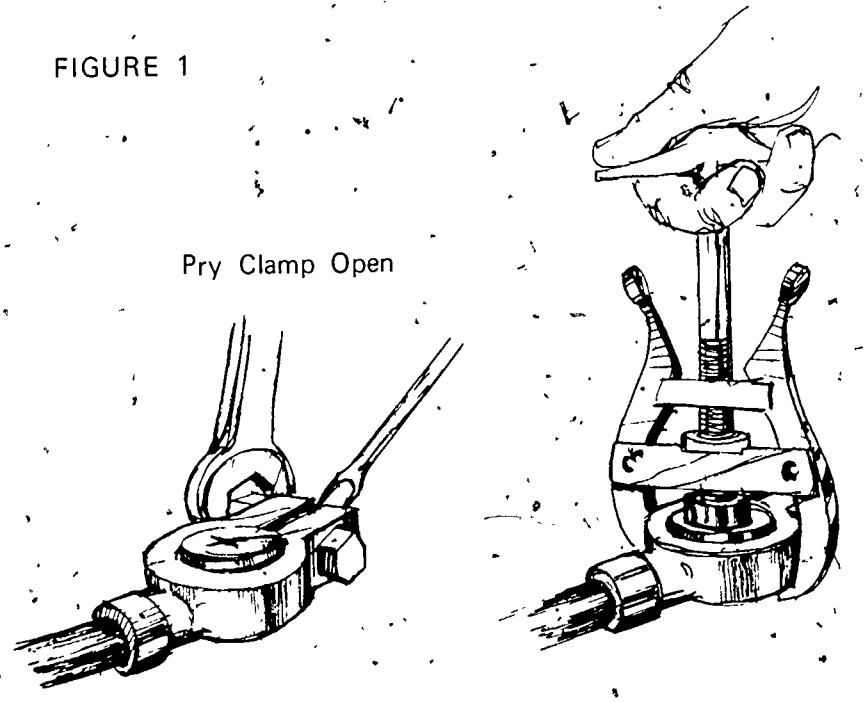
J. Battery lift strap

II. Procedure

A. Disconnect battery cables from the battery posts (Figure 1)

(NOTE: Always disconnect the grounded battery cable first to avoid short circuits.)

FIGURE 1



JOB SHEET #1

B. Remove the battery hold-down

C. Remove the battery from the machine

(NOTE: Use a suitable battery lift strap to lift the battery from the battery tray.)

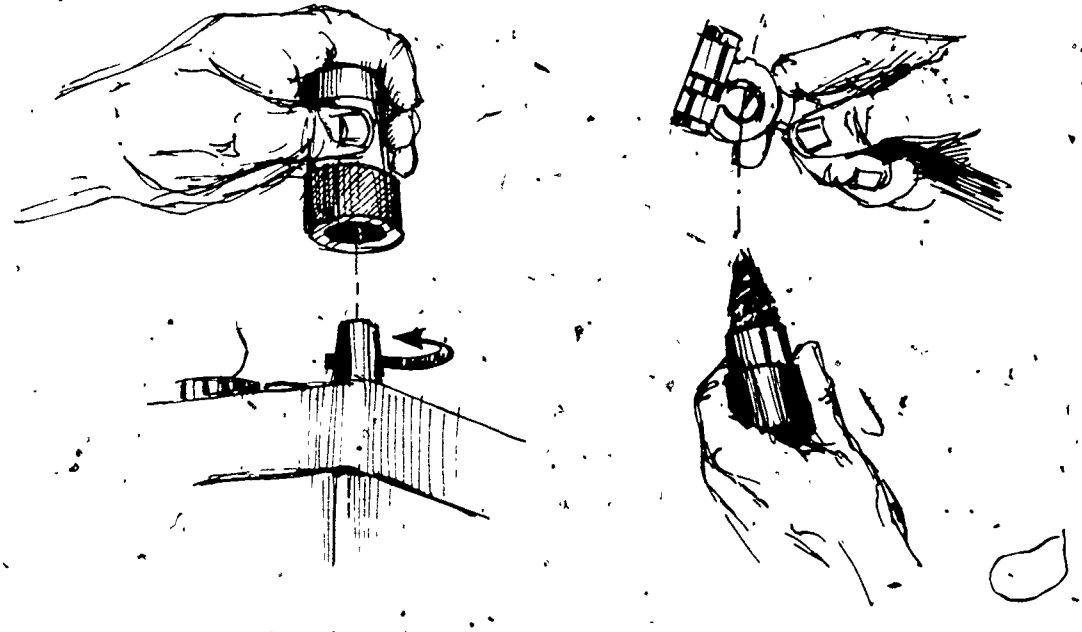
D. Inspect the battery tray for dirt or corrosion

(NOTE: Clean with baking soda and water as required.)

E. Check battery cables for worn or frayed insulation.

F. Clean battery cable clamps and battery post (Figure 2)

FIGURE 2

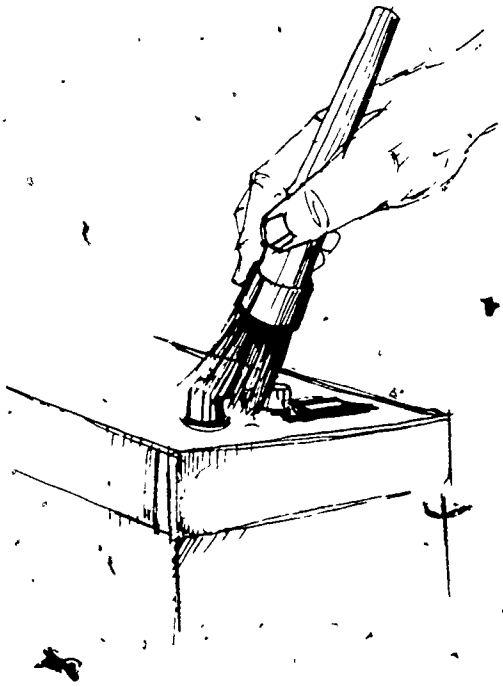


(NOTE: Battery posts and inside of battery cable clamps must be clean and bright.)

JOB SHEET #1

G. Remove loose dirt and corrosion particles from top of battery (Figure 3)

FIGURE 3



H. Brush soda water solution on battery, battery post, clamps, and battery hold-down (Figure 4)

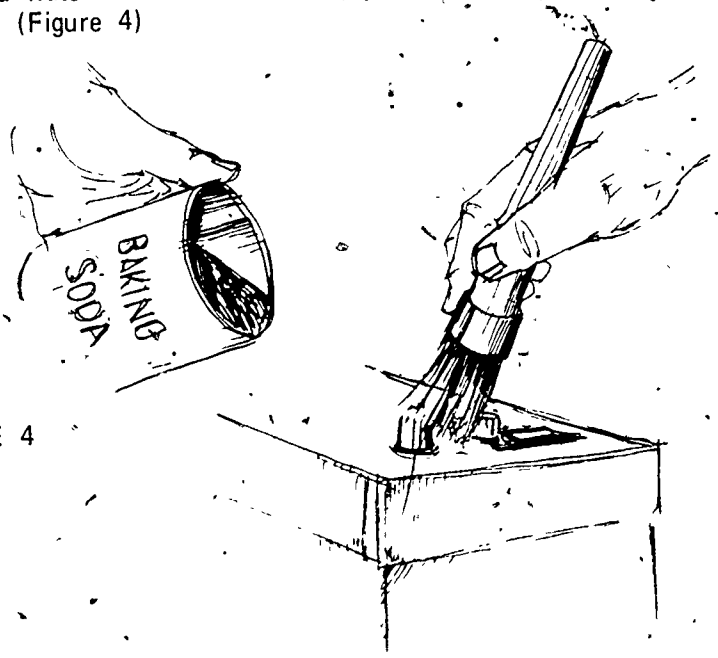


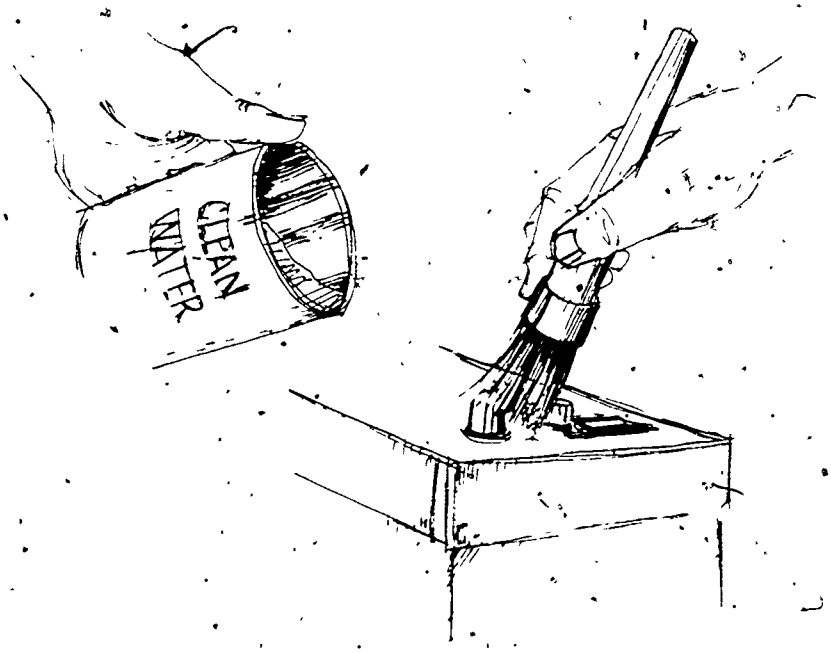
FIGURE 4

(NOTE: Keep water and soda from entering the battery through the vent holes in the vent caps.)

JOB SHEET # 1

I. Wash away residue with clean water (Figure 5)

FIGURE 5



(NOTE: Remove all residue that may have lodged around battery, frame, or parts of the vehicle.)

J. Dry the battery and battery cables with a clean cloth

K. Set the battery into place using a lift strap

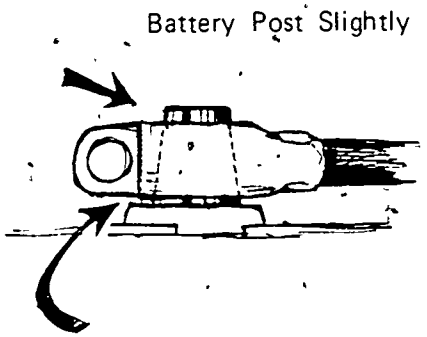
(NOTE: Position the battery to allow for correct battery cable attachment.)

L. Install the battery hold-down clamp or strap and tighten securely

JOB SHEET #1

M. Reconnect battery cables to the battery posts (Figure 6)

FIGURE 6



Correct Battery Cable Position

(NOTE: Always reconnect the power cable first and the ground cable last.)

N. Tighten the battery cable clamps securely.

(NOTE: Use care to avoid twisting the battery cable post.)

O. Spread a coating of battery anti-corrosion paste over the cable clamps and terminals

P. Remove vent caps and check electrolyte level in all cells

Q. Add water if necessary to bring electrolyte up to proper level.

(NOTE: Do not overfill.)

BATTERY SERVICE
UNIT VI

JOB SHEET #2--CHECK A BATTERY WITH A HYDROMETER

I. Tools and equipment

A. Shop towels

B. Hydrometer

II. Procedure

A. Remove vent caps from battery

B. Insert the hydrometer into the first cell

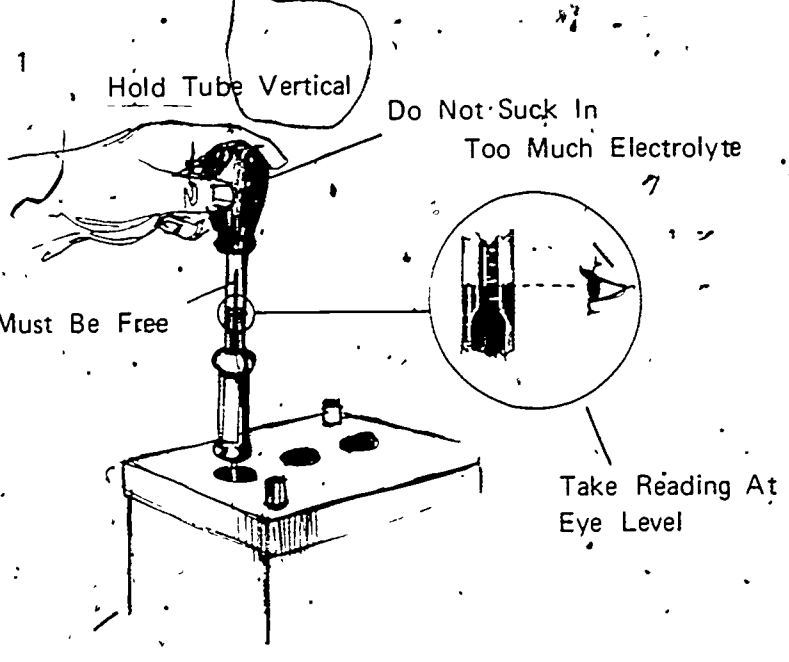
C. Squeeze the rubber bulb to draw electrolyte into the hydrometer to suspend the float

(NOTE: If the electrolyte level is too low, add water, charge for one hour, and recheck.)

D. Make sure the float is not bumping the top of the hydrometer tube or sticking to the side of the tube

E. Take reading at eye level (Figure 1)

FIGURE 1



(NOTE: Write down reading for each cell.)

JOB SHEET #2

F. Squeeze bulb to return electrolyte to cell

G. Repeat for other cells

H. Adjust the readings for temperature

(NOTE: Add four gravity points (0.004) to the reading for every 10°F. above 80°. Subtract four gravity points (0.004) for each 10° below 80°F.)

I. Specific gravity should read from 1.215 to 1.270 (corrected for 80°F. electrolyte temperature)

J. The variation in readings between cells should be no more than 0.050

K. If the readings are not within the above mentioned range, further testing will be required

L. Replace vent caps upon completion of test

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BATTERY SERVICE
UNIT V.I

TEST

1. Match the following terms with the correct definitions.

_____a. Plates	1. Solution of water and sulphuric acid
_____b. Separators	2. The larger of the two battery posts
_____c. Electrolyte	3. Close the opening in each cell cover and provide a vent to allow gases to escape
_____d. Cell	4. Insulate the negative plates from the positive plates
_____e. Battery case	5. Store active materials which bring about the chemical reaction to provide electricity
_____f. Vent caps	6. The smaller of the two battery posts
_____g. Hydrometer	7. Consists of plates of two different materials immersed in an electrolyte solution that reacts chemically to produce electricity
_____h. Positive post	8. Holds the cells and electrolyte to make up the completed battery
_____i. Specific gravity	9. The weight of a solution compared to distilled water that has a reading of 1.000
_____j. Negative post	10. An instrument which measures specific gravity of the electrolyte

2. Name two functions of a battery.

a.

b.

3. List two rules associated with battery safety.

   a.

   b.

4. Demonstrate the ability to:

   a. Remove, clean, service, and replace a battery.

   b. Check a battery with a hydrometer.

   (NOTE: If this has not been accomplished prior to the test, ask the instructor when the above activities should be completed.)

BATTERY SERVICE
UNIT VI

ANSWERS TO TEST

1. a. 5
   b. 4
   c. 1
   d. 7
   e. 8
   f. 3
   g. 10
   h. 2
   i. 9
   j. 6

2. Any two of the following:
   a. To supply current for starting the engine
   b. To supply current when the demand exceeds the output of the charging system
   c. To stabilize the voltage in the system during operation

3. Any two of the following:
   a. Battery electrolyte must not be allowed to spill or come in contact with clothing, skin, eyes, or car paint
   b. Flames or sparks must be kept away from a battery as the gases given off by a battery are very explosive
   c. Avoid shorting or grounding the battery during service or removal

4. Performance skills will be evaluated to the satisfaction of the instructor.

SERVICING THE TRACTOR--LUBRICATION SYSTEM
UNIT VII

TERMINAL OBJECTIVE

After the completion of this unit, the student should be able to name the purposes of the lubrication system and select the rules to use when selecting engine oil. He should be able to identify three types of filter assemblies and match the SAE letter designation with the API and ASTM description. The student should demonstrate the ability to change crankcase oil and replace the oil filter. This knowledge will be evidenced through demonstration and by scoring eighty-five percent on the unit test.

SPECIFIC OBJECTIVES

After the completion of this unit, the student should be able to:

1. Match terms associated with the lubrication system when given the correct definition.
2. Name the purposes of the lubricating system.
3. Select from a list the conditions that affect crankcase oil change intervals.
4. Identify three types of filter assemblies.
5. Match the SAE letter designation to the API and ASTM description.
6. Select from a list the general rules to use when selecting engine oils.
7. List the steps to use when storing and handling engine oils.
8. Demonstrate the ability to:
   a. Change crankcase oil.
   b. Replace the oil filter.

SERVICING THE TRACTOR--LUBRICATION SYSTEM
UNIT VII

SUGGESTED ACTIVITIES

I. Instructor:

A. Provide students with objective sheet.

B. Provide students with information and job sheets.

C. Make transparencies.

D. Discuss terminal and specific objectives.

E. Discuss information sheet.

F. Demonstrate and discuss procedures outlined in job sheets.

G. Give test.

II. Student:

A. Read objectives.

B. Study information sheet.

C. Demonstrate the ability to accomplish the procedures outlined in the job sheets.

D. Take test.

INSTRUCTIONAL MATERIALS

I. Included in this unit:

A. Objectives

B. Information sheet

C. Transparency masters

1. TM 1--Purposes of Lubricants

2. TM 2--Types of Filter Assemblies

D. Job sheets

1. Job Sheet #1--Changing Crankcase Oil

2. Job Sheet #2--Replacing an Oil Filter

E. Test

F. Answers to test

II. References:

A. American Association for Agricultural Engineering and Vocational Agriculture. *Tractor Maintenance.* Athens, Georgia: Foote and Davis (Division of McCall Printing Company), 1970.

B. American Association for Agricultural Engineering and Vocational Agriculture. *Tractor Fuels and Lubricants.* Athens, Georgia: Foote and Davis (Division of McCall Printing Company), 1970.

C. *Fundamentals of Service, Fuels, Lubricants, and Coolants.* Moline, Illinois: John Deere Service Publications, 1970.

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SERVICING THE FARM TRACTOR--LUBRICATION SYSTEM
UNIT VII

INFORMATION SHEET

I. Terms and definitions

A. Friction--The resistance to movement between any two objects placed in contact with each other

B. Viscosity--A measure of the ability of an oil to flow

C. API--American Petroleum Institute

D. SAE--Society of Automotive Engineers

E. Oil pan--A cover on the bottom of the engine providing a reservoir for the engine oil

F. Oil filter--A device used to strain the engine oil thus removing abrasive particles

G. ASTM--American Society for Testing Materials

H. MIL--Specifications prepared by the Ordinance Department of the U.S. Army, Navy, and Air Force

II. Purposes of lubrication system (Transparency 1)

A. Lubricates moving parts to minimize power loss from friction

B. Acts as a cooling agent to remove heat from engine parts

C. Forms a seal between piston rings and cylinder walls

D. Acts as a cleaning agent

E. Absorbs shock between bearings and other parts

III. Conditions that affect oil change intervals

A. Engine design

B. Kind of fuel used

C. Oil capacity in relation to the size and horsepower of the engine

D. Load temperature under which the tractor operates

E. Dirt conditions under which the tractor operates

INFORMATION SHEET

IV. Filter assemblies (Transparency 2)

A. Filter bowl held in position with a through bolt

B. Filter cartridge held in place with cap and through bolt

C. "Spin-on" double filters with their own outer shells

V. Oil classifications

SAE Letter Designation	API Brief Identification and Engine Service Description	ASTM Engine Oil Description
SA	*Utility Gasoline & Diesel Engine Service* Service typical of engines operated under such mild conditions that the protection afforded compounded oils is not required. This classification has no performance requirements	Oil without additive except that it may contain pour and/or foam depressants
SB	*Minimum Duty Gasoline Engine Service* Service typical of engines operated under such mild conditions that only minimum protection afforded by compounding is desired. Oils designed for this service have been used since the 1930's and provide only anti-scuff capability, and resistance to oil oxidation and bearing corrosion	Provides some anti-oxidant and anti-scuff capabilities.
SC	*1964 Gasoline Engine Warranty Service* Service typical of gasoline engines in 1964 through 1967 models of passenger cars and trucks operating under engine manufacturers warranties in effect during those model years. Oils designed for this service provide control of high and low temperature deposits wear rust and corrosion in gasoline engines.	Oil meeting the 1964-1967 requirements of the automobile manufacturers. Intended primarily for use in passenger cars. Provides low temperature anti-sludge and anti-rust performance.
SD	*1968 Gasoline Engine Warranty Service* Service typical of gasoline engines in passenger cars and trucks beginning with 1968 models and operating under engine manufacturers' warranties. Oils designed for this service provide more protection from high and low temperature engine deposits, wear, rust and corrosion in gasoline engines than oils for API Service Classification SC and may be used when oils for API Service Classification SC are recommended	Oil meeting the requirements of the automobile manufacturers since 1968. Intended primarily for use in passenger cars. Provides low temperature anti-sludge and anti-rust performance.

INFORMATION SHEET

SAE Letter Designation	API Brief Identification and Engine Service Description	ASTM Engine Oil Description
CA	*Light Duty Diesel Engine Service* Service typical of diesel engines operated in mild to moderate duty with high quality fuels. Occasionally has included gasoline engines in mild service. Oils designed for this service were widely used in the late 1940's and 1950's. These oils provide protection from bearing corrosion and from high temperature deposits in normally aspirated diesel engines when using fuels of such quality that they impose no unusual requirements for wear and deposit protection	Oil meeting the requirements of MIL-L-2104A. For use in gasoline and naturally aspirated diesel engines operated on low sulphur fuel. The MIL-L-2104A Specification was issued in 1954.
CB	*Moderate Duty Diesel Engine Service* Service typical of diesel engines operated in mild to moderate duty, but with lower quality fuels which necessitate more protection from wear and deposits. Occasionally has included gasoline engines in mild service. Oils designed for this service were introduced in 1949. Such oils provide necessary protection from bearing corrosion and from high temperature deposits in normally aspirated diesel engines with higher sulfur fuels.	Oil for use in gasoline and naturally aspirated diesel engines. Includes MIL-L-2104A oils where the diesel engine test was run using high sulfur fuel
CC	*Moderate Duty Diesel & Gasoline Engine Service* Service typical of lightly supercharged diesel engines operated in moderate to severe duty and has included certain heavy-duty gasoline engines. Oils designed for this service were introduced in 1961 and used in many trucks and in industrial and construction equipment and farm tractors. These oils provide protection from high temperature deposits in lightly supercharged diesels and also from rust, corrosion and low temperature deposits in gasoline engines.	Oil meeting requirements of MIL-L-2104B. Provides low temperature anti-sludge, anti-rust and lightly supercharged diesel engine performance. The MIL-L-2104B specification was issued in 1964.
CD	*Severe Duty Diesel Engine Service* Service typical of supercharged diesel engines in high-speed, high-output duty requiring highly effective control of wear and deposits. Oils designed for this service were introduced in 1955, and provide protection from bearing corrosion and from high temperature deposits in supercharged diesel engines when using fuels of a wide quality range.	Oil meeting the requirements of the Caterpillar Tractor Co. Series 3 specification. Provides moderately supercharged diesel engine performance. The Series 3 specification was established by Caterpillar in 1955. The related MIL-L-45199B specification was issued in 1968.

INFORMATION SHEET

VI. Selecting engine oils

A. Use reputable brands of oil of the proper viscosity and service ratings as outlined in the operator's manual

(NOTE: If the manufacturer has a special oil which does a better job, use only that oil in your engine.)

B. Drain and change oil at recommended intervals

(NOTE: For exact intervals, see the machine operator's manual. Always drain out oil while it is hot and before the sludge settles.)

C. Select only oils which have been performance tested

D. Oils carrying a similar MIL specification can be mixed even though obtained from different suppliers

E. Bring the engine up to normal operating temperature each time it is used

(NOTE: This will help reduce engine wear.)

F. Keep oil containers covered, sealed, and protected to prevent contamination by dirt or water

VII. Storing and handling engine oils

A. Store oil inside whenever possible in clean, closed cabinets or rooms

(NOTE: It is best to keep oil relatively warm in the winter.)

B. If stored outside, lay oil barrels on their sides; if they cannot be laid on their sides, tilt them slightly

(NOTE: Turn the barrel so that the bung is at the high side, away from any water which collects.)

C. Keep oil bungs drawn tight

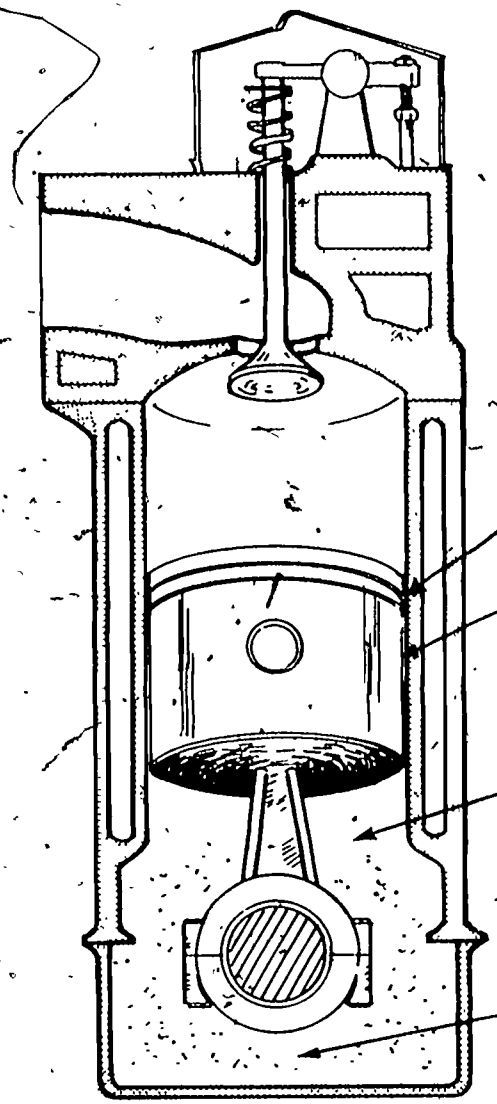
D. Rinse oil containers and funnels in solvent after use

(NOTE: Cover them to keep out dirt, or store them upside down.)

E. When adding oil, clean all dirt from around the filler cap before removing it

(NOTE: Do the same before unscrewing an oil filter or a filter cap.)

Purposes of Lubricants



- Seals
- Lubricates
- Reduces Rust and Corrosive Action
- Carries Off Heat
- Cleans

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Types of Filter Assemblies

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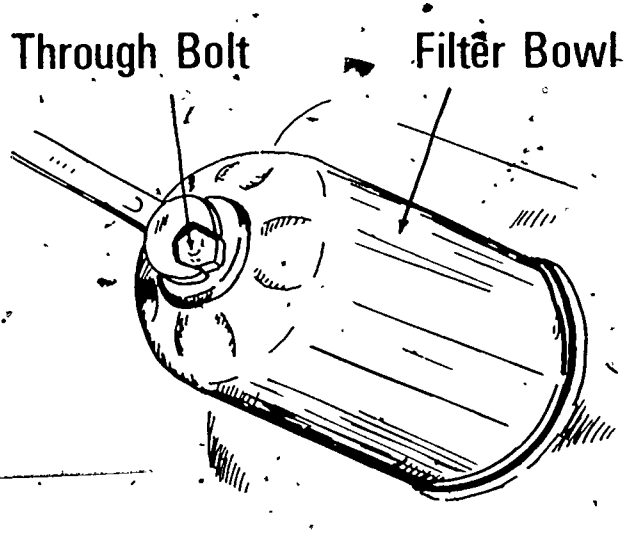
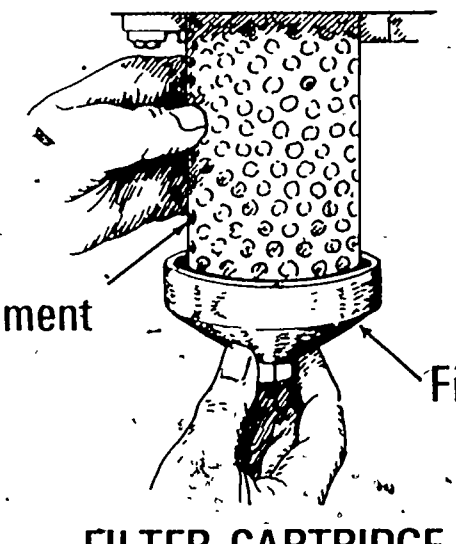
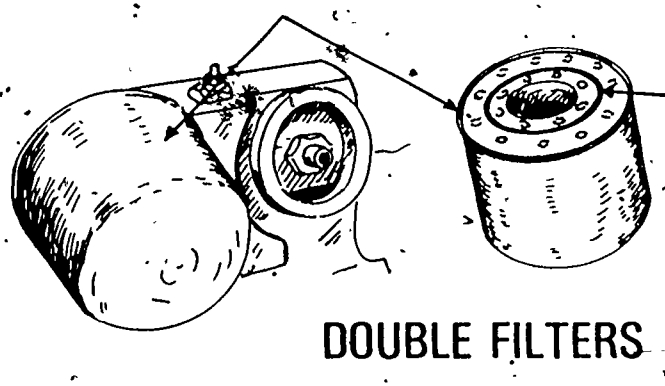


FILTER BOWL



FILTER CARTRIDGE



DOUBLE FILTERS

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SERVICING THE FARM TRACTOR--LUBRICATION SYSTEM
UNIT VII

JOB SHEET #1--CHANGING CRANKCASE OIL

I. Tools and materials needed

A. Wrench for drain plug

B. Clean rags

C. Container for old oil

D. New oil of grade and type recommended for your tractor

II. Procedure

A. Operate engine until thoroughly heated

(NOTE: Oil will drain more completely while hot; more of the contaminants are removed while the oil is still agitated. If crankcase is drained while oil is cold, some of the more highly contaminated oil may remain in the engine.)

B. Remove drain plug (clean if of magnetic type)

(NOTE: Use a wrench that fits the drain plug, not a pair of pliers. Pliers will gradually round off the corners of the plug until it will be difficult to either remove or tighten it.)

C. Allow crankcase to drain for several minutes

(NOTE: This allows time for oil to drain from various parts of the engine. This is important in order to remove as much dirt laden oil as possible.

If it is time for an oil filter change, remove the filter while oil is being drained.)

D. Replace drain plug

(NOTE: If drain plug is eqipped with a gasket, be sure it is in place on the drain plug. Tighten the plug. (Do not overtighten or cross thread.) If filter element was removed, install a new one. Follow procedures in Job Sheet #2.)

E. Refill crankcase with new oil

(NOTE: Be extra careful that the tops of oil cans are thoroughly clean (Figure 1). Check the funnel, or any containers you may be using, to make certain they are free of dirt (Figure 2). No amount of filtering will completely take the place of the care you use when you refill with new oil.

JOB SHEET #1

One to three extra quarts will probably be needed, if you changed oil filters, to recharge the new filter. Check the operator's manual for the requirements of your tractor.

Use the viscosity and type of oil recommended in your operator's manual.)

FIGURE 1

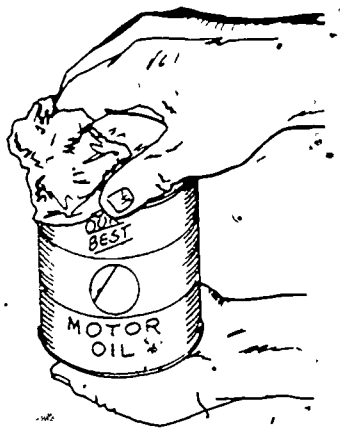


FIGURE 2

F. Start engine and operate it for a few minutes at a low rpm (revolutions per minute)

(NOTE: This gives the oil an opportunity to fill the oil filter and establish a true level on the dip stick.

Also check the pressure gage to make certain the oil pump is working properly.)

G. Check for oil leaks

(NOTE: Observe area around drain plug and around filter element if filter was changed.)

H. Check oil level on dip stick

(NOTE: If oil is not to the "full" line, add until it reaches that level. Do not overfill; this increases oil consumption and causes oil foaming.)

I. Store used oil in a drum or small closed container

SERVICING THE TRACTOR--LUBRICATION SYSTEM
UNIT VII

JOB SHEET #2--REPLACING AN OIL FILTER

I. Tools and materials needed

A. New filter cartridge

B. Clean rags

C. Container to catch waste oil

D. Wrenches, if needed to loosen or tighten filter cap or bowl

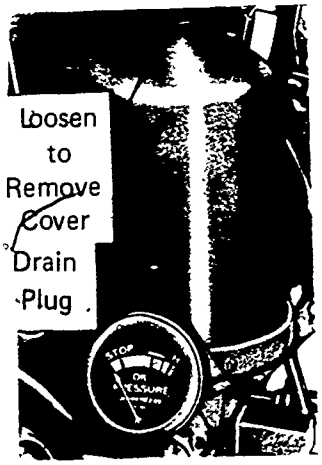
E. Cleaning solvent--Kerosene or diesel fuel

II. Procedure

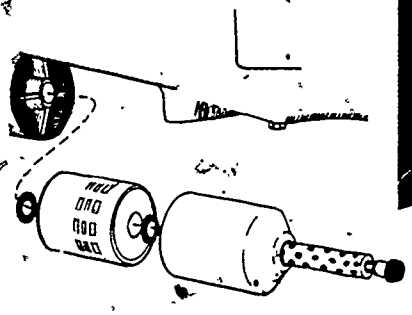
A. Find location of oil filter

(NOTE: See Figure 1.)

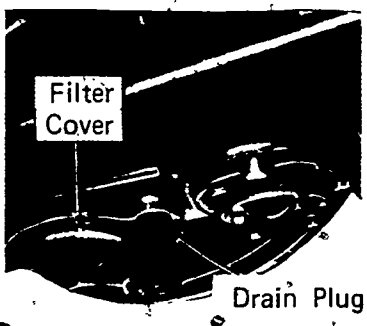
FIGURE 1



Side of Engine



Under Engine Crankcase



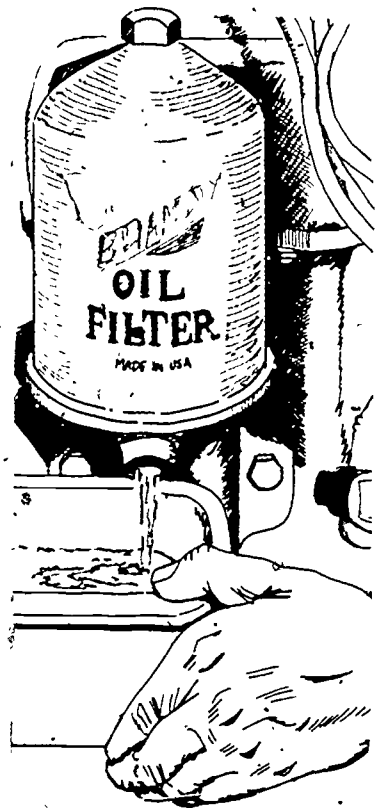
Inside Crankcase

B. Wipe dirt from filter and from around filter area

JOB SHEET #2

C. Remove drain plug (if provided) from base of filter (Figure 2) and catch oil in jar.

FIGURE 2



(NOTE: Removal of the plug drains out much of the dirt ahead of removing the filter element. Some filters are not equipped with drain plugs; draining action is secured when the bowl or filter body is removed.)

D. Loosen filter bowl or cover and remove

E. Remove old filter cartridge and discard it

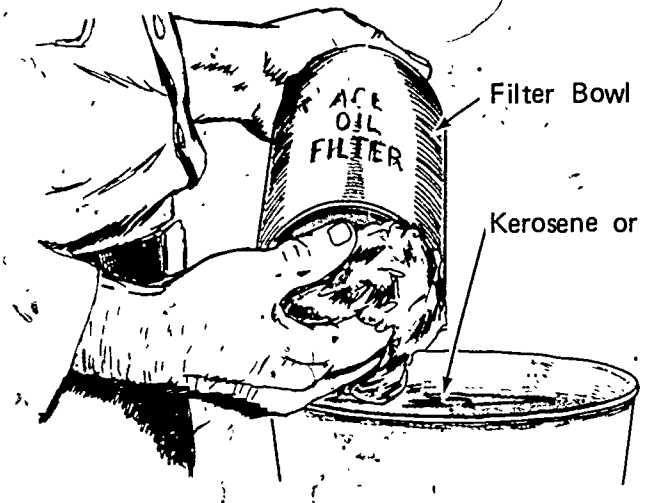
(NOTE: Do not try to clean the old filter element (unless it is the old style screen type). Abrasives embedded in filter material are difficult or impossible to remove.)

JOB SHEET #2

F. Clean inside of filter bowl and base with kerosene or diesel fuel (Figure 3)

(NOTE: This is to remove dirt deposits. Use a clean cloth and clean solvent solution.)

FIGURE 3



G. Replace and tighten drain plug (if one was removed)

H. Install new gasket, if supplied with filter

(NOTE: New gaskets are usually supplied with new filters. However, if a new gasket is not available, examine the old one. It may still be usable. With a "spin-on" type of filter you can reduce the chance of damaging the gasket by first applying a slight amount of crankcase oil or grease to the gasket before the filter is screwed into position.)

I. Install new filter unit

(NOTE: If your replacement cartridge is the type that is installed in a filter bowl, rotate the element slightly to help it become sealed. Do not apply much pressure because the seals can be easily damaged. If you have a spin-on filter that uses a rubber gasket, turn the filter on until the gasket contacts the base, then tighten no more than one-half turn. This keeps from over tightening which distorts the gasket and causes leaks.)

J. Replace filter bowl (if of that type) and tighten in place

(NOTE: Tighten just enough to form a seal. Too much tightening damages the gasket(s).)

K. Operate engine and check for leakage around filter

(NOTE: This is important. A small leak can cause enough oil loss to damage your engine.)

JOB SHEET #2

L. Check oil level and add oil if needed

(NOTE: Most filter elements require about one additional quart to recharge them. However some require more, even as much as three quarts.)

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SERVICING THE TRACTOR--LUBRICATION SYSTEM
UNIT VII

TEST

1. Match the terms on the right to the proper definition.

_____	a. A measure of the ability of an oil to flow	1.	Friction
_____	b. A cover on the bottom of the engine providing a reservoir for the engine oil	2.	Viscosity
_____	c. American Petroleum Institute	3.	API
_____	d. Society of Automotive Engineers	4.	SAE
_____	e. The resistance to movement between any two objects placed in contact with each other	5.	Oil pan
_____	f. A device used to strain the engine oil thus removing abrasive particles	6.	Oil filter
_____	g. American Society for Testing Materials	7.	MIL
_____	h. Specifications prepared by the Ordinance Department of the U.S. Army, Navy, and Air Force	8.	ASTM

2. Name three purposes of the lubrication system.

a.

b.

c.

3. Select from the list below the conditions that affect crankcase oil change intervals. Place an "X" by the correct conditions.

_____ a. Kind of fuel used

_____ b. Dirt conditions under which the tractor operates

_____ c. Oil capacity in relation to the size and horsepower of the engine

_____ d. Price of oil and filter

_____ e. Load temperature under which the tractor operates

_____ f. Skill of operator

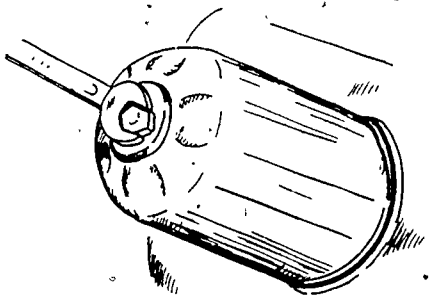
4. Identify three types of filter assemblies by matching the assemblies below with the proper illustration

_____a. Filter bowl held in position with a through bolt

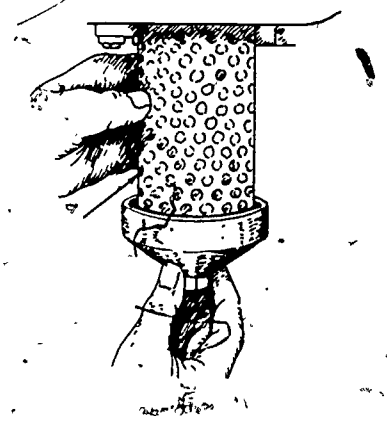
_____b. "Spin-on" double filter with outer shell

_____c. Filter cartridge held in place with cap and and through bolt

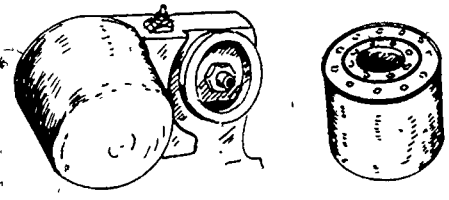
1.



2.



3.



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5. Match the SAE letter designation on the right to the proper API and ASTM description.

a.____	*Moderate Duty Diesel Engine Service* Service typical of diesel engines operated in mild to moderate duty, but with lower quality fuels which necessitate more protection from wear and deposits Occasionally has included gasoline engines in mild service Oils designed for this service were introduced in 1949 Such oils provide necessary protection from bearing corrosion and from high temperature deposits in normally aspirated diesel engines with higher sulfur fuels	Oil for use in gasoline and naturally aspirated diesel engines Includes MIL-L-2104A oils where the diesel engine test was run using high sulfur fuel
b.____	*Light Duty Diesel Engine Service* Service typical of diesel engines operated in mild to moderate duty with high quality fuels Occasionally has included gasoline engines in mild service Oils designed for this service were widely used in the late 1940's and 1950's These oils provide protection from bearing corrosion and from high temperature deposits in normally aspirated diesel engines when using fuels of such quality that they impose no unusual requirements for wear and deposit protection	Oil meeting the requirements of MIL-L-2104A For use in gasoline and naturally aspirated diesel engines operated on low sulphur fuel. The MIL-L-2104A Specification was issued in 1954.
c.____	*Minimum Duty Gasoline Engine Service* Service typical of engines operated under such mild conditions that only minimum protection afforded by compounding is desired Oils designed for this service have been used since the 1930's and provide only anti-scuff capability and resistance to oil oxidation and bearing corrosion	Provides some anti-oxidant and anti-scuff capabilities
d.____	*Severe Duty Diesel Engine Service* Service typical of supercharged diesel engines in high-speed, high-output duty requiring highly effective control of wear and deposits Oils designed for this service were introduced in 1955, and provide protection from bearing corrosion and from high temperature deposits in supercharged diesel engines when using fuels of a wide quality range.	Oil meeting the requirements of the Caterpillar Tractor Co Series 3 specification. Provides moderately supercharged diesel engine performance The Series 3 specification was established by Caterpillar in 1955 The related MIL-L-45199B specification was issued in 1968.
e.____	*Moderate Duty Diesel & Gasoline Engine Service* Service typical of lightly supercharged diesel engines operated in moderate to severe duty and has included certain heavy-duty, gasoline engines Oils designed for this service were introduced in 1961 and used in many trucks and in industrial and construction equipment and farm tractors. These oils provide protection from high temperature deposits in lightly supercharged diesels and also from rust, corrosion and low temperature deposits in gasoline engines	Oil meeting requirements of MIL-L-2104B Provides low temperature anti-sludge, anti-rust and lightly supercharged diesel engine performance. The MIL-L-2104B specification was issued in 1964.
f.____	*1968 Gasoline Engine Warranty Service* Service typical of gasoline engines in passenger cars and trucks beginning with 1968 models and operating under engine manufacturers' warranties Oils designed for this service provide more protection from high and low temperature engine deposits, wear, rust and corrosion in gasoline engines than oils for API Service Classification SC and may be used when oils for API Service Classification SC are recommended	Oil meeting the requirements of the automobile manufacturers since 1968. Intended primarily for use in passenger cars Provides low temperature anti-sludge and anti-rust performance.
g.____	*1964 Gasoline Engine Warranty Service* Service typical of gasoline engines in 1964 through 1967 models of passenger cars and trucks operating under engine manufacturers warranties in effect during those model years Oils designed for this service provide control of high and low temperature deposits, wear, rust and corrosion in gasoline engines	Oil meeting the 1964-1967 requirements of the automobile manufacturers Intended primarily for use in passenger cars Provides low temperature anti-sludge and anti-rust performance
h.____	*Utility Gasoline & Diesel Engine Service* Service typical of engines operated under such mild conditions that the protection afforded by compounded oils is not required This classification has no performance requirements	Oil without additive except that it may contain pour and/or foam depressants

1. CA
2. CC
3. CB
4. CD
5. SA
6. SB
7. SC
8. SD

6. Select from the list below the general rules to use when selecting your engine oil. Place an "X" by the proper rules.

_____a. Use reputable brands of oil of the proper viscosity and service ratings as outlined in the operator's manual

_____b. Drain and change oil at the beginning of each winter, spring, and summer season

_____c. Select only oils which have been performance tested

_____d. Oils carrying a simular-MIL specification can not be mixed if obtained from different suppliers

7. List three steps to use in storing and handling engine oils.

a.

b.

c.

8. Demonstrate the ability to:

a. Change crankcase oil.

b. Replace the oil filter.

(NOTE: If this has not been accomplished prior to the test, ask the instructor when the above activities should be completed.)

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SERVICING THE TRACTOR--LUBRICATION SYSTEM
UNIT VII

ANSWERS TO TEST

1. a. 2
   b. 5
   c. 3
   d. 4
   e. 1
   f. 6
   g. 8
   h. 7
2. Any three of the following:
   a. Lubricates moving parts to minimize power loss from friction
   b. Acts as a cooling agent to remove heat from engine parts
   c. Forms a seal between piston rings and cylinder walls
   d. Acts as a cleaning agent
   e. Absorbs shock between bearings and other parts
3. a
   b
   c
   e
4. a. 1
   b. 3
   c. 2
5. a. 3
   b. 1

c. 6

d. 4

e. 2

f. 8

g. 7

h. 5

6. a

c

7. Any three of the following:

a. Store oil inside whenever possible in clean, closed cabinets or rooms

b. If stored outside, lay oil barrels on their sides; if they cannot be laid on their sides, tilt them slightly

c. Keep oil bungs drawn tight

d. Rinse oil containers and funnels in solvent after use

e. When adding oil, clean all dirt from around the filler cap before removing it

8. Performance skills will be evaluated to the satisfaction of the instructor.

SERVICING THE TRACTOR FUEL SYSTEM
UNIT VIII

TERMINAL OBJECTIVE

After completion of this unit, the student should be able to match the fuel system components with the proper purpose and match the types of fuel filters and sediment bowls to the correct drawing of each. He should be able to clean the sediment bowl and fuel filter, change the diesel fuel filter, bleed fuel lines on diesel engines, and remove water and sediment from diesel fuel. This knowledge will be evidenced through demonstration and by scoring eighty-five percent on the unit test.

SPECIFIC OBJECTIVES

After the completion of this unit, the student should be able to:

1. Explain in writing the purpose of the fuel system.
2. Match the fuel system component with the proper definition.
3. Match the types of fuel filters and sediment bowls to the correct drawing of each.
4. Discuss in writing how often the sediment bowl and fuel filter should be cleaned.
5. Demonstrate the ability to:
   a. Clean the sediment bowl and fuel filter.
   b. Change the diesel fuel filter.
   c. Bleed fuel lines on diesel engines.
   d. Remove water and sediment from diesel fuel.

SERVICING THE TRACTOR FUEL SYSTEM
UNIT VIII

SUGGESTED ACTIVITIES

I. Instructor:

A. Provide students with objective sheet.

B. Provide students with information and job sheets.

C. Discuss terminal and specific objectives.

D. Discuss information sheet.

E. Demonstrate and discuss procedures outlined in the job sheets.

F. Give test.

II. Students:

A. Read objectives.

B. Study information sheet.

C. Demonstrate the ability to accomplish the procedures outlined in the job sheets.

D. Take test.

INSTRUCTIONAL MATERIALS

I. Included in this unit:

A. Objectives

B. Information sheet

C. Job sheets

1. Job Sheet #1--Clean the Sediment Bowl and Fuel Filter
2. Job Sheet #2--Change the Diesel Fuel Filter
3. Job Sheet #3--Bleed Fuel Lines on Diesel Engines
4. Job Sheet #4--Remove Water and Sediment from Diesel Fuel

D. Test

E. Answers to test

I. References:

A. American Association for Agricultural Engineering and Vocational Agriculture. *Tractor Maintenance*. Athens, Georgia: Foote and Davis (Division of McCall Printing Co.), 1970.

B. American Association for Agricultural Engineering and Vocational Agriculture. *Tractor Operation and Daily Care*. Athens, Georgia: Foote and Davis (Division of McCall Printing), 1970.

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SERVICING THE FARM TRACTOR--FUEL SYSTEM
UNIT VIII

INFORMATION SHEET

I. Purpose of the fuel system--To supply a combustible mixture of air and fuel to the engine cyclinders

II. Components of the fuel system

A. Fuel tank--A reservoir to store fuel for engine use

B. Sediment bowl and filter--Allows water to settle out and catches particles of scale, rust, or foreign matter that will clog a carburetor

C. Fuel pump--Pumps fuel from the tank to the carburetor

D. Carburetor--A device for automatically mixing fuel and air in the proper proportion for a combustible mixture

E. Fuel lines--Used to carry fuel from the fuel tank to the carburetor

F. Air-cleaner--Used to filter grit and dust from the air entering the carburetor

G. Diesel injection-pump--Applies high pressure to the fuel (1600 to 3200 psi) which is used by the injector nozzles to make a fine mist of the fuel as it is sprayed into the cylinder

(NOTE: Each cylinder has a separate injection pump.)

INFORMATION SHEET

III. Types of fuel filters and sediment bowls

A. Glass bowl with screen fiber commonly used on gasoline and diesel tractors

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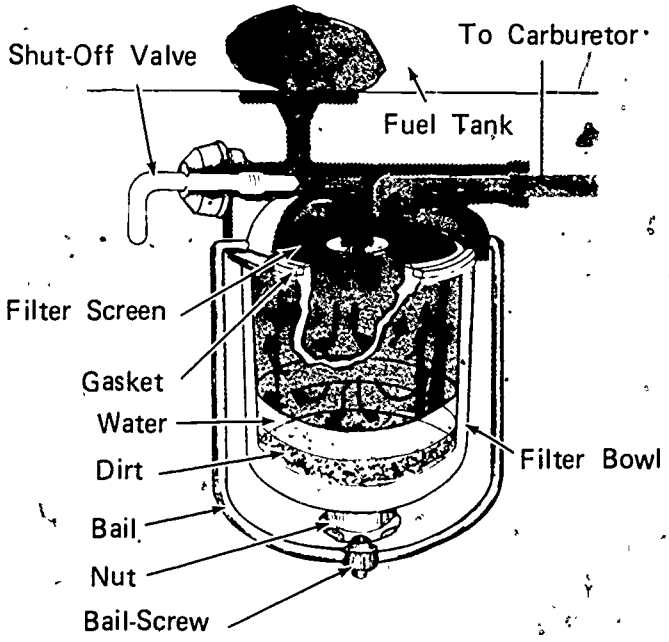
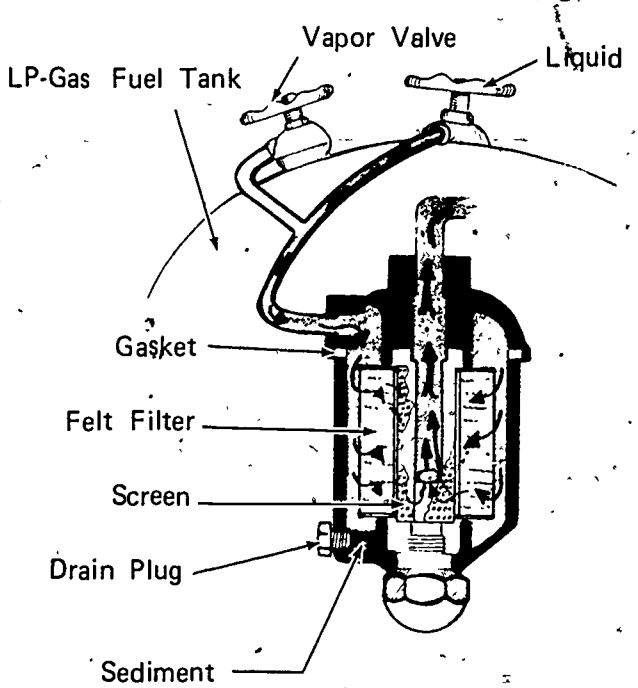
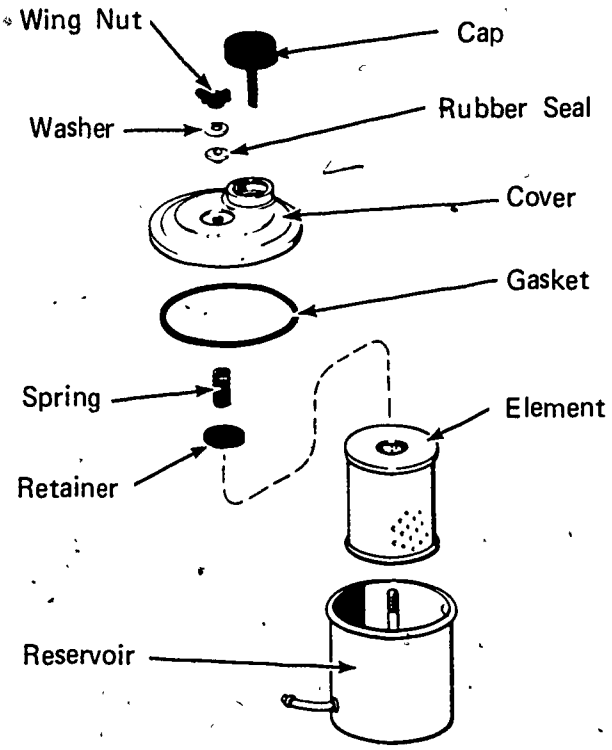


B. Metal bowl with felt filter and screen often used on LP-gas tractors



INFORMATION SHEET

C. Diesel fuel filter used on diesel tractors



D. Edge-type (disc) filter sometimes used with either liquid or gas fuels.

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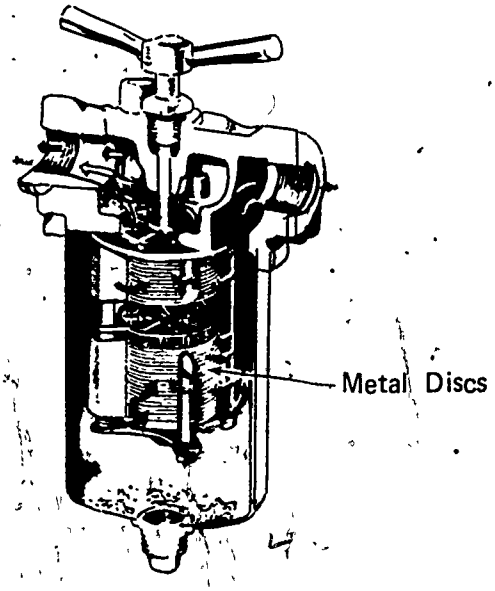

INFORMATION SHEET

IV. When to clean sediment bowl and fuel filter

A. Recommendations for gasoline and diesel tractors vary from ten hours of operation to as long as 900 hours

(NOTE: Recommendations depend on make and type of tractor. Check the operators manual for the time interval recommended for your tractor.)

B. LP-Gas tractors service intervals vary from 100 hours to yearly

(NOTE: One company suggests that the LP-Gas filter be cleaned when it becomes clogged. Clogging is rather easily discovered with LP-Gas because the clogging action delays liquid movement so that a portion of it turns to gas in the sediment bowl, causing frost to form on the outside.)

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SERVICING THE TRACTOR--FUEL SYSTEM
UNIT VIII

JOB SHEET #1--CLEAN THE SEDIMENT BOWL AND FUEL FILTER

I. Tools and materials needed

A. Set of open end wrenches

B. Container with solvent (kerosene or diesel fuel)

C. New gasket(s)

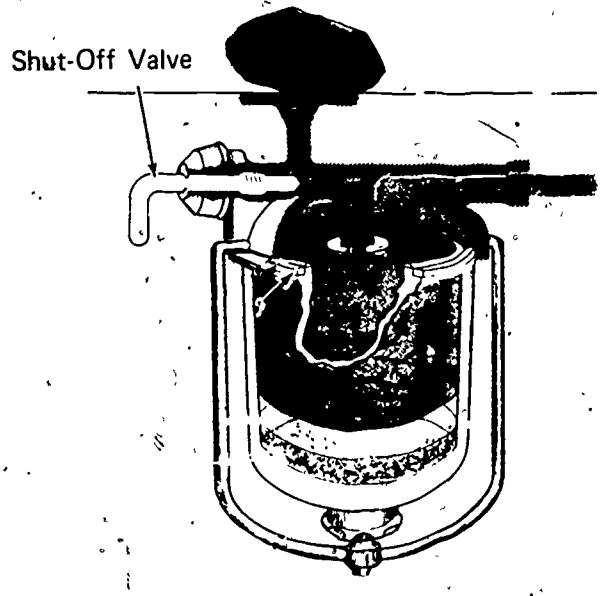
D. Air under pressure

II. Procedure

A. Close valve or valves on fuel supply line

(NOTE: For liquid fuel tractors the shut-off valve is frequently a part of the filter assembly. (Figure 1) With LP-Gas be sure both the liquid and vapor valves are closed.) (Figure 2)

FIGURE 1



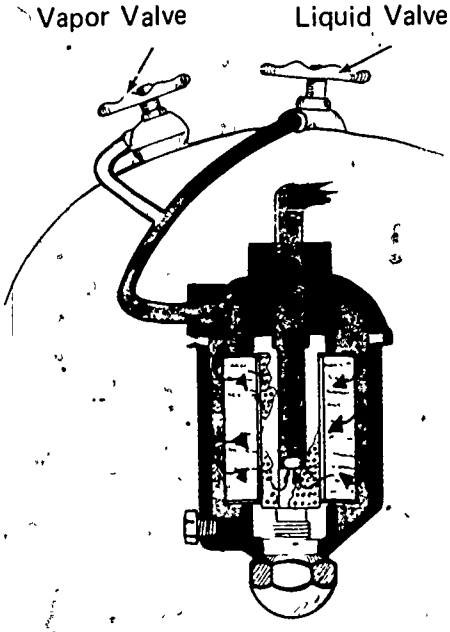


FIGURE 2

JOB SHEET #1

B. Loosen the nut that holds the sediment bowl in place

(NOTE: Sediment bowls on most liquid-fuel tractors are held in place with a jam nut. (Figure 3) Sediment bowls for LP-Gas tractors may be held with a stud nut (Figure 4) or may be threaded to the filter base. (Figure 5).

FIGURE 3

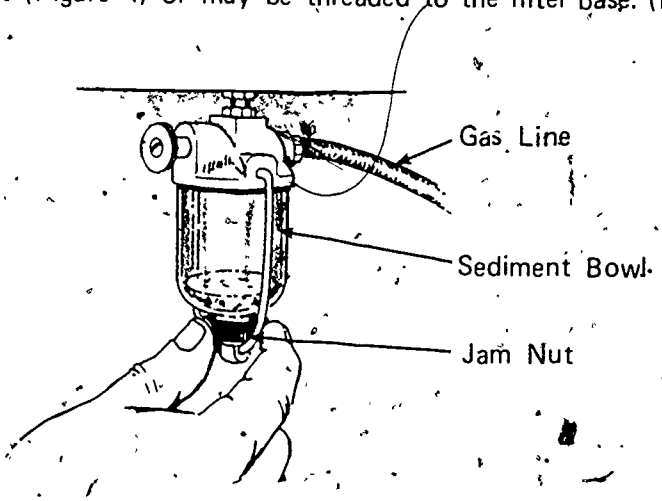
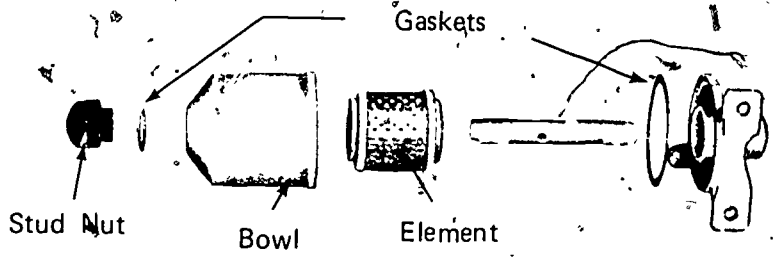


FIGURE 4



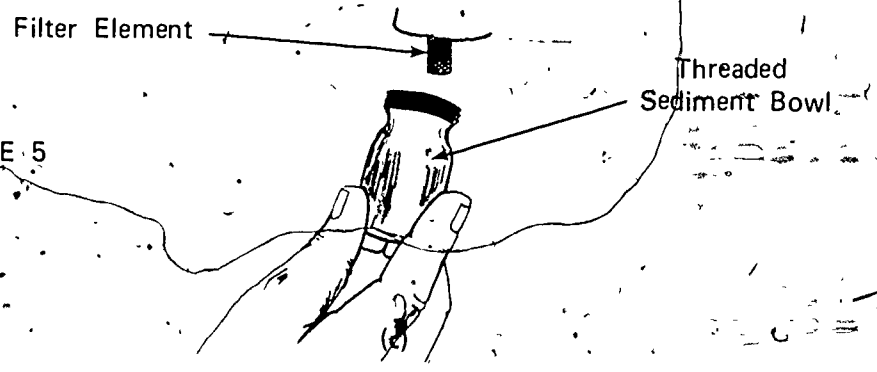


FIGURE 5

JOB SHEET #1

C. Remove bowl with twisting motion

(NOTE: There is less danger of breaking the gasket if the glass bowl is twisted while being removed.)

D. Remove gasket

(NOTE: If the gasket is cracked or hard, be sure to replace with a new gasket. If you do not have a new gasket and the old one is still in good shape, note which side is next to the bowl, then turn it over so the opposite side will contact the bowl when you put it back in place.)

E. Remove strainer screen or filter

(NOTE: The screen is easily removed from the top of the sediment bowl since it is held in place by the clamping action between the bowl and gasket. If a filter is used in place of a screen, it will lift out easily or may be of the type to be unscrewed from the base of the assembly. (Figure 6) If the filter is of the edge type (Figure 7), avoid rubbing the accumulated sediment into the filter unit. This tends to embed the material in the small openings and makes it difficult to remove.)

FIGURE 6

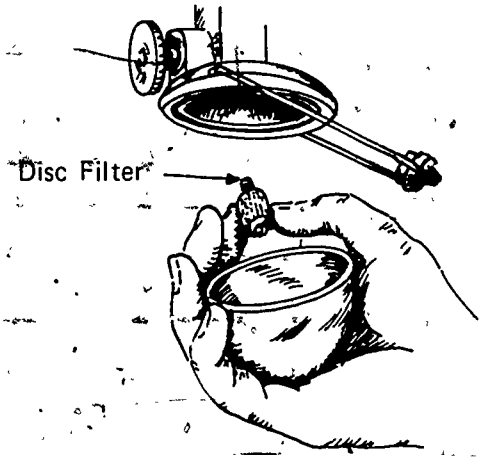
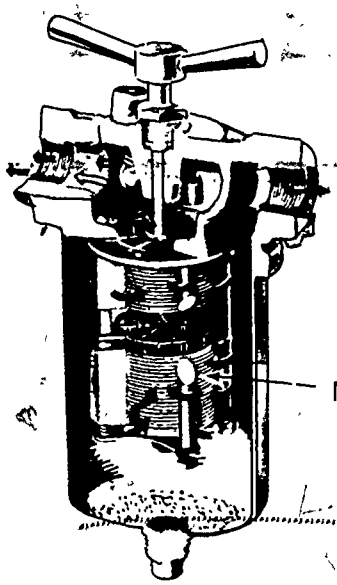


FIGURE 7



JOB SHEET #1

F. Wash screen or filter element

(NOTE: If the filter element is a disposable type (Figure 8), it should be replaced with a new one. Wash the screen type in diesel fuel or kerosene. (Figure 9) Some disc-type filters have screws on the end which will loosen the discs when unscrewed. If the screen or disc filter is difficult to clean, it may be because of gum and varnish residues that have collected. These are not soluble in diesel fuel or kerosene. Use a paint remover, varnish solvent, acetone, or a mixture of one part alcohol and one part benzol. If a disc-type filter is to be re-installed in an LP-Gas tractor, finish drying the filter element by blowing air through one end. (Figure 10)

FIGURE 8

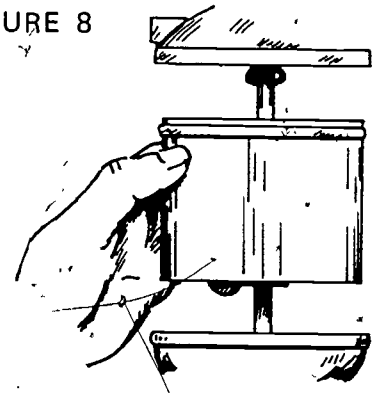
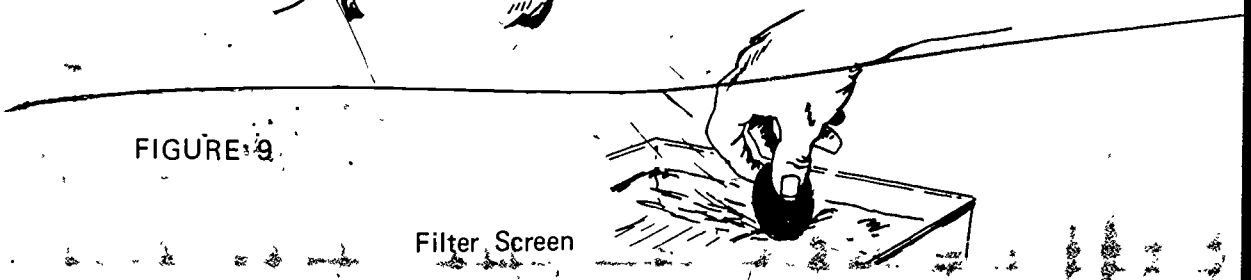
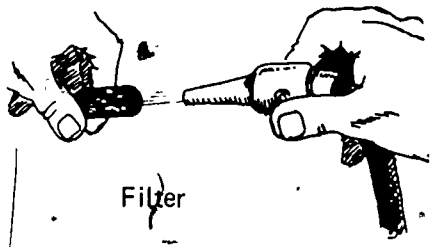


FIGURE 9



Filter Screen

FIGURE 10



Filter

G. Clean sidement bowl

(NOTE: Use some of the cleaning solution on a cloth, then wipe dry enough that no lint is left in the bowl.)

H. Open fuel valve and observe flow of fuel (This does not apply to LP-Gas tractors.)

(NOTE: This tends to remove any dirt between the tank and the sediment bowl. It also serves as a check on the condition of the vent hole in the fuel-tank cap. If the vent hole is clogged, the flow will be slow. (Figure 11) Remove the tank cap and open the vent hole with cleaning solvent. (Figure 12) Be sure to catch fuel that is wasted from the fuel line; careless handling causes a serious fire hazard.)

FIGURE 11

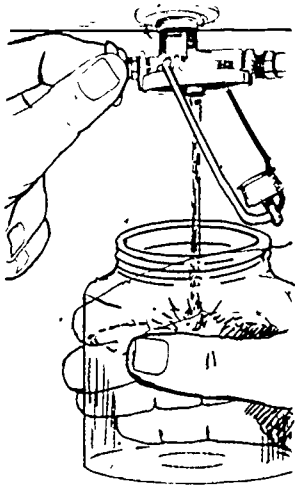
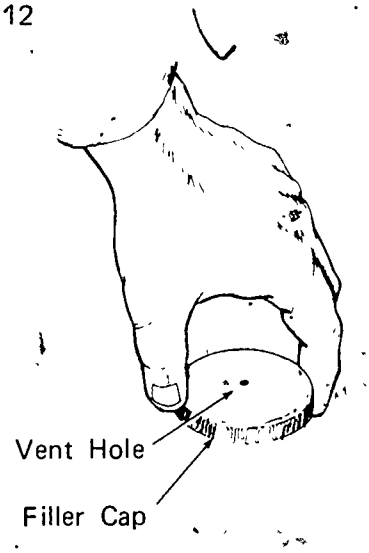


FIGURE 12



I. Re-install gasket, strainer (or filter), and sediment bowl

(NOTE: If a disc-filter element, tighten it with fingers. If tightened too much, the disc will warp and restrict the flow of fuel.)

J. Tighten bowl against gasket

(NOTE: Tighten completely for spark-ignition engines. For diesel engines, it may need to be installed loosely until air has been bled from the system; then tighten. Refer to Job Sheet #3 for bleeding diesel lines.)

K. Open the fuel valve, start your tractor, and check for leaks

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SERVICING THE TRACTOR--FUEL SYSTEM
UNIT VIII

JOB SHEET #2--CHANGE THE DIESEL FUEL FILTER

I. Tools and materials needed

A. Clean rags

B. Container with solvent (kerosene or diesel fuel)

C. Container to catch waste diesel fuel

D. Set of open end wrenches

E. Small scrub brush

F. Replaceable filters, if needed

II. Procedures

A. Turn off fuel supply at tank

B. Clean outside of filter body and engine area around filter; wipe dry

(NOTE: This is important to keep dirt from entering fuel system. Use a cloth and diesel fuel to remove dirt, then wipe the cleaned area dry with a clean cloth.)

C. Drain fuel from filter

(NOTE: Most filters have a drain cock at the base or plug. Catch the fuel in a pan.)

D. Remove old filter

E. Clean inside of filter bowl (unless it is a self-contained type)

(NOTE: If cloth is used, be sure it is lint free and clean. Some manufacturers recommend the use of a brush.)

F. Reinstall cleaned filter or new disposable filter element

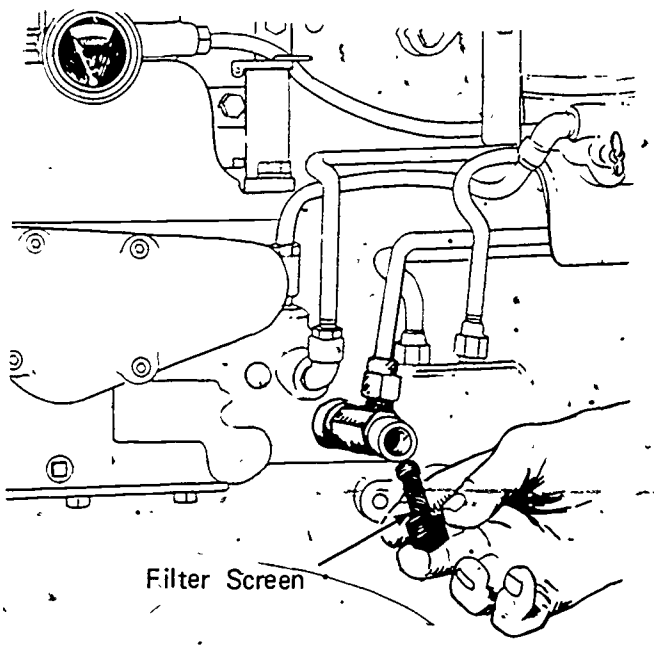
G. Complete the filter assembly and tighten it

JOB SHEET #2

H. Replace the drain plug or tighten the drain valve

(NOTE: Some tractors are equipped with a screen on the low pressure side near the primary pump. (Figure 1) If tractor is equiped with one of these, you may clean the screen when you service the filter element.)

FIGURE 1



SERVICING THE TRACTOR--FUEL SYSTEM
UNIT VIII

JOB SHEET #3--BLEED FUEL LINES ON DIESEL ENGINE

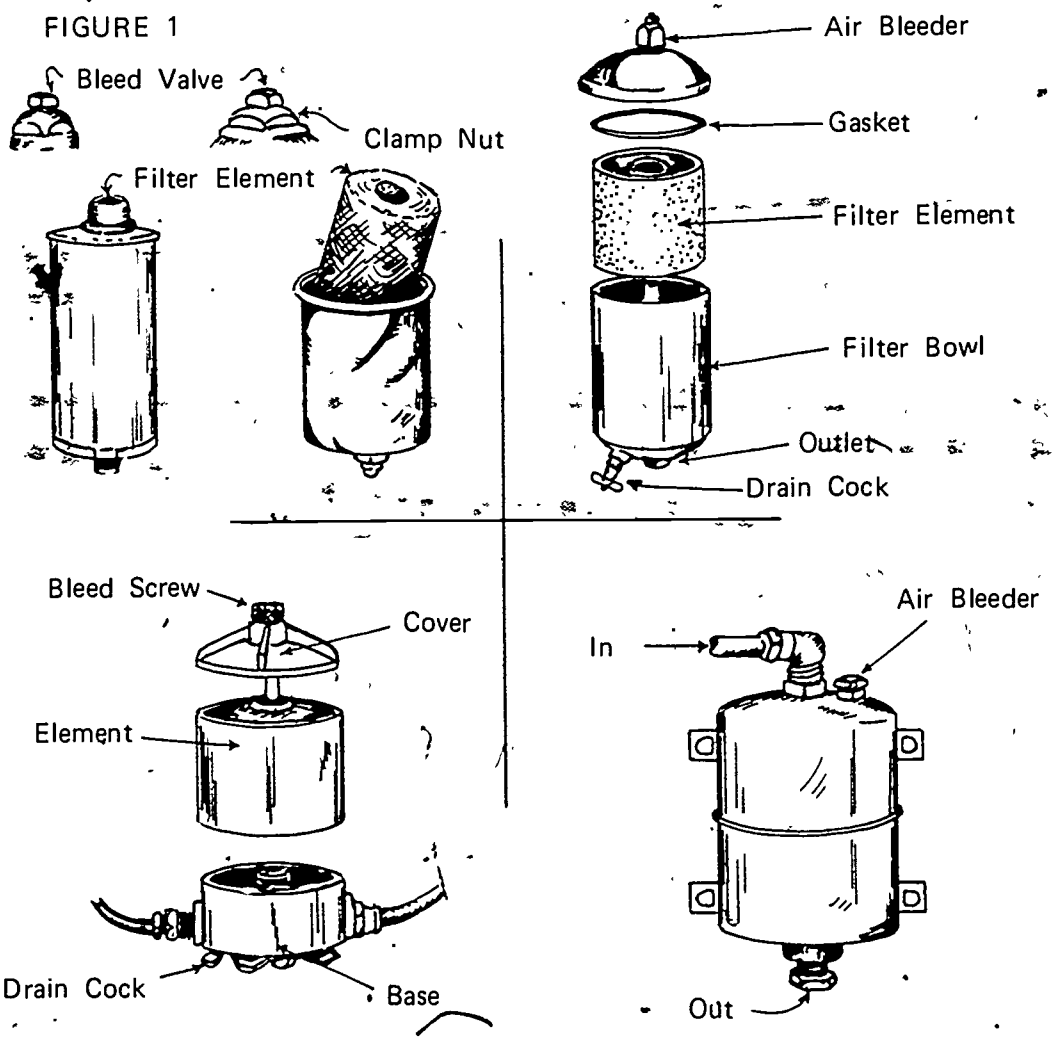
(NOTE: Each time the filters are drained and new filter elements installed, considerable air is left in the filter body and fuel line. If the air is left in the line, it may form an air lock when you try to start the engine. It is important to remove the air before you attempt to start the engine. Procedures are the same for the first, second, or third stage filters except noted under each step. If more than one filter has been changed, bleed the one closest to the tank first.

I. Materials needed--Set of open end wrenches

II. Procedure

A. Open bleed valve on top of filter (Figure 1)

FIGURE 1

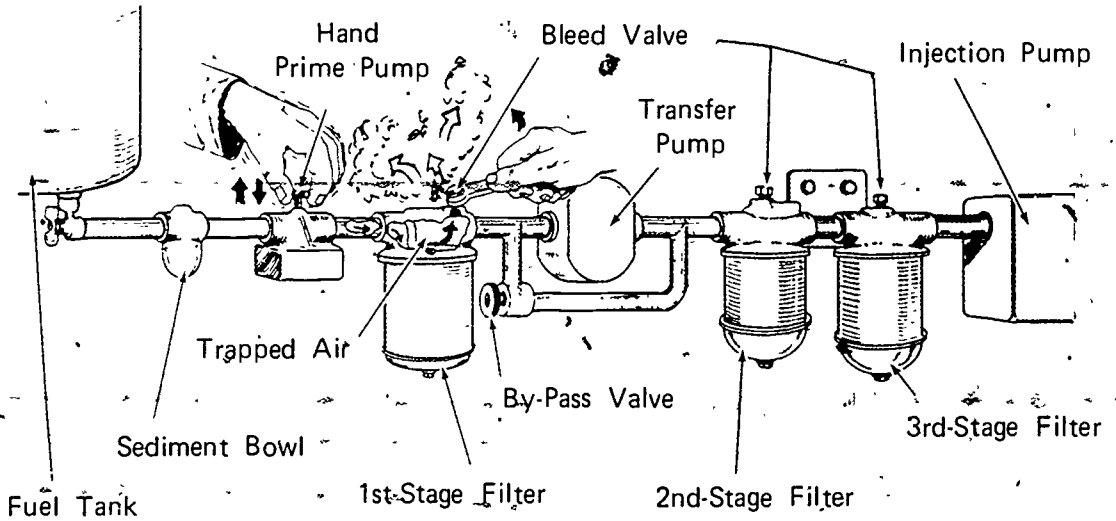


JOB SHEET #3

B. Open fuel tank valve

(NOTE: This will force the air out through the bleed valve and replace the air space with fuel. Some tractors are equipped with a hand-prime pump to be used in removing air. (Figure 2) Several strokes of the hand pump quickly removes the air and replaces it with fuel. If a transfer pump is located between the fuel tank and the filter you are bleeding, you will probably find a bypass line and valve. By opening the valve, fuel bypasses the pump so air can be bled out of the filter. (Figure 2)

FIGURE 2



C. Close bleed valve

(NOTE: Do this to avoid damaging seal. Do not overtighten.)

SERVICING THE TRACTOR--FUEL SYSTEM
UNIT VIII

JOB SHEET #4--REMOVE WATER AND SEDIMENT FROM DIESEL FUEL

I. Materials and tools

A. Clean rags

B. Container to catch waste diesel fuel

II. Procedure

(NOTE: Use the directions in your operators manual for the make and type of your tractor. If you haven't a manual, use the following procedures.)

A. Check for drain cock on

1. Bottom of fuel tank (Figure 1)
2. Bottom of first filter (Figure 2)
3. Top of sediment bowl

FIGURE 1

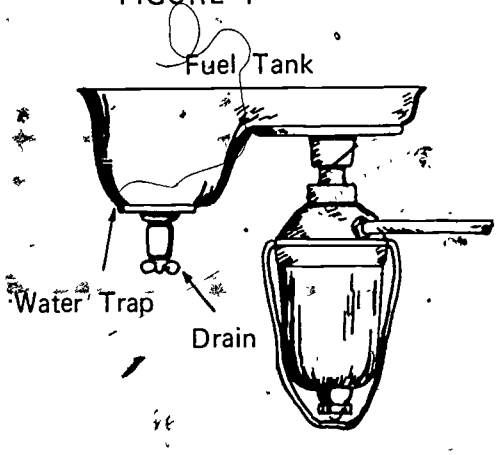
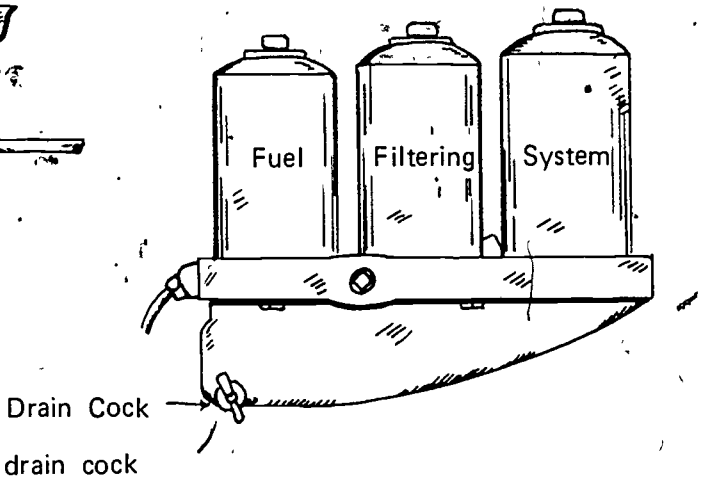


FIGURE 2



B. If equipped with drain cock

1. Open and drain about one pint of fuel

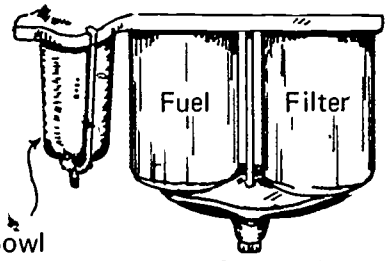
(NOTE: This is done to make certain water and sediment are removed.)

2. Close drain cock

JOB SHEET #4

C. If equipped with water trap and sediment bowl (Figure 3) and if sediment bowl is more than one-third full of water, proceed as follows:

FIGURE 3



Water Trap and Sediment Bowl

1. Close fuel valve under fuel tank
2. Loosen thumb nut under bowl and swing bail to one side
3. Remove glass bowl, empty, and clean

   (NOTE: Be careful not to lose the gasket the filter bowl presses against. When bowl is removed, the gasket may be on top of bowl or may remain in top of filter assembly.)
4. Wash glass bowl in kerosene to remove dirt and sediment
5. Install bowl loosely

   (NOTE: When installing bowl, be sure to check the gasket. If it is not in good shape, replace the gasket with a new one.)
6. Open fuel valve and allow bowl to fill

   (NOTE: With bowl mounted loosely, the fuel forces air out of top of bowl.)
7. Tighten thumb nut under bowl when air is completely removed

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SERVICING THE TRACTOR--FUEL SYSTEM
UNIT VIII

TEST

1. Explain in writing the purpose of the fuel system.

2. Match the fuel system components on the right with the proper definition.

_____a. Used to filter grit and dust from the air entering the carburetor

_____b. A device for automatically mixing fuel and air in the proper proportion for a combustible mixture

_____c. Used to carry fuel from the fuel tank to the carburetor

_____d. A reservoir to store fuel for engine use

_____e. Allows water to settle out and catches particles of scale, rust, or foreign matter that will clog a carburetor

_____f. Pumps fuel from the tank to the carburetor

_____g. Applies high pressure to the fuel (1600-3200 psi) which is used by the injector nozzles to make a fine mist of the fuel as it is sprayed into the cylinder

1. Fuel tank
2. Sediment bowl and filter
3. Fuel pump
4. Carburetor
5. Fuel lines
6. Diesel injection-pump
7. Air-cleaner

3. Match the fuel filters and sediment bowls listed below with the following drawings.

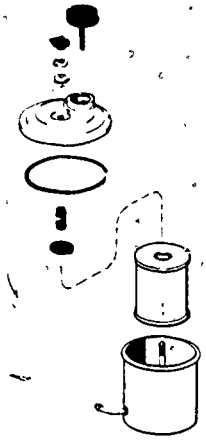
_____a. Glass bowl with screen fiber commonly used on gasoline and diesel tractors

_____b. Metal bowl with felt filter and screen often used on LP-Gas tractors

_____c. Diesel fuel filter used on diesel tractors

_____d. Edge-type (disc) filter sometimes used with either liquid or gas fuels

1.



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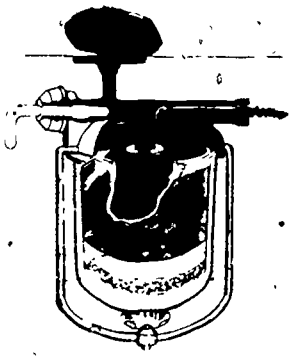

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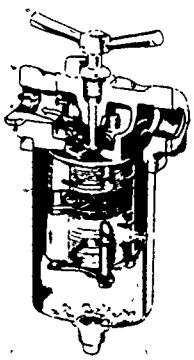

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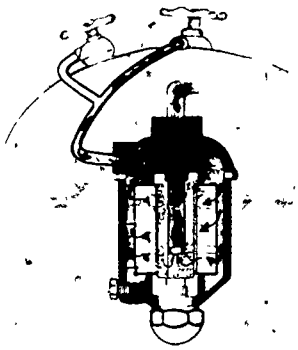

4. Discuss in writing how often the sediment bowl and fuel filter should be cleaned.

5. Demonstrate the ability to:

   a. Clean the sediment bowl and fuel filter.

   b. Change the diesel fuel filter.

   c. Bleed fuel lines on diesel engines.

   d. Remove water and sediment from diesel fuel.

(NOTE: If this has not been accomplished prior to the test, ask the instructor when the above activities should be completed.)

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SERVICING THE TRACTOR--FUEL SYSTEM
UNIT VIII

ANSWERS TO TEST

1. To supply a combustible mixture of air and fuel to the engine cylinders

2. a. 7
   b. 4
   c. 5
   d. 1
   e. 2
   f. 3
   g. 6

3. a. 2
   b. 4
   c. 1
   d. 3

4. Gasoline and diesel tractors should be serviced from ten to 900 hours. LP-Gas tractors service intervals vary from 100 hours to yearly.

5. Performance skills will be evaluated to the satisfaction of the instructor.

IGNITION SYSTEM
UNIT IX

TERMINAL OBJECTIVE

After completion of this unit, the student should be able to select from a list the components of the primary and secondary ignition circuits. He should be able to identify the components of a battery powered ignition system and components of a distributor. The student should be able to check the condition of a distributor, replace breaker points, and adjust breaker points. This knowledge will be evidenced through demonstration and by scoring eighty-five percent of the unit test.

SPECIFIC OBJECTIVES

After completion of this unit, the student should be able to:

1. Match terms associated with the ignition system to the proper definition.
2. Explain in writing the purpose of the ignition system.
3. Select from a list the components of the primary and secondary ignition circuits.
4. Identify the components of a battery powered ignition system.
5. Identify the components of a distributor.
6. List reasons why points may be badly burned.
7. Demonstrate the ability to:
   a. Check the condition of the distributor.
   b. Replace breaker points.
   c. Adjust breaker points.

IGNITION SYSTEM
UNIT IX

SUGGESTED ACTIVITIES

I. Instructor:

A. Provide students with objective sheet.

B. Provide students with information and job sheets.

C. Make transparencies.

D. Discuss terminal and specific objectives.

E. Discuss information sheet.

F. Demonstrate and discuss procedures outlined in job sheets.

G. Give test.

II. Student:

A. Read objectives.

B. Study information sheet.

C. Demonstrate the ability to accomplish the procedures outlined in the job sheets.

D. Take test.

INSTRUCTIONAL MATERIALS

I. Included in this unit:

A. Objectives

B. Information sheet

C. Transparency masters

1. TM 1--Primary Circuit
2. TM 2--Secondary Circuit
3. TM 3--Battery Powered Ignition System
4. TM 4--Distributor Components

D. Job sheets

1. Job Sheet #1--Check the Condition of the Distributor
2. Job Sheet #2--Replace Breaker Points
3. Job Sheet #3--Adjust Breaker Points

E. Test

F. Answers to test

II. References:

A. *Tractor Maintenance.* American Association for Instructional Materials. Athens, Georgia: Foote and Davis (Division of McCall Printing Company), 1970.

B. *Auto Mechanics Instructional Units.* Curriculum and Instructional Materials Center, Stillwater, Oklahoma, 1971.

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IGNITION SYSTEM
UNIT IX

INFORMATION SHEET

I. Terms and definitions

A. Battery--A source of electrical power

B. Ignition switch--Opens and closes the primary circuit from battery to the contact points

C. Resistance unit--Reduces voltage in the primary circuit to protect the contact points

D. Ignition coil--Transforms low voltage into high voltage necessary to jump the spark plug gap

E. Contact points--Make and break the primary circuit to allow the coil to produce high voltage at the spark plugs

F. Condensor--Stores extra current as the contact points open to prevent arcing and burning

G. Distributor--Contains the contact points and condensor; distributes the high voltage current from the coil to the proper cylinder

H. Breaker cam--Opens and closes the contact points

I. Spark-advance mechanisms--Regulate the timing of the high voltage circuit for best ignition during all speed and load conditions

J. Rotor--Takes the high voltage current from the coil and directs it to the correct cylinder

K. Distributor cap--Holds the coil and spark plug wires in a sequence and provides a cover for the distributor

L. Spark plug--Provides a spark gap inside the engine cylinder to ignite the fuel air mixture

M. Primary ignition wire--Carries low voltage from the battery to the primary side of the ignition coil (light wire)

N. Secondary ignition wire--Carries high voltage from the secondary side of the coil to the spark plug (heavily insulated wire)

II. Purpose of the ignition system--To produce high voltage current to ignite the fuel air mixture in the engine cylinders

INFORMATION SHEET

III. Ignition system circuits

A. Primary--Low voltage circuit (Transparency 1)

1. Battery
2. Ignition switch
3. Resistance unit
4. Primary winding of the coil
5. Contact points
6. Condensor
7. Low voltage wire that connects the units

B. Secondary--High voltage circuit (Transparency 2)

1. Secondary winding of the coil
2. Distributor cap
3. Rotor
4. Spark plug
5. High voltage wire that connects the units

IV. Parts of a battery-powered ignition system (Transparency 3)

A. Ignition switch

B. Battery

C. Ignition coil

D. Distributor

E. Spark plugs

F. Spark-plug wires

V. Distributor components (Transparency 4)

A. Distributor cap

B. Rotor

C. Centrifugal advance mechanism

INFORMATION SHEET

D. Condensor

E. Vacuum advance

F. Breaker plate

G. Distributor cam

H. Contact points

I. Distributor housing

J. Primary lead wire

K. Distributor drive gear

VI. Reasons for badly burned points

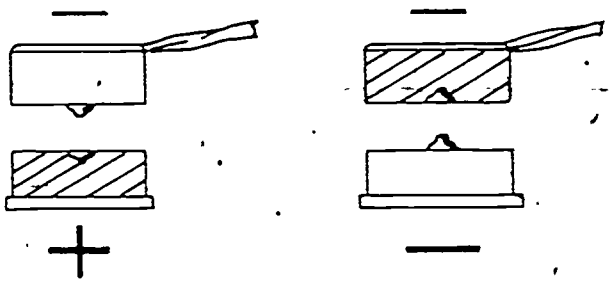
A. Oil or foreign material on the contact surfaces

B. A contact-point gap adjustment that is either too wide, too close, or points that are out of alignment

C. A defective condenser

(NOTE: If the condenser is not working properly or is not of the proper capacity for your ignition system, there will be a cone-shaped deposit of metal on one point and a cone-shaped pit on the other.)

Example:



Capacity Too High Capacity Too Low

Check tightness of screw that holds the condenser. This screw is also ground connection and must be tight.

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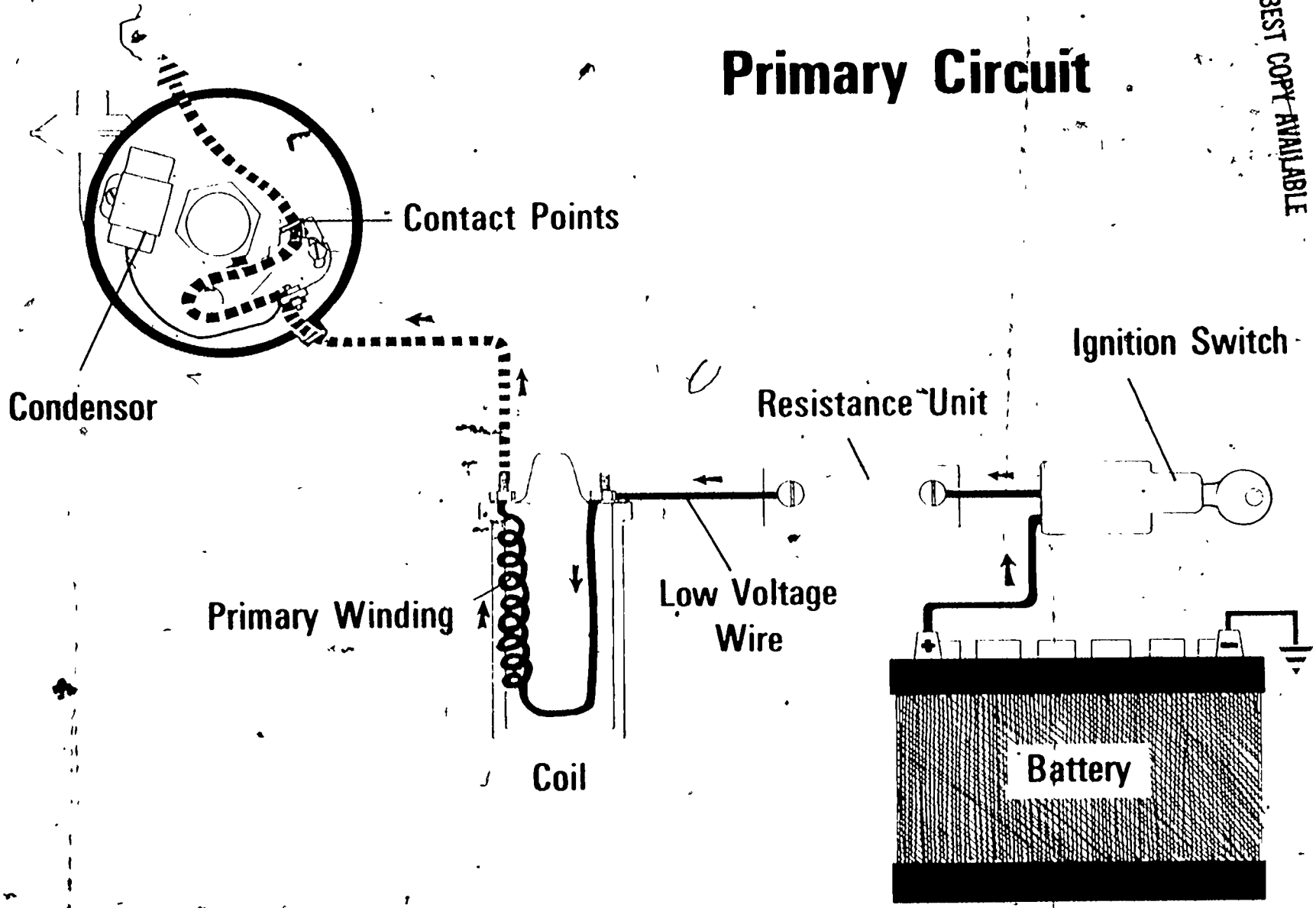
Primary Circuit



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Secondary Circuit

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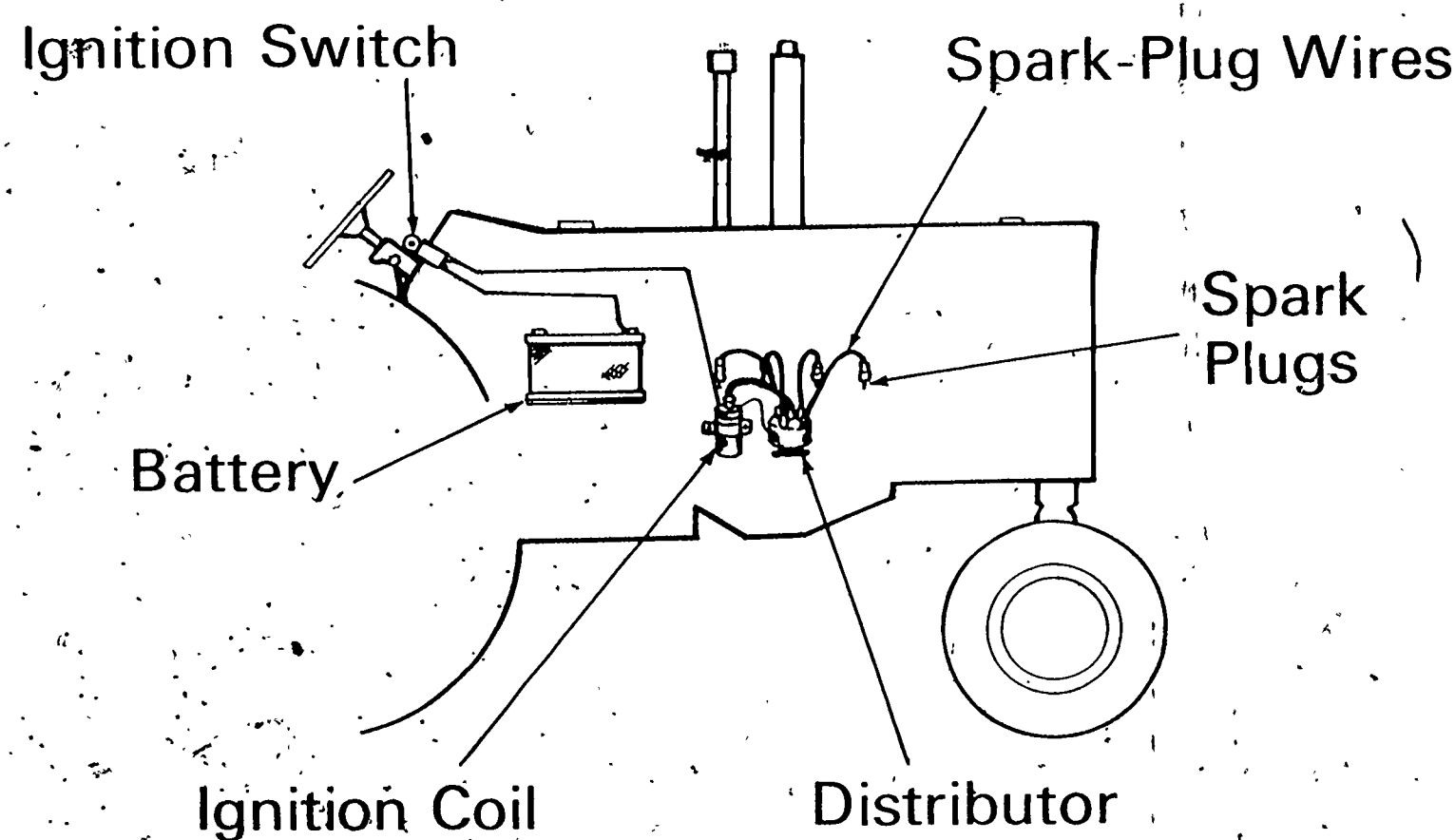
Battery Powered Ignition System



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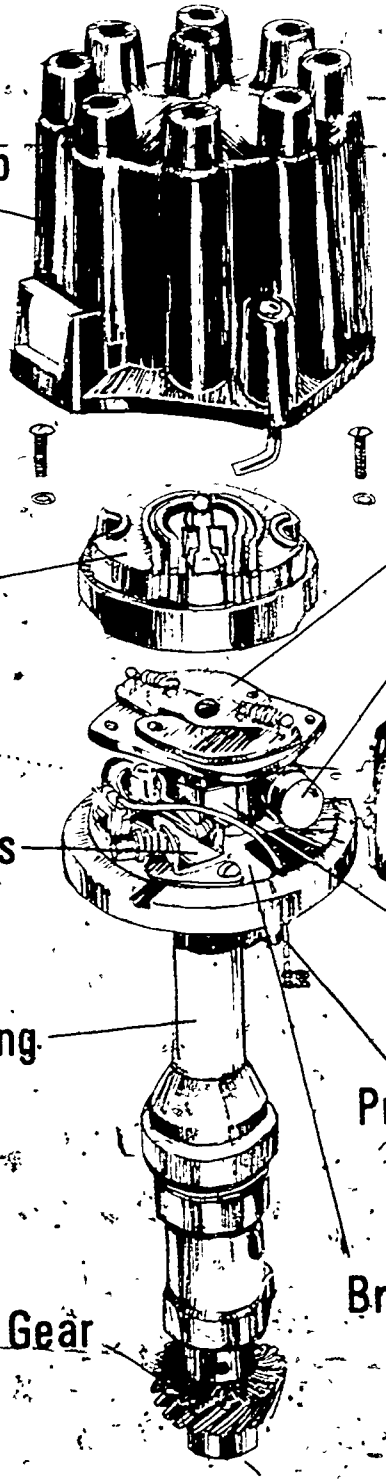
Distributor Components



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IGNITION SYSTEM
UNIT IX

JOB SHEET #1--CHECK THE CONDITION OF THE DISTRIBUTOR

I. Tools and materials needed

A. Screwdriver

B. End wrenches

C. Ignition file

D. Clean rags

E. Small pan of kerosene or diesel fuel

II. Procedure

A. Remove dirt from outside surface of distributor and cap

(NOTE: Use a dry cloth or if necessary a small amount of diesel or kerosene. Do not use water, it may cause short circuiting.)

B. Remove cap and clean inner surfaces--Leave wires connected

(NOTE: Use a clean dry cloth to remove carbon, dust, moisture, or oil deposits.)

C. Check distributor cap for chips or cracks

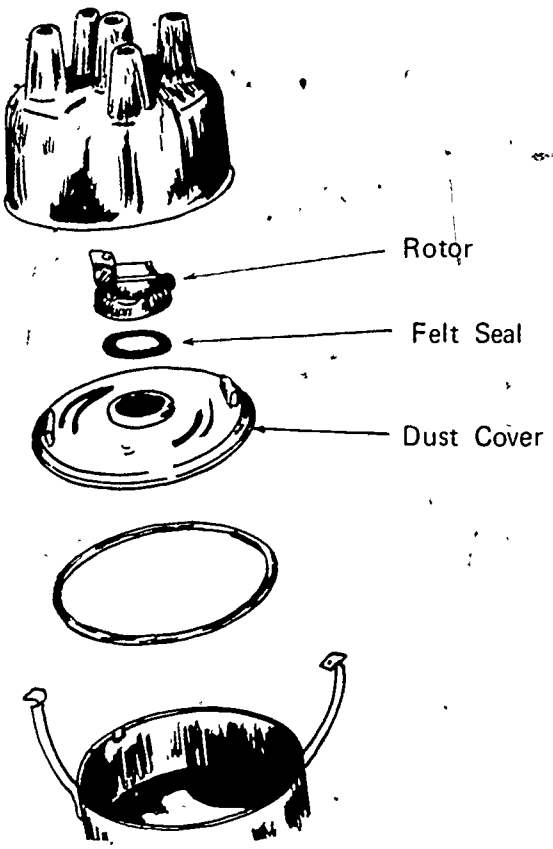
(NOTE: If cap is cracked, replace with a new one. Also check condition of carbon button in center of cap. If it shows excessive wear, chips, or cracks, get a new distributor cap.)

JOB SHEET #1

D. Remove distributor arm (rotor) and clean (Figure 1)

(NOTE: Pull the distributor arm or rotor straight up or out (if mounted horizonally) from the end of the shaft. Wipe the rotor arm clean with a dry cloth and inspect for cracks or excessive burning of the metal strip. If top of metal strip is badly burned, replace the old rotor with a new one.)

FIGURE 1



E. Remove dust cover, if one is used, and check condition of felt seal

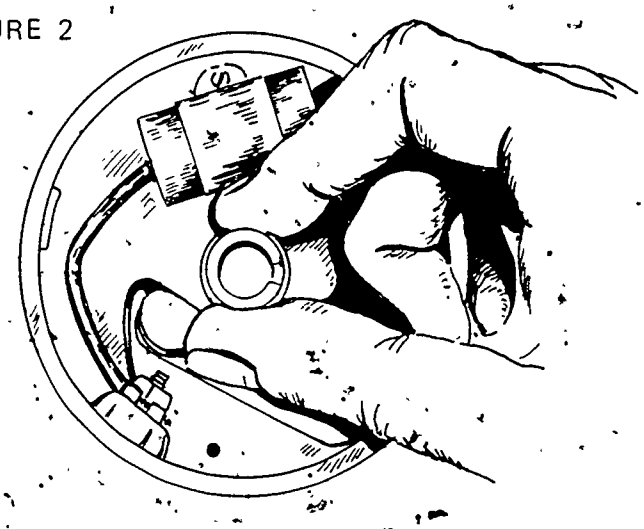
(NOTE: If seal is worn, dirt may enter the breaker compartment and cause rapid wear of the cam lobes.)

JOB SHEET #1

F. Check the centrifugal-advance mechanism (Figure 2)

(NOTE: Turn distributor shaft in direction of normal rotation. It should rotate freely for a short distance as the weights move outward. The springs should return it to the original position when released. If it does not work properly, have a service man check it.)

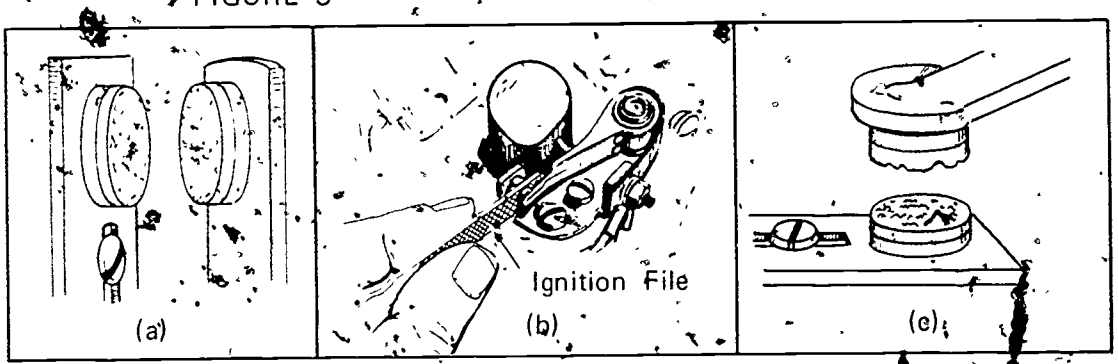
FIGURE 2



G. Check condition of breaker points

(NOTE: If the contact points are rough but show only slight pitting and metal deposits, smooth with an ignition file. The points do not need to be completely smooth with all pits removed. Blow out the dust after you have completed the filing. (Figure 3))

FIGURE 3



(a) Contact points that are slightly burned or pitted may be (b) smoothed with an ignition file. (c) Badly pitted points should be replaced with new ones.

Reassemble distributor in reverse order from the above listed steps.

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IGNITION SYSTEM
UNIT IX

JOB SHEET #2--REPLACE BREAKER POINTS

I. Tools and materials needed

A. Screwdriver

B. Multi-purpose grease

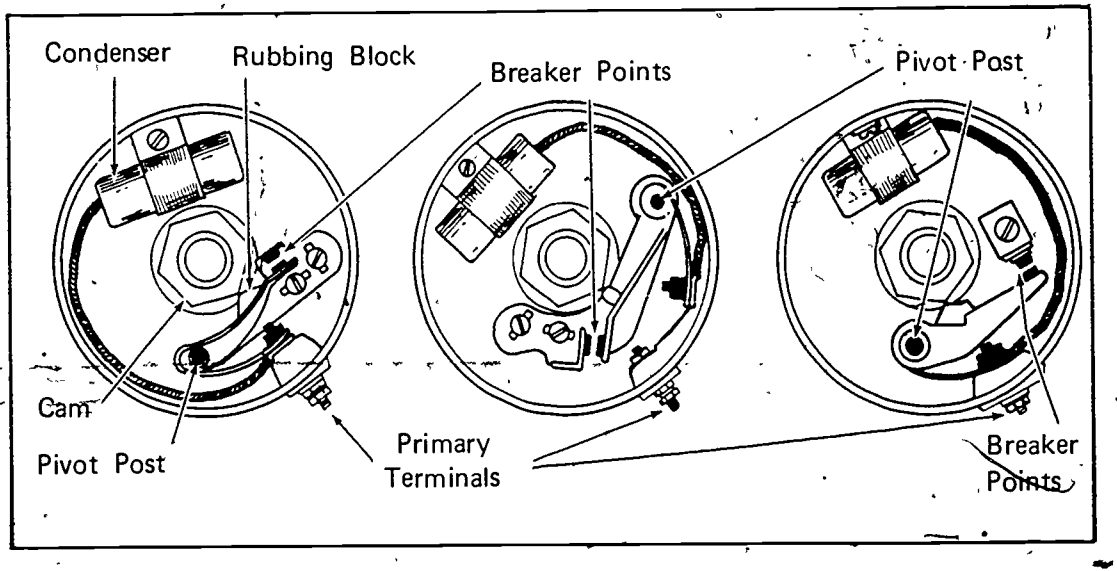
C. Small amount of SAE-10 crankcase oil

D. Clean rags

II. Procedure

A. Remove breaker arm and spring (Figure 1)

FIGURE 1

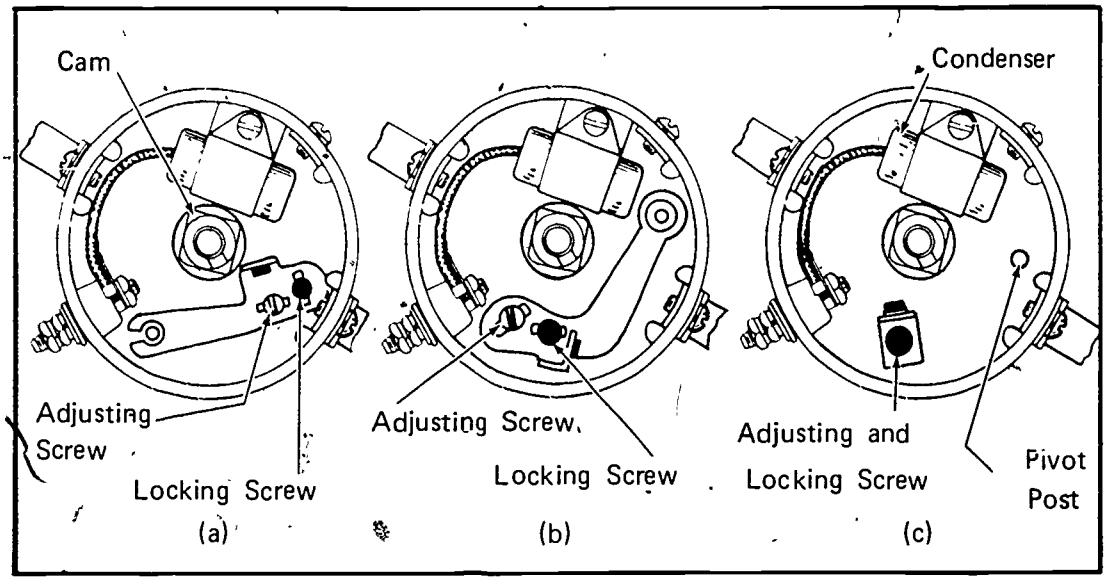


JOB SHEET #2

B. Remove stationary breaker point and bracket (Figure 2)

(NOTE: On most distributors one end of the breaker-point bracket is held by the same pivot pin that held the breaker arm. The other end is sometimes held by a locking screw (Figure 2a and 2b). The second screw is for adjusting the position of the points and is called an "eccentric screw" or "adjusting screw". On others, the bracket and breaker point are held by one screw (Figure 2c). With this type the hole in the bracket is slotted so the breaker point can be adjusted to the proper position.)

FIGURE 2



C. Clean, then lubricate cam with petroleum jelly or multi-purpose grease

(NOTE: Use only enough for a thin film on the cam lobes. This avoids getting it on the breaker points, causing them to burn. A very small amount greatly reduces wear on the rubbing block and cam.)

D. Install new points in reverse order

(NOTE: Apply a drop of SAE-10 crankcase oil around the contact point pivot post before installing new points. (Figure 2c) Be sure electrical connections are tight.)

IGNITION SYSTEM
UNIT IX

JOB SHEET #3--ADJUST BREAKER POINTS

I. Materials and tools needed

A. Screwdriver

B. Thickness gage

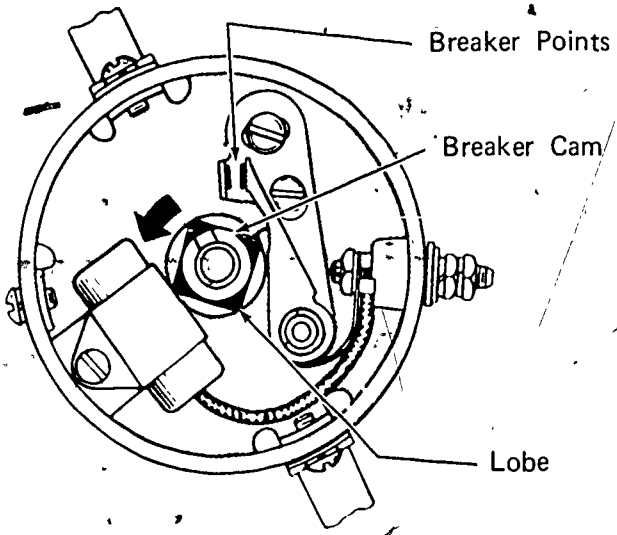
C. Clean rags

D. Smooth paper strip

II. Procedure

A. Turn engine until cam opens breaker points to widest position (Figure 1)

FIGURE 1

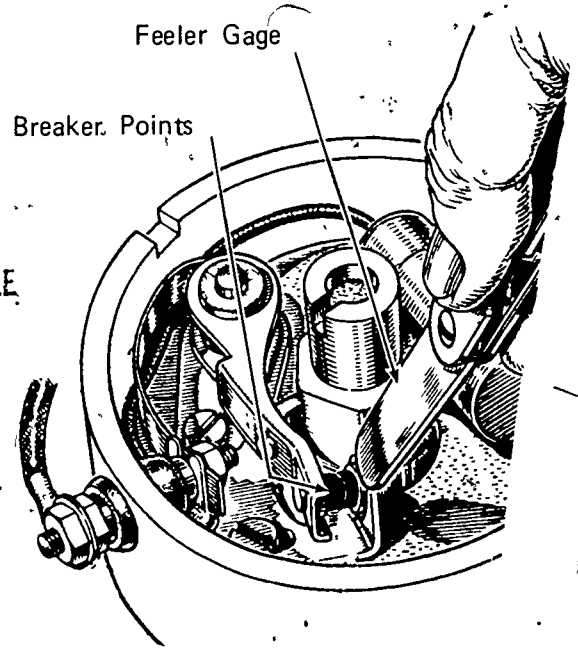


JOB SHEET #3

B. Check points for proper spacing (Figure 2)

(NOTE: Use a feeler gage of the thickness recommended for your tractor. This may vary from .010 to .028. The proper width gap is provided when there is a slight drag on the feeler gage as you pull it between the contact points. If adjustment is needed, proceed with step C.)

FIGURE 2



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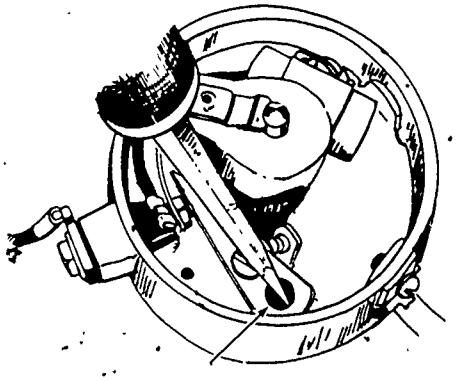
C. Loosen lock screw on bracket that provides adjustment (Figure 3)

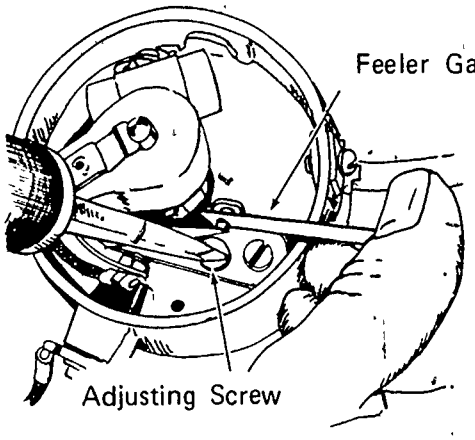
FIGURE 3



JOB SHEET #3

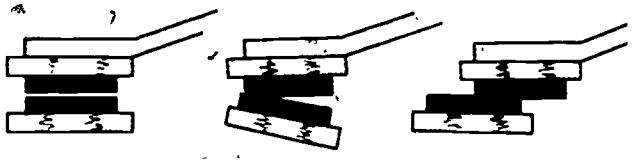
D. Adjust points for proper spacing and alignment (Figure 4)

FIGURE 4



(NOTE: Be sure the breaker-point faces fit together squarely.) (Figure 5)

FIGURE 5



(a) Breaker points should fit together squarely to keep down wear.
(b) and (c) Only partial contact causes arcing and uneven wear.

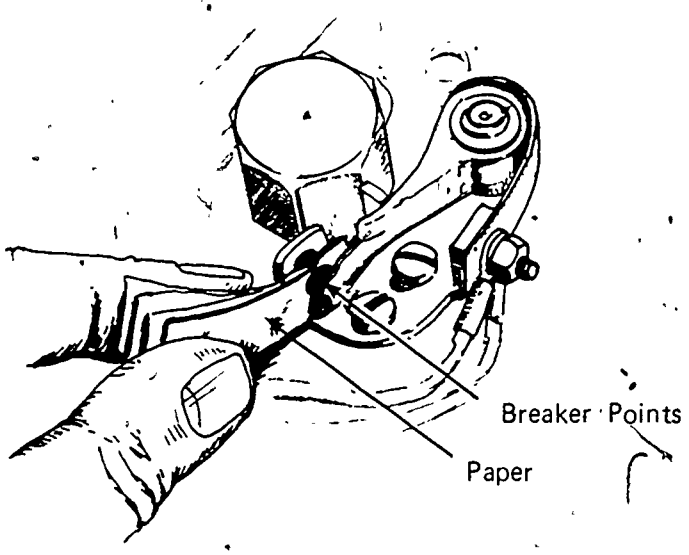
E. Lock breaker point in position with lock screw

JOB SHEET #3

F. Recheck gap between points and wipe points clean (Figure 6)

(NOTE: Run a strip of paper or a clean cloth between the contacts to remove any grease or dirt particles. A crisp dollar bill may be used to clean points.)

FIGURE 6



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IGNITION SYSTEM
UNIT IX

TEST

1. Match the terms on the right with the proper definition.

_____a.	Carries low voltage from the battery to the primary side of the ignition coil (light wire).	1. Battery
_____b.	Holds the coil and spark plug wires in a sequence and provides a cover for the distributor	2. Ignition switch
_____c	Regulate the timing of the high voltage circuit for best ignition during all speed and load conditions	3. Resistance unit
_____d.	Contains the contact points and condensor; distributes the high voltage current from the coil to the proper cylinder	4. Ignition coil
_____e.	Make and break the primary circuit to allow the coil to produce high voltage at the spark plugs	5. Contact points
_____f.	Reduces voltage in the primary circuit to protect the contact points	6. Condensor
_____g.	A source of electrical power	7. Breaker cam
_____h.	Opens and closes the primary circuit from battery to the contact points	8. Spark-advance mechanisms
_____i.	Transforms low voltage into high voltage necessary to jump the spark plug gap	9. Rotor
_____j.	Stores extra current as the contact points open to prevent arcing and burning	10. Distributor cap
		11. Spark plug
		12. Primary ignition wire
		13. Secondary ignition wire
		14. Distributor

_____k. Opens and closes the contact points

_____l. Takes the high voltage current from the coil and directs it to the correct cylinder

_____m. Provides a spark gap inside the engine cylinder to ignite the fuel air mixture

_____n. Carries high voltage from the secondary side of the coil to the spark plug (heavily insulated wire)

2. Explain in writing the purpose of the ignition system.

3. Select from the list below the components of the primary and secondary ignition circuits. Place an "X" by the correct components.

a. Primary--Low voltage circuit

_____1) Battery

_____2) Rotor

_____3) Ignition switch

_____4) Spark plug

_____5) Contact points

_____6) Condensor

b. Secondary--High voltage circuit

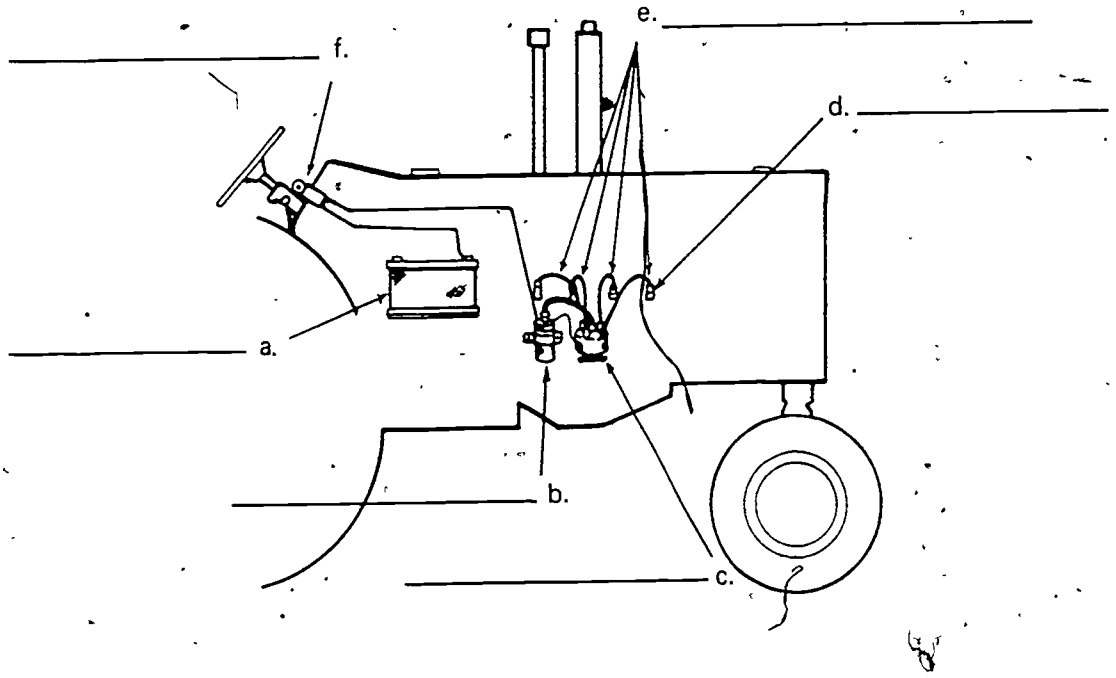
_____1) Secondary winding of the coil

_____2) Distributor cap

_____3) Resistance unit

_____4) Rotor

4. Identify the parts of a battery-powered ignition system.



5. Identify the components of the distributor by matching the component to the illustration on the right.

_____a. Distributor cap

_____b. Rotor

_____c. Centrifugal advance mechanism

_____d. Condensor

_____e. Vacuum advance

_____f. Breaker plate

_____g. Distributor cam

_____h. Contact points

_____i. Distributor housing

_____j. Primary lead wire

_____k. Distributor drive gear

6. List two reasons for badly burned points.

   a.

   b.

7. Demonstrate the ability to:

   a. Check the condition of the distributor.

   b. Replace breaker points.

   c. Adjust breaker points.

   (NOTE: If this has not been accomplished prior to the test, ask the instructor when the above activities should be completed.)

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IGNITION SYSTEM
UNIT IX

ANSWERS TO TEST

1. a. 12
   b. 10
   c. 8
   d. 14
   e. 5
   f. 3
   g. 1
   h. 2
   i. 4
   j. 6
   k. 7
   l. 9
   m. 11
   n. 13

2. To produce high voltage current to ignite the fuel air mixture in the engine cylinders.

3. a. 1)
      3)
      5)
      6)
   b. 1)
      2)
      4)

4. a. Battery
   b. Ignition coil
   c. Distributor
   d. Spark plugs
   e. Spark-plug wires
   f. Ignition switch

5. a. 1
   b. 2
   c. 6
   d. 7
   e. 8
   f. 11
   g. 9
   h. 3
   i. 4
   j. 10
   k. 5

6. Any two of the following:
   a. Oil or foreign material on the contact surfaces
   b. A contact-point gap adjustment that is either too wide, too close, or points that are out of alignment
   c. A defective condenser

7. Performance skills will be evaluated to the satisfaction of the instructor.

SERVICING THE TRACTOR--COOLING SYSTEM
UNIT X

TERMINAL OBJECTIVE

After completion of this unit, the student should be able to match terms associated with servicing the cooling system of farm tractors and identify the parts of the cooling system. The student should be able to match the type corrosion and deposits with the probable cause and demonstrate the ability to flush or clean the cooling system and test the pressure of a cooling system. This knowledge will be evidenced through demonstration and by scoring eighty-five percent on the unit test.

SPECIFIC OBJECTIVES

1. Match terms associated with servicing the farm tractor's cooling system.
2. Identify the parts of a tractor's cooling system.
3. List three jobs that the cooling system must perform.
4. Select from a list the reasons a pressure type radiator cap is used with forced circulation cooling system.
5. Select from a list the reasons a permanent antifreeze solution should be used in a cooling system at all times.
6. List the problems that result when an engine overheats.
7. Match the type corrosion and deposits found in a cooling system with the probable cause.
8. Name two ways to protect a cooling system from rust.
9. Demonstrate the ability to:
   a. Flush or clean the cooling system.
   b. Pressure test the cooling system.

SERVICING THE TRACTOR--COOLING SYSTEM
UNIT X

SUGGESTED ACTIVITIES

I. Instructor:

A. Provide students with objective sheet.

B. Provide students with information and job sheets.

C. Make transparencies.

D. Discuss terminal and specific objectives.

E. Discuss information sheet.

F. Demonstrate and discuss procedures outlined in the job sheets.

G. Give test.

II. Students:

A. Read objectives.

B. Study information sheet.

C. Demonstrate the ability to accomplish the procedures outlined in the job sheets.

D. Take test.

INSTRUCTIONAL MATERIALS

I. Included in this unit:

A. Objectives

B. Information sheet

C. Transparency masters

1. TM 1--Cooling System Components

2. TM 2--Pressure-Type Radiator Cap

D. Job sheets

1. Job Sheet #1--Flushing or Cleaning the Cooling System

2. Job Sheet #2--Pressure Testing the Cooling System

E. Test

F. Answers to test

II. References:

A. *Tractor Maintenance.* American Association for Vocational Instructional Materials, Engineering Division, Athens, Georgia 30601: Foote and Davis (Division of McCall Printing Co.), 1970.

B. *Auto Mechanics Instructional Units.* Oklahoma State Department of Vocational and Technical Education, Curriculum and Instructional Materials Center, Stillwater, Oklahoma, 1971.

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SERVICING THE TRACTOR COOLING SYSTEM
UNIT X

INFORMATION SHEET

I. Terms and definitions (Transparency 1)

A. Water pump--A centrifugal pump mounted at the front of the cylinder block to circulate the coolant throughout the cooling system

B. Water jackets--The passages through the block and cylinder head that allow the coolant to circulate around the cylinders, valves, and combustion chambers

C. Radiator--A device for holding a considerable volume of coolant in close contact with a large amount of air so that heat may be transferred from the coolant to the air

D. Fan--The device generally mounted on the water pump hub assembly used to pull a large volume of air through the openings in the radiator core

E. Shroud--A funnel-like structure attached to the radiator and extending around and behind the fan used to make the fan more effective in pulling air through the radiator

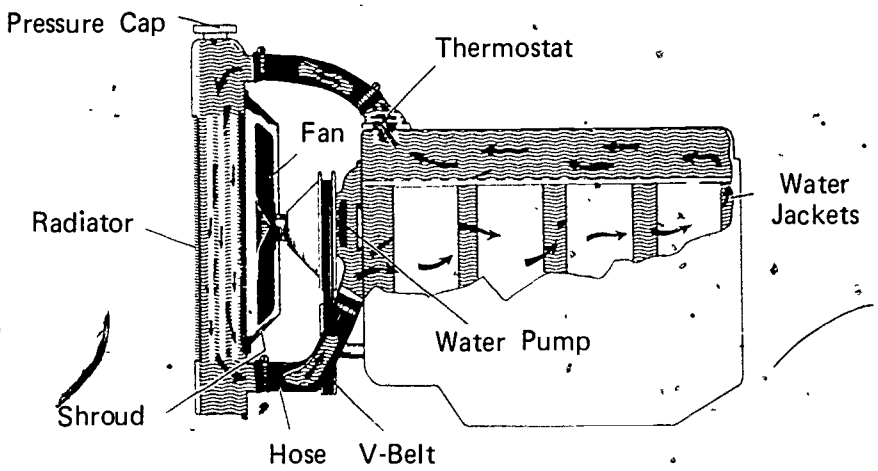
F. Thermostat--A heat controlled valve used in the cooling system to regulate the flow of coolant between the cylinder block and radiator

G. Pressure cap--A cap which increases the pressure within the cooling system several pounds per square inch allowing the coolant to circulate at higher temperatures without evaporation or surge loss

H. Radiator hose--The hose used to connect the radiator to the engine

I. V-Belt--The belt turned by a pulley on the front of the crank shaft used to drive the water pump, fan, and other engine accessories

II. Parts of a cooling system (Transparency 1)



INFORMATION SHEET

III. Jobs the cooling system performs

A. Removes surplus or unwanted heat

B. Maintains an efficient temperature under all operating conditions

C. Brings an engine, when started, up to operating temperature as soon as possible

IV. Reasons a pressure type radiator cap is used with forced circulation cooling systems

A. Makes it possible for the tractor to operate at high temperatures

(NOTE: Water at a temperature of 180°F. to 195°F. is so hot it tends to vaporize readily. Without a pressure cap, water vapor would be free to pass through the overflow tube and you would probably have to refill the radiator several times a day. With a pressure cap the vapor is held inside the radiator.)

B. It acts as a pressure-release valve (Transparency 2)

(NOTE: If the pressure in the radiator gets above the pressure exerted by the spring, the cap permits air or vapor or both to pass into the upper section and out through the overflow tube.)

C. Vacuum value fits in the center of the pressure-release valve and allows air to enter the radiator when the coolant cools

(NOTE: Without a vacuum valve, a vacuum would develop when the engine cools causing the radiator hoses to collapse and air leaks to develop around the water-pump shaft and any weak spots in the radiator.)

V. Reasons for using a permanent type antifreeze

A. Prevents coolant from freezing

B. Boiling point of permanent antifreeze is higher than water

C. Reduces the corrosive action of water

VI. Problems that result when an engine overheats

A. Sticking and burned valves

B. A cracked engine head or block

INFORMATION SHEET

C. Excessive knock

(NOTE: Excessive knock is a result of hot spots that develop and cause incoming fuel to ignite before the spark plug fires.)

VII. Causes of corrosion and deposits found in a cooling system

A. Mineral deposits--Result from repeated additions of hard water that contains alkali (lime or magnesium) or minerals (iron)

B. Rust--When water and oxygen are both present, there is a natural tendency for iron parts in the cooling system to rust

C. Galvanic corrosion--(sometimes called electrolytic corrosion) Caused by small electric currents that are set up where two or more different metals are in contact in the cooling system

(NOTE: This action is similar to that of a flashlight battery in which certain metal parts are gradually eaten away and perforated.)

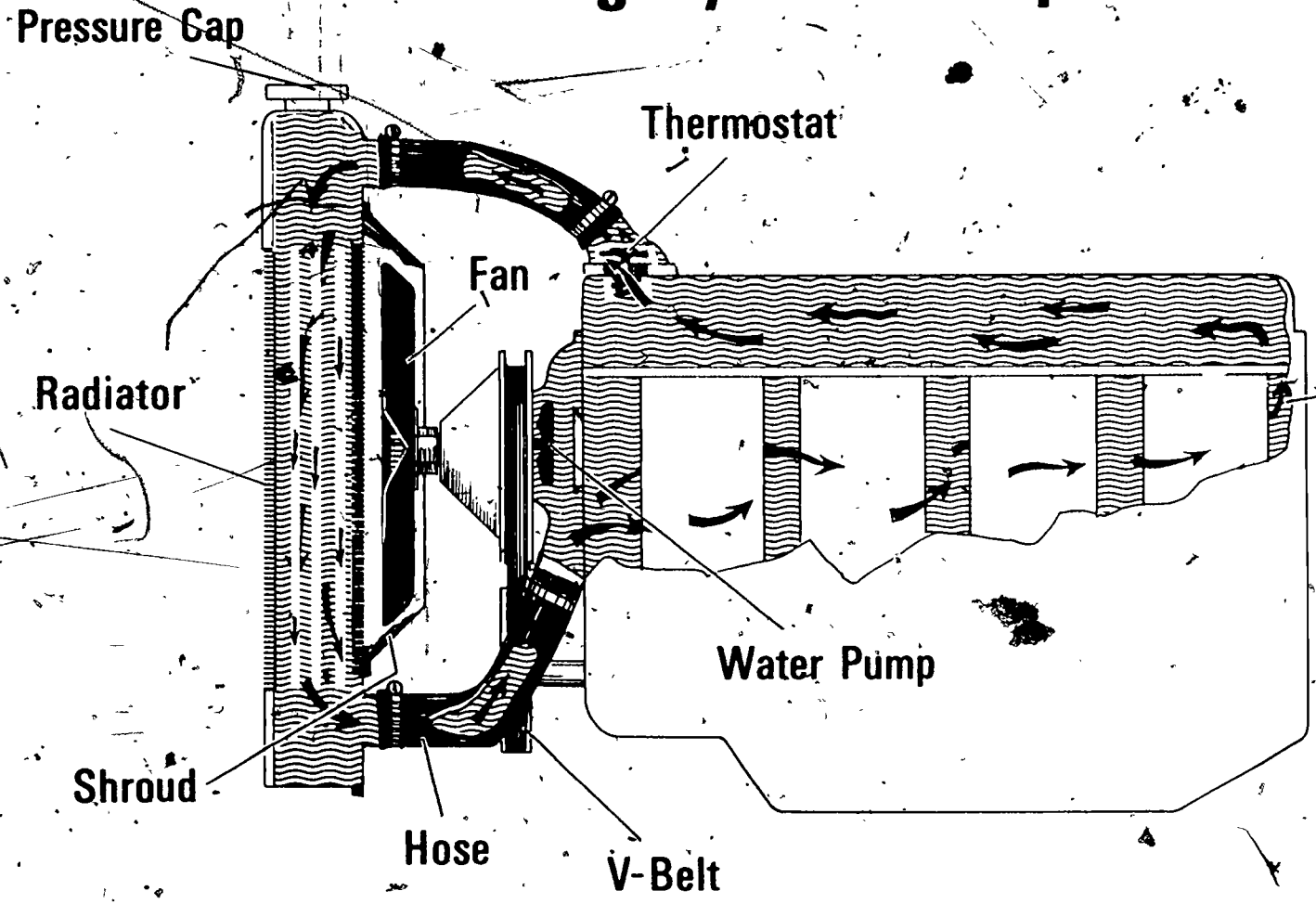
VIII. Protecting a cooling system from rust

A. Use a chemical inhibitor that combines with the metal surface to give a protective coating

B. Use a soluble-oil inhibitor which settles out of the water and provides protection by coating the surfaces in the cooling system

(NOTE: Some manufacturers include both types of protection in their anti-rusts.)

Cooling System Components



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Pressure Type Radiator Caps

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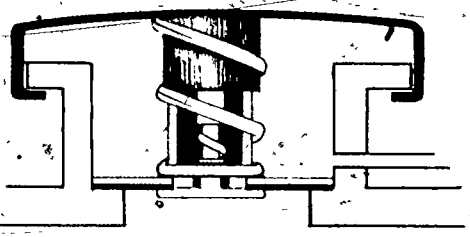
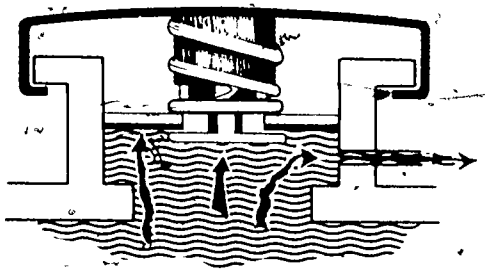
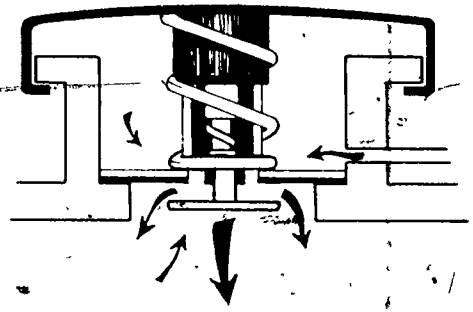
Normal Operation	Excessive Pressure	Cooling-Off Period
		
Valves Closed	Pressure Valve Open	Vacuum Valve Open

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SERVICING THE TRACTOR--COOLING SYSTEM
UNIT X

JOB SHEET #1--FLUSHING OR CLEANING THE COOLING SYSTEM

I. Tools and materials needed

A. Commercial flushing compound-Used when system is in good condition

B. Commercial cooling system cleaner--Use when there is considerable evidence of scale and rust

C. Cardboard or blanket to reduce air flow through radiator

D. Water supply

E. Adjustable pliers

F. Screwdriver

II. Procedure

(NOTE: The procedures are determined by the chemicals being used.)

A. Read the instructions on the container

(NOTE: You may be able to add the contents directly to the present coolant. If antifreeze is in the cooling system, the instructions may indicate that the coolant be drained and replaced with water.)

1. If cleaner or flushing compound is to be added to present coolant, proceed with step B

2. If present coolant should be replaced with water, proceed with the following substeps:

a. Run engine until thoroughly warmed

(NOTE: When engine is warmed enough, the thermostat valve is open and will allow more complete drainage. Cover radiator to be certain engine warms.)

b. Completely drain cooling system while engine is still warm

(NOTE: Some tractors have only one drain cock but most have two or three--one on the radiator and one or two on the engine block.)

c. Close drain cocks

JOB SHEET #1

d. Refill cooling system with water

(NOTE: If engine is hot, allow it to cool, then add water slowly to avoid cracking engine block or head. Allow enough space to add the flushing compound or cleaner without causing the coolant to overflow.)

B. Add flush compound or cleaner

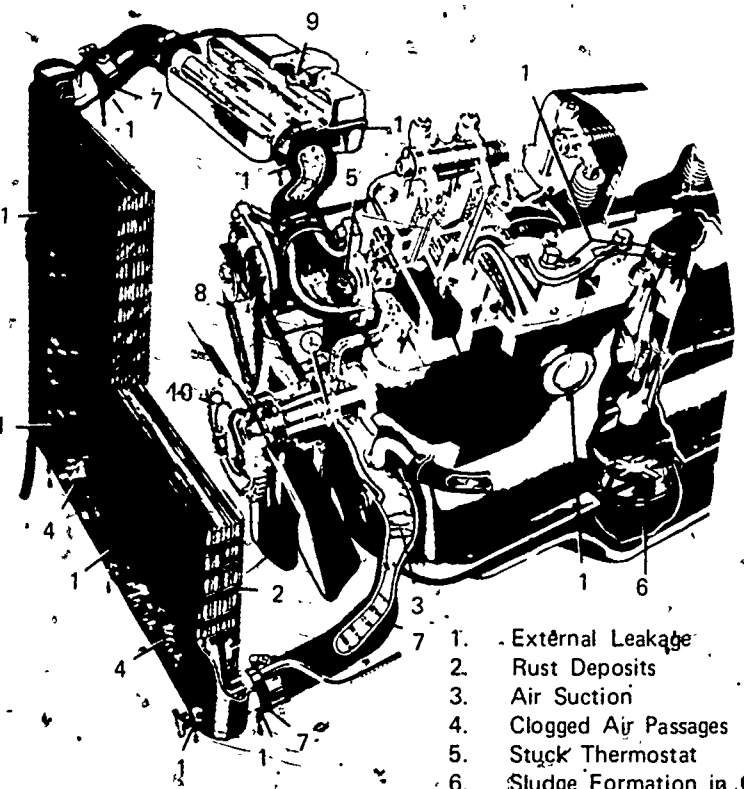
C. Start engine and operate until normal operating temperature is reached

(NOTE: Cover the engine so it will heat quickly and completely. Do not allow the coolant to boil.)

D. Check external condition of cooling system (Figure 1)

(NOTE: Illustration enclosed indicates points that should be checked.)

FIGURE 1.



1. External Leakage
2. Rust Deposits
3. Air Suction
4. Clogged Air Passages
5. Stuck Thermostat
6. Sludge Formation in Oil
7. Hose Failure
8. Worn Fan Belt
9. Pressure Cap Leakage
10. Temperature Control Fan Drive

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(NOTE: Most of these checks can be made while the engine is operating. If leak is found that can not be fixed with a new hose or by tightening a hose clamp, the tractor should be taken to a competent repairman.)

JOB SHEET #1

E. Completely drain cooling system

F. If acid-base cleaner was used be sure to use a neutralizer

1. Add neutralizer provided and fill cooling system

2. Run engine about ten minutes, then drain

3. Flush cooling system with water

G. Refill with coolant

1. Use clean soft water and a rust inhibitor or new antifreeze solution with soft water

(NOTE: Do not use old antifreeze with a new can of rust inhibitor. Because of different chemical compounds used for rust inhibitors the new and old antifreeze inhibitors may offset each other so neither is effective.)

2. If you install antifreeze refer to the operator's manual for the cooling system capacity of your tractor

H. Clean radiator externally by using compressed air or water

SERVICING THE TRACTOR--COOLING SYSTEM
UNIT X

JOB SHEET #2--PRESSURE TESTING THE COOLING SYSTEM

I. Tools and equipment--Radiator pressure tester

II. Procedure

A. Remove radiator cap

(CAUTION: Never remove the radiator cap quickly when the engine is hot. If cap must be removed when hot, loosen cap to first stop and leave in this position until all pressure is released. Cap can then be removed safely.)

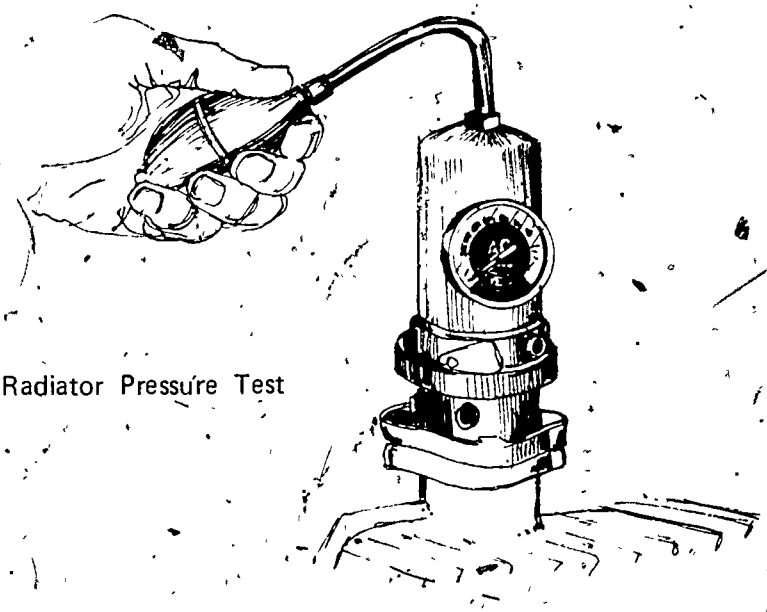
B. Wipe the radiator filler cap seat clean

C. Attach the radiator pressure tester

D. Apply pressure

(NOTE: Pressure applied should not exceed recommended cooling system pressure by more than 1 psi.) (Figure 1)

FIGURE 1



Radiator Pressure Test

E. Make sure pressure holds steady--Indicates cooling system is not leaking

JOB SHEET #2

F. Check to see if pressure drops

(NOTE: Check for external leaks--hose connections, expansion plugs, water pump, and radiator.)

G. Watch to see if pressure drops, but external leaks are not visible

(NOTE: Remove tester; start and run engine until operating temperature is reached.)

H. Re-attach tester and apply cooling system pressure

I. Increase engine speed to half throttle

J. If pressure needle fluctuates, this indicates a combustion leak

K. If pressure meter needle does not fluctuate, sharply accelerate engine several times and check for a discharge of water from the tailpipe

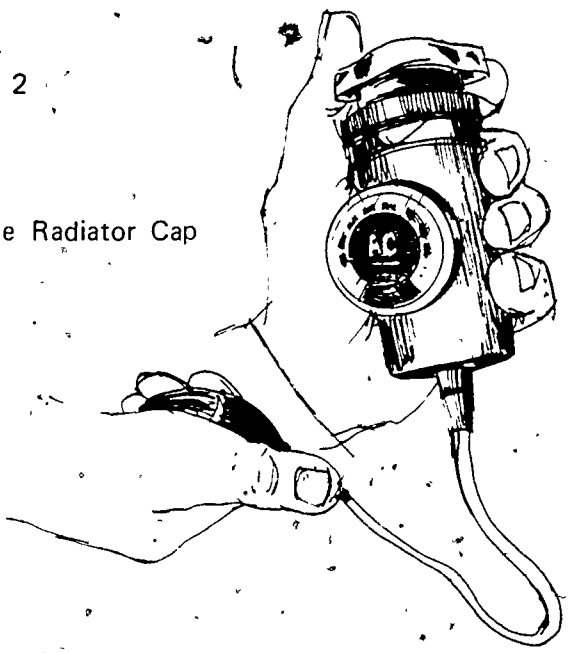
(NOTE: If an abnormal amount of water is discharged at the tailpipe, this could indicate a cracked block or head or a defective head gasket. Check radiator for loss of coolant on tractors having vertical slack or exhaust.)

L. Test the pressure cap

(NOTE: Use same tester with adapter to test cap. If the cap does not hold the rated pressure, it should be replaced.), (Figure 2)

FIGURE 2

Testing the Radiator Cap



M. With test completed, check coolant level and reinstall cap

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SERVICING THE TRACTOR--COOLING SYSTEM
UNIT X

TEST

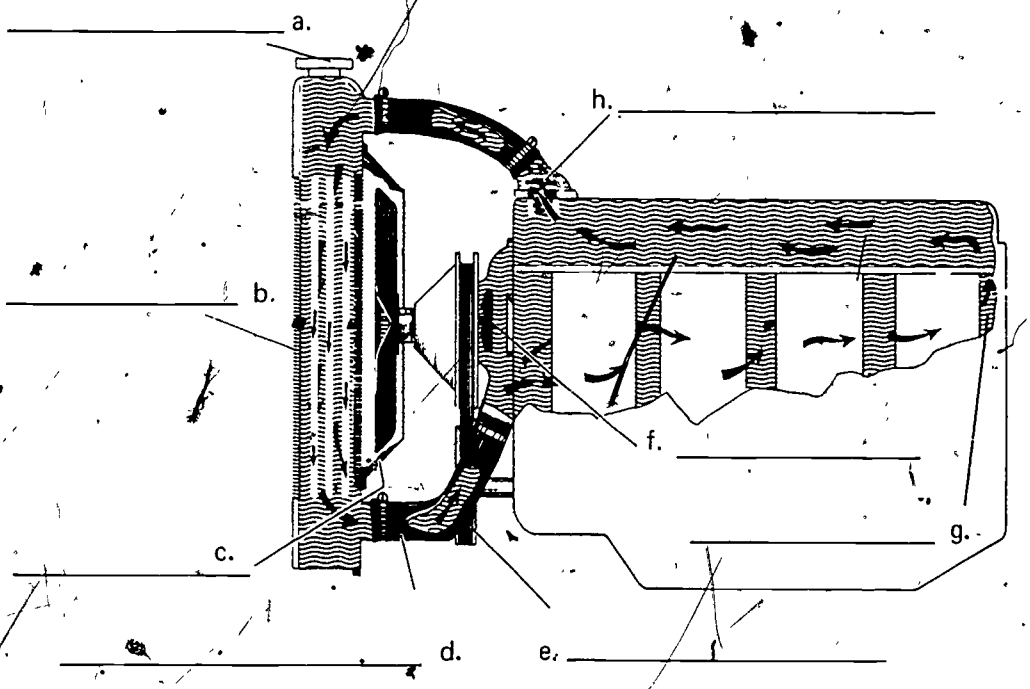
1. Match the terms on the right to the proper definition.

_____a. A centrifugal pump mounted at the front of the cylinder block to circulate the coolant throughout the cooling system	1.	Water pump
_____b. The belt turned by a pulley on the front of the crank shaft used to drive the water pump, fan, and other engine accessories	2.	Water jackets
_____c. A heat controlled valve used in the cooling system to regulate the flow of coolant between the cylinder block and radiator	3.	Radiator
_____d. The hose used to connect the radiator to the engine	4.	Fan
_____e. A cap which increases the pressure within the cooling system several pounds per square inch allowing the coolant to circulate at higher temperatures without evaporation or surge loss	5.	Shroud
_____f. A funnel-like structure attached to the radiator and extending around and behind the fan used to make the fan more effective in pulling air through the radiator	6.	Thermostat
_____g. The passages through the block and cylinder head that allow the coolant to circulate around the cylinders, valves, and combustion chambers	7.	Pressure cap
	8.	Radiator hose
	9.	V-Belt

_____h. A device for holding a considerable volume of coolant in close contact with a large amount of air so that heat may be transferred from the coolant to the air

_____i. The device generally mounted on the water pump hub assembly used to pull a large volume of air through the openings in the radiator core

2. Identify the parts to a cooling system using the illustration below.



3. List three jobs that the cooling system must perform.

a.

b.

c.

4. Select from the list below the reasons a pressure-type radiator cap is used with forced circulation cooling systems. Place an "X" by the proper answers.

_____a. Makes it possible for the tractor to operate at a low temperature

_____b. It acts as a pressure-release valve

_____c. Vacuum valve fits in the center of the pressure-release valve and allows air to enter the radiator when the coolant cools

_____d. Prevents water from going out overflow tube

5. Select from the list below the reasons a permanent antifreeze solution should be used at all times in a cooling system. Place an "X" by correct answers.

_____a. Prevents coolant from freezing

_____b. Boiling point of permanent antifreeze is lower than water

_____c. Reduces the corrosive action of water

_____d. Prevents coolant from boiling

6. List two problems that result when an engine overheats.

a.

b.

7. Match the type corrosion and deposits on the right with the correct cause of each.

_____a. When water and oxygen are both present, there is a tendency for iron parts in the cooling system to rust

_____b. Result from repeated additions of hard water that contains alkali (lime or magnesium) or minerals (iron)

_____c. Caused by small electric currents that are set up where two or more different metals are in contact in the cooling system

1. Galvanic corrosion
2. Rust
3. Mineral deposits

8. Name two ways to protect a cooling system from rust.

a.

b.

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9. Demonstrate the ability to:

   a. Flush or clean the cooling system.

   b. Pressure test the cooling system.

   (NOTE: If this has not been accomplished prior to the test, ask the instructor when the above activities should be completed.)

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SERVICING THE TRACTOR--COOLING SYSTEM
UNIT X

ANSWERS TO TEST

1. a. 1
   b. 9
   c. 6
   d. 8
   e. 7
   f. 5
   g. 2
   h. 3
   i. 4

2. a. Pressure cap
   b. Radiator
   c. Shroud
   d. Hose
   e. V-Belt
   f. Water pump
   g. Water jackets
   h. Thermostat

3. a. Removes surplus or unwanted heat
   b. Maintains an efficient temperature under all operating conditions
   c. Brings an engine, when started, up to operating temperature as soon as possible

4. b
   c
   d

5. a

   c

6. Any two of the following:

   a. Sticking and burned valves

   b. A cracked engine head or block

   c. Excessive knock

7. a. 2

   b. 3

   c. 1

8. a. Use a chemical inhibitor that combines with the metal surface to give a protective coating.

   b. Use a soluble-oil inhibitor which settles out of the water and provides protection by coating the surfaces in the cooling system

9. Performance skills will be evaluated to the satisfaction of the instructor.

SPRAY PAINTING
UNIT XI

TERMINAL OBJECTIVE

After completion of this unit, the student should be able to recognize the various parts of a spray gun and name their functions. He should be able to develop skills in painting with a spray gun and demonstrate procedures for cleaning the gun. This knowledge will be evidenced through demonstration, and by scoring eighty-five percent on the unit test.

SPECIFIC OBJECTIVES

After completion of this unit, the student should be able to:

1. Identify the parts of a spray gun when given a drawing illustrating the parts.
2. Name five tools necessary for spray painting.
3. Identify the two types of spray guns.
4. Identify the two types of adjustments found on a spray gun when given a drawing illustrating the adjustments.
5. List the function of each adjustment found on a spray gun.
6. List six steps to follow in the adjustment of a spray gun.
7. Demonstrate the ability to:
   a. Prepare paint for spray painting.
   b. Use the spray gun.
   c. Clean the spray gun.

SPRAY PAINTING
UNIT XI

SUGGESTED ACTIVITIES

I. Instructor:

A. Provide students with objective sheet.

B. Provide students with information and job sheets.

C. Make transparencies.

D. Discuss terminal and specific objectives.

E. Discuss information sheets.

F. Demonstrate and discuss procedures outlined in job sheets.

G. Give test.

II. Students:

A. Read objectives.

B. Study information sheets.

C. Demonstrate the ability to accomplish the procedures outlined in the job sheets.

D. Take test.

INSTRUCTIONAL MATERIALS

I. Included in this unit:

A. Objectives

B. Information sheet

C. Transparency masters

1. TM 1--Parts of Spray Gun
2. TM 2--Types of Spray Guns
3. TM 3--Spray Gun Adjustment

D. Job sheets

1. Job Sheet #1--Prepare Paint for Spray Painting
2. Job Sheet #2--Use the Spray Gun
3. Job Sheet #3--Clean the Spray Gun

E. Test

F. Answers to test

II. References:

1. *Instructional Materials for Vocational Agriculture I*, Teaching Materials Center, Agricultural Education Department, Texas A&M University, College Station, Texas.

2. *Finishing Materials and Methods*, George A. Soderberg, McKnight and McKnight Publishing Company, Bloomington, Illinois.

3. *The ABC's of Spray Equipment*, The DeVilbiss Company, Toledo, Ohio.

4. *Shopwork on the Farm*, Mack M. Jones, McGraw-Hill Book Company, Inc., New York.

5. *Auto Body Repairing and Repainting*, Bill Toboldt, The Goodheart-Willcox Company, Inc., Homewood, Illinois.

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SPRAY PAINTING
UNIT XI

INFORMATION SHEET

I. Parts of spray gun (Transparency 1)

- A. Air cap
- B. Fluid tip
- C. Fluid needle
- D. Trigger
- E. Fluid adjustment screw
- F. Air valve
- G. Spreader adjustment valve
- H. Gun body

II. Tools necessary for spray painting

- A. Spray gun
- B. Air compressor
- C. Paint pressure tank
- D. Hose
  - 1. Air
  - 2. Paint
- E. Air control device
  - 1. Gauge
  - 2. Regulator

III. Types of spray guns (Transparency 2)

- A. Pressure
- B. Suction

INFORMATION SHEET

V. Spray gun adjustments (Transparency 3)

A. Spreader--Controls air to horn holes which regulates size of spray pattern

B. Fluid adjustment--Controls the travel of the fluid needle which allows more or less material through the fluid tip

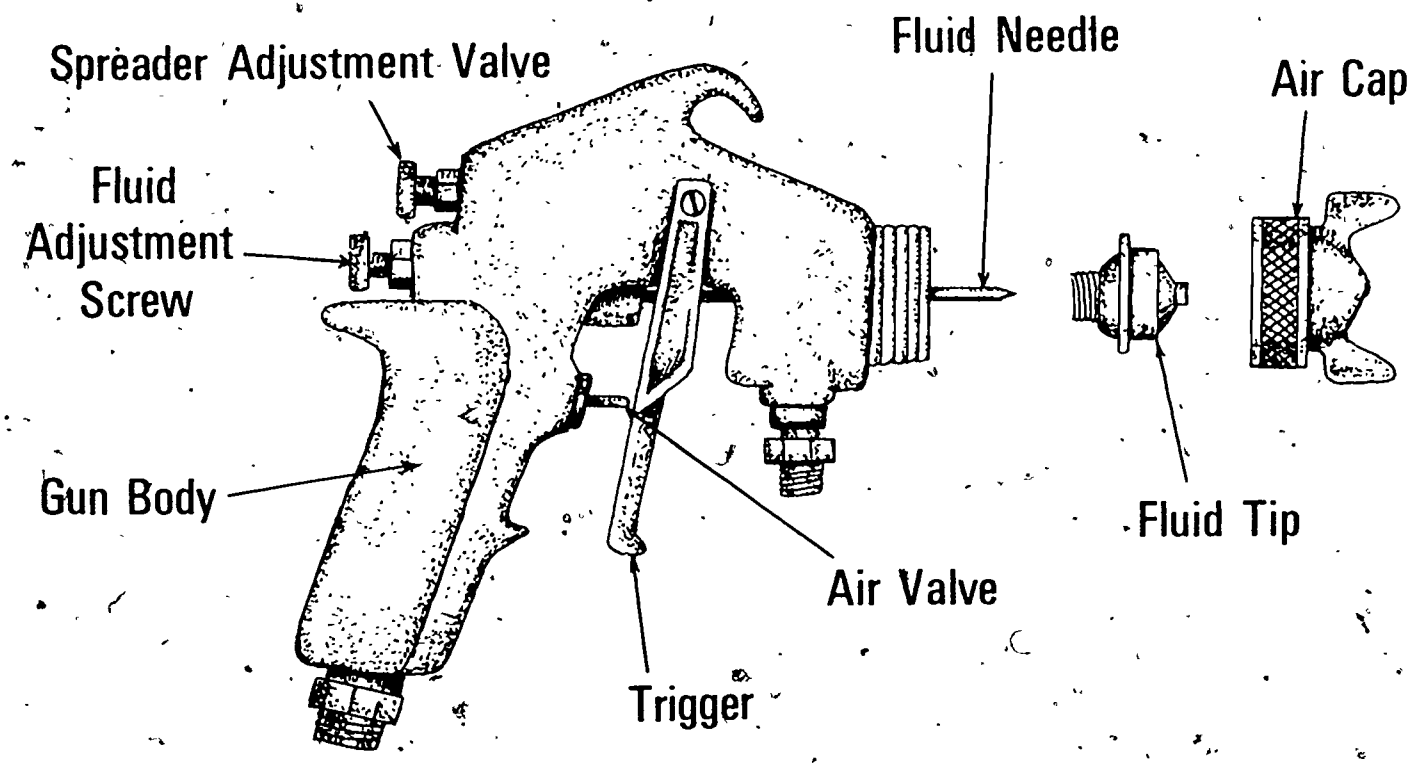
C. Procedures for adjusting spray gun

1. Open spreader adjustment valve
2. Open fluid needle screw
3. Check air leaks
4. Connect hose to cup
5. Remove nozzle
6. Press trigger until paint passes through gun
7. Replace nozzle and set pressure

(NOTE: See manufacturer's recommendations.)

ERIC

Parts of Spray Gun



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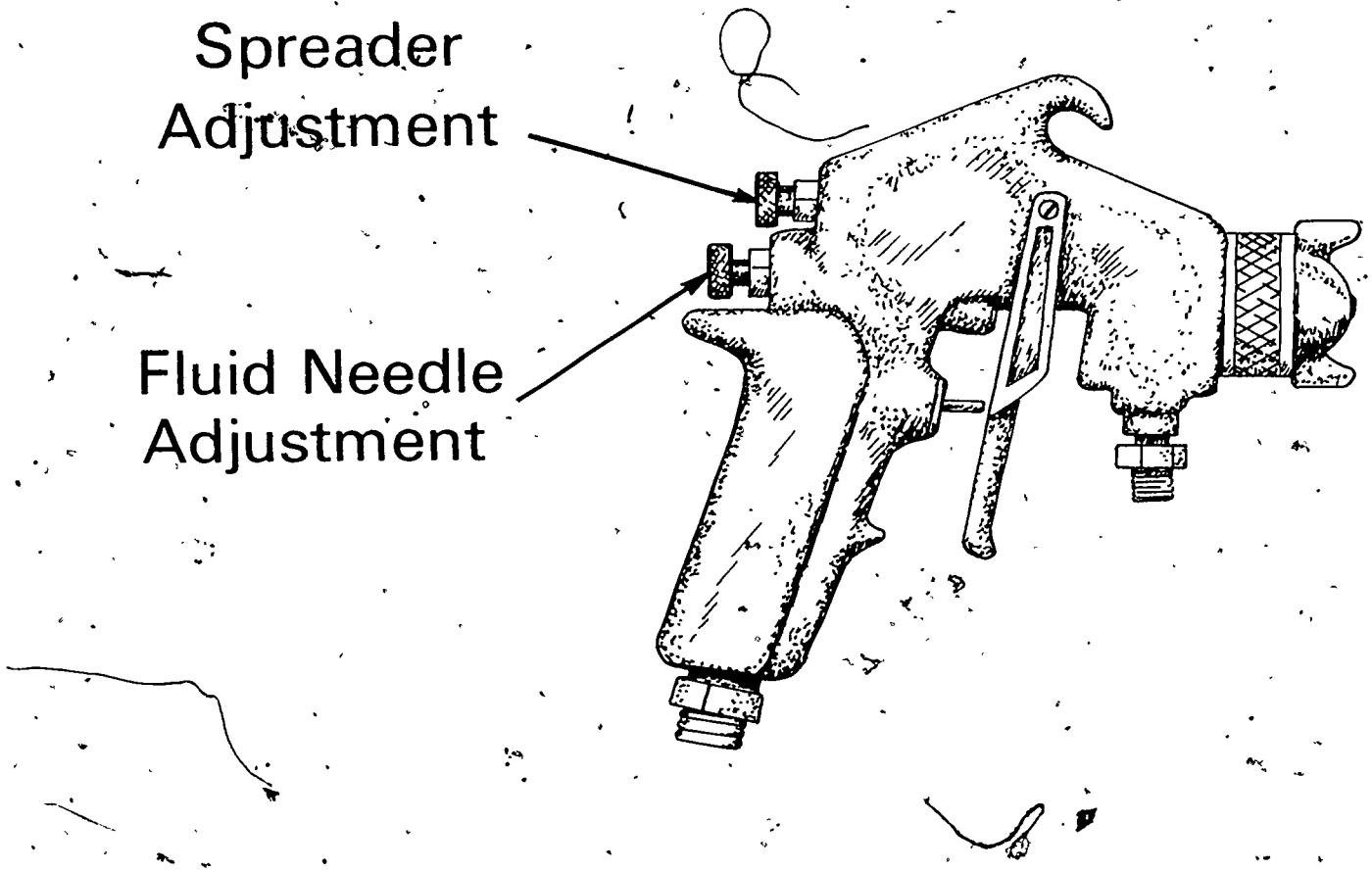
Types of Spray Guns

Suction

Pressure

ERIC

Spray Gun Adjustment



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q. Real estate

r. Recreation and tourism

s. Transportation

t. Retail trade, other

u. Wholesale trade, other

v. Distributive education, other

7. Evaluated to the satisfaction of the DE teacher-coordinator.

SPRAY PAINTING
UNIT XI

JOB SHEET #1--PREPARE PAINT FOR SPRAY PAINTING

I. Tools and materials needed

A. Paint

B. Empty can

C. Mixing stick

D. Material for straining paint

1. Tea strainer
2. Nylon hose
3. Cheesecloth
4. Commercial strainers

II. Procedures

A. Open can and pour off oil material

B. Stir settled pigment

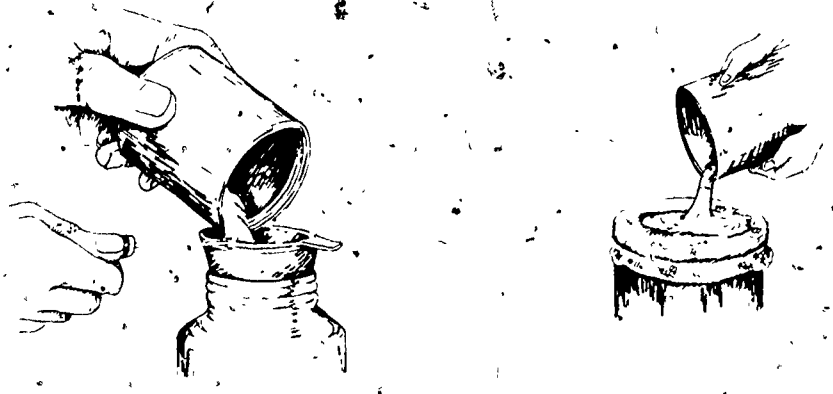
C. Return thin material and remix

D. Add thinner if necessary

(NOTE: Act according to manufacturer's recommendations.)

E. Strain to remove lumps and other foreign materials (Figure 1)

FIGURE 1



SPRAY PAINTING
UNIT XI

JOB SHEET #2 USE THE SPRAY GUN

I. Tools and materials needed

A. Paint

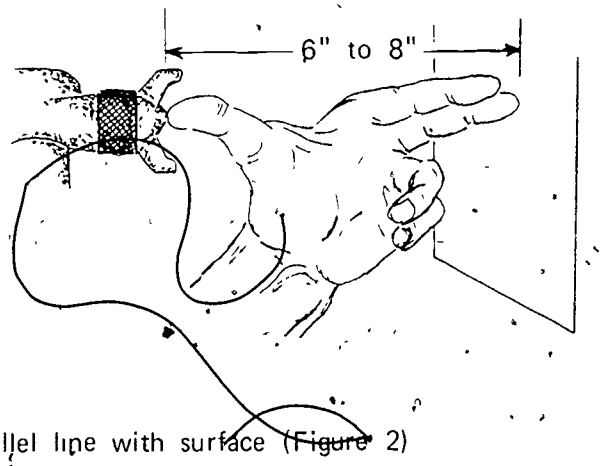
B. Spray gun and equipment

II. Procedure

A. Prepare surface before painting

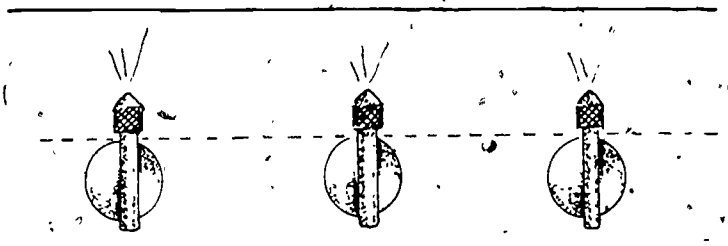
B. Hold gun vertically 6 to 10 inches from surface (Figure 1)

FIGURE 1



C. Move in parallel line with surface (Figure 2)

FIGURE 2



Move Gun in Straight Line

D. Overlap about half of previous pass

SPRAY PAINTING
UNIT XI

JOB SHEET #3--CLEAN THE SPRAY GUN

I. Tools and materials needed

A. Solvent

B. Clean rags

II. Procedure

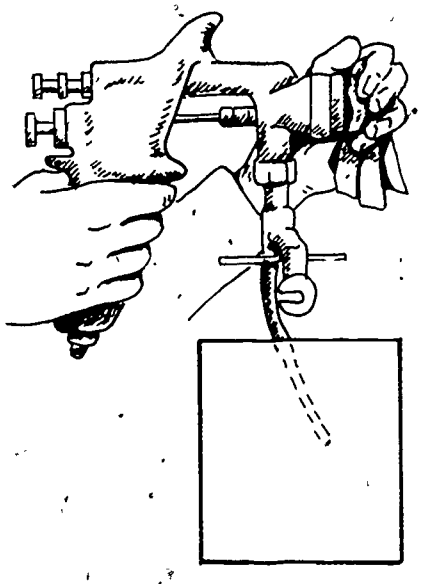
A. Loosen cup from gun

B. Unscrew air cap about two or three turns

C. Place cloth over air cap

D. Pull trigger (Figure 1)

FIGURE 1

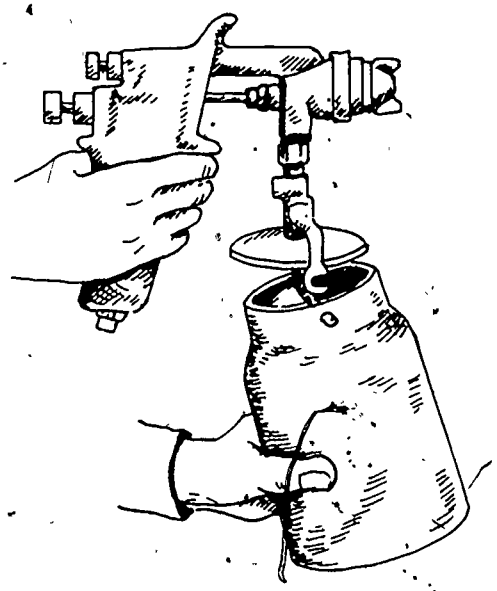


E. Empty contents of cup and replace with small amount of solvent

JOB SHEET #3

F. Spray solvent through gun (Figure 2).

FIGURE 2



G. Remove air cap and clean

H. Wipe off gun with solvent and store for future use

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SPRAY PAINTING
UNIT XI

TEST

1. Identify the following parts of the spray gun.

a.

b.

c.

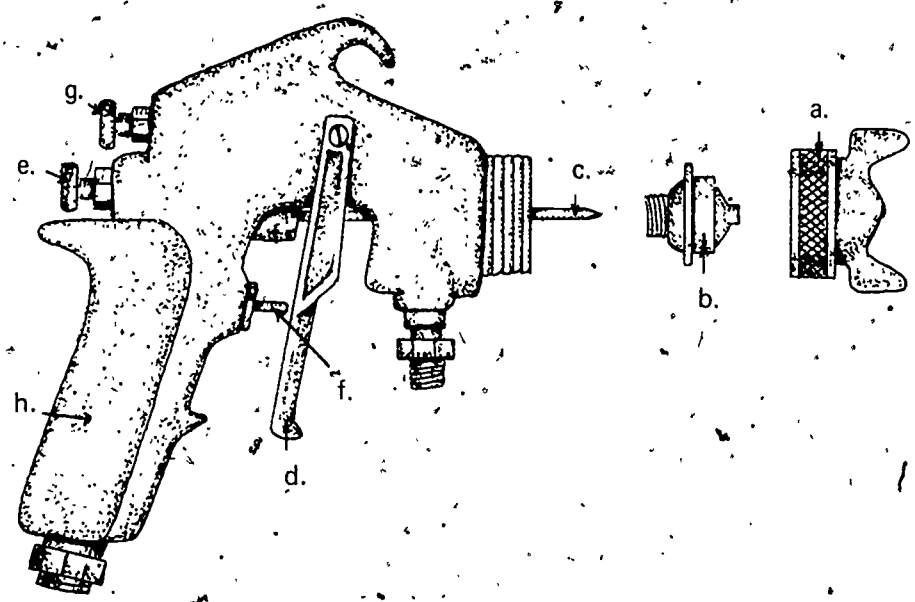
d.

e.

f.

g.

h.



2. Name the five tools necessary for spray painting?

a.

b.

c.

d.

e.

3. Identify the two types of spray guns.

a. _____ b. _____

4. Identify the two types of adjustments.

a.

b.

5. List the function of each adjustment on a spray gun?

a.

b.

6. List the six steps to follow in the adjustment of a spray gun.

a.

b.

c.

d.

e.

f.

7. Demonstrate the ability to:

   a. Prepare paint for spray painting.

   b. Use the spray gun.

   c. Clean the spray gun.

   (NOTE: If this has not been accomplished prior to the test, ask the instructor when the above activities should be completed.)

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SPRAY PAINTING
UNIT XI

ANSWERS TO TEST

1. a. Air cap
   b. Fluid tip
   c. Fluid needle
   d. Trigger
   e. Fluid adjustment screw
   f. Air valve
   g. Spreader adjustment valve
   h. Gun body
2. a. Spray gun
   b. Air compressor
   c. Paint pressure tank
   d. Hose
   e. Air control device
3. a. Suction gun
   b. Pressure gun
4. a. Spreader adjustment
   b. Fluid adjustment
5. a. Spreader adjustment--Controls air to horn holes which regulates size of spray pattern
   b. Fluid adjustment--Controls the travel of the fluid needle which allows more or less material through the fluid tip
6. a. Open spreader adjustment valve
   b. Open fluid needle screw
   c. Check air leaks
   d. Connect hose to cup
   e. Remove nozzle
   f. Press trigger until paint passes through gun
   g. Replace nozzle and set pressure
7. Performance skills will be evaluated to satisfaction of the instructor.

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ABSTRACT: THE DISTRIBUTIVE EDUCATION I COURSE OF STUDY INCLUDES NINE TOPICS AND TWENTY-FIVE UNITS OF INSTRUCTION. THE NINE TOPICS ARE DESIGNED TO ACCOUNT FOR APPROXIMATELY FIFTEEN WEEKS OF RELATED INSTRUCTION TIME FOR THE SCHOOL YEAR. THE TOPICS ARE: ORIENTATION, IMPORTANCE OF DISTRIBUTION, PERSONAL DEVELOPMENT, HUMAN RELATIONS, JOB SKILLS, EMPLOYMENT, FINANCIAL MANAGEMENT, AND BUSINESS MATH. EACH INSTRUCTIONAL UNIT INCLUDES BEHAVIORAL OBJECTIVES, SUGGESTED ACTIVITIES FOR THE DE TEACHER-COORDINATOR AND STUDENTS, INFORMATION SHEETS, ASSIGNMENT SHEETS, VISUAL AIDS, TESTS, AND ANSWERS TO THE TESTS. (AUTHOR/KP)

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VT 101 459

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OKLAHOMA DISTRIBUTIVE EDUCATION

DE I Course of Study

101459

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DISTRIBUTIVE EDUCATION I
COURSE OF STUDY

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Developed by the Curriculum and Instructional Materials Center
For the Division of Distributive Education
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1973

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Audio-Visual Supplement

FOREWORD

There is a high demand for employees in marketing and distribution management. Opportunities for advancement for the trained employee are available for qualified persons.

The major goals of this publication are to aid the student in gaining these knowledges and developing skills that will facilitate his work and advancement in management.

These curriculum materials are designed to instruct students in the qualities and competencies necessary for success in management.

Suggestions for implementing the curriculum are included to facilitate its use by the DE teacher-coordinator.

Included in the course of study are nine topics and twenty-five units of instruction. The nine topics are designed to account for approximately fifteen weeks of related instruction time for the school year. The student should spend fifteen weeks in individualized instruction and the other six weeks are left to the discretion of the individual DE teacher-coordinator.

Francis T. Tuttle, Director
State Department of Vocational and Technical Education

M. J. DeBenning, State Supervisor
Distributive Education

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GOOD GROOMING
UNIT I

TEST

1. Match the following terms to the correct definition.

_____a. Anti-perspirant	1.	A substance used to make the skin smooth and soft
_____b. Cuticle	2.	To file and buff nails and trim the cuticles
_____c. Immaculate	3.	Something that is obvious or noticeable and not in good taste
_____d. Manicure	4.	An odorless preparation that keeps one dry and also destroys unpleasant odors
_____e. Lubrication	5.	Thin, dead skin at the sides and base of a fingernail or toenail
_____f. Conspicuous	6.	Spotlessly clean
_____g. Deodorant	7.	Lotions that contain some alcohol and are to be patted on the face
_____h. Astringents	8.	A preparation that destroys unpleasant odors, but does not necessarily keep one dry

2. Place an "X" in front of each of the following which are essentials of body cleanliness.

_____a. Daily bath or shower

_____b. Fingernails polished weekly

_____c. Hair spray used often

_____d. Change undergarments daily

_____e. Daily use of foot powder or spray

_____f. Brush teeth after every meal, if possible

_____g. Girls shave legs daily

3. Name three elements of complexion care.

a.

ACKNOWLEDGMENTS

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The printing staff of the State Department of Vocational and Technical Education are deserving of much credit for printing this publication.

INTRODUCTION

USE OF THIS PUBLICATION

Instructional Units

The Distributive Education I Course of Study includes nine topics. Each topic consists of one or more units of instruction. Each instructional unit includes behavioral objectives, suggested activities for DE teacher-coordinator and students, information sheets, assignment sheets, visual aids, tests, and answers to the test. Units are planned for more than one lesson or class period of instruction.

Careful study of each instructional unit by the DE teacher-coordinator will help him determine:

A. The amount of material that can be covered in each class period.
B. The skills which must be demonstrated.
C. Supplementary materials such as pamphlets and filmstrips that must be ordered.
D. Resource people that must be contacted.

Objectives

Each unit of instruction is based on behavioral objectives. These objectives state the goals of the course thus providing a sense of direction and accomplishment for the student.

Behavioral objectives are stated in two forms: Terminal Objectives stating the subject matter to be covered in a unit of instruction; Specific Objectives stating the student performance necessary to reach the terminal objective.

Since the objectives of the unit provide direction for the teaching-learning process, it is important for the DE teacher-coordinator and students to have a common understanding of the intent of the objectives. A limited number of performance terms have been used in the objectives for this curriculum to assist in promoting the effectiveness of the communication among all individuals using the materials.

Following is a list of performance terms and their synonyms which were used in this material:

Name	Identify	Describe
Label	Select	Define
List in writing	Mark	Discuss in writing
List orally	Point out	Discuss orally
Letter	Pick out	Interpret
Record	Choose	Tell how
Repeat	Locate	Tell what
Give		Explain

Count	Distinguish	Construct
Arrange	Discriminate	Draw
Sequence		Make
List in order		Build
Classify		Design
Divide		Formulate
Isolate		Reproduce
Sort		Transcribe
		Reduce
		Increase
		Figure
		Cost

Define terms
Identify work
Follow procedure
Perform experiment
Perform the steps
Operate
Remove
Replace
Turn off/on
(Dis) assemble
(Dis) connect

Reading of the objectives by the student should be followed by a class discussion to answer any questions concerning performance requirements for each instructional unit.

DE teacher-coordinator should feel free to add objectives which will fit the material to the needs of his students and community. When a DE teacher-coordinator adds objectives, he should remember to supply the needed information, assignment sheets, and criterion tests.

Suggested Activities

Each unit of instruction has a Suggested Activities sheet outlining steps to follow in accomplishing specific objectives. The activities are listed according to whether they are the responsibility of the instructor or the student.

DE teacher-coordinator: Duties of the instructor will vary according to the particular unit; however, for best use of the material they should include the following: provide students with objective sheet, information sheets, and assignment sheets; preview filmstrips, make transparencies, and arrange for resource materials and people; discuss terminal and specific objectives and information sheets; give test. Teachers are encouraged to use any additional instructional activities and teaching methods to aid students in accomplishing the objectives.

Students: Student activities are listed which will help the student to achieve the objectives for the unit.

Information Sheets

Information sheets provide content essential for meeting the cognitive (knowledge) objectives of the unit. The DE teacher-coordinator will find that information sheets serve as an excellent guide for presenting the background knowledges necessary to develop the skills specified in the terminal objective.

Students should read the information sheets before the information is discussed in class. Students may take additional notes on the information sheets.

Transparency Masters

Transparency masters provide information in a special way. The students may see as well as hear the material being presented, thus reinforcing the learning process. Transparencies may present new information or they may reinforce information presented in the information sheets. They are particularly effective for such activities as learning and locating the parts of a machine.

Transparencies should be made and placed in the notebook where they will be immediately available for use. Transparencies direct the class's attention to the topic of discussion. They should be left on the screen only when topics shown are under discussion. (NOTE. Stand away from the overhead projector when discussing transparency material. The noise of the projector may cause the teacher to speak too loudly.)

Assignment Sheets

Assignment sheets give direction to study and furnish practice for paper and pencil activities to develop the knowledges which are necessary prerequisites to skill development. These may be given to the student for completion in class or used for homework assignments. Answer sheets are provided which may be used by the student and/or DE teacher-coordinator for checking student progress.

Test and Evaluation

Paper-pencil and performance tests have been constructed to measure student achievement of each objective listed in the unit of instruction. Individual test items may be pulled out and used as a short test to determine student achievement of a particular objective. This kind of testing may be used as a daily quiz and will help the DE teacher-coordinator spot difficulties being encountered by students in their efforts to accomplish the terminal objective. Test items for objectives added by the DE teacher-coordinator should be constructed and added to the test. Progress sheets are provided for student and DE teacher-coordinator to record acceptable performance of skills outlined in assignment sheets.

Test Answers

Test answers are provided for each unit. These may be used by the DE teacher-coordinator and/or student for checking student achievement of the objectives.

Page Numbering System

Each Section in this publication is assigned a specific letter:

A. Orientation
B. Importance of Distribution
C. Careers
D. Personal Development
E. Human Relations
F. Job Skills
G. Employment
H. Financial Management
J. Business Math

Pages are numbered consecutively within each section. For example: Personal Development begins with page number D-1. If the page is available as a transparency master, TM appears at the top of the page.

The following key will help to easily identify each section by color:

White	-	Objectives, Suggested Activities, Transparency Masters, Ideas
Green	-	Information Sheet
Tan	-	Assignment Sheets
Yellow	-	Tests
Pink	-	Answers to Tests

(NOTE: The effectiveness of this material will depend on you as a DE teacher-coordinator.)

DECA
UNIT I

TERMINAL OBJECTIVE

After completion of this unit, the student should be able to write a sketch of the history of distributive education and Distributive Education Clubs of America, the DECA Tagline, Motto and representation of colors, and label each side of the triangle. He should also be able to name the purposes of DECA, recognize the parts of the emblem, and recite the creed. Knowledge of this information should be evidenced by scoring eighty-five percent on the unit test.

SPECIFIC OBJECTIVES

After completion of this unit, the student should be able to:

1. Match terms dealing with DE to the correct definition.
2. Write a paragraph sketching the history of distributive education and DECA.
3. Write the label on each side of the triangle which represent a good DE program.
4. Name six purposes of DECA.
5. Write the DECA Tagline.
6. Write the DECA Motto.
7. Write what the two DECA Colors represent.
8. Identify the parts of the DECA Emblem.
9. Demonstrate the ability to repeat the DECA Creed.

DECA
UNIT I

SUGGESTED ACTIVITIES

I. DE Teacher-Coordinator

A. Prepare bulletin board.

B. Prepare transparency.

C. Provide students with objective sheet.

D. Provide students with information sheet.

E. Discuss terminal and specific objectives.

F. Discuss information sheet.

G. Give test.

(NOTE: Consult audio visual supplement for suggested films.)

II. Student:

A. Read objective sheet.

B. Study information sheet.

C. Take test.

INSTRUCTIONAL MATERIALS

I. Included in this unit:

A. Objective sheet

B. Information sheet

C. Bulletin board idea--The DECA Emblem

D. Transparency masters

1. TM 1--Triangle of Good DE Program
2. TM 2--The DECA Emblem

E. Test

F. Answers to test

II. References:

a. Oklahoma Association DECA Handbook

b. National DECA Handbook

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DECA
UNIT I

INFORMATION SHEET

I. Terms and definitions

A. Assistant State Supervisor--Ted Best, designated by State Supervisor, assists the State Supervisor in conducting work; DECA advisor

B. Career Development Conference--Competition for State Conference winners was National Leadership Conference

C. DECA--Youth organization of Distributive Education; Distributive Education Clubs of America local, state, and national level

D. DECA blazer--A navy blue blazer with the DECA emblem on the left breast pocket, the official identifying uniform of DECA

E. *DECA Distributor*--Official publication of DECA, Inc., sent to each student for membership in DECA

(NOTE: From 1947-1953 M. J. DeBenning and C. K. Reiff edited and published the *DECA Distributor.*)

F. DECA Foundation--Created to assist and encourage DECA members to continue career study in marketing and distribution; serves as a financing aid for DECA

G. DECA, Inc.--Adult governing body of DECA made up of DE State Supervisors of each state association

H. DECA, Inc., Board of Directors--Elected by the members of DECA, Inc.; made up of one student DECA member (a national officer), DECA Chapter Advisor, professional members of DECA, 15 total members

I. Distributive Education (DE)--Vocational program involving retail, wholesale, and service occupations, secondary, post secondary, and adult

J. Distributive occupation--Proprietors, managers, or employees engaged primarily in marketing and merchandising goods and services

K. National Advisory Board--A group of businessmen which contribute financial support to DECA

L. Oklahoma State Leadership Conference--Competition for DECA members on the state level

(NOTE: Information on the two types of activities may be found in Oklahoma DECA activities and awards program.)

INFORMATION SHEET

M. State Supervisor--Person in charge of Distributive Education in Oklahoma; M. J. DeBenning

N. Vocational education--Improve the efficiency of an individual in a specific occupation, either as a preparation for employment or supplementary to the duties of the employed worker

II. History of distributive education and DECA

A. DE began July 1, 1937, Geoge Deen Act

B. First state-wide meeting in Oklahoma City spring of 1944

C. First National Convention in 1947

D. DECA officially adopted in 1947

E. DECA, Inc., officially adopted in 1950

F. DECA Foundation developed in 1951

G. DECA Tagline developed in 1962 by DECA student

H. Designed to aid people with career goals in distribution

III. Triangle of good DE program (Transparency 1)

A. Good classroom instruction

B. Good supervised work experience

C. Good club work participation

IV. Purposes of DECA

A. Intricial part of DE program

B. Develop leadership

C. Provide social intelligence

D. Instill civic consciousness

E. Provide vocational understanding

F. Develop vocational competence

V. DECA Tagline--Developing Future Leaders for Marketing and Distribution

INFORMATION SHEET

VI. DECA Motto--Power works with ease; weakness frets continuously

VII. DECA Colors

A. Blue--Suggests sincerity and genuineness

B. Gold--Crowning success which comes to one who lives usefully and wisely

VIII. DECA Emblem (Transparency 2)

A. Leadership development--The distributive education student is given an opportunity to participate in many activities designed to teach him to be not only a leader but also a follower

B. Civic consciousness--The distributive education student learns to recognize his obligations to the community

C. Vocational understanding--Being able to take his place in the world of business

D. Social intelligence--Through contest and social events the DECA member is given an opportunity to develop poise, and to gain a knowledge of the social graces necessary in our society

E. Wrapped package--Symbolizes a well-rounded education in preparation for life

F. Rays of sunshine--Denotes the glowing personal satisfaction resulting from a complete job that has been well done

IX. DECA Creed

I believe in the future which I am planning for myself in the field of distribution, and in the opportunities which my vocation offers.

I believe in fulfilling the highest measure of service to my vocation, my fellow beings, my country, and my God--that by so doing, I will be rewarded with personal satisfaction and material wealth.

I believe in the democratic philosophies of private enterprise and competition, and in the freedom of this nation--that these philosophies allow for the fullest development of my individual abilities.

I believe that by doing my best to live according to these high principles, I will be of greater service both to myself and to mankind.

BULLETIN BOARD IDEA

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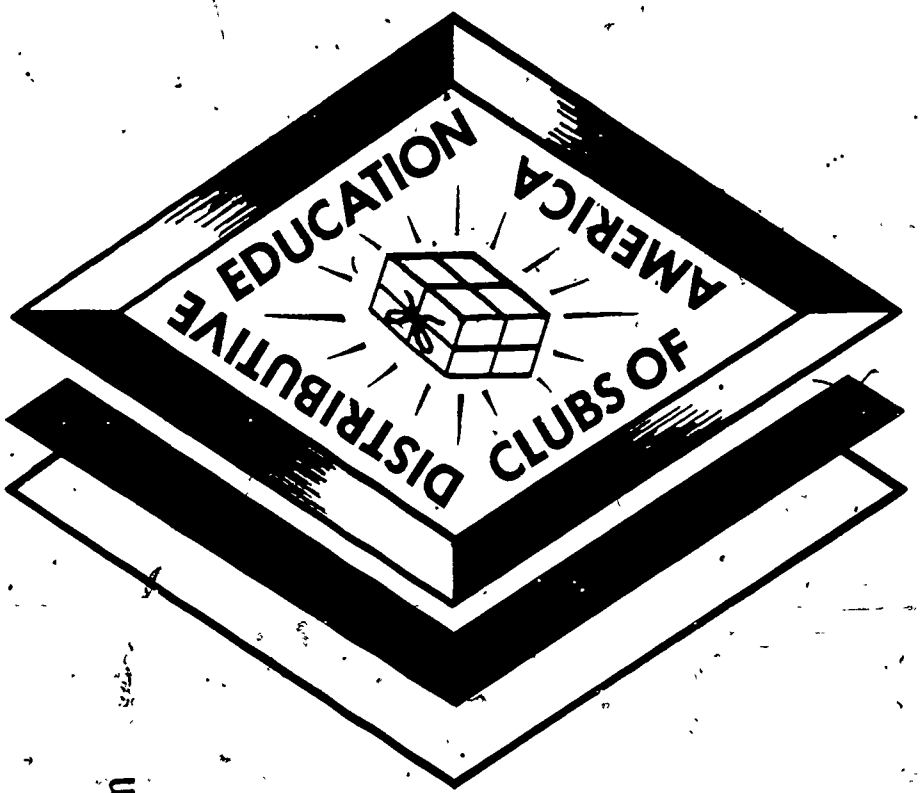
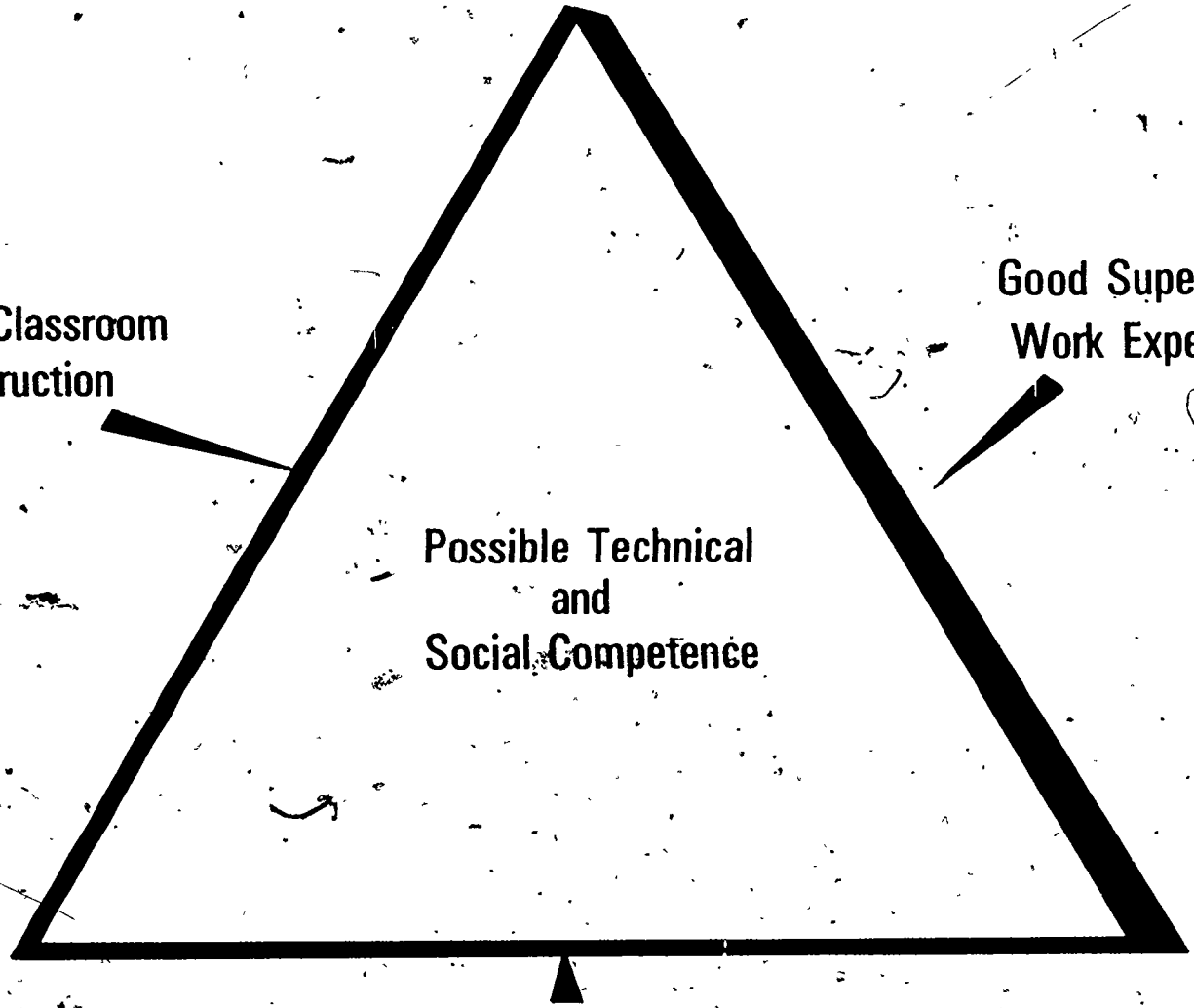


The DECA Emblem

ERIC

Triangle of Good DE Program



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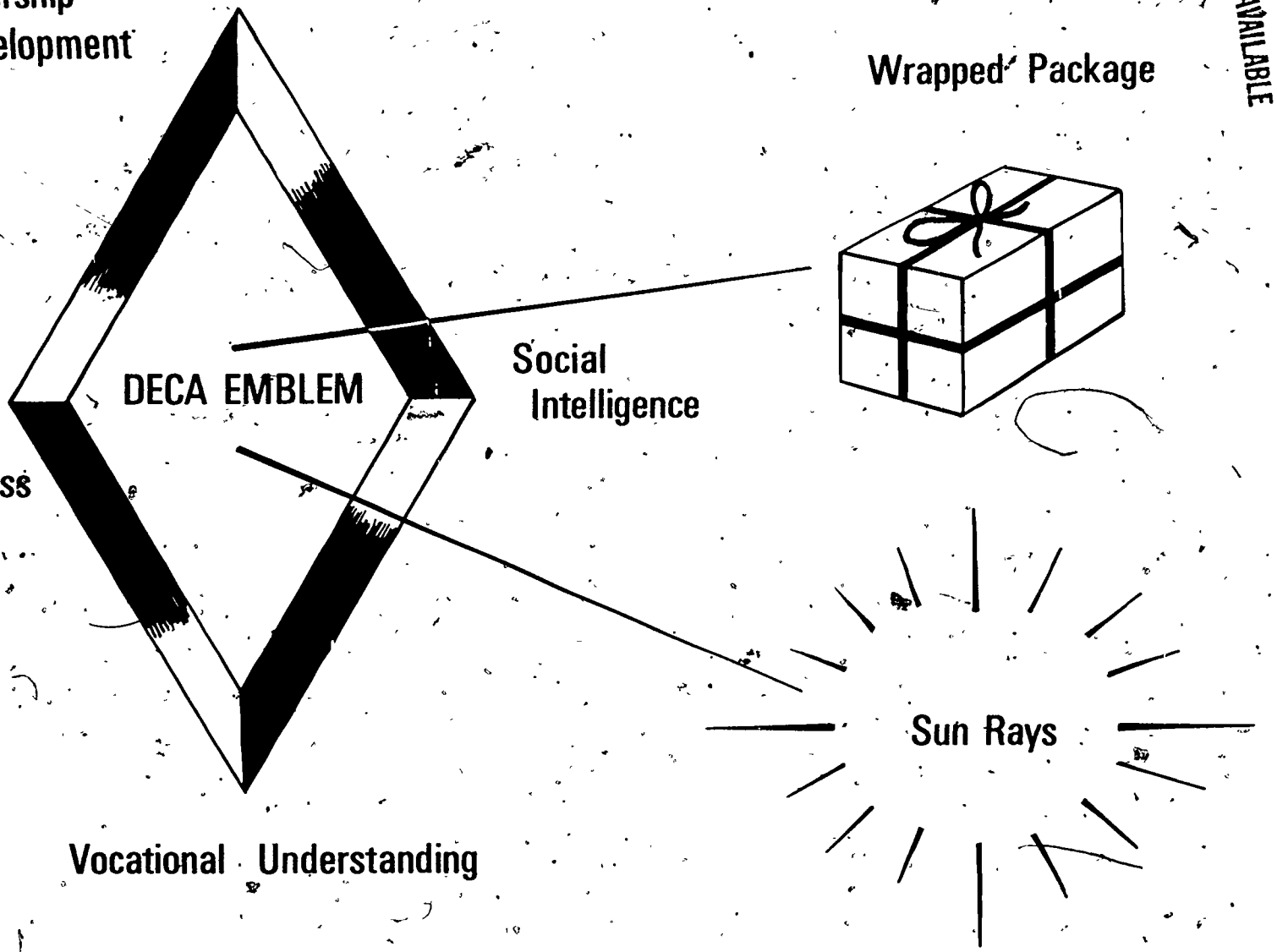
ERIC

The DECA Emblem



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DECA
UNIT I

TEST

1. Match the terms to the correct definition.

_____a. Vocational education	1.	Created to assist and encourage DECA members to continue career study in marketing and distribution; serves as a financing aid for DECA
_____b. Distributive education		
_____c. Distributive occupation		
_____d. DECA		
_____e. DECA, Inc.	2.	Improve the efficiency of an individual in a specific occupation, either as a preparation for employment or supplementary to duties of the employed worker
_____f. DECA, Inc., Board of Directors		
_____g. National Advisory Board		
_____h. DECA Foundation	3.	Youth organization of Distributive Education, Distributive Education Clubs of America local, state, and national level
_____i. *DECA Distributor*		
_____j. State Supervisor		
_____k. Assistant State Supervisor	4.	Person in charge of distributive education in Oklahoma; M. J. DeBenning
_____l. DECA blazer		
_____m. State Leadership Conference	5.	A group of businessmen which contribute financial support to DECA
_____n. Career Development Conference	6.	Ted Best, designated by State Supervisor, assists the State Supervisor in conducting work; DECA advisor
	7.	Competition for DECA members on state level
	8.	Competition for State Conference winners was National Leadership Conference
	9.	A navy blue blazer with the DECA emblem on the left pocket, the official identifying uniform of DECA

10. Vocational program involving retail, wholesale, and service occupations

11. Adult governing body of DECA made up of DE State Supervisors of each state association

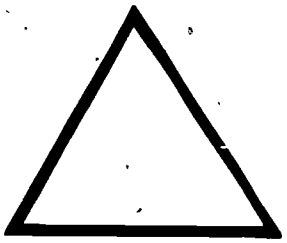
12. Official publication of DECA Inc., sent to each student for membership in DECA

13. Proprietors, managers, or employees engaged primarily in marketing and merchandising goods and services

14. Elected by the members of DECA, Inc., made up of one student DECA member (a national officer), DECA Chapter Advisor, professional members of DECA, 15 total members

2. Write a paragraph sketching the history of Distributive Education and DECA.

3. Write the label on each side of the triangle which represents a good DE Program.



4. Name six purposes of DECA.

a.

b.

c.

d.

e.

f.

5. Write the DECA Tagline.

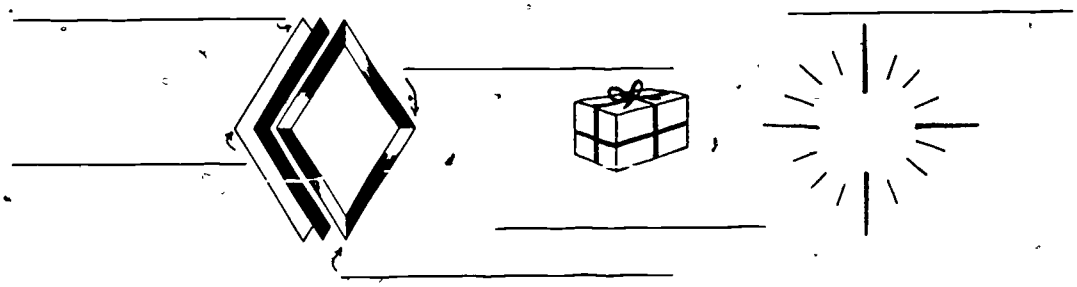
6. Write the DECA Motto.

7. Write what two DECA Colors represent.

   a. Blue--

   b. Gold--

8. Identify the parts of the DECA Emblem.



9. Demonstrate the ability to repeat the DECA Creed.

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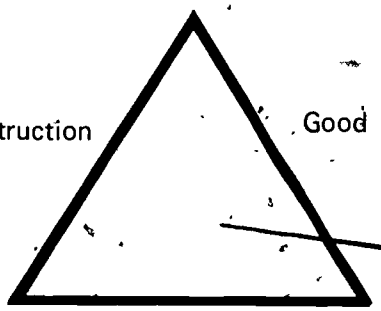
DECA
UNIT I

ANSWERS TO TEST

1. a. 2
   b. 10
   c. 13
   d. 3
   e. 11
   f. 14
   g. 5
   h. 1
   i. 12
   j. 4
   k. 6
   l. 9
   m. 7
   n. 8

2. The following items should be included in the paragraph.
   a. Began July 1, 1937, George Deen Act
   b. First state-wide meeting in Oklahoma City spring of 1944
   c. First National Convention in 1947
   d. DECA officially adopted in 1947
   e. DECA, Inc., officially adopted in 1950
   f. DECA Foundation developed in 1951
   g. DECA Tagline developed in 1962 by DECA student
   h. Designed to aid people with career goals in distribution

3.



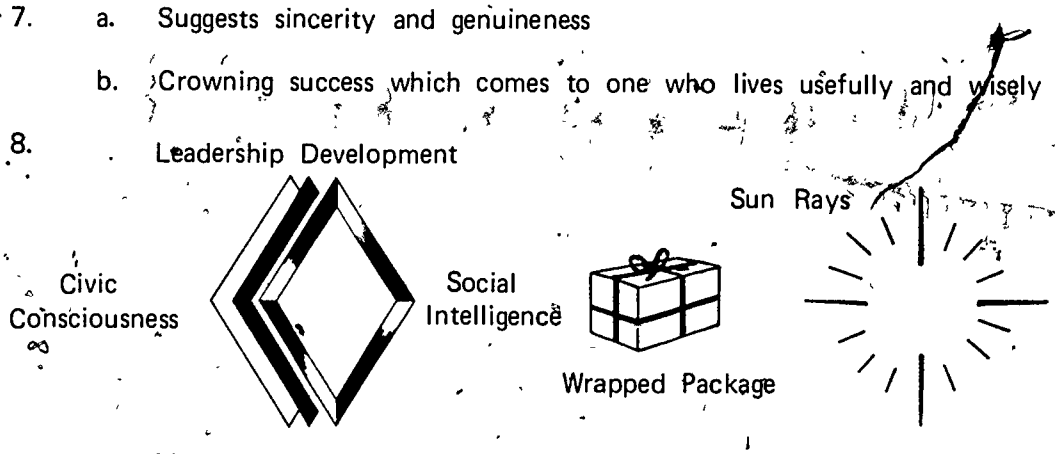
4. a. Intrical part of the DE program
   b. Develop leadership
   c. Provide social intelligence
   d. Instill civic consciousness
   e. Provide vocational understanding
   f. Develop vocational competence

5. Developing Future Leaders for Marketing and Distribution

6. Power works with ease; weakness frets continuously

7. a. Suggests sincerity and genuineness
   b. Crowning success which comes to one who lives usefully and wisely

8. Leadership Development



9. Performance skills will be evaluated to the satisfaction of the DE teacher-coordinator.

FREE ENTERPRISE SYSTEM
UNIT I

TERMINAL OBJECTIVE

After completing this unit, the student should be able to match terms to their proper definition associated with the free enterprise system. He should be able to select the essential ingredients which free enterprise is comprised, label the circular flow chart of our free-market system, and discuss ways free enterprise affects consumers. This knowledge will be evidenced by scoring eighty-five percent on the unit test.

SPECIFIC OBJECTIVES

After completion of this unit, the student should be able to:

1. Match terms accociated with the free enterprise system to the correct definition.
2. Select from a list the essential ingredients of which free enterprise is comprised.
3. Label the circular flow chart of our free enterprise system.
4. Select from a list methods the government uses to influence the free-market system.
5. Discuss ways our free enterprise system affects consumers.
6. Write a short report illustrating the opinion of individuals concerning the free enterprise system.

FREE ENTERPRISE SYSTEM
UNIT I

SUGGESTED ACTIVITIES

I. DE Teacher-Coordinator:

A. Provide students with objective sheet.

B. Provide students with information and assignment sheets.

C. Make transparencies.

D. Discuss objectives.

E. Discuss information sheet.

F. Order "The National Economy" (See additional references.)

G. Give test.

(NOTE: Consult audio visual supplement for suggested films.)

II. Student:

A. Read objective sheet.

B. Study information sheet.

C. Complete assignment sheet.

D. Take test.

INSTRUCTIONAL MATERIALS

I. Included in this unit:

A. Objective sheet

B. Information sheet

C. Transparency masters

1. TM 1--Profit Creates Jobs

2. TM 2--Free Market System

D. Assignment Sheet #1--Free Enterprise System

E. Test

F. Answers to test

II. References:

A. Mason, E. R. *Marketing and Distribution*. Dallas, Texas: Greg Division, McGraw-Hill Book Company, 1968.

B. Wiget, D. J. *The Free Enterprise System*. Ohio State University.

C. Wilson, W. H. *Consumer Economic Problems*, Seventh Edition. Dallas, Texas: South-Western Publishing Company, 1966.

III. Additional References:

A. "The National Economy", Science Research Associates, 259 East Erie Street, Chicago, Illinois 60611, cost $5.95, 2-24 participants, 1-12 teams.

The game is concerned with the development of a hypothetical National Economy. The business community is grouped into three separate segments producing three kinds of goods: consumer, luxury, producer goods.

B. Oklahoma Council on Economic Education. Dr. Clayton Millington, Executive Vice-President, 215 College of Business Administration, Oklahoma State University, Stillwater, Oklahoma 74074.

Materials and information can be obtained from the above source.

FREE ENTERPRISE SYSTEM
UNIT I

INFORMATION SHEET

I. Terms and definitions

A. Economic system--The way a nation uses its natural and man-made resources

B. Free enterprise--An economic system that allows individuals and businesses to make their own choices about what they will do to earn a livelihood and how they will spend their money

C. Private property--Portions of income that one keeps, regardless of whether it is kept as money, invested in bonds, or held in the form of material assets.

D. Free-market system--A system of freedom of choice

E. Competition--The effort of two or more business firms or individuals acting independently to attract a customer

F. Profit--The reward of business risk

II. Essential ingredients of which free enterprise system is comprised

A. Private property

(NOTE: Private property may be used to earn more income.)

B. Free markets

(NOTE: Consumers have freedom of choice and their choices determine what shall be made, how much, and the price to be paid for it.)

C. Profit motivation (Transparency 1)

D. Competition

1. Lowers prices
2. Improves products
3. Creates new products

III. The free market system

(NOTE: Circular flow chart, Transparency 2)

A. What to produce

B. How much to produce

INFORMATION SHEET

C. How to produce

D. How production is shared

IV. Methods the government uses to influence the free-market system

A. What to produce

1. Collects taxes
2. Taxes luxuries
3. Pays farmers more than market price
4. Makes production of narcotics illegal except as controlled

B. How much to produce

1. Pays farmers not to use land
2. Pays subsidy to airlines
3. Regulates rates and competition of public utilities and public transportation
4. Gives special tax inducements to businesses for expansion

C. How to produce

1. Controls working conditions of women and children
2. Controls public education
3. Regulates use of resources, such as oil, gas, and water

D. How production is shared

1. Legislates hours of work, overtime, minimum wages
2. Taxes profits and income
3. Controls employment practices
4. Operates businesses in competition with private businesses

INFORMATION SHEET

V. Ways the free enterprise system affects consumers

CHARACTERISTIC	EFFECT ON CONSUMER
Private property	Savings (part of income not spent) may be invested in property, which in turn produces an income; thus, private property increases ability of consumers to maintain a high level of living.
Free markets	Balance between supply and demand of goods and services wanted by consumers at prices consumers can pay is maintained through consumers exercising their economic freedoms in the form of "economic voting." Markets are sensitive to consumers' economic votes. All goods and services consumers want and demand are the products of free enterprise.
Profit motivation	Without the possibility of making profit, businesses that produce the products and services that consumers want and need would not be started; hence, the products and services would not be available, and the jobs in business on which consumers are employed would not exist. Businesses, spurred by the hope of greater profit, improve present products and services and develop new ones which indirectly benefit consumers.
Competition	Producers and sellers are automatically limited by competition in the prices they demand from consumers; thus, unrestricted but fair competition among producers and sellers results in reasonable prices and better products and services for consumers.

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Profit Creates Jobs

No Profits = No Capital

No Capital = No Tools

No Tools = No Jobs

} Therefore

NO Jobs = NO Profits

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Explanation of Chart

1.	What to Produce.	The demand for or purchases of goods and services (representing income to producers).
2.	How Much to Produce.	The delivery of goods and services produced for and purchased by consumers at the prices offered.
3.	How to Produce.	The furnishing of and use of resources (goods and services) in a production process to satisfy wants.
4.	How Production is Shared.	Payments for use of resources in the form of wages, rent, interest, profits.

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FREE ENTERPRISE SYSTEM
UNIT I

ASSIGNMENT SHEET #1-FREE ENTERPRISE SYSTEM

Name_____ Date_____

Problem: Inquire what the essential features and characteristics of the free enterprise system are from two students who are not taking this course, two teachers in your school, two businessmen, and two neighbors.

Directions: Prepare a report in outline form, omitting the names of the persons you interviewed, in which you give the composite ideas that each of the four groups has about free enterprise.

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FREE ENTERPRISE SYSTEM
UNIT I

TEST

1. Match the following terms to the correct definition.

_____	a. Economic system	1.	An economic system that allows individuals and businesses to make their own choices about what they will do to earn a livelihood and how they will spend their money
_____	b. Free enterprise	2.	The reward of business risk
_____	c. Private property	3.	A system of freedom of choice
_____	d. Free-market system	4.	The way a nation uses its natural and man-made resources
_____	e. Competition	5.	Portions of income that one keeps, regardless of whether it is kept as money, invested in bonds, or held in the form of material assets
_____	f. Profit	6.	The effort of two or more business firms or individuals acting independently to attract a customer

2. Place an "X" in front of each of the following which are essential ingredients of which free enterprise is comprised.

_____a. Public property

_____b. Private property

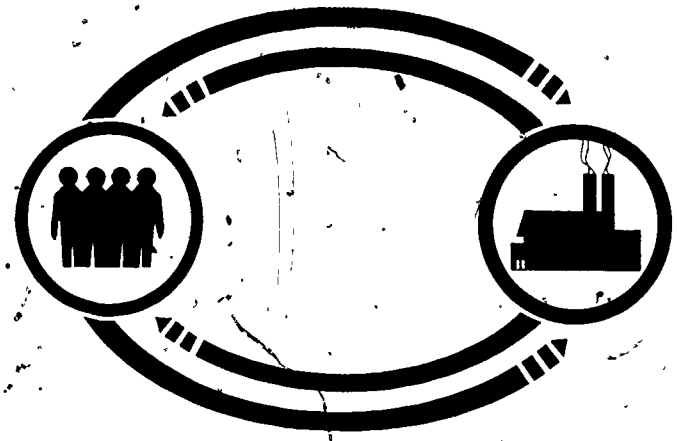
_____c. Assets

_____d. Free markets

_____e. Profit motivation

_____f. Competition

3. Label the circular flow chart of our free enterprise system.



4. Place an "X" in front of each of the following which show methods the government uses to influence the free-market system.

_____a. Collects taxes

_____b. Pays farmer more than market price

_____c. Controls public education

_____d. Gives special tax inducements to business for expansion

_____e. Pays subsidy to airlines

_____f. Pays farmers not to use land

5. Name four characteristics concerning ways our free enterprise system affects consumers and discuss the effects.

CHARACTERISTIC	EFFECT ON CONSUMER
a.	
b.	
c.	
d.	

6. Write a short report illustrating the opinion of individuals concerning the free enterprise system.

FREE ENTERPRISE SYSTEM
UNIT I

ANSWERS TO TEST

1. a. 4
   b. 1
   c. 5
   d. 3
   e. 6
   f. 2
2. b
   d
   e
   f
3.

4. a
   b
   c
   d
   e
   f

5. Discussion should include:

CHARACTERISTIC	EFFECT ON CONSUMER
Private property	Savings (part of income not spent) may be invested in property, which in turn produces an income; thus, private property increases ability of consumers to maintain a high level of living.
Free markets	Balance between supply and demand of goods and services wanted by consumers at prices consumers can pay is maintained through consumers exercising their economic freedoms in the form of "economic voting." Markets are sensitive to consumers' economic votes.
	All goods and services consumers want and demand are the products of free enterprise
Profit motivation	Without the possibility of making profit, businesses that produce the products and services that consumers want and need would not be started; hence, the products and services would not be available, and the jobs in business on which consumers are employed would not exist.
	Businesses, spurred by the hope of greater profit, improve present products and services and develop new ones which indirectly benefit consumers.
Competition	Producers and sellers are automatically limited by competition in the prices they demand from consumers. Thus, unrestricted but fair competition among producers and sellers results in reasonable prices and better products and services for consumers.

6. Evaluated to the satisfaction of the DE teacher-coordinator.

MARKETING DISTRIBUTION SYSTEM
UNIT II

TERMINAL OBJECTIVE

After completing this unit, the student should be able to match terms to their proper definition associated with the marketing distribution system. He should be able to list the significance of marketing, functions of marketing and kinds of markets and construct a chart showing the channels of distribution. This knowledge will be evidenced by scoring eighty-five percent on the unit test.

SPECIFIC OBJECTIVES

After completion of this unit, the student should be able to:

1. Define the term marketing distribution system.
2. List the significance of marketing as it pertains to our economy.
3. List the eight functions of marketing.
4. List the five kinds of markets.
5. Construct a chart showing the channels of distribution.
6. Conduct research in the library and interview a businessman for a short report to be given orally in class discussing one of the five kinds of markets.

MARKETING DISTRIBUTION SYSTEM
UNIT II

SUGGESTED ACTIVITIES

I. DE Teacher-Coordinator:

A. Provide students with objective sheet.

B. Provide students with information and assignment sheets.

C. Make transparencies.

D. Discuss terminal and specific objectives.

E. Discuss information and assignment sheets.

F. Order "Probe". (See additional references.)

G. Give test.

(NOTE: Consult audio visual supplement for suggested films.)

II. Student

A. Read objective sheet.

B. Study information sheet.

C. Complete assignment sheet.

D. Take test.

INSTRUCTIONAL MATERIALS

I. Included in this unit:

A. Objective sheet

B. Information sheet

C. Transparency master: TM 1--Channels of Distribution

D. Assignment Sheet #1--Kinds of Markets

E. Test

F. Answers to test

II. References:

A. Mason, E. R. *Marketing and Distribution.* Dallas, Texas: Greg Division, McGraw-Hill Book Company, 1968.

B. Wiget, D. J. *The Free Enterprise System.* Ohio State University.

C. Wilson, W. H. *Consumer Economic Problems,* Seventh Edition. Dallas, Texas: South-Western Publishing Company, 1966.

III. Additional reference--"Probe," Parker Brothers, Inc., $7.95, Salem, Massachusetts 01970.

This game can be used effectively to teach terminology and spelling in the various areas of marketing.

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MARKETING DISTRIBUTION SYSTEM
UNIT II

INFORMATION SHEET

I. Definition of marketing distribution system--Process through which goods and services reach the consumer

II. Significance of marketing as it pertains to our economy

A. Directs goods from producer to consumer

B. Thirty-three percent of the working force is in distribution

C. Well-being of our country is determined by

1. Productivity
2. Consumption
3. Employment

III. Functions of marketing

A. Assembling and buying

1. Assembling

(NOTE: Accumulating or gathering goods from various sources.)

2. Buying

a. Agreement on prices and terms of purchase, date of shipment or delivery, and transfer of title

b. Determination of needs

c. Selection of sources of supply from which to purchase

d. Determination of quality and suitability of the goods

B. Storing

(NOTE: Provides a physical supply of manufactured and processed goods to assume delivery to customers within a reasonable time.)

Example: Goods such as room air-conditioners and circulation fans are used during only a few months of each year require storage.

Goods having a fairly steady demand and those that are perishable require very little storage.

INFORMATION SHEET

C. Grading and standardizing

1. Grading--The process of separating the supply of a commodity into classes according to established standards.

   a. Eggs

      1) A

      2) B

      3) C

   b. Meat (beef)

      1) Canner

      2) Cutter

      3) Utility

      4) Commercial

      5) Standard

      6) Good

      7) Choice

      8) Prime

2. Standardizing--The process of preparing a definition or description of the various qualities of a commodity

   a. Apple

      1) Well-colored

      2) Without blemishes

      3) Mature

   b. Oranges

      1) Juice

      2) Eating

INFORMATION SHEET

D. Selling--To create or stimulate demand for goods

1. Personal selling--Practiced by the retail salesperson who serves the customer both by providing information and demonstrating the product

2. Non-personal selling--Used to stimulate consumer demand

   a. Newspaper

   b. Magazine

   c. Radio

   d. Television

   e. Billboards

   f. Display

E. Merchandising--The process of actually filling demands

1. Arrangement of counter and other store facilities

2. Display of goods

3. Window displays

4. Procedure and personnel for showing and demonstrating goods to prospective customers

5. Delivery service

6. Systematic credit policy

7. Installation and repair service for goods

F. Transporting and communicating

1. Transporting--The change in the location of goods after they are transferred from seller to buyer

   a. Airlines

   b. Railroads

   c. Trucklines

   d. Pipelines

   e. Ships

   f. Barges

INFORMATION SHEET

2. Communication--A link between sellers and buyers of commodities

Example: Orchids ordered by cablegram from Hawaii may be delivered by air in Chicago within twenty-four hours

a. Telephone

b. Telegraph

c. Radiotelephone

d. Postal services

e. Cablegram

G. Financing--Providing for the money that is invested in the goods while they move to the consumer

H. Risk taking--Speculation on our organized market

1. Fire

2. Theft

3. Breakage

4. Physical deterioration

5. Obsolescence

6. Changes in the price level

7. Changes in customers' wants and demands

IV. Kinds of markets

A. Wholesale--Practice of trading in large lots

1. Accomodates most producers and manufacturers in the entire range of commodities in a particular industry

2. Large lot is one hundred cases, a carload, or an entire shipload of goods

INFORMATION SHEET

B. Commission--A wholesale market in which commission men operate

1. Commission man--Takes physical possession of the goods offered by a producer and handles the sale of them to wholesalers or retailers.

2. Commission--A fee the commission man receives for his service

C. Auction--One in which buyers congregate and bid for products that are offered for sale

1. Fruits

2. Tobacco

3. Furs

4. Livestock

D. Retail--The final outlet in the distributing system

(NOTE: There are more retail organizations than any other type of business.)

1. Grocery store

2. Department store

3. Service station

4. Meat market

5. Shoe store

6. Clothing store

E. Organized market--A place where buyers and sellers congregate for the purpose of trading in securities or products

(NOTE: Organized market is referred to as an exchange.)

V. Channel of distribution--The route taken by goods from the manufacturer to consumer

A. Manufacturer to consumer

B. Manufacturer to wholesaler to retailer to consumer

C. Manufacturer to agent to wholesaler to retailer to consumer

D. Manufacturer to large-scale retailer to consumer

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Channels of Distribution

The major routes that goods take from manufacturer to consumer are:

1. Manufacturer → Consumer

A consumer may be either an individual or an industrial user. Many agricultural products are marketed through this method.

2. Manufacturer → Wholesaler → Retailer → Consumer

This route is commonly used for many food products and other commodities.

3. Manufacturer → Agent → Wholesaler → Retailer → Consumer

The agent frequently is a commission man who serves between the producer and wholesaler or between the wholesaler and the retailer.

4. Manufacturer → Large-Scale Retailer → Consumer

Usually in cases of this kind the retailer serves both as a wholesaler and a retailer. Many large supermarkets fall in this class.

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MARKETING DISTRIBUTION SYSTEM
UNIT II

ASSIGNMENT SHEET #1--KINDS OF MARKETS

Select for study one of the five kinds of markets. Begin your study with library materials and information, then extend it by interviewing a businessman in your community who is engaged in the operation of that particular kind of market. Write a report that indicates your understanding of the kind of market you chose and the special purposes it serves in the distribution process. Be prepared to give information orally in class.

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MARKETING DISTRIBUTION SYSTEM
UNIT II

TEST

1. Define marketing distribution system.

2. List the significance of marketing as it pertains to our economy.

   a.

   b.

   c.

      1)

      2)

      3)

3. List the eight functions of marketing.

   a.

   b.

   c.

   d.

   e.

   f.

   g.

   h.

4. List the five kinds of markets.

   a.

   b.

   c.

   d.

   e.

5. Construct a chart showing the channels of distribution.

   a.

   b.

   c.

   d.

6. Conduct research in the library and interview a businessman for a short report to be given orally in class discussing one of the five kinds of markets.

MARKETING DISTRIBUTION SYSTEM
UNIT II

ANSWERS TO TEST

1. Process through which goods and services reach the consumer

2. a. Directs goods from producer to consumer
   b. Thirty-three percent of the working force is in distribution
   c. Well-being of our country is determined by
      1) Productivity
      2) Consumption
      3) Employment

3. a. Assembling and buying
   b. Storing
   c. Grading and standardizing
   d. Selling
   e. Merchandising
   f. Transporting and communicating
   g. Financing
   h. Risk taking

4. a. Wholesale
   b. Commission
   c. Auction
   d. Retail
   e. Organized market

5. a. Manufacturer to consumer
   b. Manufacturer to wholesaler to retailer to consumer
   c. Manufacturer to agent to wholesaler to retailer to consumer
   d. Manufacturer to large-scale retailer to consumer

6. Evaluated to the satisfaction of the DE teacher-coordinator.

PURPOSE OF DISTRIBUTIVE EDUCATION
UNIT I

TERMINAL OBJECTIVE

After completion of this unit, the student should be able to state the function of distributive education training. He should be able to select five career opportunities available in distributive education training and conduct research on each career and report to the class. This knowledge will be evidenced through presenting a report and by scoring eighty-five percent on the unit test.

SPECIFIC OBJECTIVES

After completion of this unit, the student should be able to:

1. Match terms associated with careers in distributive occupations to correct definitions.
2. Select from a list the objectives of distributive education.
3. Select from a list elements of distributive education instruction.
4. Select from a list the individual gains from distributive education.
5. Name four important factors to consider when selecting a career.
6. List five of the twenty-two occupational areas in distributive education.
7. Conduct research on five careers in distributive occupations and report to the class.

PURPOSE OF DISTRIBUTIVE EDUCATION
UNIT I

SUGGESTED ACTIVITIES

I. DE Teacher-Coordinator:

A. Prepare bulletin board.

B. Provide student with objective, information, and assignment sheets.

C. Discuss terminal and specific objectives.

D. Discuss information and assignment sheets.

E. Contact local businessmen to talk on careers.

F. Give test.

(NOTE: Consult audio visual supplement for suggested films.)

II. Student:

A. Read objective sheet.

B. Study information sheet.

C. Prepare questions to ask guest speaker.

D. Complete assignment sheet.

E. Take test.

INSTRUCTIONAL MATERIALS

I. Included in this unit:

A. Objective sheet

B. Information sheet

C. Bulletin board idea--Part of a Complete Program

D. Assignment Sheet #1--Select and Collect Information on Careers

E. Test

F. Answer to test

II. References:

A. *Operations and Procedures for Distributive Education.* Oklahoma State Department of Vocational and Technical Education, 1515 West Sixth Avenue, Stillwater, Oklahoma 74074.

B. *Vocational Educational and Occupations.* Distributive Education Section, Dictionary of Occupational Titles, U.S. Office of Education Classification, Distributive Education, 1515 West Sixth Avenue, Stillwater, Oklahoma 74074.

C. U.S. Department of Labor. *Dictionary of Occupational Titles.* Volume II, 1965.

D. *Vocational Agriculture III.* Curriculum Guide, State Department of Vocational and Technical Education, Curriculum Materials Center, 1515 West Sixth Avenue, Stillwater, Oklahoma, 1972.

PURPOSE OF DISTRIBUTIVE EDUCATION
UNIT I

INFORMATION SHEET

I. Terms and definitions

A. Distributive education--Vocational program involving retail, wholesale, and service occupations; secondary, post secondary, and adult training

B. Career--Course of continued progress in the life of a person in a series of related occupations

C. Career pattern--Sequence of occupation in the life of an individual that makes up a career

D. Occupation--Group of related jobs in an area of work

E. Occupational choice--Process one goes through eliminating some occupations and retaining others until an occupation has been chosen

II. Objectives of distributive education

A. To offer balanced, comprehensive, instructional programs in all areas of distribution and marketing

B. To aid in improving techniques of distribution

C. To develop an understanding of the social and economic free competitive society

D. Training of students on sophomore, junior, and senior levels; DE I, DE II, and DE III

E. Train students in mid-management on the post secondary level

F. Adult training

III. Elements of distributive education instruction

A. Related classroom instruction

B. Supervised on-the-job or laboratory training

C. DECA

(NOTE: These are instructional activities through which the DE student is able to channel his efforts to accomplish his goal.)

D. A study of businesses performing distributive functions

INFORMATION SHEET

E. A study of marketing, including buying, selling, pricing, wholesaling, retailing

F. A study of the consumer's role in the marketing process

G. A study of career opportunities in distribution

IV. Individual gains from distributive education

A. Acquire knowledge necessary for good job performance

B. Learn to work better with people and for people

C. Learn while earning

D. Learn to assume responsibilities

E. Develop personality and poise

F. Find promotional opportunities more readily

G. Develop leadership potential

V. Important factors to consider when selecting a career

A. Type of work

B. Educational training

1. High school
2. Vo-tech training
3. Post high school

C. Financing needed to enter

D. Means of obtaining the job

E. Entry level requirements

F. Advancement possibilities

G. Licensing or certification

H. Working conditions

I. Health and physical requirements

INFORMATION SHEET

J. Earnings and benefits

K. Future outlook

VI. The twenty-two occupational areas in distributive education (USOE Code-04...thru 04 distributive business, others)

A. Advertising services--Organized subject matter and learning experiences related to planning, development, placement, and evaluation tasks performed by distributive employees and management personnel in demand creation and sales promotion activities utilizing displays, merchandising aids, and mass media in such enterprises as advertising agencies, display houses, retail and wholesale establishments, and production industries

1. Market-research analyst
2. Copy writer
3. Advertising lay-out man
4. Production manager, advertising
5. Manager, display
6. Buyer; time and space
7. Advertising assistant
8. Direct-mail specialist
9. Manager, advertising
10. Director, advertising
11. Manager, advertising agency
12. Account executive
13. Director, merchandising displays and specialties department
14. Public-relations man
15. Dealer-contact man
16. Public program supervisor
17. Sales-service man

INFORMATION SHEET

18. Counter clerk
19. Salesman, trading stamps
20. Leaseman
21. Salesman, radio and television time
22. Salesman, art
23. Salesman, signs and displays
24. Salesman, advertising
25. Salesman, signs
26. Display man
27. Decorator
28. Advertising-display rotator
29. Sample distributor
30. Sample distributor
31. Attendant, traveling display
32. Sign writer, hand

B. Apparel and accessories--Organized subject matter and learning experiences related to the variety of sales, fashion coordination, and sales-supporting tasks performed by distributive employees and management personnel in retail and wholesale establishments primarily engaged in selling clothing of all kinds, including related articles for personal wear and adornment

1. Fashion coordinator
2. Sample girl
3. Salesperson, orthopedic shoes
4. Salesman, footwear
5. Salesman, men's and boy's clothing
6. Salesman, uniforms
7. Salesman, women's and girl's apparel

INFORMATION SHEET

8. Salesperson, corsets
9. Salesperson, fashion accessories.
10. Salesperson, furs
11. Salesperson, men's furnishings
12. Salesperson, shoes
13. Salesperson, infant's and children's wear
14. Salesperson, men's and boys' clothing
15. Salesperson, millinery
16. Salesperson, women's garments
17. Salesman, leather goods
18. Salesman, textile designs
19. Salesman, shoe leather and findings
20. Salesman, jewelry and optical goods
21. Salesperson, jewelry
22. Fur-storage clerk
23. Stock girl, women's apparel

C. Automotive--Organized subject matter and learning experiences related to the variety of sales and sales-supporting tasks performed by distributive employees and management personnel in retail, wholesale, and service establishments engaged in selling, renting, storing or caring of cars and trucks, and in selling automotive parts, accessories and equipment

1. Spare-parts field representative
2. Manager, parts
3. Service manager
4. Manager, storage garage
5. Manager, vehicle leasing and rental
6. Service-management specialist

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INFORMATION SHEET

7. Service representative
8. Salesman, automobile
9. Salesman, automobile parts
10. Salesman, house trailers
11. Salesman, motor vehicles and supplies
12. Salesperson, automobile accessories
13. Salesperson, parts
14. Car locator
15. Appraiser, automobile
16. Automobile-repair-service salesman
17. Car-wash supervisor
18. Parking lot attendant
19. Dispatcher, car rental
20. Car-rental clerk

D. Finance and credit--Organized subject matter and learning experiences related to the tasks performed by distributive employees and management personnel in institutions engaged in deposit banking and related services, extending credit in the form of loans, services allied with the exchange of securities and commodities, or consumer credit and collections

1. Broker-and-market operator, grain
2. Broker's floor representative
3. Manager, financial institution
4. Bank cashier
5. Foreign-exchange trader
6. Reserve officer
7. Securities trader
8. Supervisor, credit union
9. Credit analyst

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INFORMATION SHEET

10. Brokerage clerk
11. New-accounts teller
12. Safe-deposit clerk
13. Salesman, securities
14. Salesman, financial service
15. Salesman, investment and tax counseling service

E. Floristry--Organized subject matter and learning experiences related to a variety of sales and sales-supporting tasks performed by distributive employees and management personnel in retail and wholesale establishments engaged in selling floral arrangements, cut flowers, growing plants, artificial plants, and related items for ornamental use

1. Floral designer
2. Salesperson, flowers
3. Salesman, florist supplies

F. Food distribution--Organized subject matter and learning experiences related to a variety of sales and sales-supporting tasks performed by distributive employees and management personnel in establishments primarily engaged in selling food for home preparation and consumption, or selling a general or commodity line of food products at wholesale

1. Broker
2. Commission man, livestock
3. Commissary man
4. Manager, doughnut shop
5. Cashier, courtesy booth
6. Checker, bakery products
7. Commission man, agricultural products
8. Salesman, livestock
9. Salesman, food products

INFORMATION SHEET

10. Groceryman, journeyman
11. Salesperson, food
12. Buyer
13. Peddler
14. Route supervisor
15. Salesman-driver
16. Salesman-driver's helper
17. Department head, supermarket
18. Cashier-checker
19. Bakery girl
20. Bagger

G. Food services--Organized subject matter and learning experiences related to the sales and sales-supporting tasks performed by distributive employees and management personnel in establishments serving prepared foods and drinks for consumption on their own premises or at a place designated by the customer

1. Manager, food concession
2. Manager, catering
3. Manager, liquor establishment
4. Manager, restaurant or coffee shop
5. Food checker
6. Salesman, food-vending service
7. Salesman, hotel and restaurant equipment and supplies
8. Salesman, vending and coin machines
9. Lunch-truck driver
10. Coin-vending-machine collector
11. Wine steward

INFORMATION SHEET

12. Steward

13. Hostess, restaurant or coffee shop

H. General merchandise--Organized subject matter and learning experiences related to a variety of sales and sales-supporting tasks performed by distributive employees and management personnel engaged primarily in selling various types of merchandise at retail in department stores, junior department stores, variety stores, general merchandise stores, discount stores, and catalog houses

1. Buyer

2. Buyer, assistant

3. Manager, store

4. Manager, merchandise

5. Director, service

6. Junior executive

7. Manager, trainee

8. Marker

9. Cashier

10. Collector

11. Adjustment clerk

12. Sales-check writer

13. New-account clerk

14. Salesperson, yard goods

15. Salesperson, cosmetics and toiletries

16. [redacted]sperson, china and glassware

17. Salesperson, silverware

18. Salesperson, general

19. Salesperson, flying squad

20. Sales attendant

INFORMATION SHEET

21. Sales clerk
22. Auctioneer
23. Personal shopper
24. Comparison shopper
25. Demonstrator
26. Manager, department
27. Bridal consultant
28. Deliveryman

I. Hardware, building materials, farm and garden supplies and equipment--Organized subject matter and learning experiences related to various sales and sales-supporting tasks performed by distributive employees and management personnel in establishments engaged primarily in selling one or more of the following product lines at retail, at wholesale, or to contractors: hardware, paint, wallpaper, lumber, building materials, supplies and equipment for home construction, or farm and garden supplies and equipment

1. Manager, service department
2. Contract clerk
3. Salesman, building and construction equipment and supplies
4. Salesman, construction machinery
5. Salesman, hardware supplies
6. Salesperson, general hardware
7. Salesman, cattle and poultry food supplements
8. Salesman, dairy supplies
9. Salesman, farm and garden equipment and supplies
10. Salesman, poultry equipment and supplies
11. Salesman, tractor and farm implements
12. Salesperson, lawn and garden equipment and supplies
13. Yardman

INFORMATION SHEET

J. Home furnishings--Organized subject matter and learning experiences related to various sales and sales-supporting tasks performed by distributive employees and management personnel in retail and wholesale establishments engaged primarily in selling home furnishings such as furniture, household appliances floor coverings, draperies, and specialized lines of home items

1. Second-hand furniture dealer
2. Appliance-service supervisor
3. Appraiser, furniture
4. Salesman, upholstery and furniture repair
5. Floor-coverings estimator
6. Salesman, custom drapery
7. Salesman, floor coverings
8. Salesman, housefurnishings
9. Salesperson, curtain and drapery
10. Salesperson, furniture
11. Salesperson, hi-fi
12. Salesman, gas-or-electric appliances
13. Salesman, household equipment
14. Salesman, radio and television parts
15. Salesman, sewing machine
16. Salesperson, television and appliances
17. Drapery and upholstery estimator
18. Furniture inspector

K. Hotel and lodging--Organized subject matter and learning experiences related to the tasks performed by distributive employees and management personnel in establishments which provide lodging, lodging and meals, convention facilities, and other services on a year-round or seasonal basis to the general public or to an organization's membership

1. Manager, hotel
2. Manager, motel

INFORMATION SHEET

3. Manager, resident
4. Manager, front office
5. Manager, traveling
6. Manager, convention
7. Desk clerk
8. Hotel clerk
9. Travel clerk
10. Sales representative
11. Manager, lodging facilities
12. Manager, boarding house
13. Bell captain
14. Baggage porter
15. Bellman
16. Doorman
17. Room-service clerk
18. Superintendent, service
19. Receiving-room clerk
20. Attendant, lodging facilities
21. Couple, lodging facilities
22. Club boy
23. Checkroom attendant

L. Industrial marketing--Organized subject matter and learning experiences related to the tasks performed by sales and management personnel in establishing market potentials and selling goods and services to business and institutional buyers for use in their operations

1. Manager, sales
2. Manager, utility sales and service

INFORMATION SHEET

3. Manager, branch
4. Manager, industrial organization
5. Manager, technical service
6. Salesman, industrial relations
7. Salesman, business services
8. Salesman, printing
9. Salesman, weather forecasting service
10. Salesman, canvas products
11. Salesman, paper and paper products
12. Salesman, pressure-sensitive tape
13. Salesman, chemicals and drugs
14. Salesman, plastic products
15. Salesman, rubber goods
16. Salesman, abrasives
17. Salesman, foundry and machine shop products
18. Salesman, metals
19. Salesman, wire rope
20. Salesman, machinery
21. Salesman, lubricating equipment
22. Salesman, radiographic inspection services
23. Salesman, safety equipment
24. Salesman, textile machinery
25. Salesman, ultrasonic equipment
26. Salesman, welding equipment
27. Salesman, communication equipment

INFORMATION SHEET

28. Salesman, printing supplies
29. Salesman, bottles and bottling equipment
30. Salesman, church furniture and equipment
31. Salesman, cordage
32. Salesman, office machines
33. Salesman, school equipment and supplies
34. Salesman, commercial equipment and supplies
35. Salesman, dental and medical equipment and supplies
36. Salesperson, surgical appliances
37. Salesman, medical equipment and supplies
38. Salesman, veterinarian supplies
39. Salesman, precision instruments
40. Salesman, engineering supplies
41. Manufacturer's representative
42. Salesman, containers
43. Salesman, religious supplies
44. Salesman general

M. Insurance--Organized subject matter and learning experiences related to the tasks performed by sales and management personnel for insurance carriers of all types, or by agents representing carriers and brokers dealing in the sale or placement of insurance contracts with carriers

1. Special agent
2. Insurance examiner
3. Estate planner
4. Underwriter
5. Hospital-insurance representative

INFORMATION SHEET

6. Manager, insurance
7. Manager, insurance office
8. Investigator
9. Placer
10. Claim adjuster
11. Claim examiner
12. Life underwriter
13. Salesman, insurance

N. International trade--Organized subject matter and learning experiences related to the tasks performed by distributive employees and management personnel in a variety of business establishments concerned with export sales, trade controls, foreign operations, attitudes, monetary problems, and other elements in international marketing

1. Manager, export
2. Import-export agent
3. Customs-house broker

O. Personal services--Organized subject matter and learning experiences related to the tasks performed by sales and management personnel in establishments primarily engaged in providing services; generally, these services are concerned with personal improvement and the care of a person or his apparel; included in this category are laundries and dry cleaning establishments, shoe repair shops, funeral homes, photographic studios, and dance or art studios

1. Manager, photograph gallery or studio
2. Photographer, street
3. Director, funeral
4. Manager, barber shop
5. Manager, beauty shop
6. Manager, cemetery
7. Manager, sales

INFORMATION SHEET

8. Superintendent, laundry
9. Manager, branch store
10. Dry-cleaning superintendent
11. Repair estimator
12. Service-establishment attendant

P. Petroleum--Organized subject matter and learning experiences related to the variety of sales and sales-supporting tasks performed by distributive employees and management personnel in retail or wholesale establishments engaged in the distribution of petroleum products

1. Manager, contracts
2. Field representative
3. Manager, bulk plant
4. Manager, store
5. Manager, leasing
6. Leaseman
7. Permit agent, geophysical prospecting
8. Salesman, oil field supplies and equipment
9. Dispatcher, oil
10. Automobile-service-station attendant
11. Automobile-self-serve-service-station attendant

Q. Real estate--Organized subject matter and learning experiences related to tasks performed by persons who act for themselves or as agents for others in real estate brokerages or other firms engaged in buying, selling, appraising, renting, managing, and leasing of real property

1. Manager, industrial development
2. Manager, franchise promotion
3. Property-rental agent
4. Real-estate agent

INFORMATION SHEET

5. Manager, apartment house
6. Manager, housing project
7. Manager, property
8. Manager, rental department
9. Market master
10. Superintendent, building
11. Business broker
12. Right-of-way agent
13. Appraiser, real estate
14. Real-estate-location writer
15. Building consultant
16. Memorial counselor
17. Salesman, real estate
18. Sales representative

R. Recreation and tourism--Organized subject matter and learning experiences related to the variety of sales, counseling, and sales-supporting tasks performed by distributive employees and management personnel in establishments primarily engaged in providing amusement, recreation, entertainment, recreational supplies and equipment, or travel services; this instructional program is also designed for employees and management personnel engaged in other travel serving businesses who assume responsibilities for stimulating the local economy through tourism

1. Camera girl
2. Director, tourist
3. Manager, golf club
4. Manager, theater
5. Director, hobby shop
6. Booking agent

INFORMATION SHEET

7. Business agent
8. Advance man
9. Director, recreation center
10. Ticket seller
11. Travel counselor
12. Salesperson, photographic equipment and supplies
13. Salesman, amusement and sporting goods
14. Salesman, hobbies and crafts
15. Salesperson, sporting goods
16. Salesman, musical instruments and accessories
17. Salesman, piano and organ
18. Salesperson, sheet music
19. Salesman, novelties
20. Salesman, publications
21. Salesperson, books
22. Salesperson, pets and pet supplies
23. Salesperson, stamps or coins
24. Salesman, club membership
25. Deskman, bowling floor
26. Recreation-facility attendant
27. Director, recreation

S. Transportation--Organized subject matter and learning experiences related to the physical movement of people, personal effects and products, the sales, storing, and sales-supporting tasks performed by distributive employees and management personnel in enterprises engaged in passenger and freight transportation, public warehousing, and services incidental to transportation

INFORMATION SHEET

1. Airplane stewardess, chief
2. Director, transportation
3. District sales representative
4. Manager, operations
5. Manager, regional
6. Superintendent, airport
7. Dispatcher, chief
8. General agent, operations
9. Manager, bus transportation
10. Manager, locker plant
11. Manager, station
12. Manager, terminal
13. Manager, traffic
14. Manager, warehouse
15. Port-traffic manager
16. Station master
17. Superintendent, cold storage
18. Superintendent, division
19. Superintendent, pipe lines
20. Superintendent, transportation
21. Toll collector
22. Rate clerk
23. Traffic agent
24. Crating-and-moving estimator
25. Salesman, material-handling equipment

INFORMATION SHEET

26. Salesman, aircraft
27. Salesman, aircraft equipment and parts
28. Salesman, boats and nautical equipment
29. Salesman, marine supplies
30. Salesman, railroad equipment and supplies
31. Porter, pullman
32. Airplane stewardess
33. Bus hostess
34. Hostess, train
35. Baggageman
36. Driver supervisor
37. Railway-express agent
38. Baggage-and-mail agent
39. Reservation clerk
40. Documentation supervisor
41. Supervisor, ticket sales
42. Schedule analyst
43. Reservation agent
44. Airplane-dispatch clerk
45. Transportation agent
46. Road supervisor
47. Dispatcher, bus and trolley
48. Taxi driver
49. Bus driver
50. Ticket agent

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INFORMATION SHEET

51. Warehouse traffic man

52. Materials-handling foreman

53. Material handler

T. Retail trade, other--Include here other organized instructional programs and learning experiences, emphasized in sales and sales-supporting tasks performed by distributive employees and management personnel in establishments engaged in selling merchandise purchased for resale to customers for personal, household, business or farm use, which are not listed above, specify

1. Salesman, house to house
2. Solicitor
3. Sales closer
4. Laborer, stores

U. Wholesale trade, other--Include here other instructional programs and learning experiences emphasized in sales and sales-supporting tasks performed by distributive employees and management personnel in places of business engaged primarily in selling goods to retailers, industrial, commercial, institutional and professional users, or bringing buyer and seller together, which are not listed above; specify

1. Manager, distribution warehouse
2. Wholesaler
3. Salesman, dress trimmings
4. Salesman, fuel
5. Salesman, general merchandise

V. Distributive education, other--Include here other organized instructional programs and learning experiences, emphasized in marketing functions performed by employees, managers and/or proprietors in establishments engaged in selling products or providing services to individuals and business establishments, which are not classifiable as either retail or wholesale in nature and function; specify

1. Purchasing agent
2. Sales-development clerk

INFORMATION SHEET

3. Contract clerk
4. Salesman, pest control service
5. Salesman, protective service
6. Salesman, public utilities
7. Salesman, soft-water service

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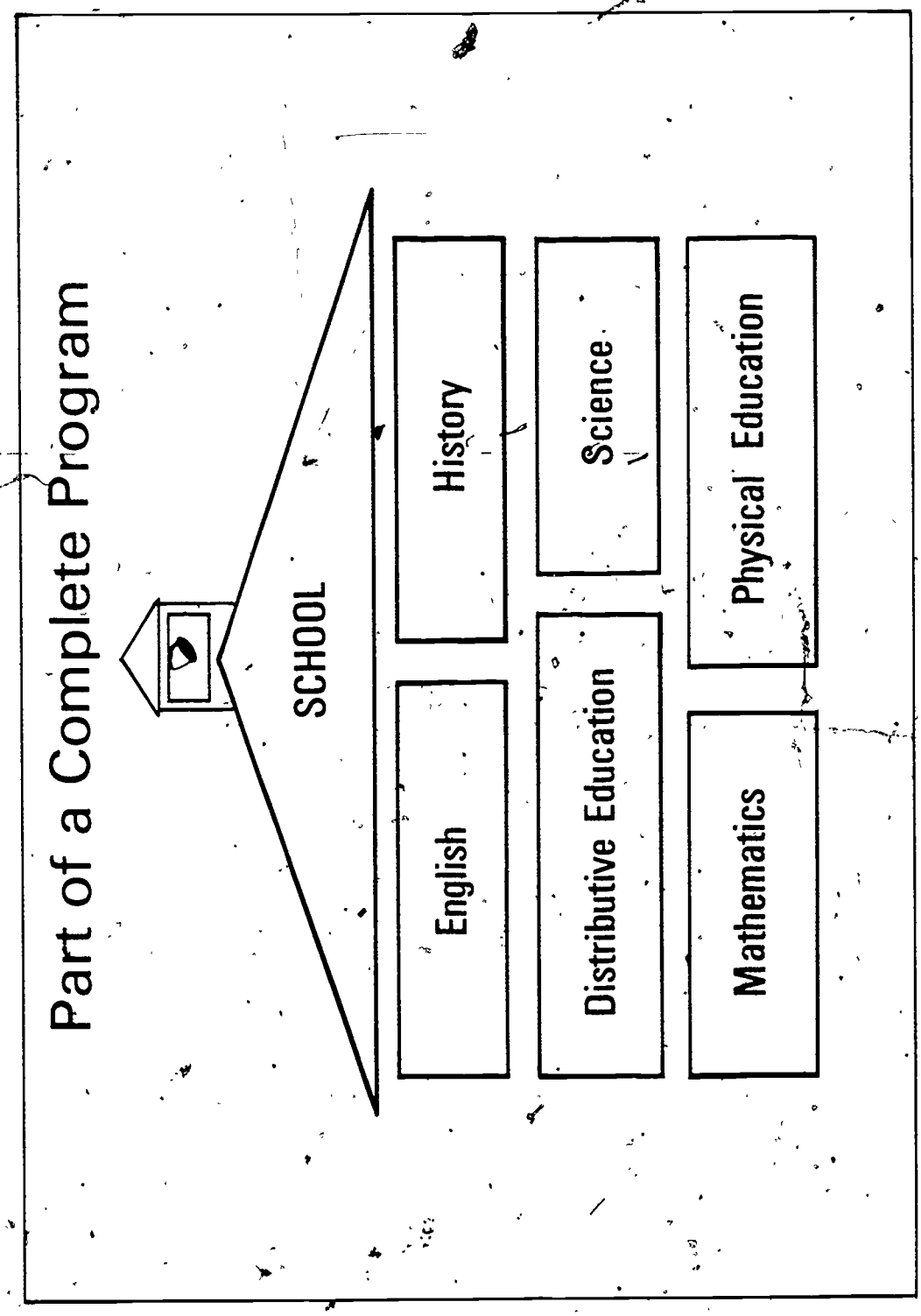
BULLETIN BOARD IDEA



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PURPOSE OF DISTRIBUTIVE EDUCATION
UNIT I

ASSIGNMENT SHEET #1--SELECT AND COLLECT INFORMATION ON CAREERS

You are approaching the most important time in your life. This is the time when you must choose a career to pursue upon completion of your high school program. Much time, thought, and preparation should be given, because the career you are about to select will more than likely become the way of life for you. Select five careers that you would like to pursue after graduation and collect as much information as possible about the career. Using this outline prepare your reports. When the report has been given to the class, return this to the instructor.

Career selected: _____

Level within the occupation: _____

What type of educational training is needed? _____

Does the career selected provide means for advancement? _____

What type of working conditions does the career contain? _____

What are the procedures for obtaining the job? _____

What are the expected earnings and benefits derived from the career previously selected?

Discuss in a short paragraph the reasons for making such a selection on the career choice.

Since you have conducted research on the career, has your attitude changed? If so, in what way? Discuss in a short paragraph.

By using this assignment sheet, make a report to the class.

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PURPOSE OF DISTRIBUTIVE EDUCATION
UNIT I

ASSIGNMENT SHEET #1--SELECT AND COLLECT INFORMATION ON CAREERS

You are approaching the most important time in your life. This is the time when you must choose a career to pursue upon completion of your high school program. Much time, thought, and preparation should be given, because the career you are about to select will more than likely become the way of life for you. Select five careers that you would like to pursue after graduation and collect as much information as possible about the career. Using this outline prepare your reports. When the report has been given to the class, return this to the instructor.

Career selected: _____

Level within the occupation: _____

What type of educational training is needed? _____

Does the career selected provide means for advancement? _____

What type of working conditions does the career contain? _____

What are the procedures for obtaining the job? _____

What are the expected earnings and benefits derived from the career previously selected?

Discuss in a short paragraph the reasons for making such a selection on the career choice.

Since you have conducted research on the career, has your attitude changed? If so, in what way? Discuss in a short paragraph.

By using this assignment sheet, make a report to the class.

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PURPOSE OF DISTRIBUTIVE EDUCATION -
UNIT I

ASSIGNMENT SHEET #1--SELECT AND COLLECT
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PURPOSE OF DISTRIBUTIVE EDUCATION
UNIT I

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PURPOSE OF DISTRIBUTIVE EDUCATION
UNIT 1

TEST

1. Match the following terms to the correct definition.

_____a. Distributive education		___1.	Group of related jobs in an area of work
_____b. Career		2.	Course of continued progress in the life of a person in a series of related occupations
_____c. Career pattern		3.	Process one goes through eliminating some occupation and retaining others until an occupation has been chosen
_____d. Occupation		4.	Vocational program involving retailil, wholesale, and service occupations; secondary, post secondary, and adult training
_____e. Occupation choice		5.	Sequence of occupation in the life of an individual that makes up a career

2. Place an "X" in front of each of the following which are objectives of distributive education.

_____a. Adult training

_____b. Train student in mid-management on the post secondary level

_____c. To aid in improving techniques of distribution

_____d. To develop an understanding of the social and economic free competitive society

_____e. Train students for a trade

_____f. Training of students on sophomore, junior, and senior levels

_____g. To offer balanced, comprehensive, instructional programs in all areas of distribution and marketing

3. Place an "X" in front of each of the following elements of distributive education instruction.

_____a. A study of career opportunities in distribution

_____b. A study of the consumer's role in the marketing process

_____c. A study of marketing including buying, selling, pricing, wholesaling, retailing

_____d. DECA

_____e. Related classroom instruction

_____f. The work experience is the most important part

_____g. Supervised on-the-job training

_____h. A study of business performing distributive functions

4. Place an "X" in front of each of the following that are individual gains from distributive education.

_____a. Learn while earning

_____b. Develop personality and poise

_____c. Acquire knowledge necessary for good job performance

_____d. Learn to work better with people and for people

_____e. Learn to assume responsibilities

_____f. Find promotional opportunities more readily

5. Name four of the eleven factors to consider when selecting a career.

a.

b.

c.

d.

6. List five of the twenty-two occupational areas in distributive education.

a.

b.

c.

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d.

e.

7. Conduct research on five careers in distributive occupations and report to the class.

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PURPOSE OF DISTRIBUTIVE EDUCATION
UNIT I

ANSWERS TO TEST

1. a. 4
   b. 2
   c. 5
   d. 1
   e. 3
2. a
   b
   c
   d
   f
   g
3. a
   b
   c
   d
   e
   g
   h
4. a
   b
   c
   d
   e
   f

5. a. Type of work
   b. Educational training
   c. Financing needed to enter
   d. Means of obtaining the job
   e. Entry level requirements
   f. Advancement possibilities
   g. Licensing or certification
   h. Working conditions
   i. Health and physical requirements
   j. Earnings and benefits
   k. Future outlook

6. a. Advertising services
   b. Apparel and accessories
   c. Automotive
   d. Finance and credit
   e. Floristy
   f. Food distribution
   g. Food services
   h. General merchandise
   i. Hardware, building materials, farm and garden supplies and equipment
   j. Home furnishings
   k. Hotel and lodging
   l. Industrial marketing
   m. Insurance
   n. International trade
   o. Personal services
   p. Petroleum

q. Real estate

r. Recreation and tourism

s. Transportation

t. Retail trade, other

u. Wholesale trade, other

v. Distributive education, other

7. Evaluated to the satisfaction of the DE teacher-coordinator.

GOOD GROOMING
UNIT I

TERMINAL OBJECTIVE

After the completion of this unit, the student should be able to establish through personal appearance the ability to be well groomed. This knowledge should be evident by his or her personal appearance and by achievement of eighty-five percent on the unit test.

SPECIFIC OBJECTIVES

After completion of this unit, the student should be able to:

1. Match terms associated with good grooming.
2. Select essentials of body cleanliness when given a list of alternatives.
3. Name three elements of complexion care.
4. Select essentials of well-groomed hair.
5. Name five factors to consider in selecting a hair style.
6. Select factors that are hair problems.
7. Name five factors that describe good posture.
8. Identify the essentials of hand and nair care.
9. Name four factors which contribute to good health.
10. Demonstrate the ability to evaluate his or her own grooming practices using the check list provided in this unit.

GOOD GROOMING
UNIT I

SUGGESTED ACTIVITIES

I. DE Teacher-Coordinator:

A. Prepare bulletin board.

B. Provide student with objective sheets, information sheets, and assignment sheets.

C. Discuss terminal and specific objectives.

D. Discuss information and assignment sheets.

E. Contact local businessman to talk on "How Grooming and Health Habits Affect Commercial Business."

F. Take test.

(NOTE: Consult audio visual supplement for suggested films.)

II. Student:

A. Read objective sheet.

B. Study information sheet.

C. Prepare question to ask guest speaker.

D. Complete assignment sheets.

E. Take test.

INSTRUCTIONAL MATERIALS

I. Included in this unit:

A. Objective sheet

B. Information sheet

C. Bulletin board idea--We Are What We Do!

D. Assignment sheets

1. Assignment Sheet #1a--The Way You Look (Men)

(NOTE: Give to student before unit is taught.)

2. Assignment Sheet #1b--The Way You Look (Women)

   (NOTE: Give to student before unit is taught.)

3. Assignment Sheet #2--Grooming Self-Analysis

   (NOTE: For the points on Assignment Sheet #2 use 6-Always, 4-Usually, 2-Occasionally, and 0-Never. Total the score and compare it to the rating scale.)

   Rating Scale:

100-114	You take pride in your appearance
85-99	You'd probably pass inspection
70-84	You're not really trying
Less than 70	Your best friend won't even tell you

E. Test

F. Answers to test

II. References:

A. *Cooperative Vocational Education Course of Study.* Stillwater, Oklahoma: State Department of Vocational and Technical Education, Curriculum and Instructional Materials Center, 1972.

B. Kimbrell, Grady and Ben Vineyard. *Succeeding in the World of Work*, First Edition. Bloomington, Illinois: McKnight and McKnight Publishing Company, 1970.

C. Newton, Roy and H. Green. *How to Improve Your Personality*, Third Edition. Dallas, Texas: Gregg Division, McGraw-Hill Book Company, 1963.

D. *Oklahoma Vocational Home Economics Education, Commercial Foods Management and Production Course of Study.* Stillwater, Oklahoma: State Department of Vocational and Technical Education, Curriculum and Instructional Materials Center, 1971.

GOOD GROOMING
UNIT I

INFORMATION SHEET

I. Terms and definitions

A. Anti-perspirant--An odorless preparation that keeps one dry and also destroys unpleasant odors

B. Astringents--Lotions that contain some alcohol and are to be patted on the face

C. Conspicuous--Something that is obvious or noticeable and not in good taste

D. Cuticle--Thin, dead skin at the sides and base of a fingernail or toenail

E. Deodorant--A preparation that destroys unpleasant odors, but does not necessarily keep one dry

F. Immaculate--Spotlessly clean

G. Lubrication--A substance used to make the skin smooth and soft

H. Manicure--To file and buff nails and trim the cuticles

II. Essentials of body cleanliness

A. Daily bath or shower

B. Daily use of a deodorant or anti-perspirant

C. Daily use of foot powder or spray

D. Use only lightly scented colognes, after-shave lotion, or body powders

E. Brush teeth after every meal, if possible

F. Have teeth checked every six months by a dentist

G. Use mouthwash morning and night

H. Change undergarments daily

I. Be clean shaven

J. Finger nails clean and trimmed

K. Hair neat, clean, and shiny

INFORMATION SHEET

III. Elements of complexion care

A. Proper cleansing

1. Consider your own skin type

a. Normal

1) Soft and smooth

2) No flaky patches

3) No blemishes

b. Oily skin

1) Greasy shine

2) Blackheads and pimples

c. Dry

1) Tight feeling

2) Tendency to develop little lines, around the eyes and lips

d. Combination--skin that does not fit into any of the preceding categories

2. Keep items that contact face immaculate

B. Proper stimulation

1. Outdoor exercise

2. Proper diet

3. Massages

C. Protection from sun, wind, and air pollution

1. Lubricating creams and lotions for dry skin

2. Greaseless moisturizers for normal or oily skin

IV. Essentials of well-groomed hair

A. Shampoo frequently (at least once a week)

B. Brush regularly with clean brush

INFORMATION SHEET

C. Control dandruff

D. Cut or trim regularly

E. Select becoming style for face and particular job

F. Keep hair care equipment clean

V. Factors to consider in selecting a hair style

A. Shape of face

(NOTE: Emphasize pleasing features of face.)

B. Figure

C. Personality

D. Texture, body, and thickness of hair

E. Job requirements

F. Time needed to maintain particular style

VI. Hair problems

A. Dandruff

B. Dry

C. Oily

D. Limp, lifeless

E. Fine

F. Coarse

G. Curly

H. Baldness

I. Split ends

J. Over bleaching

VII. Factors of good posture

A. Shoulders erect

B. Chest high

INFORMATION SHEET

C. Head erect

D. Abdomen flat

E. Body weight on both feet

VIII. Essentials of hand and nail care

A. Hands kept clean

B. Protected against dryness and chapping

C. Nails kept clean and manicured

IX. Factors of good health habits

A. Three well-balanced meals daily

B. Proper amount of sleep

C. Fresh air

D. Moderate exercise

E. Regular physical checkups

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BULLETIN BOARD IDEA

We Are What We Do!

Choose Good Food

No Smoking, Use of Drugs or Narcotics, No Drinking

Get Proper Exercise

Have Correct Posture

Adequate Rest and Sleep

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GOOD GROOMING
UNIT I

ASSIGNMENT SHEET #1a--THE WAY YOU LOOK (MEN)

Your appearance probably is more important to your success than you think, for your customers form their first impression of you by the way you look. Check yourself on these points.

Hair

1. Is your hair neatly combed and brushed?
2. Do you wash your hair at least once a week?

Hands

1. Are your hands and nails clean?
2. Are your nails short and neatly shaped?

Cleanliness

1. Do you bathe daily?
2. Do you use body deodorant daily?
3. Do you brush your teeth at least twice a day, especially on rising and before retiring?
4. Is your face clean?
5. Is your face freshly shaved?

Outer Dress

1. Are your clothes conservative and businesslike?
2. Do you carry a clean handkerchief?

Shoes and Hosiery

1. Do your socks harmonize with your attire?
2. Are your socks long enough to avoid exposing bare shins?
3. Are your business shoes polished at all times?
4. Are the heels neat (not worn down)?
5. Do your shoes fit and are they comfortable when walking and standing?

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ASSIGNMENT SHEET #1a

Facial Expression

1. Is your facial expression pleasant?
2. Do you have an alert facial expression?

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GOOD GROOMING
UNIT I

ASSIGNMENT SHEET #1b--THE WAY YOU LOOK (WOMEN)

Your appearance probably is more important to your success than you think, for your customers form their first impression of you by the way you look. Check yourself on these points.

Hair

1. Is your hair style in good taste (not extreme in style)?
2. Does your hair show evidence of frequent brushing?
3. Do you shampoo your hair at least once a week?

Hands

1. Are your hands and nails clean?
2. Are your nails of conservative length and neatly manicured?
3. Is the nail polish you use in good taste and always look fresh?

Cleanliness

1. Do you bathe at least once a day?
2. Do you use a body deodorant?
3. Do you brush your teeth at least twice a day, especially on rising and before retiring?
4. Is your face clean?
5. Is your makeup neat and in good taste?

Outer Dress

1. Are your clothes stylish, yet appropriate for the occasion?
2. Do you carry a clean handkerchief or tissue?

Shoes and Hosiery

1. Are hose without runs, snags, or pulls?
2. Do your shoes harmonize with your attire?
3. Are your shoes clean and/or polished at all times?
4. Are the heels neat (not worn down)?

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ASSIGNMENT SHEET #1b

Accessories

1. Is your jewelry conservative and in good taste?
2. Do your accessories complement your clothes?

Facial Expression

1. Is your facial expression pleasant?
2. Do you have an alert facial expression?

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GOOD GROOMING
UNIT I

ASSIGNMENT SHEET #2--GROOMING SELF-ANALYSIS

Directions: Rate yourself on each of the following questions. Use a scale of "A" for Always, "U" for Usually, "O" for Occasionally, and "N" for Never. Place the appropriate letter in the blanks preceding the statements.

1. _____Do you take a bath or shower daily?
2. _____Do you use an effective deodorant or anti-perspirant daily?
3. _____Do you use a foot spray or powder daily?
4. _____Do you shave as often as needed?
5. _____Do you put on clean undergarments daily?
6. _____Do you put on clean hosiery daily?
7. _____Do you wash your face thoroughly at least twice a day (more often if you have oily skin?
8. _____Do you push cuticles back as you dry hands and feet after bathing?
9. _____Do you use hand cream daily?
10. _____Do you check fingernails daily and repair as necessary?
11. _____Do you wash hair weekly (more often if needed)?
12. _____Do you brush hair vigorously every day?
13. _____Do you have hair cut or trimmed regularly?
14. _____Do you use a dandruff shampoo and/or cream rinses and conditioners if needed?
15. _____Do you brush your teeth at least twice daily?
16. _____Do you use a mouthwash daily?
17. _____Do you get enough sleep and rest so that you feel refreshed?
18. _____Do you take a good look at yourself in a full length mirror before leaving the house?
19. _____Do you take a few minutes during the day to comb your hair?

TOTAL _____

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GOOD GROOMING
UNIT I

TEST

1. Match the following terms to the correct definition.

_____a. Anti-perspirant	1. A substance used to make the skin smooth and soft
_____b. Cuticle	2. To file and buff nails and trim the cuticles
_____c. Immaculate	3. Something that is obvious or noticeable and not in good taste
_____d. Manicure	4. An odorless preparation that keeps one dry and also destroys unpleasant odors
_____e. Lubrication	5. Thin, dead skin at the sides and base of a fingernail or toenail
_____f. Conspicuous	6. Spotlessly clean
_____g. Deodorant	7. Lotions that contain some alcohol and are to be patted on the face
_____h. Astringents	8. A preparation that destroys unpleasant odors, but does not necessarily keep one dry

2. Place an "X" in front of each of the following which are essentials of body cleanliness.

_____a. Daily bath or shower

_____b. Fingernails polished weekly

_____c. Hair spray used often

_____d. Change undergarments daily

_____e. Daily use of foot powder or spray

_____f. Brush teeth after every meal, if possible

_____g. Girls shave legs daily

3. Name three elements of complexion care.

a.

b.

c.

4. Place an "X" in front of each of the following which are essentials of well-groomed hair.

_____a. Brush regularly with clean brush

_____b. Select becoming style for face and particular job

_____c. Keep hair care equipment clean

_____d. Cut or trimmed regularly

5. Name five factors to consider in selecting a hair style.

a.

b.

c.

d.

e.

6. Circle the letter in front of each of the following that are factors of hair problems.

a. Body

b. Dry

c. Oily

d. Hairspray

e. Over bleaching

f. Diet

g. Curly

7. Name five factors which describe good posture.

a.

b.

c.

d.

e.

8. Place an "X" in front of each of the following which are essentials of hand and nail care.

_____a. Hands kept clean

_____b. Nails kept clean and manicured

_____c. Hands protected against dryness and chapping

9. Name four factors which contribute to good health.

a.

b.

c.

d.

10. Demonstrate the ability to evaluate his or her own grooming practices using the check list provided in this unit.

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GOOD GROOMING
UNIT I

ANSWERS TO TEST

1. a. 4
   b. 5
   c. 6
   d. 2
   e. 1
   f. 3
   g. 8
   h. 7

2. a
   d
   e
   f

3. a. Proper cleansing
   b. Proper stimulation
   c. Protection from sun, wind, and air pollution

4. a
   b
   c
   d

5. Any five of the following:
   a. Shape of face
   b. Figure
   c. Personality

d. Texture, body, and thickness of hair

e. Job requirements

f. Time needed to maintain particular style

6. b

c

e

g

7. a. Shoulders erect

b. Chest high

c. Head erect

d. Abdomen flat

e. Body weight on both feet

8. a

b

c

9. Any four of the following:

a. Three well-balanced meals daily

b. Proper amount of sleep

c. Fresh air

d. Moderate exercise

e. Regular physical checkups

10. Performance skills will be evaluated to the satisfaction of the DE teacher-coordinator.

WARDROBE
UNIT II

TERMINAL OBJECTIVE

After completion of this unit, the student should be able to select the essentials of clothing appropriate for a job and factors to consider in planning a wardrobe. He should be able to evaluate his grooming and wardrobe habits and plan a wardrobe. This knowledge will be evidenced by scoring eighty-five percent on the unit test.

SPECIFIC OBJECTIVES

After completion of this unit, the student should be able to:

1. Match terms associated with wardrobe to the correct definition.
2. Select the essentials of clothing appropriate for a job.
3. Name four factors to consider in selecting colors for a wardrobe.
4. Select factors to consider in selecting clothing for a wardrobe.
5. Demonstrate the following:
   a. Evaluate your grooming habits and wardrobe.
   b. Develop a wardrobe plan.

WARDROBE
UNIT II

SUGGESTED ACTIVITIES

I. DE Teacher-Coordinator:

A. Prepare bulletin board.

B. Provide students with objective sheet.

C. Provide students with information and assignment sheets.

D. Discuss terminal and specific objectives.

E. Discuss information and assignment sheets.

F. Give test.

(NOTE: Consult audio visual supplement for suggested films.)

II. Student:

A. Read objective sheet.

B. Study information sheet.

C. Complete assignment sheets.

D. Take test.

INSTRUCTIONAL MATERIALS

I. Included in this unit:

A. Objective sheet

B. Information sheet

C. Bulletin board idea--Let's Improve Our Looks

D. Assignment sheets

1. Assignment Sheet #1--Evaluation of Grooming and Wardrobe Habits (Women's Form)

2. Assignment Sheet #2--Evaluation of Grooming and Wardrobe Habits (Men's Form)

3. Assignment Sheet #3--Making a Wardrobe Plan

E. Test

F. Answers to test

II. References:

A. *Distributive Education II Course of Study*. Stillwater, Oklahoma: State Department of Vocational and Technical Education, Curriculum and Instructional Materials Center, 1971.

B. Tolman, Ruth. *Charm and Poise for Getting Ahead*. Bronx, New York: Milady Publishing Corporation, 1967.

C. Whitcomb, Helen and Rosalind Lang. *Charm*. Dallas, Texas: Gregg Division, McGraw-Hill Book Company, 1971.

D. Wood, Merle W. and Margaret A. McKenna. *The Receptionist*. Dallas, Texas: Gregg Division, McGraw-Hill Book Company, 1966.

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WARDROBE
UNIT II

INFORMATION SHEET

I. Terms and definitions

A. Conservative--More traditional or moderate styles of clothing

B. Coordinate--To mix or match articles of clothing so that they may be worn together

C. Harmonize--To combine colors and styles to produce a pleasing effect

D. Horizontal--Lines traveling across from left to right

E. Intensify--To make brighter or more vivid

F. Undertones--Colors seen through and modifying another color

G. Vertical--Lines traveling up and down

H. Wardrobe--Clothes one has or owns

II. Essentials of clothing appropriate for a job

A. Spotlessly clean and well pressed

B. Free from rips, tears, missing buttons, or sagging hemlines

C. Conservative in color

D. Conservative in style

(NOTE: Do not wear clothes with extreme hem lengths or necklines.)

E. Shoes kept clean, polished, and in good repair

F. Hosiery free from snags and runners

G. Undergarments appropriate for outer garments

H. Jewelry kept simple, not overpowering

I. Well fitting

(NOTE: Clothing does not have to be the latest in fashion to be appropriate for work; but it must be clean, neat, and well fitting.)

INFORMATION SHEET

III. Factors to consider when selecting colors for wardrobe

A. Skin and facial coloring

(NOTE: Select colors that repeat the most desirable undertones of your skin. Avoid colors that repeat undesirable undertones.)

1. Olive coloring--colors with yellow undertones
2. Pale coloring--pastels and greyed tones
3. Pink and white coloring--colors with red or blue undertones

B. Eye color

(NOTE: Try to highlight your eyes by matching or accenting the strongest color.)

1. Blue eyes--blues, blue-greens
2. Green eyes--greens, greys, reds
3. Brown eyes--oranges, golds, beiges, blues
4. Hazel eyes--greens, browns, blues, corals, golds

C. Hair color

(NOTE: Select those colors which fall opposite of your hair color on the color wheel so you will intensify or complement your hair color. Avoid colors that are too vivid.)

D. Personality and/or mood

(NOTE: Wear colors in which you feel comfortable. Avoid colors you dislike.)

1. Reds and yellows cheer you
2. Blues, greens, and violets calm you

E. Job

(NOTE: Avoid colors that show soil easily or that are overly bold.)

F. Colors with which the item will be worn

1. Accent dark colors with light or bright colors
2. Accent light colors with dark colors

INFORMATION SHEET

3. Accent neutral colors with bright colors

4. Accent bright colors with neutral or dark colors

IV. Factors to consider in selecting clothing for a wardrobe

A. Fit and comfort

B. Appropriateness

C. Personality

D. Figure

E. Price of items

(NOTE: The price of clothing items will need to be considered in relation to entire clothing budget.)

F. Workmanship

G. Fabric

H. Care

I. Color

J. Style

K. Life expectancy of garment

L. Life expectancy of fashion

M. Number of garments in wardrobe with which the item can be worn

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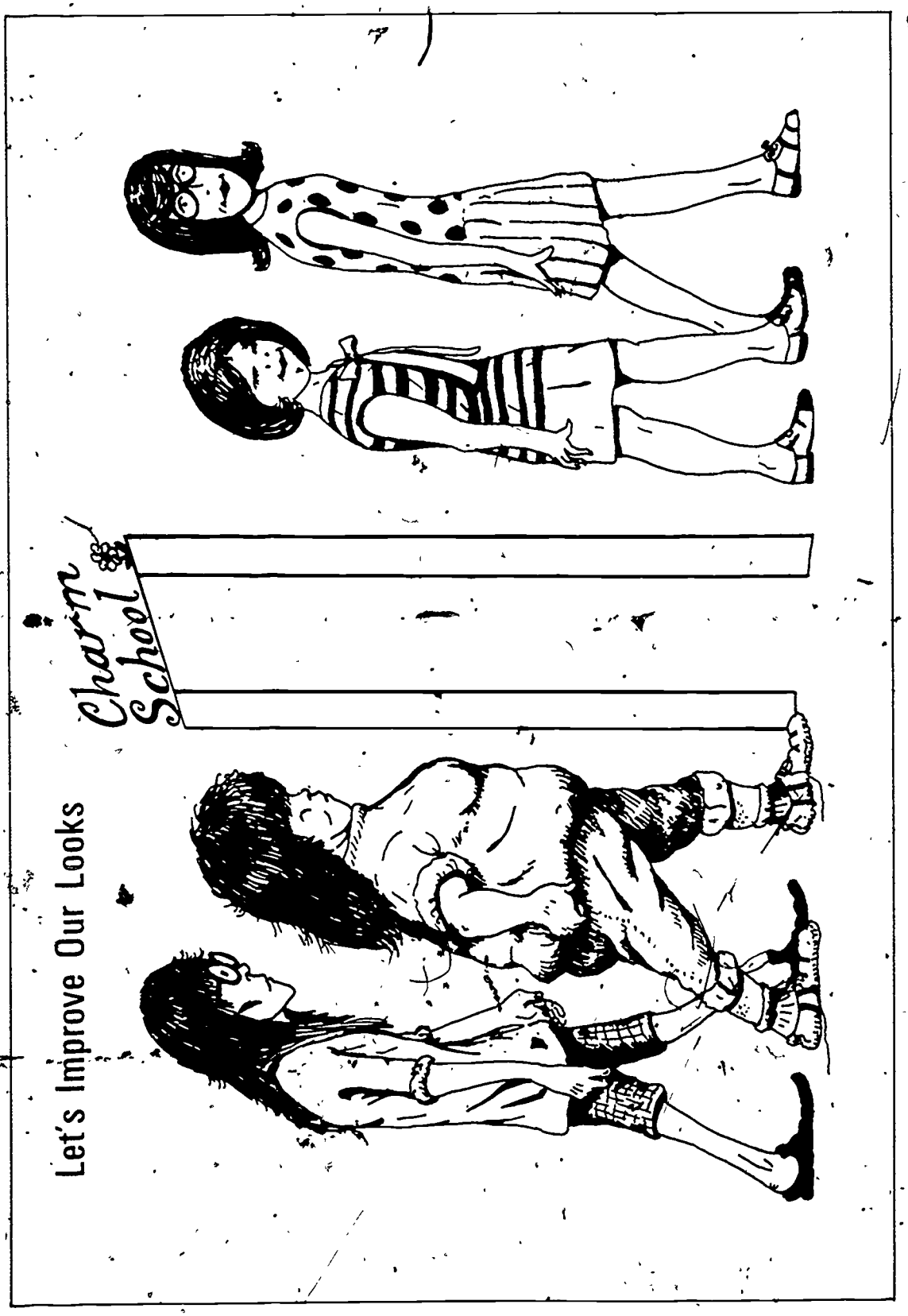
BULLETIN BOARD IDEA



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WARDROBE
UNIT II

ASSIGNMENT SHEET #1--EVALUATION OF GROOMING AND WARDROBE HABITS (WOMEN)

Is your grooming up to business standards? Rate yourself on the following items. Give yourself 4 points for each "Always," 2 points for each "Sometimes," and no points for "Never." When you have completed the form, total the score and compare your rating with the rating scale provided. Do not hand in evaluation sheet.

1. _____ Does your outfit coordinate with your hair, eyes, and complexion?
2. _____ Are your clothes spotlessly clean and pressed?
3. _____ Do your clothes coordinate attractively?
4. _____ Do you check garments for split seams, ripped hems, or loose buttons before wearing?
5. _____ Do you protect clothing from perspiration stains?
6. _____ Do you have nonwashable garments cleaned often?
7. _____ Do you wash undergarments and hosiery after each wearing?
8. _____ Do you check hosiery for runs and snags before wearing?
9. _____ Do you keep shoes brushed, polished, and in good repair?
10. _____ Do you avoid lounging at home in your work clothes?
11. _____ Do you protect dress with a makeup cape when applying cosmetics or combing your hair?
12. _____ Do you wear a good bra?
13. _____ Do you wear a girdle?
14. _____ Do you clean out your handbag often to get rid of unnecessary items?
15. _____ Do you avoid wearing loud dangling bracelets or exotic jewelry to the office?
16. _____ Do your shoes and accessories coordinate with your clothing?
17. _____ Do you wear shoes with good support and comfortable heels when you must stand for long periods of time?

TOTAL _____

RATING SCALE:

60 - 68	You meet business standards
50 - 59	Employer may grudgingly tolerate you
Below 50	Better get to work! You'll never get a promotion that way

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WARDROBE
UNIT II

ASSIGNMENT SHEET #2--EVALUATION OF GROOMING AND WARDROBE HABITS (MEN)

Directions: Is your grooming up to business standards? Rate yourself on the following items. For each "Always," give yourself 4 points, give yourself 2 points for each "Sometimes," and no points should be given for "Never." After completing the evaluation, total your score and compare it to the rate scale provided. Do not hand in evaluation sheet.

1. _____Is your suit pressed, and are the pants well creased?
2. _____Is your clothing free from stains or spots?
3. _____Do you wear a fresh shirt daily?
4. _____Do you put on clean socks and underwear daily?
5. _____Does your tie harmonize with your shirt and suit?
6. _____Are your socks smooth and free from wrinkles at the ankles?
7. _____Do you avoid wearing white socks with dark pants?
8. _____Are your socks long enough to avoid exposing bare skin when you sit?
9. _____Are your shoes shined and in good repair?
10. _____Do you wear a deodorant or anti-perspirant to protect your clothing from stains?
11. _____Do your shoes harmonize with your clothing?
12. _____Do you carry a clean handkerchief?
13. _____Is your tie neatly knotted?
14. _____Are your clothes conservative and businesslike?
15. _____Do you have nonwashable items cleaned frequently?
16. _____Do you check clothes for soiled spots, missing buttons, or split seams before wearing?

TOTAL _____

RATING SCALE:

58 - 64	You meet business standards
50 - 57	Employer may grudgingly tolerate you
Below 50	Better get to work! You'll never get a promotion that way

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WARDROBE
UNIT II

ASSIGNMENT SHEET #3--MAKING A WARDROBE PLAN

1. Before planning your wardrobe, answer the following questions.

   a. What colors predominate in your wardrobe?

   b. What items in your wardrobe are most flattering to your figure? Least flattering? Why?

   c. What additional items are most needed in your wardrobe? Business dresses? Coats? Shoes? Make a list of these items.

   d. Look through your closets and drawers. Are there items that you rarely wear because you have nothing to coordinate with them? List these.

   e. Decide approximately how much you will spend on clothing per month. Keep the plan flexible. If you have to make a large purchase one month, cut back the next month to help balance the budget.

      (NOTE: Plan your clothing budget around those items that are most needed in your wardrobe.)

   f. My clothing budget averages $_____ per month.

2. Make a plan for your fall or spring wardrobe. Review the questions above to see what items are most needed. Outline your planned purchases for the season selected and complete the information requested for each item on the chart.

   (NOTE: If you like, include sketches or pictures of items to be purchased.)

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ASSIGNMENT SHEET #3

Item	Color	Style and Line	Fabric	Care	Duration	Complements

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WARDROBE
UNIT II

TEST

1. Match the following terms to the correct definition.

_____a. Horizontal	1.	To mix or match articles of clothing so that they may be worn together
_____b. Undertones	2.	Colors seen through and modifying another color
_____c. Coordinate	3.	Lines traveling across from left to right
_____d. Harmonize	4.	To combine colors and style to produce a pleasing effect
_____e. Vertical	5.	Lines traveling up and down
_____f. Conservative	6.	More traditional or moderate styles of clothing
_____g. Intensify	7.	Clothes one has or owns
_____h. Wardrobe	8.	To make brighter or more vivid

2. Place an "X" in front of each item below that is essential for making clothing appropriate for a job.

_____a. The latest in fashion

_____b. Well fitting

_____c. Undergarments appropriate for outer garments

_____d. Bold, bright colors

_____e. Low necklines or mini skirts

_____f. Spotlessly clean and well pressed

3. Name four factors to consider in selecting colors for a wardrobe.

a.

b.

c.

d.

4. Place an "X" in front of each of the following which are factors to consider in selecting clothing for a wardrobe.

_____a. Personality

_____b. Fabric

_____c. Care

_____d. Color

_____e. Style

_____f. Figure

_____g. Number of garments in wardrobe with which the item can be worn

5. Demonstrate the ability to:

a. Evaluate your grooming habits and wardrobe.

b. Develop a wardrobe plan.

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WARDROBE
UNIT II

ANSWERS TO TEST

1. a. 3
   b. 2
   c. 1
   d. 4
   e. 5
   f. 6
   g. 8
   h. 7
2. b
   c
   f
3. Any four of the following:
   a. Skin and facial coloring
   b. Eye color
   c. Hair color
   d. Personality and/or mood
   e. Job
   f. Colors with which the item will be worn
4. a
   b
   c
   d
   e
   f
   g
5. Performance skills will be evaluated to the satisfaction of the DE teacher-coordinator.

PERSONALITY
UNIT III

TERMINAL OBJECTIVE

After completion of this unit, the student should be able to define personality and attitude and list reasons for a desirable personality and steps to improve personality. He should be able to select desirable personality traits, attitudes and methods of showing positive attitude. This knowledge will be evidenced by scoring eighty-five percent on the unit test.

SPECIFIC OBJECTIVES

After completion of this unit, the student should be able to:

1. Define attitude and personality.
2. List five reasons for having a desirable personality.
3. Select from a list eleven desirable personality traits and attitudes.
4. Select from a list eight ways to show positive attitude.
5. Name five steps to personality improvement.
6. Evaluate your classmates most desirable traits and his most negative traits.

PERSONALITY
UNIT III

SUGGESTED ACTIVITIES

I. DE Teacher-Coordinator:

A. Prepare bulletin board.

B. Prepare transparency.

C. Provide students with objective sheet.

D. Provide students with information and assignment sheets.

E. Discuss terminal and specific objectives.

F. Discuss information and assignment sheets.

G. Divide into buzz groups and discuss annoying mannerisms observed in others. Select a member of the group to report on those mannerisms discussed.

H. After completing assignment sheets, provide students with scoring and analysis for Assignment Sheet #1 (#1 taken prior to instruction)

I. Give test.

(NOTE: Consult audio-visual supplement for suggested films.)

II. Student:

A. Read objective sheet.

B. Study information sheet.

C. Complete assignment sheets.

D. Score assignment sheet.

E. Participate in buzz groups.

F. Take test.

INSTRUCTIONAL MATERIALS

I. Included in this unit:

A. Objectives sheet

B. Information sheet

C. Bulletin board idea--Attitudes for Success

D. Transparency master: TM 1--Pot of Goals

E. Assignment sheets

1. Assignment Sheet #1--How Do You Get Along with Others?

2. Assignment Sheet #2--Personality Improvement

3. Assignment Sheet #3--Classmate's Evaluation

F. Scoring and analysis for Assignment Sheet #1

G. Test

H. Answers to test

II. References:

A. *Business and Office Vocational Education.* Columbia, Missouri: Instructional Materials Laboratory, University of Missouri, 1969.

B. Hiserodt, Donald D. *Psychology and Human Relations in Marketing.* Dallas, Texas: Gregg Division, McGraw-Hill Book Company, 1963.

C. Newton-Green. *How to Improve Your Personality.* Dallas, Texas: Gregg Division, McGraw-Hill Book Company, 1963.

D. *Orientation to the World of Work, Part I.* Lubbock, Texas: Home Economics Instructional Materials Center, Texas Tech University, 1971.

E. *Self-Improvement: Vocational, Educational, and Personal.* Michigan State University, Department of Secondary Education and Curriculum, 1970.

PERSONALITY
UNIT III

INFORMATION SHEET

I. Terms and definitions

A. Attitude--The way you act, feel, or think that shows others what you are like

B. Personality--What people see when they look at you and what they hear when you speak

II. Reasons for desirable personality

A. Acceptance by others

B. Acquiring a job

C. Keeping a job

D. To gain personal satisfaction

E. To gain recognition

F. To learn to profit by failure as well as success

III. Desirable personality traits and attitudes (Transparency 1)

(NOTE: Employers look for desirable personality traits and attitudes. Students who possess such qualities may become employable in distribution.)

A. Adaptability--Adjusting easily to new situations

B. Cooperation--Working harmoniously with others toward some desired goal

C. Courtesy--Being polite and having manners

D. Dependability--Doing what you say and completing duties assigned to you

E. Enthusiasm--Being eager to help or to take part in some activity

F. Honesty--Being truthful in all things

G. Initiative--Doing things without having to be told

H. Loyalty--Sticking up for or supporting a firm

I. Patience--Taking the time to do things right

J. Self-control--Being able to control one's temper and emotions

K. Tact--Being able to say the right thing at the right time

INFORMATION SHEET

IV. Show positive attitude

(NOTE: A positive attitude helps one identify with himself and others.)

A. Open your ears, close your mouth, and learn to listen

B. Avoid gossip

C. Objectionable traits are self-defeating

D. Ask questions and remember the answers

E. Develop confidence in yourself

F. Respect for and encouragement of associates

G. Having a desire to succeed in what we do

H. Practice desirable traits

V. Steps to personality improvement (Assignment Sheet #2 and #3)

A. Realize the need for improvement

B. Have a desire to improve

C. Evaluate your strong and weak points

D. Develop a plan for improvement

E. Follow through with your plan

VI. Classmate's traits

Example: Desirable trait - loyal to friends
Negative trait - lack of initiative

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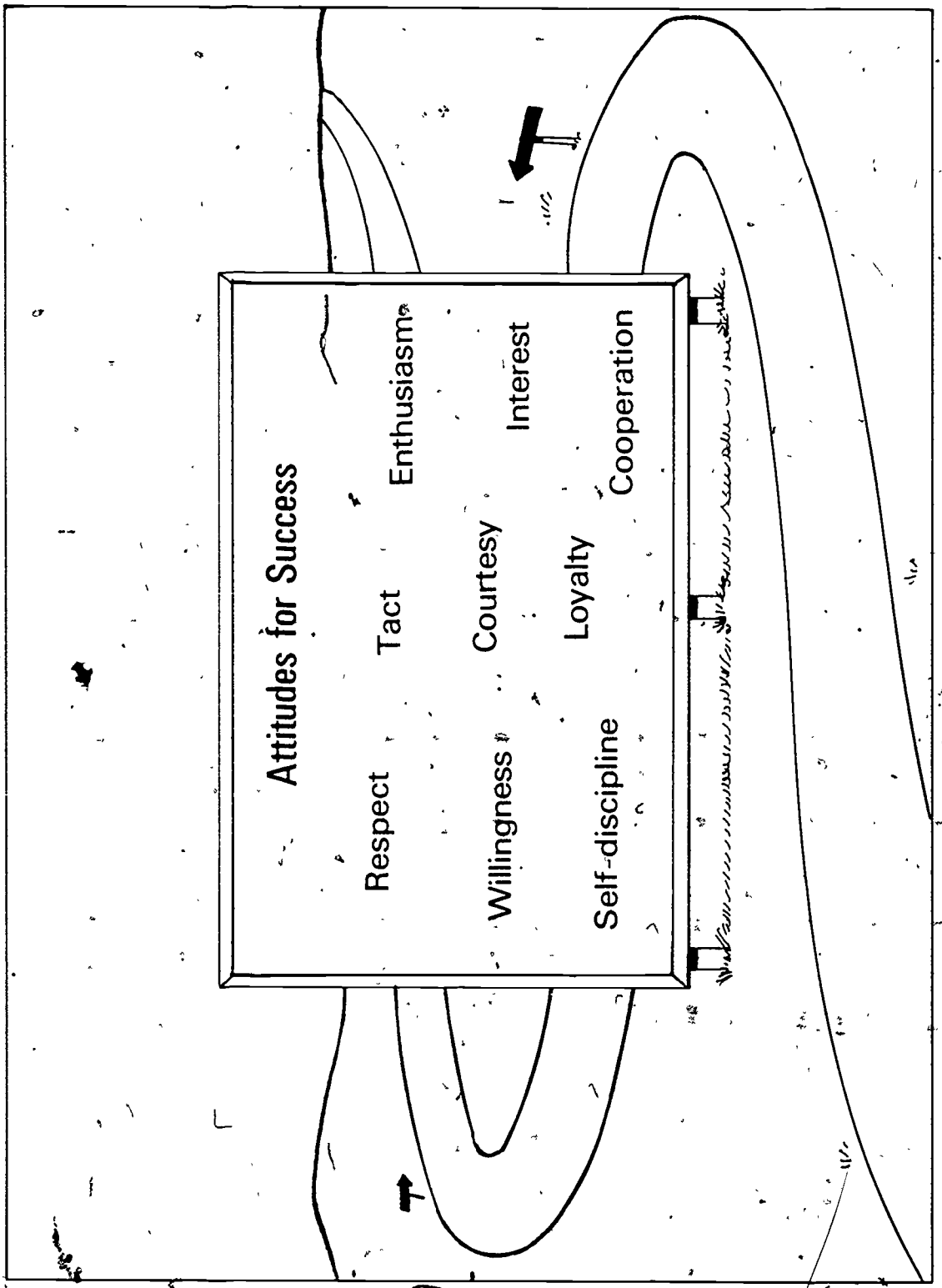
BULLETIN BOARD IDEA



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Pot of Goals

RAINBOW OF PERSONALITY TRAITS

Initiative
Self-Control
Patience
Cooperation
Tact
Courtesy
Loyalty
Dependability
Honesty
Adaptability
Enthusiasm

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PERSONALITY
UNIT III

ASSIGNMENT SHEET #1--HOW DO YOU GET ALONG WITH OTHERS?

A successful person should know how to get along with others. By the results of this self-test, you will see how you are doing. Check your answers.

1. You meet a person you immediately do not like. You would:

   a. Try to find a topic of conversation of common interest.

   b. Avoid the person.

   c. Try to put him or her in his place.

2. You are offered a job for which you are not fitted. You would:

   c. Try to bluff through it.

   b. Refuse to try.

   a. Admit your inadequacy and offer to learn on the job.

3. When dealing with people, such as sales clerks, waitresses, etc., you:

   a. Usually smile and say something pleasant.

   b. Are nice if they are pleasant to you.

   c. Treat them impersonally.

4. You have been overcharged in a store. You would:

   b. Pay the bill without saying anything.

   c. Tell the clerk he has cheated you.

   a. Ask the clerk to recheck the bill.

5. When you meet a person who is badly crippled, you:

   c. Try to avoid him or her.

   b. Go out of your way to be especially nice.

   a. Treat the person as you would anyone else.

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ASSIGNMENT SHEET #1

6. A friend has just bought a suit which you think is unbecoming. He or she asks if you like it. You would say:

   c. "It looks terrible."

   a. "I think you'll be happy with it."

   b. "How's the weather today?"

7. You honestly feel that you:

   a. Are interested in most people.

   c. Are bored by most people.

   b. Are only really comfortable with your own clique.

8. In a store you are in no hurry, but the person after you is rushed. You:

   b. Make your selection because it is your turn.

   a. Suggest to the person to go ahead of you.

   c. Take an extra long time just to calm him or her down.

9. When you meet people of different races or religions, you:

   b. Have a secret feeling of fear.

   a. Consider them as human beings much like yourself.

   c. Are convinced your way of life is superior.

10. After a picnic you find there is no trash basket. You would:

   a. Take the papers, bottles, and food home with you.

   c. Leave it on the ground.

   b. Try to hide the trash on the property.

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PERSONALITY
UNIT III

SCORING AND ANALYSIS FOR ASSIGNMENT SHEET #1

Scoring

Give yourself 5 points for every "a" answer and 3 points for every "b" answer. No points for "c" answers. Add up your score.

Analysis

35 to 50 points: You are very good in your relationship with others all of the time because you respect others and greet them with interest and courtesy. You are liked by your friends and those with whom you deal in a casual way.

18 to 34 points: You do very well with others most of the time, but you are sometimes self-centered and forget to put yourself in the other person's shoes. Try working toward more of those "a" answers, and you will find that living is more pleasant than it is now.

0 to 17 points: You are having trouble--either because you are too shy or too aggressive. You know which! Good human relationships are like anything else in life; they take practice. Select someone you know who is truly gracious; analyze his or her actions, then adapt those traits to your own personality.

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PERSONALITY
UNIT III

ASSIGNMENT SHEET #2--PERSONALITY IMPROVEMENT

Truthfully answer the following questions.

1. Do you feel that your personality can be improved? yes_____ no_____

2. Do you want to improve your personality? yes_____ no_____, maybe_____

   (NOTE: If you can answer "yes" to the above questions, complete this assignment; if you answer "no" do not complete this assignment sheet.)

3. List those traits and mannerisms that you find most objectionable in others.

4. Are you guilty of the above mentioned traits and mannerisms? yes_____, no_____, not sure_____

   (NOTE: Be truthful with yourself. Psychologists tell us that the very faults we dislike in others are, many times, those faults we possess.)

5. Develop a plan to improve your personality in those weak areas.

   a. Observe others who possess qualities you want and those who possess qualities you wish you didn't have.

   b. Compare the differences between the two.

   c. Try to figure out what makes the difference between possessing that good quality or poor quality.

   d. Specifically observe: mannerisms, facial expressions, dress, carriage, gestures, eye contact with others, etc.

   e. Concentrate on one area of your personality at a time and work to improve that area.

      Example: If you are shy, make a point to talk to others every chance you get. Ask the other person questions about himself or his work to show that you are interested in him. Soon you will become so involved with others that you will forget your own inhibitions.

   f. Don't become discouraged if your plan does not work immediately. It takes time but the effort is worth the struggle.

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PERSONALITY
UNIT III

ASSIGNMENT SHEET #3--CLASSMATE'S EVALUATION

1. Make a list of students in your class. Beside each name, write that person's most desirable trait(s) and his most negative trait(s). (Do not be ugly or mean - but sincere. Use these to help each other improve.)

2. Write a list and hand it to your instructor.

3. Your instructor will cut apart the lists you hand in, separate them according to the student's name and then hand each class member's comments concerning that individual to him.

4. Review your evaluation sheet and use it as a guide in planning your self-improvement program.

PERSONALITY
UNIT III

TEST

1. Define the following terms.

   a. Personality--

   b. Attitude--

2. List five reasons for having a desirable personality.

   a.

   b.

   c.

   d.

   e.

3. Place an "X" in front of the items which most clearly describe desirable personality traits and attitudes.

   _____a. Adaptability

   _____b. Enthusiasm

   _____c. Sloppy work habits

   _____d. Loyalty

   _____e. Self-control

   _____f. Honesty

   _____g. Patience

   _____h. Unable to take criticism

   _____i. Laziness

   _____j. Cooperation

   _____k. Dependability

   _____l. Snobbish

_____m. Initiative

_____n. Tact

_____o. Courtesy

_____p. Hard headed

4. Place an "X" in front of the item which most clearly shows positive attitudes.

_____a. Open your ears, close your mouth, and learn to listen

_____b. Argue if you think you are right

_____c. Ask questions and remember the answer

_____d. Wanting to succeed in what we do

_____e. Objectionable traits are self-defeating

_____f. Be honest if it doesn't jeopardize your job

_____g. Practice desirable traits

_____h. Develop confidence in yourself

_____i. Respect for and encouragement of associates.

_____j. Avoid gossip

5. Name five steps to personality improvement.

a.

b.

c.

d.

e.

6. Demonstrate the ability to evaluate your classmates most desirable traits and his most negative traits.

PERSONALITY
UNIT III

ANSWERS TO TEST

1. a. What people see when they look at you and what they hear when you speak

   b. The way you act, feel, or think that shows others what you are like

2. a. Acceptance by others

   b. Acquiring a job

   c. Keeping a job

   d. To gain personal satisfaction

   e. To gain recognition

   f. To accept failure as well as success

3. a

   b

   d

   e

   f

   g

   j

   k

   m

   n

   o

4. a

   c

   d

e

g

h

i

j

5. a. Realize the need for improvement

   b. Have a desire to improve

   c. Evaluate your strong and weak points

   d. Develop a plan for improvement

   e. Follow through with your plan

6. Performance skills will be evaluated to the satisfaction of the DE teacher-coordinator.

HUMAN BEHAVIOR
UNIT I

TERMINAL OBJECTIVE

After completion of this unit, the student should be able to distinguish between good and poor forms of behavior. He should be able to identify traits that make one either delightful or irritating to work with. This knowledge will be evidenced through student activities and by scoring eighty-five percent on the unit test.

SPECIFIC OBJECTIVES

After completion of this unit, the student should be able to:

1. Match terms associated with human relations to the correct definition.
2. Name the reason ninety percent of the people are fired from their jobs.
3. List the six essential characteristics of an employee.
4. List the six undesirable characteristics of an employee.
5. Name two problems that may be created by the worker who is "just putting in his time."
6. Identify traits that make one either pleasant or irritating to work with.

HUMAN BEHAVIOR
UNIT I.

SUGGESTED ACTIVITIES

I. DE Teacher-Coordinator:

A. Prepare bulletin board.

B. Provide students with objective sheet.

C. Provide students with information sheet.

D. Discuss terminal and specific objectives.

E. Discuss information sheet.

F. Give test.

(NOTE: Consult audio visual supplement for suggested films.)

II. Student:

A. Read objective sheet.

B. Study information sheet.

C. Take test.

INSTRUCTIONAL MATERIALS

I. Included in this unit:

A. Objective sheet

B. Information sheet

C. Bulletin board idea-Straight "A", in Human Relations

D. Test

E. Answers to test

II. References:

A. Whitcomb. *Language Charm.* Dallas, Texas: Gregg Division, McGraw-Hill Book Company, 1971.

B. Oklahoma Cooperative Vocational Education Course of Study. Stillwater, Oklahoma: State Department of Vocational and Technical Education, Curriculum and Instructional Materials Center, 1972.

III. Additional reference--Experiences in Human Relations kits, Selection Research Inc., 620 North 48th, Lincoln, Nebraska 68505.

Kit contains twelve games for use in Human Relations unit. Price $35.

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HUMAN BEHAVIOR
UNIT I

INFORMATION SHEET

I. Terms and definitions

A. Compromise--Mutual agreement made by concession on both sides

B. Criterion--Standard by which something is judged

C. Dependability--Quality of being reliable

D. Dignity--Formal reserve of one's manners and language

E. Honesty--One's truthfulness in all words and deeds

F. Improvise--To make do with what one has

G. Initiative--Ability to proceed without being told

H. Morale--State of mind which reflects an individual's attitudes toward his job, fellow employees, and employers

II. Reason ninety percent of the people are fired from their jobs-- Inability to get along with others

III. Essential characteristics of an employee

A. Prompt

B. Accurate

C. Reliable

D. Honest

E. Initiative

F. Dependable

IV. Undesirable characteristics of an employee

A. Disloyalty

B. Inconsiderate

C. Tardiness

D. Lack of initiative

INFORMATION SHEET

E. Carelessness

F. Poor attitude

V. Problems that may be created by the employee who is "just putting in his time"

A. Low morale among other employees

B. Costly to company

VI. Traits that make one either pleasant or irritating to work with

A. Pleasant

1. Sense of humor
2. Perserverance
3. Tolerance
4. Energy
5. Enthusiasm
6. Self-confidence
7. Consideration of others
8. Doing more than one's share
9. Proper grooming and personal cleanliness

B. Irritating

1. Hums or whistles
2. Gossips
3. Overuses the telephone for personal calls
4. Fusses with hair or uses strong perfume
5. Chews gum or smokes thoughtlessly
6. Interrupts frequently
7. Uses foul language
8. Criticizes or belittles others
9. Says unkind things
10. Improper grooming and cleanliness

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BULLETIN BOARD IDEA

Straight "A" in Human Relations

REPORT CARD

Name _____

Grade	Subject
A	Attitude
A	Adaptability
A	Ambitiousness
A	Appreciative
A	Attentiveness

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HUMAN BEHAVIOR
UNIT I

TEST

1. Match the following terms to the correct definitions.

_____a. Compromise	1. Ability to proceed without being told
_____b. Criterion	2. Quality of being reliable
_____c. Dependability	3. One's truthfulness in all words and deeds
_____d. Dignity	4. State of mind which reflects an individual's attitudes toward his job, fellow employees, and employers
_____e. Honesty	5. Mutual agreement made by concession on both sides
_____f. Improvise	6. Standard by which something is judged
_____g. Initiative	7. Formal reserve of one's manners and language
_____h. Morale	8. To make do with what one has

2. Name the reason ninety percent of the people are fired from their jobs.

3. List the six essential characteristics of an employee.

a.

b.

c.

d.

e.

f.

4. List the six undesirable characteristics of an employee.

a.

b.

c.

d.

e.

f.

5. Name two problems that may be created by the worker who is "just putting in his time."

a.

b.

6. Place a "P" in front of each trait below that would make one pleasant to work with. Place an "I" in front of each trait that would make one irritating to work with.

_____a. Sense of humor

_____b. Hum or whistles

_____c. Tolerance

_____d. Fusses with hair or uses strong perfume

_____e. Doing more than one's share

_____f. Uses foul language

_____g. Enthusiasm

_____h. Overuses the telephone for personal calls

_____i. Perserverance

_____j. Chews gum or smokes thoughtlessly

_____k. Consideration of others

_____l. Says unkind things

_____m. Energy

_____n. Gossips

_____o. Interrupts frequently

_____p. Self-confidence

_____q. Criticizes or belittles others

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HUMAN BEHAVIOR
UNIT I

ANSWERS TO TEST

1. a. 5
   b. 6
   c. 2
   d. 7
   e. 3
   f. 8
   g. 1
   h. 4
2. Inability to get along with others
3. a. Prompt
   b. Accurate
   c. Reliable
   d. Honest
   e. Initiative
   f. Dependable
4. a. Disloyalty
   b. Inconsiderate
   c. Tardiness
   d. Lack of initiative
   e. Carelessness
   f. Poor attitude
5. a. Low morale among other employees
   b. Costly to company

6. a. P
   b. I
   c. P
   d. I
   e. P
   f. I
   g. P
   h. I
   i. P
   j. I
   k. P
   l. I
   m. P
   n. I
   o. I
   p. P
   q. I

CUSTOMS AND POLICIES
UNIT II

TERMINAL OBJECTIVE

After completion of this unit, the student should be able to recognize benefits of working for a firm. He should be able to list areas in which companies have basic policies, sources for finding information on customs and policies, and employees' responsibilities to a firm. Knowledge of this material will be evidenced by a score of eighty-five percent on the unit test.

SPECIFIC OBJECTIVES

After completion of this unit, the student should be able to:

1. Match terms relating to business customs and policies to the correct definitions.
2. Select from a list benefits of working for most business firms.
3. List three areas in which most companies have basic policies.
4. List four of the eight sources for finding information on a company's customs and policies.
5. List four employees' responsibilities to a firm.

CUSTOMS AND POLICIES
UNIT II

SUGGESTED ACTIVITIES

I. DE Teacher-Coordinator:

A. Prepare bulletin board.

B. Provide students with objective sheet.

C. Provide students with information sheet.

D. Discuss terminal and specific objectives.

E. Discuss information sheet.

F. Invite a personnel manager from a local business to speak on company policies and customs.

G. Order "The Performance Game" and "The Firm". (See additional references)

H. Give test.

(NOTE: Consult audio visual supplement for suggested films.)

II. Student:

A. Read objective sheet.

B. Study information sheets.

C. Take test.

INSTRUCTIONAL MATERIALS

I. Included in this unit:

A. Objective sheet

B. Information sheet

C. Bulletin board idea--Company Benefits

D. Test

E. Answer to test

II. References:

A. Shilt, Carmichael, Wilson. *Business Principles and Management*. Fifth Edition. Dallas, Texas: Southern-Western Publishing Company, 1967.

B. Richert, Meyer, Haines. *Retailing Principles and Practices*. Fifth Edition. Dallas, Texas: Gregg Division, McGraw-Hill Book Company, 1968.

C. *Oklahoma Cooperative Vocational Education Course of Study*, Stillwater, Oklahoma. State Department of Vocational and Technical Education. Curriculum and Instructional Materials Center, 1972.

III. Additional references:

A. "The Performance Game," Training Development Center, 2 Pennsylvania Plaza, New York, New York, $75.00. 6 - 24 participants, 2 - 8 groups. Participants are organized into three-man teams. Teams are assigned a task and are concerned with qualitative and quantitative standards. Allows participants the opportunity to: conduct job analysis, develop job performance criteria, and to participate in a performance appraisal interviews.

B. "The Firm," Science Research Associated, 259 East Erie Street, Chicago, Illinois. $5.95. 6 - 24 participants; 1 - 4 teams. The participants are organized into teams for the purpose of providing the opportunity to experience the economic principles of running a business. Role assignments are made and rotation among roles is encouraged.

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CUSTOMS AND POLICIES
UNIT II

INFORMATION SHEET

I. Terms and definitions

A. Fringe benefits--Supplemental benefits (incentives) a business provides for its employees besides wages and/or salaries

B. Hiring--Beginning of employment

C. Policies--Objectives and standards of a business

D. Public relations--Promotion of goodwill

E. Salaries--Compensation of executives, supervisors, or other employees who are paid on a basis rather than an hourly rate

F. Security--Precautions taken to protect secret business files and information

G. Separation--Termination of employment

H. Wages--Compensation paid on an hourly basis

II. Benefits of working for most business firms

A. Salaries and/or wages

B. Fringe benefits

1. Insurance and hospitalization programs
2. Pension and retirement plans
3. Paid vacations and holidays
4. Sick leave
5. Stock and/or profit sharing plans
6. Medical facilities
7. Tuition refunds and/or other educational programs
8. Employee discounts

C. Personal satisfactions

INFORMATION SHEET

III. Areas in which most companies have basic policies

A. Employee benefits and working conditions

1. Hours of work

2. Dress regulations

3. Equal employment opportunities

B. Security precautions

1. Security regulations

Examples: Keys, shoplifting prevention

2. Methods for controling confidential information

Examples: Price codes

C. Public relations

1. Internal

2. External

IV. Sources for finding information on a company's customs and policies

A. Training manual

B. Newsletters, bulletins, and other literature

C. Advertisements

D. Financial reports

E. Fellow employees

F. Articles in the news media

G. In-service training programs

H. Departmental meetings

I. Management

INFORMATION SHEET

V. Employee's responsibilities

A. Know your company

B. Know your job

C. Promote goodwill

D. Be ethical

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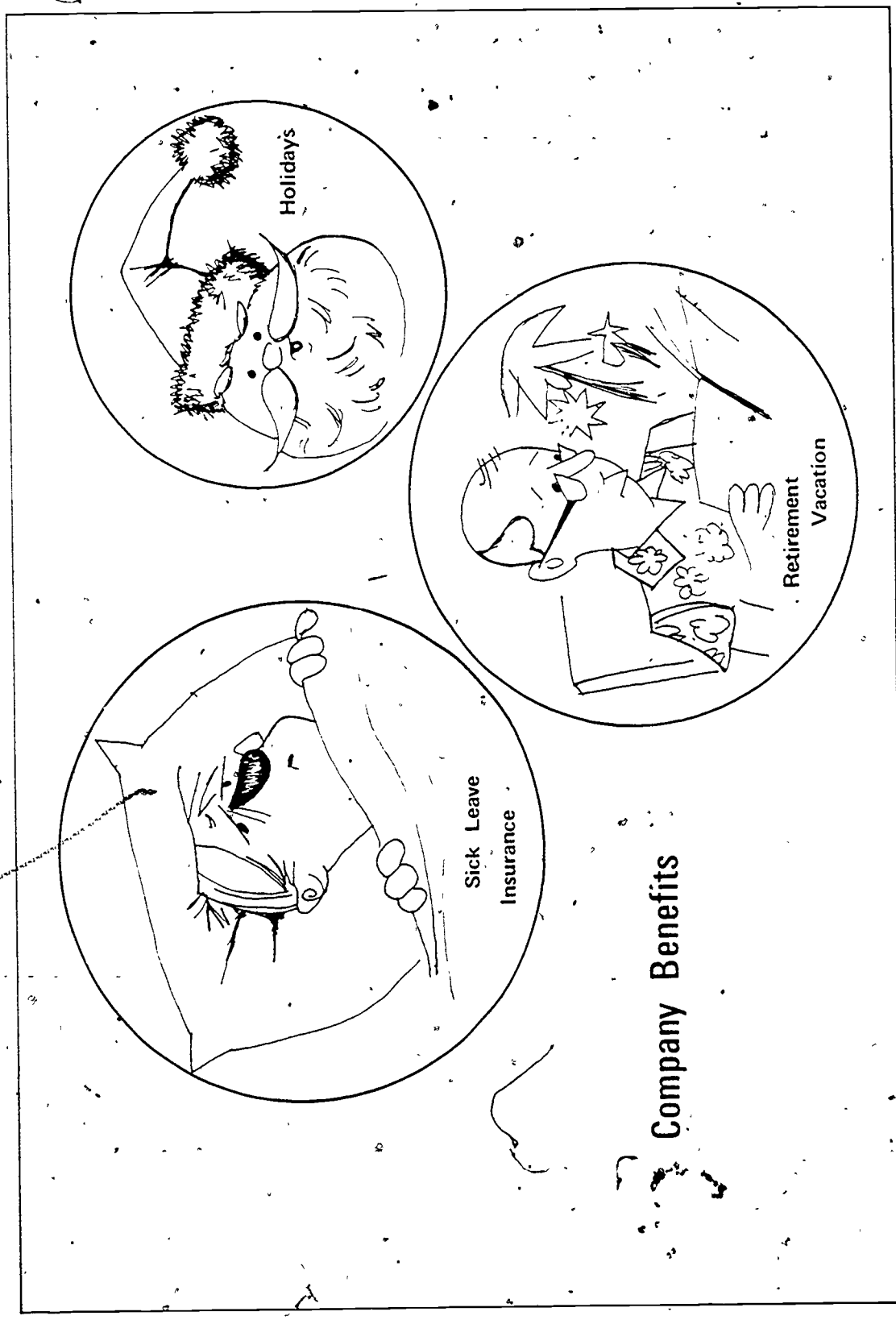
BULLETIN BOARD IDEA



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CUSTOMS AND POLICIES
UNIT II

TEST

1: Match the following terms to the correct definitions.

_____a. Fringe benefits	1. Termination of employment
_____b. Hiring	2. Beginning of employment
_____c. Policies	3. Promotion of goodwill
_____d. Public relations	4. Compensation paid on an hourly basis
_____e. Salaries	5. Supplemental benefits (incentives) a business provides for its employees besides wages and/or salaries
_____f. Security	6. Precautions taken to protect secret business files and information
_____g. Separation	7. Objectives and standards of a business
_____h. Wages	8. Compensation of executives, supervisors, or other employees who are paid on a basis rather than an hourly rate

2. Place an "X" in front of each item which is a benefit of working for most business firms.

_____a. Sick leave

_____b. Time off for good behavior

_____c. Medical facilities

_____d. Paid vacations and holidays

_____e. Salaries and/or wages

_____f. Personal satisfactions

_____g. Insurance and hospitalization programs

_____h. Pension and retirement plans

_____i. Stock and/or profit sharing plans

_____j. Tuition refunds and/or other educational programs

_____k. Fringe benefits

_____l. Employee discounts

3. List three areas in which most companies have basic policies

a.

b.

c.

4. List four of the eight sources for finding information on a company's customs and policies.

a.

b.

c.

d.

5. List four employee's responsibilities to a firm.

a.

b.

c.

d.

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CUSTOMS AND POLICIES
UNIT II

ANSWERS TO TEST

1. a. 5
   b. 2
   c. 7
   d. 3
   e. 8
   f. 6
   g. 1
   h. 4

2. a
   c
   d
   e
   f
   g
   h
   i
   j
   k
   l

3. a. Employer benefits and working conditions
   b. Security precautions
   c. Public relations

4. List any four of the following:

   a. Training manual

   b. Newsletter, bulletins, and other literature

   c. Advertisements

   d. Financial reports

   e. Fellow employees

   f. Articles in news media

   g. In-service training programs

   h. Departmental meetings

   i. Management

5. a. Know your company

   b. Know your job

   c. Promote goodwill

   d. Be ethical

INTRODUCTION TO BASIC SELLING
UNIT I

TERMINAL OBJECTIVE

After completion of this unit, the student should understand the function of retail selling. He should be able to demonstrate in a role playing situation the ability to do a sales demonstration. Knowledge of this material will be evidenced by demonstration and by scoring eighty-five percent on the unit test.

SPECIFIC OBJECTIVES

After completion of this unit, the student should be able to:

1. Define retail selling and customer.
2. Match the general levels of sales occupations to the correct function of each.
3. Select from a list the attributes of a good salesperson.
4. Match the basic steps of a retail sale to the correct definition.
5. List four reasons the approach is important.
6. List the three types of sales approaches.
7. List three ways to judge a good approach.
8. Select from a list three ways a salesperson may determine the customer's needs.
9. Select from a list the six elements of a successful sales presentation.
10. List three reasons customers may raise objections about a product.
11. Select from a list the five methods the salesperson may use in overcoming customers' objections about a product.
12. List two customer reactions telling the salesperson to close the sale.
13. Select from a list verbal signals that the customer is ready to buy.
14. List three reasons for suggestion selling.
15. Select from a list the procedures for making correct change.
16. Fill out a sales slip correctly when given the information.

17. Prepare a written dialogue for:

    a. The approach.

    b. Sales presentation.

    c. Methods of overcoming objections.

    d. Closing the sale and suggestion selling.

18. Demonstrate in a role playing situation the ability to do a sales demonstration.

INTRODUCTION TO BASIC SELLING
UNIT I

SUGGESTED ACTIVITIES

I. DE Teacher-Coordinator:

A. Provide students with objective sheet.

B. Provide students with information and assignment sheets.

C. Discuss terminal and specific objectives.

D. Discuss information and assignment sheets.

E. Use role-playing as a procedure for teaching sales demonstration.

F Give test.

(NOTE. Consult audio visual supplement for suggested film. This unit should be broken down for testing purposes.)

II. Student:

A. Read objective sheet.

B. Study information sheet.

C. Complete assignment sheets.

D. Take test.

INSTRUCTIONAL MATERIALS

I. Included in this unit:

A. Objective sheet

B. Information sheet

C. Assignment sheets

1. Assignment Sheet #1--The Approach
2. Assignment Sheet #1a--Sales Presentation
3. Assignment Sheet #1b--Overcoming Objections
4. Assignment Sheet #1c--Closing the Sale and Suggestion Selling
5. Assignment Sheet #2--Sales Demonstration

D. Test

E. Answers to test

II. References:

A. Richert, Meyer, Haines. *Retailing Principles and Practices.* Fifth Edition. Gregg, McGraw-Hill, 1968.

B. Bodle, Corey. *Retail Selling.* Gregg, McGraw-Hill, 1972.

C. Piper. *Merchandising Mathematics Distributive Education Series.* South-Western Publishing Company, December 18, 1967.

D. Supermarket Checker Education. Dayton, Ohio: The National Cash Register Company, 1968.

INTRODUCTION TO BASIC SELLING
UNIT I

INFORMATION SHEET

I. Terms and definitions

A. Retail selling--Helping customers make satisfactory purchases

B. Customer--Anyone who buys the goods for sale in a retail store

II. General levels of sales occupations

A. Salesclerk

1. Has little to do with solving customer buying problems
2. Receives payment for merchandise
3. Wraps or boxes merchandise
4. Stocks shelves, keeps record of sales, takes inventory
5. Is lowest level in order of responsibility and reward

B. Salesperson

1. Helps customer solve minor buying problems
2. Emphasizes selling points and suggests items
3. Prepares sales slips, receives payment, and bags or wraps merchandise
4. Places merchandise on display, prepares inventories, requisitions merchandise from stockroom
5. Is second highest in order of responsibility and reward

C. Salesman

1. Helps customer who needs detailed information
2. Answers technical questions about merchandise
3. Demonstrates the merchandise
4. Gives estimates or quotes prices
5. Is familiar with credit and trade-in allowances
6. Prepares sales contracts
7. Is highest level in order of responsibility and reward

INFORMATION SHEET

III. Attributes of a good salesperson

A. Courteous

B. Interested

C. Friendly

D. Helpful

E. Cooperative

F. Tolerant

IV. Basic steps of a retail sale

A. Approach--Gains the attention of the customer

B. Determining the need--Helps the customer select the item that best fits his needs

C. Presentation--Part of the sale where the salesperson attempts to turn the interest for the merchandise into the customer's desire to own it

D. Overcoming objections--Listens to customer's objections and uses them to strengthen his presentation

E. Closing the sale--The customer agrees to buy the merchandise

F. Suggestion selling--Tries to increase the amount of the sale by suggesting additional merchandise

V. Reasons the approach is important

A. Creates a favorable impression on the part of the customer toward the salesperson and the store

B. Puts the customer at ease

C. Builds customer confidence in the salesperson

D. Starts the selling process

VI. Types of sales approaches

A. Greeting or personal

1. Makes customer feel important

2. Uses the customer's name

Example: "Good morning, Mr. Morrison, do you remember the camera you were asking about the other day? It just arrived."

INFORMATION SHEET

B. Merchandise

1. Used when customer is already looking at merchandise
2. May be used to open the sale
3. Most profitable in terms of sales

Example:

Salesperson: (Approaching a customer who is looking at a sport shirt) "This shirt is eighty percent Dacron and twenty percent cotton and requires no ironing. It will hold its shape and color no matter how many times it is washed."

Customer: "Completely washable? No ironing? That's a dream. What colors do you have?"

C. Service

1. Offers assistance to the customer
2. Will always direct the customer's attention to his needs or wants
3. Is used if the customer is not looking at merchandise
4. Customer and item desired are unknown to the salesperson
5. Customer waits for salesperson to approach

Example: "Good morning, have you found what you are looking for?"

VII. Ways to judge a good sales approach

A. Place emphasis on the customer

B. Direct the customer's attention to the merchandise

C. Let the customer know that he is the first concern of the salesperson

(NOTE: Use Assignment Sheet #1.)

VIII. Ways a salesperson may determine the customer's needs

A. Listen attentively

B. Ask a few well-chosen questions

C. Select the item that best fits the customer's needs

INFORMATION SHEET

IX. Elements of a successful sales presentation

A. Handle the merchandise properly

(NOTE: Handling the merchandise properly gives value to the goods. A customer will respond to the quality of the merchandise when the salesperson shows high regard for it.)

B. Know what merchandise to show

1. If the customer has stated a particular style, color, or size, show the merchandise that he has requested

2. If no particular style, color, or size has been requested, show something you think he will like

(NOTE: Ask questions to determine this.)

3. If several price lines are available, begin with the merchandise in the middle range

(NOTE: This may not be true in all cases.)

C. Know how much merchandise to show--Enough to allow a sufficient choice

1. If there is too much the customer will become confused; remove those items that do not appeal to the customer

2. If too little merchandise is shown, the customer may be restricted in his selection

3. Show only two or three items at a time

D. Demonstrate the merchandise

1. Involve the customer in the merchandise demonstration

2. Let the customer handle the item

3. Appeal to the five senses

a. Hearing

b. Sight

c. Touch

d. Smell

e. Taste

(NOTE: When the five senses are involved, the customer proves to himself that the merchandise will do what the salesperson says it will.)

INFORMATION SHEET

E. Give product information

1. Salesperson must be prepared to discuss with the customer the features of the item

2. Give as much information about the product as is necessary to assist the customer in making the decision

F. Sell the benefits

1. The customer does not buy merchandise; he buys what the merchandise will do for him

2. Remember to sell what the merchandise will do to satisfy his needs

(NOTE: Use Assignment Sheet #1a.)

X. Reasons for customer objections

A. The customer is not convinced of his need

1. The salesperson has not presented the item in relation to a buying motive

2. The salesperson must show the customer that he has a need for the item

B. The customer has insufficient information on which to make a buying decision

(NOTE: The salesperson must give complete product information to convince the customer to buy.)

C. The price is too high

1. If the salesperson has given the customer information about the product that will justify the price, the resistance may be avoided

2. A less expensive item should be shown

3. Salesperson can offer the use of a charge account or a layaway plan

XI. Methods the salesperson may use in overcoming customers' objections about a product

A. "Yes, but"

Example:

Customer: They are lovely dishes, but too delicate for everyday use. They would break easily.

INFORMATION SHEET

Salesperson: Yes, they are delicate in appearance, but that's what makes them so lovely. In spite of their delicate appearance, they are guaranteed for five years.

B. Superior point

Example:

Customer: This mower seems to weigh a lot. I'm afraid it will be hard to push.

Salesperson: The mower is heavier than others. The manufacturer made it heavier in order to improve its wearing qualities. If you will notice it has wheels that are a little larger that others and also are equipped with ball bearings. We have sold this type for several years and our customers have been very satisfied.

C. Direct Denial

Example:

Customer: This luggage would not stand up under the rough treatment it would get when I travel.

Salesperson: I think you will find, sir, this luggage will withstand any amount of rough treatment. Let me show you. (He jumps on it and kicks it.) See, with a cloth I can wipe off the smudge, and it still is new.

D. Questions

Example:

Customer: The action of the keys on this typewriter doesn't seem to be as smooth and easy as that of another make I have looked at.

Salesperson: Don't you think that the use of a ball bearing in a typewriter will ensure better key action than the use of a plain bearing?

Customer: Yes, I think so.

Salesperson: Did you know that our machine is the only one on the market that is equipped with ball bearings at the point where the action of the keys is greatest?

INFORMATION SHEET

E. Boomerang

Example:

Customer: The heels on these boots are too high.

Salesperson: The high heels are the newest thing this season. They are featured in all the fashion magazines. And I know you want to be fashionable.

Customer: Of course I want to be fashionable, but are you sure they are the newest style?

Salesperson: High heels are featured in this month's issue of Men's Wear. Let me show you.

Customer: They do look sharp. Let me try a pair.

(NOTE: Use Assignment Sheet #1b.)

XII. When to close the sale

A. When the customer is reacting favorably toward the product

B. When the customer's reaction indicates there is no longer a reason not to buy

XIII. Recognizing buying signals

A. "I could charge it, couldn't I?"

B. "Does your service department install these?"

C. "My wife would just love to have this."

D. "The price is reasonable."

E. "You did say you have free alteration?"

XIV. Reasons for suggestion selling

A. Increase sales

B. Increase profits

C. Maybe customer needs item and did not remember

INFORMATION SHEET

Example:

Item Purchased	Related Item
Baseball glove	Ball, bat
Blouse	Skirt
Camera	Films, flashbulbs
Mens' shoes	Socks, polish
Sweater	Scarf

(NOTE: Use Assignment Sheet #1c.)

XV. Procedures for making change

A. Place money on drawer

B Repeat the amount of the purchase and the amount of money received

C. Count out the amount of change silently to yourself from the amount of the purchase to the amount received

D. Repeat the amount of the purchase and the amount received to the customer

E. Count out the change into the customer's hand building from the amount of the purchase to the amount received

F. Receive the customer's approval

Example: Change is usually given in the fewest pieces possible. If you receive a $5 bill in payment of a purchase amounting to $2.32, you will give the customer 3 pennies, 1 nickel, 1 dime, 1 half dollar, and 2 $1 bills. As you hand the customer the change, you say, "Two thirty-two, thirty-five, forty, fifty, three, one is four, and one is five."

	AMOUNT OF SALE	AMOUNT RECEIVED	DENOMINATIONS OF CHANGE							
			1¢	5¢	10¢	25¢	50¢	$1	$5	$10
Sample	$ 2.32	$5 bill	3	1	1		1	2		
a	3.85	$5 bill		1	1			1		
b	8.68	$10 bill	2	1		1		1		
c	12.35	$25 check		1	1		1	2		1
d	23.56	Two $20 bills	4	1	1	1		1		1
e	47.19	Two $20 bills One $10 bill	1	1		1	1	2		
f	.35	$10 bill		1	1		1	4	1	
g	1.51	$20 bill	4		2	1		3	1	1
h	12.77	$30 check	3		2			2	1	1

INFORMATION SHEET

XVI. Procedure for filing out sales slip

A. Name or number of salesperson

B. Complete date

C. Check cash or charge

D. Full name of person or firm sold to

E. Complete address

F. Department number

G. Number of items

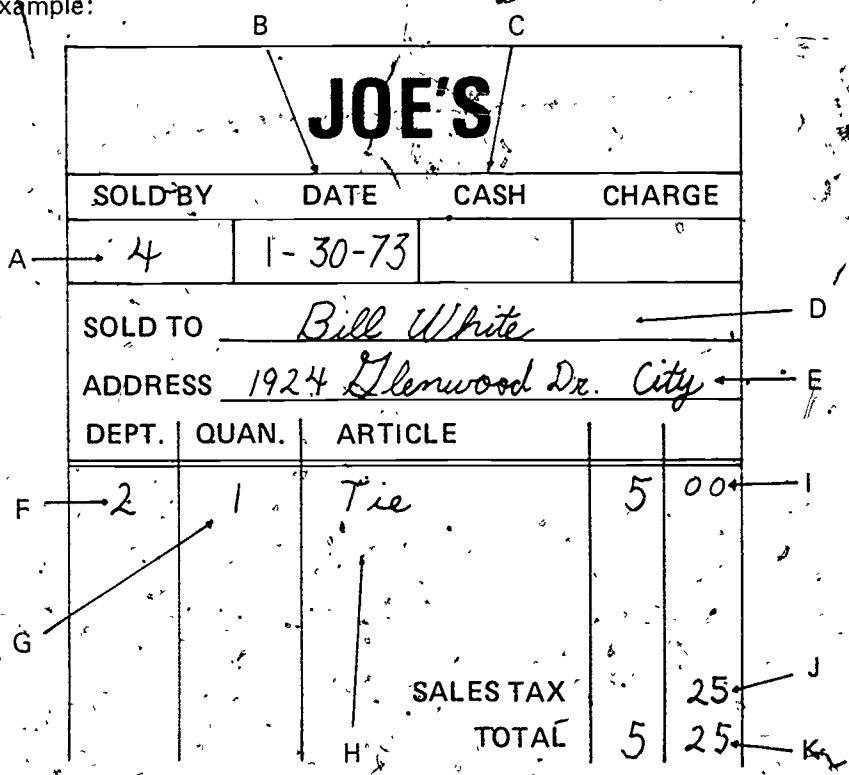
H. Description or name of article

I. The article cost

J. Tax

K. Total cost

Example:



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INTRODUCTION TO BASIC SELLING
UNIT I

ASSIGNMENT SHEET #1--THE APPROACH

1. Some standard forms of approach are given below. Some of these approaches are good; some are poor; others are questionable. Since no one approach can suit all situations, it is difficult to say which may be the most satisfactory one to use. Keep in mind that you will have this problem to face in almost any kind of store.

   Place a G before those that you think are good, and a P before those you think are poor, and a zero before those that are questionable. Underscore those that use the merchandise approach.

   _____1. Are you looking for something?

   _____2. Is anyone helping you?

   _____3. Good morning, Mrs. Rineer. May I help you?

   _____4. Are you being taken care of?

   _____5. May I show you some of these socks?

   _____6. May I help you?

   _____7. Something for you?

   _____8. Anything in particular you wanted?

   _____9. Now dearie, what may I do for you?

   _____10. Are you next, lady?

   _____11. Do you wish attention?

   _____12. What do you want?

   _____13. Something in handkerchiefs?

   _____14. One [illegible]y-three.

   _____15. Yes, Ma'am?

   _____16. Are you looking, or did you wish to buy something.

   _____17. Garden tools?

   _____18. Can I tempt you with anything today?

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ASSIGNMENT SHEET #1

_____19. That is $2.87. How do you like it?

_____20. Good morning!

_____21. This portable phonograph is specially priced today.

_____22. This is a dandy value

_____23. Shirts today?

_____24. Do you want to buy some of them cards?

_____25. Is someone waiting on you?

(NOTE: This should be used for the purpose of class discussion.)

2. Below are some problems where you are to assume the salesperson's role and ask leading questions to find out what the customer needs:

1. Mr. Hill comes into your bookstore and asks, "I should like to get a book."

2. A lady comes into your electrical appliance store and says, "I should like to look at some lamps."

3. An elderly housewife comes into your department and says, "We need a rug for the house."

4. A man enters your drugstore and says, "Let me have some cough medicine."

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ASSIGNMENT SHEET #1

5. A man and his son come into your clothing store; The man greets you with, "He wants to get a hat."

6. A lady comes into your toy department and says, "I should like some type of educational toy for my child."

7. Lady in bookstore: "I should like to get some bridge prizes."

8. Hesitant young man in a dress shop: "I should like to get a sweater."

3. Prepare a written dialogue for a merchandise approach using the following items: transistor radio, electric hand mixer, sweater, hairdryer. This will be presented to the class.

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INTRODUCTION TO BASIC SELLING
UNIT I

ASSIGNMENT SHEET #1a--SALES PRESENTATION

Using one of the products in Assignment Sheet #1, write a dialogue for only the sales presentation. This will be presented to the class.

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INTRODUCTION TO BASIC SELLING
UNIT I

ASSIGNMENT SHEET #1b--OVERCOMING OBJECTIONS

1. Below is a list of apparent objections. Assume that you are a retail clerk in a department store. Prepare on a separate sheet of paper answers you would give to these reasons for not buying.

   1. The price is too high.
   2. I must consult my husband first.
   3. I'm in a hurry now, but I will be back later.
   4. I want to shop around a little.
   5. I think I can do better somewhere else.
   6. I left my pocketbook at home.
   7. If I bought this, I should never balance my budget.
   8. I'm too tired to know what I do want.
   9. I am afraid this hunting coat will not resist water.
   10. This coat is too light in weight to be of any value on a cold day.
   11. This bicycle doesn't have a good coaster brake.
   12. This wagon is not built strong enough for my boys.
   13. Everybody in town will have a dress just like it.

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ASSIGNMENT SHEET #1b

ASSIGNMENT SHEET #1b

2. Using the dialogue from Assignment Sheet #1a, write in some customer objections, then use one method of overcoming these objections.

INTRODUCTION TO BASIC SELLING
UNIT I

ASSIGNMENT SHEET #1c--CLOSING THE SALE AND SUGGESTION SELLING

Using the elements of a sales presentation (closing the sale and suggestion selling), write a dialogue with the product chosen in Assignment Sheet #1a.

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INTRODUCTION TO BASIC SELLING
UNIT I

ASSIGNMENT SHEET #2--SALES DEMONSTRATION

Using all previous assignment sheets, put together a complete sales demonstration. This demonstration will be presented to the class. It will be evaluated by the rating sheet provided in this unit.

1. Name of product

2. Salesperson_____

✓ Customer_____

Your dialogue will follow. This should be given to the DE teacher- coordinator prior to the presentation to the class.

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ASSIGNMENT SHEET #2

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ASSIGNMENT SHEET #2--SALES DEMONSTRATION
RATING SHEET

HIGH SCHOOL DIVISION

Rating Sheet

THE SALESPERSON	Excellent	V. Good	Good	Fair	Poor	PARTICIPANTS SCORE
approached the customer correctly for the selling situation	5	4	3	2	1	
used an appropriate greeting	5	4	3	2	1	
was groomed properly	5	4	3	2	1	
spoke clearly and distinctly	5	4	3	2	1	
determined customer needs	5	4	3	2	1	
showed the merchandise effectively	10	8	6	4	2	
was interested in customer's problem	5	4	3	2	1	
met objections tactfully	10	8	6	4	2	
used sufficient merchandise information	10	8	6	4	2	
demonstrated merchandise effectively	10	8	6	4	2	
used suggestive selling	10	8	6	4	2	
closed the sale effectively	10	8	6	4	2	
change making, wrapping and sales slip procedure	10	8	6	4	2	

TOTAL POSSIBLE POINTS 100 TOTAL JUDGED POINTS _____

THE DECA HANDBOOK — 1972

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INTRODUCTION TO BASIC SELLING
UNIT I

TEST

1. Define the following terms:

   a. Retail selling--

   b. Customer--

2. Match the general levels of sales occupations to the correct function of each.

_____a. Is lowest level in order of responsibility and reward	1. Salesclerk
_____b. Has little to do with solving customer buying problems	2. Salesperson
_____c. Prepares sales contracts	3. Salesman
_____d. Answers technical questions about merchandise	
_____e. Is second highest in order of responsibility and reward	
_____f. Is familiar with credit and trade-in-allowances	
_____g. Helps customer solve minor buying problems	
_____h. Places merchandise on display	
_____i. Demonstrates the merchandise	
_____j. Helps customer who needs detailed information	
_____k. Stocks shelves	
_____l. Is highest level in order of responsibility and reward	

3. Place an "X" in the blank preceding each item that is an attribute of a good salesman.

_____a. Interested

_____b. Friendly

_____c. High pressure

_____d. Helpful

_____e. Chooses his customers

_____f. Courteous

_____g. Cooperative

_____h. Tolerant

4. Match the basic steps of a retail sale to the correct definition.

_____a. Helps the customer select the item that best fits his needs

_____b. Part of the sale where the salesperson attempts to turn the interest for the merchandise into the customer's desire to own it

_____c. Gains the attention of the customer

_____d. Tries to increase the amount of the sale

_____e. The customer agrees to buy the merchandise

_____f. Listens to customer's objections and uses them to strengthen his presentation

1. Presentation
2. Overcoming Objections
3. Closing the sale
4. Suggestion selling
5. Determining the need
6. Approach

5. List four reasons the approach is important.

a.

b.

c.

d.

6. List the three types of sales approaches.

a.

b.

c.

7. List three ways to judge a good approach.

a.

b.

c.

8. Place an "X" in the blank preceding each item that are ways a salesperson may determine the customer's needs.

_____a. Select the item that best fits the customer's needs

_____b. Ask a few well-chosen questions

_____c. Listen attentively

_____d. Determine what you think the customer's needs are

9. Place an "X" in the blank preceding each item that is an element of a successful sales presentation.

_____a. Handle the merchandise properly

_____b. Close the sale

_____c. Sell the benefits

_____d. Give product information

_____e. Appeal to the five senses

_____f. Promote good-will

_____g. Demonstrate the merchandise

_____h. Know what merchandise to show

_____i. Know how much merchandise to show

10. List three reasons customers may raise objections about a product.

a.

b.

c.

11. Place an "X" in the blank preceding each item that are methods the salesperson may use in overcoming customers' objections about a product

_____a. Yes, but

_____b. Superior point

_____c. Sales person knows best

_____d. Questions

_____e. Direct denial

_____f. Boomerang

12. List two customer reactions telling the salesperson to close the sale.

a.

b.

13. Place an "X" in the blank preceding each items that are verbal signals that the customer is ready to buy.

_____a. "The price is reasonable."

_____b. "You did say you have free alteration?"

_____c. "Is this in style?"

_____d. "I could charge it, couldn't I?"

_____e. "Does your service department install these?"

14. List three reasons for suggestion selling.

a.

b.

c.

15. Place an "X" in the blank preceding each of the items that are procedures for making correct change.

_____a. Receive the customer's approval

_____b. Repeat the amount of the purchase and the amount of money received

_____c. Count out the amount of change silently to yourself from the amount of the purchase to the amount received

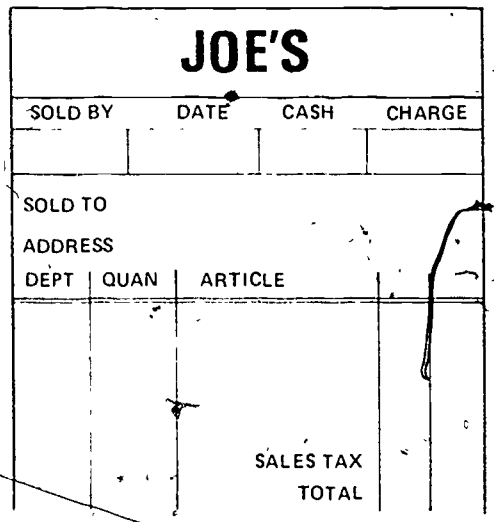
_____d. Count out the change into the customer's hand building from the amount of the purchase to the amount received

_____e. Repeat the amount of the purchase and the amount received to the customer

_____f. Place money on drawer

16. With information given below fill out a sales slip.

You are salesperson number 8, working in department 5. You just made a cash sale today. Sold to John H. Brown, 824 South Third City; 4 shirts at $5.00 each. The total sale is $21.00. Using the local sales tax rate, compute the sales tax.



17. Prepare a written dialogue for:

a. The approach.

b. Sales presentation.

c. Methods of overcoming objections.

d. Closing the sale and suggestion selling.

This will have been completed by using Assignment Sheets 1, 1a, 1b, 1c.

18. Demonstrate in a role playing situation the ability to do a sales demonstration. (Assignment Sheet #2)

(NOTE: If this has not been completed prior to the test, ask the instructor when the above activity should be completed.)

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INTRODUCTION TO BASIC SELLING
UNIT I

ANSWERS TO TEST

1. a. Helping customers make satisfactory purchases

   b. Anyone who buys the goods for sale in a retail store

2. a. 1

   b. 1

   c. 3

   d. 3

   e. 2

   f. 3

   g. 2

   h. 2

   i. 3

   j. 3

   k. 1

   l. 3

3. a

   b

   d

   f

   g

   h

4. a. 5

   b. 1

   c. 6

d. 4

e. 3

f. 2

5. a. Creates a favorable impression on the part of the customer toward the salesperson and the store

b. Puts the customer at ease

c. Builds customer confidence in the salesperson

d. Starts the selling process

6. a. Greeting or personal

b. Merchandise

c. Service

7. a. Place emphasis on the customer

b. Direct the customer's attention to the merchandise

c. Let the customer know that he is the first concern of the salesperson

8. a

b

c

9. a

c

d

e

g

h

i

10. a. The customer is not convinced of his need

b. The customer has insufficient information on which to make a buying decision

c. The price is too high

11. a

b

d

e

f

12. a. When the customer is reacting favorably toward the product

b. When the customer's reaction indicates there is no longer a reason not to buy

13. a

b

d

e

14. a. Increase sales

b. Increase profits

c. Maybe customer needs and did not remember

15. a

b

c

d

e

f

16.

JOE'S

SOLD BY	DATE	CASH	CHARGE
8		✓	

SOLD TO John H. Brown

ADDRESS 824 South Third City

DEPT.	QUAN.	ARTICLE		
5	4	shirts $5.00 ea	20	00
		SALES TAX	1	00
		TOTAL	21	00

17. Evaluated to the satisfaction of the DE teacher-coordinator.

18. Evaluated by the use of the Sales Demonstration Rating Sheet by the DE teacher-coordinator.

BUSINESS LETTER
UNIT II

TERMINAL OBJECTIVE

After completion of this unit, the student should be able to organize and write a business letter. This knowledge will be evidenced by a score of eighty-five percent on the unit test.

SPECIFIC OBJECTIVES

After completion of this unit, the student should be able to:

1. List five ways to create a good "first impression" in letter writing.
2. List three commonly used letter styles.
3. List two types of letter punctuation.
4. Arrange in proper order the parts of a business letter when given the parts.
5. List the three characteristics of a good business letter.
6. Write a business letter using block style.

BUSINESS LETTER
UNIT II

SUGGESTED ACTIVITIES

I. DE Teacher-Coordinator:

A. Provide students with objective sheet.

B. Provide students with information and assignment sheets.

C. Discuss terminal and specific objectives.

D. Discuss information and assignment sheets.

E. Give test.

(NOTE: Consult audio visual supplement for suggested films.)

II. Student:

A. Read objective sheet.

B. Study information sheet.

C. Complete assignment sheet.

D. Take test.

INSTRUCTIONAL MATERIALS

I. Included in this unit:

A. Objective sheet

B. Information sheet

C. Assignment Sheet #1--Writing a Business Letter

D. Test

E. Answers to test

II. References:

A. Meehan, Oliverio, Pasewash. *Secretarial Office Procedures.* Eighth Edition. Dallas, Texas: South-Western Publishing Company, 1972.

B. *Oklahoma Cooperative Office Education, Course of Study.* Stillwater, Oklahoma: State Department of Vocational and Technical Education, Curriculum and Instructional Materials Center, 1972.

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BUSINESS LETTER
UNIT II

INFORMATION SHEET

I. Ways to create a good "first impression" in letter writing

A. Use of proper margins, indentions, and spacing

B. Parts of the letter are correctly placed according to the style selected

C. No obvious erasures and no strikeovers

D. It is clean

1. No smudges

2. No fingermarks

E. Type is even and clear

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INFORMATION SHEET

II. Letter styles

A. Modified block

OKLAHOMA STATE DEPARTMENT OF VOCATIONAL AND TECHNICAL EDUCATION

FRANCIS TUTTLE DIRECTOR • 1515 WEST SIXTH AVE • STILLWATER, OKLAHOMA 74074 • A C (405) 377 2000

October 3, 1972

Mr. M. C. Smith
Sears, Roebuck and Company
1944 Dearborn Street
Chicago, Illinois 60613

Dear Mr. Smith,

Subject: Order No. 1653

The fifteen desks we ordered arrived today. However, only one of these desks is the correct model. Our order No. 1653, dated September 2, 1972, specifically indicated Model 426.

We need these desks for the opening of our new office on November 1, 1972, and we are wondering what you can do about this awkward situation. We definitely do not want the metal desks that were sent by mistake.

Sincerely yours,

Ron Meek
Coordinator

RM/tlr

We hope we will hear from you immediately regarding the action you are taking.

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INFORMATION SHEET

B. Block

OKLAHOMA STATE DEPARTMENT OF VOCATIONAL AND TECHNICAL EDUCATION
FRANCIS TUTTLE, DIRECTOR • 1515 WEST SIXTH AVE. • STILLWATER, OKLAHOMA 74074 • A C (405) 377 2000

October 3, 1972

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Sincerely yours,

Ron Meek
Coordinator

RM/tlr

We hope we will hear from you immediately regarding the action you are taking.

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INFORMATION SHEET

C. Simplified

(NOTE: Eliminates the salutation and the complimentary close.)

Votech
OKLAHOMA STATE DEPARTMENT OF VOCATIONAL AND TECHNICAL EDUCATION
FRANCIS TUTTLE, DIRECTOR • 1515 WEST SIXTH AVE. • STILLWATER, OKLAHOMA 74074 • A.C. (405) 377-2000

October 3, 1972

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Chicago, Illinois 60613

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Ron Meek
Coordinator

RM/tlr

We hope we will hear from you immediately regarding the action you are taking.

INFORMATION SHEET

III. Types of letter punctuation

A. Open--Omits punctuation after salutation and complimentary close

B. Mixed--Punctuation after salutation and complimentary close

IV. Parts of a letter

A. Letterhead

B. Date

C. Inside address

D. Salutation

E. Subject

F. Body

G. Complimentary close

H. Signature

I. Typed name

J. Title

K. Reference initials

L. Enclosure notation

M. Carbon copy notation

N. Postscript

Example: (Next page)

50-F

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INFORMATION SHEET

OKLAHOMA STATE DEPARTMENT OF VOCATIONAL AND TECHNICAL EDUCATION
FRANCIS TUTTLE DIRECTOR • 1515 WEST SIXTH AVE • STILLWATER OKLAHOMA 74074 • A C (405) 377 2000

A

B — October 3, 1972

C — Mr. M. C. Smith
Sears, Roebuck and Company
1944 Dearborn Street
Chicago, Illinois 60613

D — Dear Mr. Smith:

E — Subject: Order No. 1653

F — The fifteen desks we ordered arrived today. However, only one of these desks is the correct model. Our order No. 1653, dated September 2, 1972, specifically indicated Model 426.

We need these desks for the opening of our new office on November 1, 1972, and we are wondering what you can do about this awkward situation. We definitely do not want the metal desks that were sent by mistake.

G — Sincerely yours,

H — Ron Meek — I
Coordinator — J

K — RM/tlr

L — Enclosure

M — cc Mr. R. L. Beaty

N — We hope we will hear from you immediately regarding the action you are taking.

A. Printed Letterhead	F. Body	K. Reference Initials
B. Date	G. Complimentary Close	L. Enclosure Notation
C. Inside Address	H. Signature	M. Carbon Copy Notation
D. Salutation	I. Typed Name	N. Postscript
E. Subject	J. Title	

INFORMATION SHEET

V Characteristics of a good business letter

A. States purpose

B. Gives the necessary facts

C Follows company policies and procedures

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BUSINESS LETTER
UNIT II

ASSIGNMENT SHEET #1--WRITING A BUSINESS LETTER

Using the plan below, write a letter requesting information concerning some product of your choice. You need this information to construct a manual.

Use current date, your address, full block letter style and closed punctuation. Also use parts of a business letter that are needed.

1. Make an outline
2. Make a rough draft
3. Check spelling, grammar, accuracy, form, and completeness
4. Turn final draft in to DE teacher-coordinator

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BUSINESS LETTER
UNIT II

TEST

1. List five ways to create a good "first impression" in letter writing.

   a.

   b.

   c.

   d.

   e.

2. List three commonly used letter styles.

   a.

   b.

   c.

3. List two types of letter punctuation.

   a.

   b.

4. Arrange in proper order the parts of business letter. The parts are listed in Column A, place them in proper order by placing the letter in Column B.

Column A	Column B
a. Date	1._____
b. Postscript	2._____
c. Carbon copy notation	3._____
d. Salutation	4._____
e. Typed name	5._____
f. Reference initials	6._____
g. Subject	7._____

h. Letterhead 8._____

i. Signature 9._____

j. Enclosure notation 10._____

k. Body 11._____

l. Inside address 12._____

m. Complimentary close 13._____

n. Title 14._____

5. List the three characteristics of a good business letter.

a.

b.

c.

6. Write a business letter using block style.

30

BUSINESS LETTER
UNIT II

ANSWERS TO TEST

1. a. Use of proper margins, indentions, and spacing
   b. Parts of the letter are correctly placed according to the style selected
   c. No obvious erasers and no strikeovers
   d. It is clean
      1) No smudges
      2) No fingermarks
   e. Type is even and clear
2. a. Modified block
   b. Block
   c. Simplified
3. a. Open
   b. Mixed
4. 1. h
   2. a
   3. l
   4. d
   5. g
   6. k
   7. m
   8. i
   9. e
   10. n
   11. f

12. j

13. c

14. b

5. a. States purpose

b. Gives the necessary facts

c. Follows company policies and procedures

6. Evaluated to the satisfaction of the DE teacher-coordinator.

TELEPHONE
UNIT III

TERMINAL OBJECTIVE

After completion of this unit, the student should be able to demonstrate in role play situations the ability to correctly handle incoming calls, place both local and long distance calls, and use the telephone directory. Knowledge of this material will be evidenced by a score of eighty-five percent on the unit test.

SPECIFIC OBJECTIVES

After completion of this unit, the student should be able to:

1. Define terms associated with telephone communications.
2. Select from a list those factors that contribute to the success of business calls.
3. List four ways telephone courtesy is expressed.
4. Select examples of appropriate procedure for planning a business call.
5. List five examples of the appropriate procedure for answering a business call.
6. List five purposes of the telephone directory.
7. List the three organizational units in the telephone directory.

TELEPHONE
UNIT III

SUGGESTED ACTIVITIES

I. DE Teacher-Coordinator:

A. Provide students with objective sheet.

B. Provide students with information sheet.

C. Discuss terminal and specific objectives.

D Discuss information sheet.

E. Schedule teletrainer

1. Address: Western half of Oklahoma

Mrs. Carol Suttles, Representative
Southwestern Bell Telephone Co.
707 North Robinson, Room 1002
Oklahoma City, Oklahoma 73102

Phone: 405-236-7395

2. Address: Eastern half of Oklahoma

Mrs. Alnoma Dinger, Representative
Southwestern Bell Telephone Co.
1720 South Boulder, Room #120
Tulsa, Oklahoma 74119

Phone: 918-585-6250

F. Demonstrate proper procedures for using the telephone.

G. Give test.

(NOTE: Consult audio visual supplement for suggested films.)

II. Student:

A. Read objective sheet.

B. Study information sheet.

C. Take test.

INSTRUCTIONAL MATERIALS

I. Included in this unit:

A. Objective sheet

B. Information sheet

C. Test

D. Answers to test

II. References:

A. Book: *Teletraining for Business Studies*, American Telephone and Telegraph Company, 1965.

B. Oklahoma Cooperative Vocational Education Course of Study. Stillwater, Oklahoma: State Department of Vocational and Technical Education, Curriculum and Instructional Materials Center, 1972.

C. Booklets:*

1. *The Secretary and the Telephone*

2. *Tips for Succeeding in Business by Telephone*

3. *Telephone Personality Tips*

4. *How to Succeed in Business by Telephone*

*All from the American Telephone and Telegraph Company through Southwestern Bell Telephone Company.

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TELEPHONE
UNIT III

INFORMATION SHEET

I. Terms and definitions

A. Area code--A three-digit number which designates the section of the country being called

B. Classifications--Descriptive headings in the yellow pages under which different types of business may be found

Examples: Physicians, lawyers, architects

C. Cross references--Referral notes which provide other headings where listings may be located

D. Trademark headings--Headings that list dealers and distributors under specific brand-name products

II. Factors that contribute to the success of business calls

A. Choice of words

1. Giving clear explanations
2. Avoiding slang expressions
3. Using short, simple, descriptive words
4. Using expressions of courtesy
5. Using person's name when possible

B. Tone of voice

1. Speaking directly into mouthpiece
2. Using normal conversational tone
3. Speaking clearly and distinctly
4. Speaking unhurriedly--not too fast or too slowly
5. Varying tone quality

INFORMATION SHEET

C. Personal interest and attention to the phone conversation

1. Listening carefully
2. Expressing real interest in other person's point of view
3. Letting the other person tell his story completely and with as little interruption as possible
4. Asking appropriate questions

III. Ways telephone courtesy is expressed

A. Answering the call pleasantly and promptly

B. Using proper identification

C. Clearly stating the purpose of the call

D. Using such phrases as "please" and "thank you"

IV. Appropriate procedure for planning a business call

A. Writing down pertinent information

B. Gathering necessary materials

C. Determining best time to call

D. Determining type call to be made

(NOTE: This might refer to direct dialing, person to person, or station-to-station.)

V. Appropriate procedure for answering a business call

A. Answering promptly

B. Identifying firm and oneself

C. Offering assistance

D. Taking a message

E. Transferring call

INFORMATION SHEET

VI. Purposes of the telephone directory

A. To provide lists of those who have telephones, their telephone numbers, and addresses

B. To aid in locating certain types of businesses

C. To provide useful information about the locality

D. To serve as a source for checking the spelling of names

E. To serve as a guide for the use of telephone services

VII. Organization of the telephone directory

A. Introductory pages

B. Alphabetical pages

C. Yellow pages

TELEPHONE
UNIT III

TEST

1. Define the following terms.

   a. Classifications--

   b. Trademark headings--

   c. Cross references--

   d. Area code--

2. Circle the letter preceding each item below that contributes to the success of business calls.

   a. Using person's name as seldom as possible

   b. Using louder than normal conversational tone

   c. Varying tone quality

   d. Speaking more slowly than normal

   e. Asking appropriate questions

   f. Using short, simple, descriptive words

   g. Using slang expressions

   h. Using expressions of courtesy

3. List four ways telephone courtesy is expressed.

   a.

   b.

   c.

   d.

4. Place an "X" in the blank prededing each item that is an example of appropriate procedure for planning a business call.

_____a. Determining type call to be made

_____b. Gathering necessary materials

_____c. Writing down pertinent information

_____d. Planning to call at noon

_____e. Determining best time to call

5. List five examples of the appropriate procedure for answering a business call.

a.

b.

c.

d.

e.

6. List five purposes of the telephone directory.

a.

b.

c.

d.

e.

7. List the three organizational units in the telephone directory.

a.

b.

c.

TELEPHONE
UNIT III

ANSWERS TO TEST

1. a. Descriptive headings in the yellow pages under which different types of businesses may be found

   b. Headings that list dealers and distributors under specific brand-name products

   c. Referral notes which provide other headings where listings may be located

   d. A three-digit number which designates the section of the country being called

2. c

   e

   f

   h

3. a. Answering the call pleasantly and promptly

   b. Using proper identification

   c. Clearly stating the purpose of the call

   d. Using such phases as "please" and "thank you"

4. a

   b

   c

   e

5. a. Answering promptly

   b. Identifying firm and oneself

   c. Offering assistance

   d. Taking a message

   e. Transferring call

6. a. To provide lists of those who have telephones, their telephone numbers. and addresses

   b. To aid in locating certain types of businesses

   c. To provide useful information about the locality

   d. To serve as a source for checking the spelling of names

   e. To serve as a guide for the use of telephone services

7. a. Introductory pages

   b. Alphabetical pages

   c. Yellow pages

FINDING THE RIGHT JOB
UNIT I

TERMINAL OBJECTIVE

After completing this unit, the student should be able to find job openings through various methods and to match his qualifications to the requirements of jobs being offered. Knowledge of this information should be evidenced by scoring eighty-five percent on the unit test.

SPECIFIC OBJECTIVES

After completing this unit, the student should be able to:

1. Match terms associated with finding a job.
2. Select from a list sources for finding a job.
3. Match the correct employment agencies to their characteristics.
4. List the five things to remember when taking an employment test.
5. Identify subject areas which might be covered on employment tests.
6. List five of the seven ways to find the right job.
7. Indicate knowledge of the three types of classified ads by compiling an example of each.
8. Demonstrate the ability to:
   a. Complete the sample employment test.
   b. Complete the assignment sheet--Finding the Right Job for Yourself.

FINDING THE RIGHT JOB
UNIT I

SUGGESTED ACTIVITIES

I. DE Teacher-Coordinator:

A. Provide students with objective sheet.

B. Provide students with information and assignment sheets.

C. Discuss terminal and specific objectives.

D. Discuss information and assignment sheets.

E. Invite guest speaker from the Oklahoma State Employment Service to talk on finding a job to match your qualifications.

F. Secure copy of "The Career Game" (See additional references.)

G. Give test.

(NOTE: Consult audio visual supplement for suggested films.)

II. Student:

A. Read objective sheet.

B. Study information sheet.

C. Complete assignment sheets.

D. Take test.

INSTRUCTIONAL MATERIALS

I. Included in this unit:

A. Objective sheet

B. Information sheet

C. Assignment sheets

1. Assignment Sheet #1--Knowing Three Types of Classified Ads

2. Assignment Sheet #2--Sample Employment Test

3. Assignment Sheet #3--Finding the Right Job for Yourself

4. Answers to Assignment Sheet #2

D. Test

E. Answers to test

II. References:

A. Kimbrell-Vineyard. *Succeeding in the World of Work.* Bloomington, Illinois: McKnight and McKnight Publishing Company, 1970.

B. *Oklahoma Cooperative Vocational Education Course of Study.* Stillwater, Oklahoma: State Department of Vocational and Technical Education, Curriculum and Instructional Materials Center, 1972.

III. Additional References:

A. *VIEW.* Oklahoma State Department Vocational and Technical Education, 1972.

B. U.S., Labor Department, *Occupational Outlook Handbook.* Washington, D.C.: Government Printing Office, 1972.

C. U.S., Labor Department, *Dictionary of Occupational Titles.* Washington, D.C.: Government Printing Office, 1965.

D. "The Career Game" by Chapman and Dwyer. Educational Progress Corporation, 8538 East 41st Street, Tulsa, Oklahoma 74145. Cost: $75.00.

(NOTE: See your guidance counselor--A copy may be available in your school.)

"The Career Game" is designed for group or individual situations. (There is no limit on the number of players.) It is planned to motivate extensive exploration of career information and opportunities by those who use it.

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FINDING THE RIGHT JOB
UNIT I

INFORMATION SHEET

I. Terms and definitions

A. Classified ads--Ads grouped together under appropriate headings, generally toward the back part of a newspaper

B. Blind ads--Advertisements placed in the Help Wanted section of the Classified ads that do not identify the company placing the ad

C. Help Wanted ads--Advertisements placed in the classified section of the newspaper requesting applicants for job offerings

D. Employment Wanted ads--Ads placed in the newspaper by individuals who are seeking employment

E. Fee agencies--Commercial employment agencies which charge a commission or set price for their services

II. Sources for finding jobs

A. DE teacher-coordinator

B. Family and friends

C. High school agencies, counselors, principal, and others

D. Newspapers--Classified ads

1. Blind ads

Example:

$$$$$$$$$$$$$$$$$$$$$$$$$$$$

SALESMEN

GET IN ON THE FASTEST MONEY MAKER COMING DOWN THE PIKE.

THIS IS FOR PROS ONLY. IF YOU CAN'T CLOSE, DON'T WASTE OUR TIME.

IF YOU CAN, HERE'S WHAT YOU GET.

$'s

TOP KNOTCH QUALIFIED PRE-SET LEADS FREE BEST REFERAL PACKAGE, FREE

VACUUM SIDING. BOOKMEN WELCOME.

ASK FOR MACK
521 9821

$$$$$$$$$$$$$$$$$$$$$$$$$$$$

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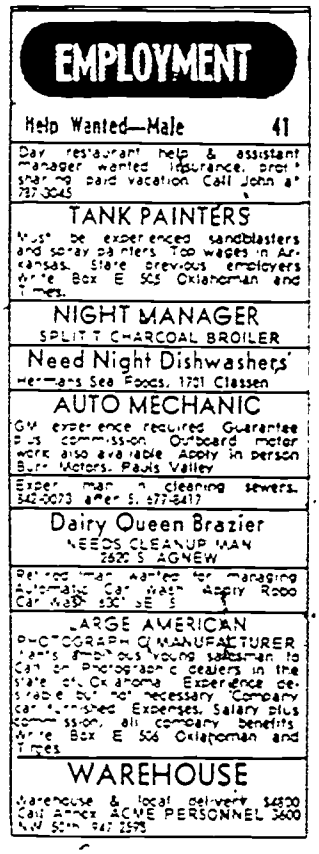
INFORMATION SHEET

2. Help Wanted ads

Example:



EMPLOYMENT

Help Wanted—Male 41

Day restaurant help & assistant manager wanted. Insurance, prof. sharing, paid vacation. Call John at 737-3045

TANK PAINTERS

Must be experienced sandblasters and spray painters. Top wages in Arkansas. State previous employers. Write Box E 505 Oklahoman and Times.

NIGHT MANAGER
SPLIT T CHARCOAL BROILER

Need Night Dishwashers
Hermans Sea Foods, 1701 Classen

AUTO MECHANIC

GM experience required. Guarantee plus commission. Outboard motor work also available. Apply in person Burr Motors, Pauls Valley

Exper. man for cleaning sewers. 842-0073 after 5, 677-8417

Dairy Queen Brazier
NEEDS CLEANUP MAN
2820 S AGNEW

Retired man wanted for managing Automatic Car Wash. Apply Rodeo Car Wash, 501 SE 5

LARGE AMERICAN

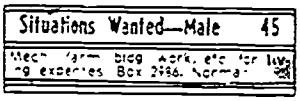
PHOTOGRAPH C MANUFACTURER wants ambitious young salesman to call on photographic dealers in the state of Oklahoma. Experience desirable but not necessary. Company car furnished. Expenses. Salary plus commission, all company benefits. Write Box E 506 Oklahoman and Times.

WAREHOUSE

Warehouse & local delivery, $4500. Call Annex ACME PERSONNEL 3600 NW 50th 947 2595

3. Employment Wanted ads

Example:



Situations Wanted—Male 45

Mech. farm bldg. work, etc. for living expenses. Box 2986, Norman

E. Employment agencies

1. Government
2. Youth opportunity centers
3. Commercial

F. Direct Calling

INFORMATION SHEET

III. How employment agencies operate

A. Government--Oklahoma State Employment Service

1. Services offered free to any state resident
2. Applicants interviewed and counseled by local office
3. Applicants tested to determine interests, abilities, needs for training, and/or education

B. Youth opportunity centers

1. Provide same services as state employment service assisting youth only
2. Geared to specific interests of youths, helps students combine work and study schedules

C. Commercial

1. Charge a fee for services
2. Charge a fee only if placed through them
3. Fee usually must be paid in two or three large installments
4. May have agreement with some employers whereby employer pays fee

IV. Things to remember when taking employment tests

A. Keep calm

B. Follow directions carefully

C. Go through test in order

D. Mark answers carefully

E. Write clearly

V. Subject areas which might be covered on employment tests

A. Vocabulary

B. Grammar

C. Mathematics

INFORMATION SHEET

D. Spelling

E. Reading comprehension

F. Reasoning

G. Skills

H. Psychological items

I. Proofreading

J. Filing

VI. How to find the right job

A. Examine interests

B. Determine goals for the future

C. Analyze personal qualities

D. Know job skills

E. Analyze the jobs available to find the specific skills and rates of accuracy required

F. Take employment tests to evaluate specific job skills

G. Match skills to those required for specific jobs

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FINDING THE RIGHT JOB
UNIT I

ASSIGNMENT SHEET #1--KNOWING THREE TYPES OF CLASSIFIED ADS

Using a newspaper, collect the three types of classified ads: Blind, Help Wanted, and Employment Wanted ads. Bring the ads to class and be prepared to show your examples in class.

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FINDING THE RIGHT JOB
UNIT I

ASSIGNMENT SHEET #2--SAMPLE EMPLOYMENT TEST

The following employment test has fifty-five questions. Answer each question as carefully and completely as possible. Be sure to follow the specific directions for each section.

Directions: Each question below gives several suggested spellings for a word. Decide which spelling is correct and circle the letter preceding that word.

1. a. Propposal
   b. Propossal
   c. Proposal
   d. Propossal
   e. None of these

2. a. Bookeeping
   b. Bookepping
   c. Bookkeping
   d. Bookkeeping
   e. None of these

3. a. Iteniary
   b. Itinerary
   c. Itenerary
   d. Itenirary
   e. None of these

4. a. Conferance
   b. Conference
   c. Confference
   d. Conferience
   e. None of these

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ASSIGNMENT SHEET #2

5. a. Transferrable

   b. Transferable

   c. Transfferable

   d. Transferible

   e. None of these

Directions: In the following sentences, circle the word which makes the sentence correct.

6. You should (of, have) participated in the promotion.

7. John formerly served on the city (counsel, council).

8. He is (confidant, confident) that you will enjoy the play.

9. I would (advice, advise) her to stay in London another week.

10. The documentary contained more than (thirty, 30) pages of directions.

Directions: Punctuate correctly the following sentences:

11. The reference book Charm and Poise for Getting Ahead is now available at Martins Book Store

12. Examinations will be given for a number of different positions for example typist and general clerk secretary office manager and bookkeeper

13. The meeting is now scheduled for December 12 1972

14. Our district manager Mr Carther will call on you

15. He said I appreciate the trouble you have gone through to get me elected gentlemen but you cant tell me how to vote in this election

Directions: Solve each of the following problems and circle the letter preceding the correct answer.

16. Which number in the following group of numbers represents the smallest amount?

   a. 3

   b. 1

   c. .95

   d. .732

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ASSIGNMENT SHEET #2

e. .05

17. Subtract: 150.07 - 2.3 =

a. 147.77

b. 148.04

c. 149.84

d. 157.77

e. None of these

18. Find: 6% of $379.20=

a. $22.74

b. $22.75

c. $227.42

d. $227.52

e. None of these

19. What number is missing from the series?

67 59 51 43 ____ 27

a. 38

b. 37

c. 34

d. 35

e. None of these

20. Five pounds of paper sells for $2.00; how many pounds can you buy for 80¢?

a. 3

b. 1 1/2

c. .95

d. 4

e. None of these

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ASSIGNMENT SHEET #2

Directions: Write the following amounts in words.

21. $273.75 _____

22. 61 1/3 _____

23. 90 10/16 _____

24. 100% _____

25. $6,372.15 _____

Directions: Below are ten pairs of names and numbers. If the two sets are exactly the same, circle the "S", if they are different, circle the "D".

Example:	A. A. Glensen	A. H. Glensen	S D
	Martin Matthews	Marlin Matthews	S D
	Newton Domestics	Newton Comestics	S D
26.	Gurney Bascombe	Garney Bascombe	S D
27.	Robert's Florals	Roberta's Florals	S D
28.	M. N. Wojciechowsi	M. N. Wojciechowski	S D
29.	Paul J. Siegelman	Paul J. Siegelman	S D
30.	Williams, Owens, & Scott	Williams, Owens & Scott	S D
31.	Liebster & Liebsten	Liebsten & Liebsten	S D
32.	Groves & Oppenhiemer	Groves & Oppenheimer	S D
33.	A376-5972147	A367-59772147	S D
34.	AV-372249576	AV-3724295676	S D
35.	P. F. DeSimone	F. P. DeSimone	S D

Directions: Proofread the paragraphs below and punctuate. Circle spelling errors, and make any other additional corrections as necessary, such as deleting words, underscoring, etc., to create grammatically correct paragraphs.

36 - 50. In planning your new office you have probably accumulated a great deal of up to date information on the subject of carpeting. However there is something which you may not have considered in detail - the use of decorative tiles as an attractive flooring throughout your office

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ASSIGNMENT SHEET #2

This is a question which should be considered seriously. When a young architect decides to build a dream office the idea that tiling can be used to compliment the floor plan appears out of the question. Unless you are well acquainted with the newest patters in decorative tiles however, you have no idea of the unusual affect that some of these patterns may have in office styling

Directions: In each of the following problems, select the names that would be first if the names were arranged in alphabetical order. Circle the letter preceding that name.

51. a. Victor Gongala
    b. Anita Dubcheick
    c. Martha Carter
    d. Carol Eisler
    e. Carl Schwartz

52. a. Top Quality Motel
    b. The 201 Cleaners
    c. T. A. Tremont
    d. Wilkins Market
    e. The Victory Corp.

53. a. S. James Santos
    b. San Francisco Tools, Inc.
    c. S. A. Sampler
    d. Sands Aircraft Co.
    e. San Diego Suppliers

54. a. Elizabeth Barnes
    b. Allen E. Bates
    c. Anna Benson
    d. AA Products
    e. Andrew Jamisen

55. a. P. C. Payton
    b. The Kline Corp.
    c. T. G. Products, Inc.
    d. Lawson's Hotel
    e. Alice Payne

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FINDING THE RIGHT JOB
UNIT I

ASSIGNMENT SHEET #3--FINDING THE RIGHT JOB FOR YOURSELF

Directions: Use section VI of the information sheets as a guide in answering the questions below.

1. What are your interests? List below your favorite school subjects, the types of work you like to do, and the types of activities in which you like to participate. Include also those things you particularly dislike.

Likes	Dislikes

2. What distributive occupation do you hope to have in five or ten years?

3. Where do you hope to be in five or ten years? In a small town? A large city? Working for a governmental agency?

4. List three to six types of skills, training, and/or experiences needed to reach your occupational goal. (Specify occupational goal.)

a.

b.

c.

d.

e.

f.

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ASSIGNMENT SHEET #3

5. Analyze your personal qualities. List your good qualities and poor qualities below.

Good Qualities	Poor Qualities

6. List your basic job skills. Are you a good listener? Talker? Reader? Are you good at spelling? Mathematics? Punctuation? List your strong and weak points below.

(NOTE: Review the results of Assignment Sheet #2 for an estimate of this.)

Strong Points	Weak Points

7. List your specific job skills. Include your rate of accuracy for each skill. Also, list each specific office machine you can operate.

8. Name two distributive jobs for which you are considering applying.

a.

b.

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ASSIGNMENT SHEET #3

9. List the job skills and training needed for these jobs. Consult the *Occupational Outlook Handbook*, and *Dictionary of Occupational Titles*, and/or *VIEW* occupational cards for this information.

Job "A". _____ Job "B". _____

10. Compare those skills required for the jobs mentioned above to your job skills.

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FINDING THE RIGHT JOB
UNIT I

ANSWERS TO ASSIGNMENT SHEET #2

1. c
2. d
3. b
4. b
5. b
6. have
7. council
8. confident
9. advise
10. thirty
11. The reference book, Charm and Poise for Getting Ahead, is now available at Martin's Book Store.
12. Examinations will be given for a number of different positions; for example, typist and general clerk, secretary, office manager, and bookkeeper.
13. The meeting is now scheduled for December 12, 1972.
14. Our district manager, Mr. Carther, will call on you.
15. He said, "I appreciate the trouble you have gone through to get me elected, gentlemen, but you can't tell me how to vote in this election."
16. e
17. a
18. b
19. d
20. c
21. Two hundred seventy-three dollars and seventy-five cents

ANSWERS TO ASSIGNMENT SHEET #2

22. Sixty-one and one-third

23. Ninety and ten-sixteenths

24. One hundred percent or 100 percent

25. Six thousand three hundred seventy-two dollars and fifteen cents

26. D

27. D

28. D

29. S

30. S

31. D

32. D

33. D

34. D

35. D

36 - 50.

In planning your new office, you have probably accumulated a great deal of up-to-date information on the subject of carpeting. However, there is something which you may not have considered in detail - the use of decorative tiles as attractive flooring throughout your office.

This is a question which should be considered seriously. When a young architect decides to build a dream office, the idea that tiling can be used to compliment the floor plan appears out of the question. Unless you are well acquainted with the newest patterns in decorative tiles, however, you have no idea of the unusual affect that some of these patterns may have in office styling.

51. c

52. b

53. c

54. d

55. b

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FINDING THE RIGHT JOB
UNIT I

TEST

1. Match terms associated with finding a job to the correct definition.

_____a. Classified ads	1. Ads placed in the newspaper by individuals who are seeking employment
_____b. Blind ads	2. Ads grouped together under appropriate headings, generally toward the back part of a newspaper
_____c. Help Wanted ads	3. Commercial employment agencies which charge a commission or set price for their services
_____d. Employment Wanted ads	4. Ads placed in the Help Wanted section of the Classified ads that do not identify the company placing the ad
_____e. Fee agencies	5. Ads placed in the classified section of the newspaper requesting applicants for job offerings

2. Place an "X" in front of those sources for finding a job.

_____a. Family and friends

_____b. High school agencies, counselors, principal, and others

_____c. Classified ads

_____d. Employment agencies

_____e. DE teacher-coordinator

3. Match the correct employment agencies to their characteristic.

X for Government

O for Commercial

P for Youth opportunity centers

_____a. Charge a fee for services

_____b. Geared to specific interests of youths; helps students combine work and study schedules

_____c. Charge a fee only if placed through them

_____d. Provide same services as state employment service assisting youth only

_____e. Services offered free to any state resident

_____f. May have agreement with some employers whereby employer pays fee

_____g. Applicants interviewed and counseled by local office

_____h. Applicants tested to determine interests, abilities, needs for training, and/or education

_____i. Fee usually must be paid in two or three large installments

4. List the five things to remember when taking employment tests.

a.

b.

c.

d.

e.

5. Place an "X" in front of each of the following which are subject areas which might be covered on employment tests.

_____a. Spelling

_____b. Mathematics

_____c. Vocabulary

_____d. Protocol

_____e. Grammar

_____f. Reading comprehension

_____g. Reasoning

_____h. Skills

_____i. Psychological items

_____j. Dating

_____k. Proofreading

_____l. Filing

6. List five of the seven ways to find the right job.

a.

b.

c.

d.

e.

7. Indicate knowledge of the three types of classified ads by completing the appropriate assignment sheet.

8. Demonstrate the ability to:

a. Complete the sample employment test.

b. Complete the assignment sheet--Finding the Right Job for Yourself.

(NOTE: If this has not been accomplished prior to the test, ask the instructor when the above activities should be completed.)

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FINDING THE RIGHT JOB
UNIT I

ANSWERS TO TEST

1. a. 2
   b. 4
   c. 5
   d. 1
   e. 3
2. a
   b
   c
   d
   e
3. a. O
   b. P
   c. O
   d. P
   e. X
   f. O
   g. X
   h. X
   i. O
4. a. Keep calm
   b. Follow directions carefully.
   c. Go through test in order
   d. Mark answers carefully
   e. Write clearly

5. a
   b
   c
   e
   f
   g
   h
   i
   k
   l

6. Any five of the following are correct.
   a. Examine interests
   b. Determine goals for the future
   c. Analyze personal qualities
   d. Know job skills
   e. Analyze the jobs available to find the specific skills and rates of accuracy required
   f. Take employment tests to evaluate specific job skills
   g. Match skills to those required for specific jobs

7. Performance skills will be evaluated to the satisfaction of the DE teacher-coordinator

8. Performance skills will be evaluated to the satisfaction of the DE teacher-coordinator.

PERSONAL DATA SHEET
UNIT II

TERMINAL OBJECTIVE

After completion of this unit, the student should be able to prepare a personal data sheet. This knowledge will be evidenced by demonstration and by scoring eighty-five percent on the unit test.

SPECIFIC OBJECTIVES

After completion of this unit, the student should be able to:

1. Define personal data sheet.
2. List five reasons for preparing a personal data sheet.
3. Place in order steps in preparing a personal data sheet.
4. List six standards that a personal data sheet should meet.
5. Prepare a personal data sheet.

PERSONAL DATA SHEET
UNIT II

SUGGESTED ACTIVITIES

I. DE Teacher-Coordinator:

A. Provide students with objective sheet.

B. Provide students with information and assignment sheets.

C. Discuss terminal and specific objectives.

D. Discuss information and assignment sheets.

E. Give test.

(NOTE: Consult audio visual supplement for suggested film.)

II. Student:

A. Read objective sheet.

B. Study information sheet.

C. Complete assignment sheet.

D. Take test.

INSTRUCTIONAL MATERIALS

I. Included in this unit:

A. Objective sheet

B. Information sheet

C. Assignment Sheet #1--Preparing a Personal Data Sheet

D. Test

E. Answers to test

II. Reference--Blackledge, Walter; Blackledge, Ethel; and Keily, Helen. *You and Your Job*. Cincinnati, Ohio: South-Western Publishing Company, 1967.

PERSONAL DATA SHEET
UNIT II

INFORMATION SHEET

I. Definition of personal data sheet--A written statement of all the facts about an applicant that might be of any possible interest to an employer

II. Reasons for preparing personal data sheet

- A. Written in logical concise form
- B. Contains all the essential facts
- C. Decides whether applicant has the qualifications needed for a particular position
- D. Answers questions employer may ask
- E. Aids in filling out an application

III. Steps in preparing a personal data sheet

- A. Write personal information first
  1. Name
  2. Address
  3. Telephone
  4. Education
  5. Age
  6. Weight
  7. Height
  8. Health
  9. Marital status
- B. Show subjects studied which will help employer
- C. List student activities
- D. Show special skills or training
- E. Show business experience
- F. Give at least three references
  1. Present or former teacher
  2. Former employer
  3. Minister
  4. An acquaintance

INFORMATION SHEET

G. Example of a complete personal data sheet

Name: John Doe

Address: 1924 Glenwood Dr.
Blackwell, Oklahoma 74631

Photo Here

Telephone: 377-7808

Education: Junior at Blackwell High School majoring in business

Age: 17

Health: Excellent

Weight: 175

Marital status: Single

Height: 6 ft. 1 in.

Subjects studied:

Typing--Two semesters
Business law--Two semesters
Consumer economics--One semester
Retail merchandising--One semester
Business English--Two semesters
Distributive Education I--Two semesters

Student Activities:

President, sophomore class
Reporter--DECA
Chairman, Young People's Church Fund
football, basketball, track

Special Skills:

Type fifty words per minute; trained in the operation of cash register and adding machine

Business Experience:

Carry out for Fay's Grocery during summer months
Sales person for Hunt's Department Store during Christmas

References:

Mr. Ocie Anderson, Principal Blackwell High School, Blackwell, Oklahoma
Mr. Joe Amos, DE Teacher Coordinator, Blackwell High School, Blackwell, Oklahoma
Mr. Kenneth Bradley, Manager, Hunt's Department Store, Blackwell, Oklahoma

Date Compiled _____

Signature _____

INFORMATION SHEET

IV. Standards that a personal data sheet should meet

A. Well organized

B. Neatly typed

C. Error free

D. In outline form

E. Limited to one page, if possible

F. Honest about qualifications and experience

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PERSONAL DATA SHEET
UNIT II

ASSIGNMENT SHEET #1--PREPARING A PERSONAL DATA SHEET

Prepare a personal data sheet using the format and standards given in the information sheet.

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PERSONAL DATA SHEET
UNIT II

TEST

1. Define personal data sheet.

2. List five reasons for preparing a personal data sheet.

   a.

   b.

   c.

   d.

   e.

3 Place in order, using numerals one through six, steps in preparing a personal data sheet.

   _____a. List student activities

   _____b. Show business experience

   _____c. Give at least three references

   _____d. Write personal information first

   _____e. Show special skills or training

   _____f. Show subjects studied which will help employer

4. List six standards that a personal data sheet should meet.

   a.

   b.

   c.

   d.

   e.

   f.

5. By using Assignment Sheet #1, prepare a personal data sheet.

PERSONAL DATA SHEET
UNIT II

ANSWERS TO TEST

1. a. A written statement of all the facts about an applicant that might be of any possible interest to an employer

2. a. Written in logical concise form
   b. Contains all the essential facts
   c. Decides whether applicant has the qualifications needed for a particular position
   d. Answers questions employer may ask
   e. Aids in filling out an application

3. a. 3
   b. 5
   c. 6
   d. 1
   e. 4
   f. 2

4. a. Well organized
   b. Neatly typed
   c. Error free
   d. In outline form
   e. Limited to one page, if possible
   f. Honest about qualifications and experiences

5. Evaluated to the satisfaction of the DE teacher-coordinator.

APPLICATION FORM
UNIT III

TERMINAL OBJECTIVE

After completion of this unit, the student should be able to complete an application form. This knowledge will be evidenced by demonstration and by scoring eighty-five percent on the unit test.

SPECIFIC OBJECTIVES

After completion of this unit, the student should be able to:

1. Define application form.
2. List three of five reasons an application form should have sales appeal.
3. List three points to help give an application form sales appeal.
4. Select from a list nine rules to follow when completing an application form.
5. Complete an application form.

APPLICATION FORM
UNIT III

SUGGESTED ACITVITIES

I. DE Teacher-Coordinator:

A. Provide students with objective sheet.

B. Provide students with information and assignment sheets.

C. Discuss terminal and specific objectives.

D. Discuss information and assignment sheets.

E. Give test.

(NOTE: Consult audio visual supplement for suggested film.)

II. Student:

A. Read objective sheet.

B. Study information sheet.

C. Complete assignment sheet.

D. Take test.

INSTRUCTIONAL MATERIALS

I. Included in this unit:

A. Objective sheet

B. Information sheet

C. Assignment Sheet #1--Completing Application Form

D. Test

E. Answers to test

II. References:

A. Blackledge, Walter, Blackledge, Ethel, and Keily, Helen. *You and Your Job.* Cincinnati, Ohio: South-Western Publishing Company, 1967.

B. *Activities and Awards Program of Youth Activities for Oklahoma D.E. Students.* Revised 1972.

APPLICATION FORM
UNIT III

INFORMATION SHEET

I. Definition of application form--A form to be filled out with important information when applying for employment

II. Reasons an application form should have sales appeal

- A. Competition with other applicants
- B. Promote outstanding qualities
- C. Obtain job more quickly
- D. Receive a better salary
- E. Rapid comparison by employer

III. Points to help give an application form sales appeal

- A. Always keep it neat
- B. Be accurate
- C. Complete the application form by filling in every blank

IV. Rules to follow when completing an application form

- A. Look over entire application form before beginning
- B. Follow instructions carefully and exactly
- C. Write neatly and legibly
- D. List all experience
- E. List all training
- F. Fill in all blanks
  1. Question is not self-related--Write "not applicable"
  2. No answers--Write "none"
  3. Asked expected salary--Write "open" if not sure what is appropriate

INFORMATION SHEET

G. Use personal data sheet

H. Upon completion check form for completeness, accuracy, and correct spelling

I. Remember, try to sell oneself by the information given on the application form

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APPLICATION FORM
UNIT III

ASSIGNMENT SHEET #1--COMPLETING APPLICATION FORM

Complete this application form. Your personal data sheet will be helpful.

Do not print

APPLICATION FOR EMPLOYMENT

Date _____ Position applied for _____

Name _____ Height _____ Weight _____ Age _____

Address _____ Telephone No. _____
(Street or RFD) (City) (State)

Previous address _____ Social Security No. _____

Birthdate _____ Birthplace _____
(Month) (Day) (Year) (City) (State)

CHECK ALL THAT APPLY

_____ Female
_____ Male
_____ Single
_____ Married
_____ Widowed
_____ Divorced
_____ Separated

_____ Own home
_____ Rent
_____ Board
_____ Live (Parents)
_____ With (Relatives)
_____ Purchasing home

Number and age of dependents: _____

Relationship of dependents. _____

Business or occupations of father (or Husband) _____

Interested in Temporary work _____ Full-time _____ Part-time _____ Saturday only _____

Salary expected _____

Are you responsible for your entire support? _____ Others who are dependent on you for their support Number _____ Ages _____

Nature of any physical defects _____

Recent illnesses _____

Date of last physical examination _____

EDUCATION	Circle grade completed	Name of School	Location	Major Subject	Year Graduated
Elementary	1 2 3 4 5 6 7 8				
High	1 2 3 4				
Business or Vocational	1 2 3 4				
College or University	1 2 3 4 5 6				
Night or Correspondence	1 2 3 4				

Give details of any other educational training _____

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What are your hobbies? _____

In case of illness or emergency, notify: Name _____

Address _____

Relationship _____ Telephone _____

Why do you feel qualified for the position for which you are applying?

_____

_____

_____

_____

PREVIOUS EMPLOYMENT
(Last employment first)

From	To	Name & address of employer	Department-position duties - salary	Reason for Leaving
Month ____ Year	Month ____ Year			
Month ____ Year	Month ____ Year			
Month ____ Year	Month ____ Year			
Month ____ Year	Month ____ Year			

PERSONAL REFERENCES
(Do not give names of relatives or former employers)

Name	Address	Occupation
1.		
2.		
3.		

Do Not Write In Space Below

Interviewed by:

Other remarks:

Personality _____
Attitude _____
Ambition and initiative _____
Calmness _____
Physical qualities _____
Intelligence _____
Leadership _____
Appearance and grooming _____
Work best suited for _____

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APPLICATION FORM
UNIT III

TEST

1. Define application form.

2. List three of five reasons an application form should have sales appeal.

   a.

   b.

   c.

3. List three points to help give an application form sales appeal.

   a.

   b.

   c.

4. Circle the letter in front of each of the rules to follow when completing an application form.

   a. Fill out as fast as possible

   b. Remember, try to sell oneself by the information given on the application form

   c. Use personal data sheet

   d. Upon completion check form for completeness, accuracy, and correct spelling

   e. List all training

   f. Fill in all blanks

   g. List all experience

   h. Follow instructions carefully and exactly

   i. Write neatly and legibly

   j. Look over entire application form before beginning

5. Using Assignment Sheet #1, complete an application form.

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APPLICATION FORM
UNIT III

ANSWER TO TEST

1. A form to be filled out with important information when applying for employment

2. Any three of the following:

   a. Competition with other applicants

   b. Promote outstanding qualities

   c. Obtain job more quickly

   d. Receive a better salary

   e. Rapid comparison by employee

3. a. Always keep it neat

   b. Be accurate

   c. Complete the application form by filling in every blank

4. b

   c

   d

   e

   f

   g

   h

   i

   j

5. Evaluated to the satisfaction of DE teacher-coordinator.

JOB INTERVIEW
UNIT IV

TERMINAL OBJECTIVE

After completion of this unit, the student should be able to select from a list examples of proper dress and grooming and be able to demonstrate proper conduct during the job interview. Knowledge of this information will be evidenced by demonstration and by a score of eighty-five percent on the unit test.

SPECIFIC OBJECTIVES

After completion of this unit, the student should be able to:

1. Name five ways to prepare for the interview.
2. Select from a list eight ways to make a good first impression at the interview.
3. Select from a list the examples of proper dress and grooming for the interview.
4. Identify examples of proper conduct during the job interview.
5. Select from a list the attitudes an employer looks for during the job interview.
6. Demonstrate the following:
   a. Answer questions the employer might ask.
   b. Evaluate his conduct during the job interview using the check sheet provided in this unit.
   c. Write a follow-up letter.

JOB INTERVIEW
UNIT IV

SUGGESTED ACTIVITIES

I. DE Teacher-Coordinator:

A. Provide students with objective sheet.

B. Provide students with information and assignment sheets.

C. Discuss terminal and specific objectives.

D. Discuss information and assignment sheets.

E. Have students role play job interview.

F. Have a guest speaker from the community speak on the qualities and qualifications he looks for in a prospective employee.

G. Give test.

(NOTE: Consult audio visual supplement for suggested films.)

II. Student:

A. Read objectives sheet.

B. Study information sheet.

C. Complete assignment sheets.

D. Take test.

INSTRUCTIONAL MATERIALS

I. Included in this unit:

A. Objective sheet

B. Information sheet

C. Assignment sheets

1. Assignment sheet #1--Answering Questions the Employer May Ask

2. Assignment Sheet #2--Evaluating the Job Interview

3. Assignment Sheet #3--Writing a Follow-up Letter

D. Test

E. Answers to test

II. References:

A. Keily-Walters. *How to Find and Apply for a Job.* Second Edition. Dallas, Texas: Southwestern Publishing Company, 1968.

B. Blackledge-Blackledge-Keily. *You and Your Job.* Dallas, Texas: Southwestern Publishing Company, 1967.

C. Oklahoma Cooperative Vocational Education Course of Study. Stillwater, Oklahoma: State Department of Vocational and Technical Education, Curriculum and Instructional Materials Center, 1972.

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JOB INTERVIEW
UNIT IV

INFORMATION SHEET

I. Ways to prepare for the interview

- A. Call or write for appointment
- B. Learn about the company
- C. Find out name of interviewer
- D. Know the kind of job for which one is applying
- E. Review personal qualifications

(NOTE: Use your personal data sheet.)

II. Making a good first impression

- A. Go alone for the interview
- B. Be on time
- C. Be careful of one's appearance
- D. Stand erect
- E. Look pleasant
- F. Introduce oneself in a quiet, easy way
- G. Sit erect and avoid signs of nervousness
- H. Be ready to take an employment test

III. Proper dress and grooming for the interview

- A. Body clean, odor free, and freshly shaven
- B. Hair neat, clean, and trimmed
- C. Hands and nails clean and in good condition
- D. Make-up fresh and natural looking
- E. Teeth brushed; mouthwash used
- F. Clothing cleaned and pressed

INFORMATION SHEET

G. Clothing conservative

H. Hosiery clean and free from runs

I. Socks clean and coordinated with suit

J. Shoes clean and polished

IV. Proper conduct during the interview

A. Greet interviewer with warm smile

B. Call interviewer by name

(NOTE: Mr., Miss, Mrs., or Ms.)

C. Introduce oneself

D. Shake interviewer's hand firmly

E. Be seated only after the interviewer's request

F. Sit and stand erect

G. Let employer take the lead in conversation

H. Answer questions completely

I. Be polite and courteous

J. Make an extra effort to express oneself clearly

K. Be sincere and enthusiastic

L. Avoid irritating or distracting habits

1. Smoking, chewing gum, eating candy

2. Giggling or squirming in chair

M. Do not try to flatter the interviewer

N. Tell the truth about oneself and job experiences

O. Be positive

P. Watch for a sign the interview is over

Q. Thank interviewer for his time

R. Leave promptly

INFORMATION SHEET

V. Attitudes employer looks for during the interview

A. Enthusiasm and interest

B. Dedication and dependability

C. Alertness and quickness of mind

D. Honesty and integrity

E. Desire to work

F. Desire to help others

G. Desire to improve oneself

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JOB INTERVIEW
UNIT IV

ASSIGNMENT SHEET #1--ANSWERING QUESTIONS THE EMPLOYER MAY ASK

Directions: Remember that once you are in the job interview, it is your job to "sell yourself" to the employer. You must be prepared to answer any questions that he may ask in a manner that would leave a favorable impression. Think about each of the following questions. Then write possible answers to each question remembering the direct, positive, and enthusiastic approach is the best.

1. Why do you want to work?

2. Have you had any experience in this type of work?

3. Are you presently employed?

4. What hours could you work?

JOB INTERVIEW

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5. Would you be available on a permanent basis in June?

6. Have you participated in any sports?

7. Why do you think you might like to work for us?

8. How could you contribute to our organization?

9. What personal characteristics would you say are necessary for success in this field?

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ASSIGNMENT SHEET #1

10. Do you have any financial obligations?

11. Are you living with your parents?

12. Do you have a steady girl-boy?

13. Have you ever had any difficulty with the police other than a parking violation?

14. Would you be able to work all day Saturday and Sunday?

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ASSIGNMENT SHEET #1

15. How are you doing in school: attendance record? Grades?

16. What do you think we should pay you?

17. What do you hope to be doing five or ten years from now?

18. When can you start to work?

19. Do you have transportation?

JOB INTERVIEW
UNIT IV

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ASSIGNMENT SHEET #2: EVALUATING THE JOB INTERVIEW

Do you handle yourself properly during a job interview? Rate yourself using the check list below. Then have someone also rate you and compare the two ratings. This should help you to identify those areas in which you are strong and those in which you need improvement.

	Yes	No	Not Sure
How you looked:			
1. Clothing clean and well-pressed?	___	___	___
2. Clothing conservative in style and color and appropriate for applying for a job?	___	___	___
3. Body clean and free from odor?	___	___	___
4. Hair trimmed, clean, combed?	___	___	___
5. Shoes clean and polished?	___	___	___
How you acted:			
6. Greeted interviewer with a smile and called him/her by name? (Mr., Miss, Mrs. or Ms.)	___	___	___
7. Stated your name proudly?	___	___	___
8. Shook interviewer's hand firmly?	___	___	___
9. Sat only when asked to do so?	___	___	___
10. Looked interviewer in the eye?	___	___	___
11. Listened carefully to what interviewer had to say?	___	___	___
12. Took the time to think questions through before answering?	___	___	___

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ASSIGNMENT SHEET #2

13.	Emphasized what you could do for the firm rather than what the firm could do for you?	___	___	___
14.	Spoke well of previous employers and associates?	___	___	___
15.	Refrained from arguing with the employer?	___	___	___
16.	Showed your desire to work?	___	___	___
17.	Were courteous and tactful?	___	___	___
18.	Were enthusiastic about school, work, and life in general?	___	___	___
19.	Asked questions about the job and the company?	___	___	___
20.	Were prepared to tell the employer how you could be of benefit to his company?	___	___	___
21.	Did not chew gum, smoke, or eat candy?	___	___	___
22.	Stuck to the point and answered the questions briefly but completely?	___	___	___
23.	Thanked the interviewer for his time before leaving?	___	___	___
24.	Left promptly?	___	___	___
	Total Points:	___	___	___

Give yourself three points for each "good", two points for each "fair", and one point for each "poor". Add your points for the total score.

Rating scale:

64 - 72 Superior

57 - 63 good

50 - 56 fair

40 - 49 poor

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JOB INTERVIEW
UNIT IV

ASSIGNMENT SHEET #3--WRITING A FOLLOW-UP LETTER

Directions:

1. Write a follow-up letter thanking the employer for the interview. Use any form you wish or follow the format of the sample follow-up letter on the next page.

2. Make sure your letter meets the following standards.

   a. Typed perfectly

   b. Clean, neat, and attractively arranged on the paper

   c. Free from spelling, punctuation, and grammatical errors

   d. Sent within a day or two after the interview

3. Your follow-up letter might include the following points:

   a. An expression of appreciation for interviewer's time and interest

   b. A summary of your qualifications and interest in the position

   c. Your name, address, and phone number (to make it easier for your employer to contact you)

4. Make this last bid for the job a prime example of your excellent work habits. Make the letter as clean, neat, and well-worded as you possibly can.

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ASSIGNMENT SHEET #3

SAMPLE FOLLOW-UP LETTER

820 North Monroe
Stillwater, Oklahoma 74074
September 1, 1972

Mr. John Jones
Personnel Manager
John's Department Store
407 Main Street
Stillwater, Oklahoma 74074

Dear Mr. Jones:

Thank you for interviewing me for the salesman's job in your store. I feel th.. working for John's Department Store would be enjoyable and that I could do the selling and general work which the position requires. I hope to have the opportunity to prove my worth.

The application form you gave me is enclosed.

I will be available for work September 5. You may call me at my home after 3:30. The number is 377-3307.

Sincerely yours,

Judith Jamison

Miss Judith Jamison

Enclosure

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JOB INTERVIEW
UNIT IV

TEST

1. Name five ways to prepare for the interview.

   a.

   b.

   c.

   d.

   e.

2. Place an "X" in front of the following examples of ways to make a good first impression at the job interview.

   _____a. Introduce oneself in a quiet, easy way

   _____b. Be on time

   _____c. Sit erect and avoid signs of nervousness

   _____d. If smoking, offer one to the interviewer

   _____e. Be ready to take an employment test

   _____f. Stand erect

   _____g. Make sure to read anything the interviewer writes down

   _____h. Look pleasant

   _____i. Be careful of one's appearance.

   _____j. Go alone for the interview

3. Circle the letter in front of each of the following which are examples of proper dress and grooming for the interview.

   a. Strongly scented perfume or cologne

   b. Teeth brushed; mouthwash used

   c. Shoes cleaned and polished

   d. Hands and nails clean and in good condition

e. Hair neat, clean, and trimmed

f. Clothing conservative

g. Clothing cleaned and pressed

h. Body clean, odor free, and freshly shaven

4. Place an "X" in front of each of the following which are examples of proper conduct during the job interview.

_____a. Sit down if interviewer is on the phone when entering room

_____b. Be positive

_____c. Try to flatter interviewer

_____d. Leave promptly

_____e. Be sincere and enthusiastic

_____f. Watch for a sign the interview is over

_____g. Be polite and courteous

5. Circle the letter of each item below which is an attitude the employer looks for during the interview.

a. Desire to work alone

b. Alertness and quickness of mind

c. Dedication and dependability

d. Sarcasm and impatience

e. Desire to improve oneself

f. Honesty and integrity

g. Enthusiasm and interest

6. Demonstrate the following:

a. Answer questions the employer might ask.

b. Evaluate one's conduct during the job interview using the check sheet provided in this unit.

c. Write a follow-up letter.

(NOTE: If this has not been accomplished prior to the test, ask the instructor when the above activities should be completed.)

JOB INTERVIEW
UNIT IV

ANSWERS TO TEST

1. a. Call or write for appointment
   b. Learn about the company
   c. Find out name of interviewer
   d. Know the kind of job for which one is applying
   e. Review personal qualifications

2. a
   b
   c
   e
   f
   h
   i
   j

3. b
   c
   d
   e
   f
   g
   h

4. b
   d
   e

f

g

5. b

c

e

f

g

6. Performance skills will be evaluated to the satisfaction of the DE teacher-coordinator.

SOCIAL SECURITY
UNIT V

TERMINAL OBJECTIVE

After completion of this unit, the student should be able to discuss the Social Security Act and ways the Federal Wage and Hour Law applies to the student. He should be able to identify the types of protection he may receive through these laws. This knowledge will be evidenced by a score of eighty-five percent on the unit test.

SPECIFIC OBJECTIVES

After completion of this unit, the student should be able to:

1. List three of the four ways the Federal Wage and Hour Law applies to the training program.
2. Discuss the history of the Social Security Act, when it was passed, what protection it offers, and its major purpose.
3. List the divisions of the Social Security Act.
4. Select from a list the benefits which are paid from Social Security funds.

SOCIAL SECURITY
UNIT V

SUGGESTED ACTIVITIES

I. DE Teacher-Coordinator:

A. Provide students with objective sheet.

B. Provide students with information sheet.

C. Discuss terminal and specific objectives.

D. Discuss information sheet.

E. Give test.

(NOTE: Consult audio visual supplement for suggested films.)

II. Student:

A. Read objective sheet.

B. Study information sheet.

C. Take test.

INSTRUCTIONAL MATERIALS

I. Included in this unit:

A. Objective sheet

B. Information sheet

C. Test

D. Answers to test

II. References:

A. Wage and Hours Public Contract Division. Regional Director, 34D Mayflower Building, 411 North Akard Street, Dallas, Texas 75201.

B. Social Security Administration, U.S. Department of Health, Education, and Welfare. *Your Social Security*. SSI-35. Washington, D.C.: U.S. Government Printing Office, 1971.

C. Social Security Administration, U.S. Department of Health, Education, and Welfare. *Your Social Security--Earnings Record*. SSI-44. Washington, D.C.: Government Printing Office, 1970.

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SOCIAL SECURITY
UNIT V

INFORMATION SHEET

I. Federal Wage and Hour Law

A. Provides minimum wage rate and overtime standards

B. Applies to worker engaged in interstate or foreign commerce or the production of goods for such commerce

C. Students are subject to the law unless exempt by student- learner certificate

D. Principle regulations

1. Age restrictions
2. Minimum wage and overtime pay
3. Hours of work
4. Hazardous occupations
5. Insurance
6. Minimum wage exemptions

(NOTE: If student does not have a Social Security Card, see that he gets one.)

II. Social Security Act

A. Passed in 1935

B. Provided services and protection

1. Payments to elderly
2. Financial compensation to jobless workers during a fixed period of time
3. Aid to needy, blind, aged, and neglected

C. Financed by a payroll tax on both employer and employee.

D. Responsibility of Internal Revenue Service for the collection of payroll taxes

E. Amended in 1938 to include survivors' and dependents' benefits

F. Made necessary by conditions of modern life and our increased dependence on money for income

INFORMATION SHEET

G. Major purpose was to provide protection for old age and periods of unemployment through social insurance

III. Division of the act

A. Retirement

B. Survivors

C. Disability

D. Health

IV. Benefits paid from Social Security funds

A. Monthly retirement benefits--Payable in full at age 65, reduced benefits as early as age 62

B. Monthly survivors benefits are payable to:

1. Widow at 62
2. Unmarried children under 18
3. Children 18 or over if disabled before age 18
4. Widow at any age if she is caring for child under 18
5. Widow as early as age 50 if she has a severe disability
6. Dependent parents 62 or over
7. Dependent widower 62 or over
8. Extended to students going to college

C. Monthly disability benefits--Payable to one before 65 if a severe disability has lasted at least 12 months

D. Medicare--A two part health insurance program for older people

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SOCIAL SECURITY
UNIT V

TEST

1. List three ways the Federal Wage and Hour Law applies to the training program.

   a.

   b.

   c.

2. Discuss the history of the Social Security Act including when it was passed, what protection it offers, and its major purpose.

3. List the divisions of the Social Security Act.

   a.

   b.

   c.

   d.

4. From the following list, select by placing an "X" in front of the item those benefits which are paid by the Social Security Act.

   _____a. Retirement

   _____b. Survivors

   _____c. Unemployment

   _____d. Disability

   _____e. Medicare

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SOCIAL SECURITY
UNIT V

ANSWERS TO TEST

1. Any three of the following:

   a. Provides minimum wage rate and overtime standards

   b. Applies to worker engaged in interstate or foreign commerce or the production of goods for such commerce

   c. Students are subject to the law unless exempt by student-learner certificate

   d. Principle regulations

      1) Age restrictions

      2) Minimum wage and overtime pay

      3) Hours of work

      4) Hazardous occupations

      5) Insurance

      6) Minimum wage exemptions

2. Discussion should include:

   A. Passed in 1935

   B. Provided services and protection

      1) Payments to elderly

      2) Financial compensation to jobless workers during a fixed period of time

      3) Aid to needy, blind, aged, and neglected

   C. Financed by a payroll tax on both employer and employee

   D. Responsibility of Internal Revenue Service for the collection of payroll taxes

   E. Amended in 1938 to include survivors' and dependents' benefits

   F. Made necessary by conditions of modern life and our increased dependence on money for income

   G. Major purpose was to provide protection for old age and periods of unemployment through social insurance

3. a. Retirement
   b. Survivors
   c. Disability
   d. Health

4. a
   b
   d
   e

BUDGETING
UNIT I

TERMINAL OBJECTIVE

After completion of this unit, the student should be able to list his own resources and formulate a plan for making a budget based on his income, expenses, and goals. This knowledge will be evidenced by scoring eighty-five percent on the unit test.

SPECIFIC OBJECTIVES

After completion of this unit, the student should be able to:

1. List four advantages of budgeting.
2. State the three basic steps involved in budgeting.
3. Name five aspects of good money management.
4. List three rules to use in spending money wisely.
5. Construct a budget that fits one's income.

BUDGETING
UNIT I

SUGGESTED ACTIVITIES

I. DE Teacher-Coordinator

A. Provide students with objective sheet.

B. Provide students with information and assignment sheets.

C. Discuss terminal and specific objectives.

D Discuss information and assignment sheets.

E Invite guest speaker to discuss the management of money.

F. Give test.

(NOTE: Consult audio visual supplement for suggested films.)

II. Student:

A. Read objective sheet.

B. Study information sheet.

C. Complete assignment sheet.

D. Take test.

INSTRUCTIONAL MATERIALS

I. Included in this unit:

A. Objective sheet

B. Information sheet

C. Assignment Sheet #1--Construct a Plan for a Budget

D. Test

E. Answers to test

II. References:

A. Kimbrell-Vineyard. *Succeeding in the World of Work*. Bloomington, Illinois: McKnight and McKnight Publishing Company, 1970.

B. Price-Musselman-Hall-Weeks. *General Business for Everyday Living*. Third Edition. Dallas, Texas: Gregg Division, McGraw-Hill Book Company, 1966.

C. *Oklahoma Cooperative Vocational Education Course of Study*. Stillwater, Oklahoma: Oklahoma State Department of Vocational and Technical Education, Curriculum and Instructional Materials Center, 1972.

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BUDGETING
UNIT I

INFORMATION SHEET

I. Advantages of budgeting

A. Helps one live on money earned

B. Eliminates wasteful habits of spending money

C. Helps achieve long-range plans

D. Gives valuable experience and develops competency in money management

II. Basic steps involved in budgeting

A. Estimating income

B. Planning expenses for estimating ways income is to be used

C. Putting the plan into action

III. Good money management

A. Live within income

B. Buy wisely

C. Use things bought properly

D. Set goals

E. Save

IV. Rules to follow to spend money wisely

A. Make a spending plan

1. Buy what one needs and wants

2. Get more for the money

B. Think ahead and decide

1. What is needed now

a. Food

b. Medicine

c. Rent

d. Clothes

INFORMATION SHEET

2. What is needed later

a. Trip

b. Gifts

c. Furniture

C. Try again if one plan does not work

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BUDGETING
UNIT I

ASSIGNMENT SHEET #1--CONSTRUCT A PLAN FOR A BUDGET

Use the following steps as a guide to plan and budget your income.

STEP 1: KNOW YOUR INCOME

a. Under "income from" write down where you get your money.

b. Under "amount" write down how much you get from each place.

c. "Add" all money received and write down after "Total."

1st WEEK

Income from	AMOUNT

Total $

2nd WEEK

Income from	AMOUNT

Total $

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ASSIGNMENT SHEET #1

3rd WEEK

Income from	AMOUNT

Total $

4th WEEK

Income from	AMOUNT

Total $

STEP 2: KNOW YOUR EXPENSES

a. Some expenses, such as food and carfare, come every day and every week.

b. Expenses such as rent, gas, and water come only once a month.

(NOTE: Be sure to include rent, food, carfare, clothes, cleaning, car wash, church, savings, etc.)

LIST YOUR EXPENSES

Everything you must buy and/or pay for this month.

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ASSIGNMENT SHEET #1

What it might cost.

When it must be paid.

STEP 3: SET UP YOUR SPENDING PLAN

a. After "income" write the total amount you get each week as you figured in Step 1.

b. Under "expenses" write the items you will pay for each week as in Step 2.

c. Under "amount planned" write the amount you plan to spend for each item.

d. Under "amount spent" write the amount you did spend for each item.

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ASSIGNMENT SHEET # 1

1st WEEK

Income you will get $_____

Expenses	Amt. Planned	Amt. Spent
	$	$
Total	$_____	$_____

2nd WEEK

Income you will get $_____

Expenses	Amt. Planned	Amt. Spent
	$	$
Total	$_____	$_____

3rd WEEK

Income you will get $_____

Expenses	Amt. Planned	Amt. Spent
	$	$
Total	$_____	$_____

4th WEEK

Income you will get $_____

Expenses	Amt. Planned	Amt. Spent
	$	$
Total	$_____	$_____

At the end of the first week, did the "amount planned" match the "amount spent"?

If it did, you are on your way to managing your money.

Complete the second, third, and fourth weeks--you may have to change your plan.

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BUDGETING
UNIT I

TEST

1. List four advantages of budgeting.

   a.

   b.

   c.

   d.

2. State the three basic steps involved in budgeting.

   a.

   b.

   c.

3. Name five aspects of good money management.

   a.

   b.

   c.

   d.

   e.

4. List three rules to use in spending money wisely.

   a.

   b.

   c.

5. Construct a budget that fits one's income.

   (NOTE: If this has not been accomplished prior to the test, ask the instructor when the above activity should be completed.)

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BUDGETING
UNIT I

ANSWERS TO TEST

1. a. Helps one live on the money earned
   b. Eliminates wasteful habits of spending money
   c. Helps achieve long-range plans
   d. Gives valuable experiences and develops competency in money management
2. a. Estimating income
   b. Planning expenses for estimating ways income is to be used
   c. Putting the plan into action
3. a. Live within income
   b. Buying wisely
   c. Use things bought properly
   d. Set goals
   e. Save
4. a. Make a spending plan
   b. Think ahead and decide
   c. Try again if one plan does not work
5. Evaluated to the satisfaction of DE teacher-coordinator.

CREDIT
UNIT II

TERMINAL OBJECTIVE

After completing this unit, the student should be able to decide for himself when to use credit, to determine the cost of credit, and to tell how the Truth-In-Lending Act affects him. This knowledge will be evidenced by scoring eighty-five percent on the unit test.

SPECIFIC OBJECTIVES

After completion of this unit, the student should be able to:

1. Match credit terms associated with credit to the correct definition.
2. Write four guidelines for buying on credit.
3. List and explain the six 'C's of credit.
4. Name the two basic ways consumer credit can be classified.
5. Name six noninstallment sales credit plans.
6. Calculate the difference in cost of buying on single-payment loan and installment loan.
7. Discuss in writing the Truth-In-Lending Act.

CREDIT
UNIT II

SUGGESTED ACTIVITIES

I. DE Teacher-Coordinator:

A. Provide students with objective sheet.

B. Provide students with information and assignment sheets.

C. Make transparencies.

D. Discuss terminal and specific objectives.

E. Discuss information and assignment sheets.

F. Give test.

II. Student:

A. Read objective sheet.

B. Study information sheet.

C. Complete assignment sheets.

D. Take test.

INSTRUCTIONAL MATERIALS

I. Included in this unit:

A. Objective sheet

B. Information sheet

C. Transparency Master #1--Use Credit Wisely

D. Assignment Sheet #1--Calculate Interest Rates

E. Test

F. Answers to test

II. References:

A. DeBrum-Haines-Malsbary-BCrabbe. *General Business for Economic Understanding.* Tenth Edition. Dallas, Texas: South-Western Publishing Company, 1971.

B. Price-Mussleman-Hall-Weeks. *General Business for Everyday Living.* Third Edition. Dallas, Texas: McGraw-Hill Book Company, Gregg Division, 1966.

C. Kimbrell-Vineyard *Succeeding in the World of Work.* First Edition. Bloomington, Illinois: McKnight and McKnight Publishing Company, 1970.

D. Warmke, Roman F., Eugene D. Wyllie and Beulah E. Sellers. *Consumer Decision Making.* Cincinnati: South-Western Publishing Company, 1972.

E. Wilhelms-Heimerl-Jelley. *Consumer Economics.* Third Edition. Dallas, Texas: McGraw-Hill Book Company, Gregg Division.

F. Warmke-Wyllie-Wilson-Eyster. *Consumer Economic Problems.* Eighth Edition. Dallas, Texas: South-Western Publishing Company.

G. International Consumer Credit Association, 375 Jackson Avenue, St. Louis, Missouri 63130.

H. List of Materials on Money and Banking for Secondary School Teachers, 1970, available from Banking Education Committee, American Bankers Association, 90 Park Avenue, New York, New York, 10016.

CREDIT
UNIT II

INFORMATION SHEET

I. Terms and definitions

A. Bill--A form generally used to show charges for services

B. Budget plan--A type of plan in which a customer makes a purchase and pays for it in equal payments over a period of three months

C. Capacity--The factor in credit that has to do with a customer's ability to earn

D. Character--The factor in credit that has to do with a customer's honesty and probable willingness to pay

E. Conditional sales contract--An agreement whereby the buyer can take possession of the article and use it

F. Credit--A promise to pay at a future time for something of value that is received now

G. Credit card--An identification card which permits a person to obtain goods and/or services on credit

H. Credit memorandum--A form showing the detailed record of returned merchandise

I. Creditor--The person who sells on credit or makes a loan

J. Credit rating--An individual's reputation for paying his debts on time

K. Credit union--A cooperative association which accepts deposits and makes small loans to its members

L. Debtor--One who borrows and promises to pay later

M. Discount--The interest deducted in advance from the total amount borrowed

N. Down payment--An amount of money paid on the purchase price of an item at the time of purchase

O. Endorser--A person who signs a note and is responsible for payment if the original borrower does not pay

P. Finance charge--The amount of money that a merchant charges to cover his cost of handling a particular credit account

INFORMATION SHEET

Q. Installment buying--The method of purchasing merchandise and promising to make weekly, monthly, or sometimes annual payments on it

R. Mortgage--Something of value pledged to insure payment of a loan

S. Open charge account--The method of purchase whereby the seller agrees to let the buyer purchase what he wants during an "open" period and pay in full at the end of the period

T. Proceeds--The net amount of money one receives from a loan; often the discount is subtracted from the principal

U. Promissory note--A written promise to repay borrowed money at a definite time

V. Receipt--A written acknowledgment that money, goods, or services have been received

W. Repossess--The taking back of merchandise that was sold on credit if payments were not made as agreed

X. Retail credit bureau--An organization which keeps records on persons in a community who have done business on credit with local firms

Y. Security--Something of value pledged to insure payment of a loan

Z. Uncollectible account--The amounts owed by credit customers who do not pay their bills

II. Guidelines for using credit

A. Use credit for items which have a higher price than one can afford with one or two paychecks

B. Use credit for goods which have a long useful life

C. Use individual income as a guide on which to base credit

D. Make a large down payment, reduce monthly payments, and lower interest

E. Estimate future income and expense before using credit

F. Avoid temptation in using credit after one item has been paid off

III. The six C's that count for credit (Transparency 1)

A. Character--A sincere attitude for paying bills

B. Capacity--An ability to repay

INFORMATION SHEET

C. Capital--Owning more than one's debt

D. Conditions--Satisfying agreements between the parties

E. Collateral--Possessions set aside as security for debts

F. Common sense--Ability to use credit wisely

(NOTE: "These six C's Count for Credit" might be explained as each of the six C's is important. Use the above definitions together and they make a good credit risk.)

IV. Basic classifications of consumer credit

A. Loan credit

B. Installment credit

V. Noninstallment credit sales plans

A. Open charge account

B. Budget account

C. Revolving charge account

D. Travel plans

E. Bank credit card

F. Teen-age account

VI. Single-payment loan cost

A. Calculated on percentage

B. Interest stated in dollar terms

C. Straight time

D. Formula: Principal x Rate x Time

Example: Bob borrowed $500 from the bank at 5% interest for 24 months

500 x .05 x 2
25 x 2
$50 interest

VII. Installment loan cost

A. Calculated on unpaid balance

B. Calculated each month

C. Increases cost of loan

Example: Bob borrowed $500 and he must pay back $25 a month for 24 months

$500 - $25 x 24
$660 - $500
$160 interest

VIII. Truth-In-Lending Act (a disclosure law)

A. Passed in 1968

B. Affects all businesses which extend credit

C. Discloses annual rate of interest

D. Discloses annual amount of dollars

E. Discloses total number of dollars paid as finance charge

F. Informs of disclosure before signing

ERIC

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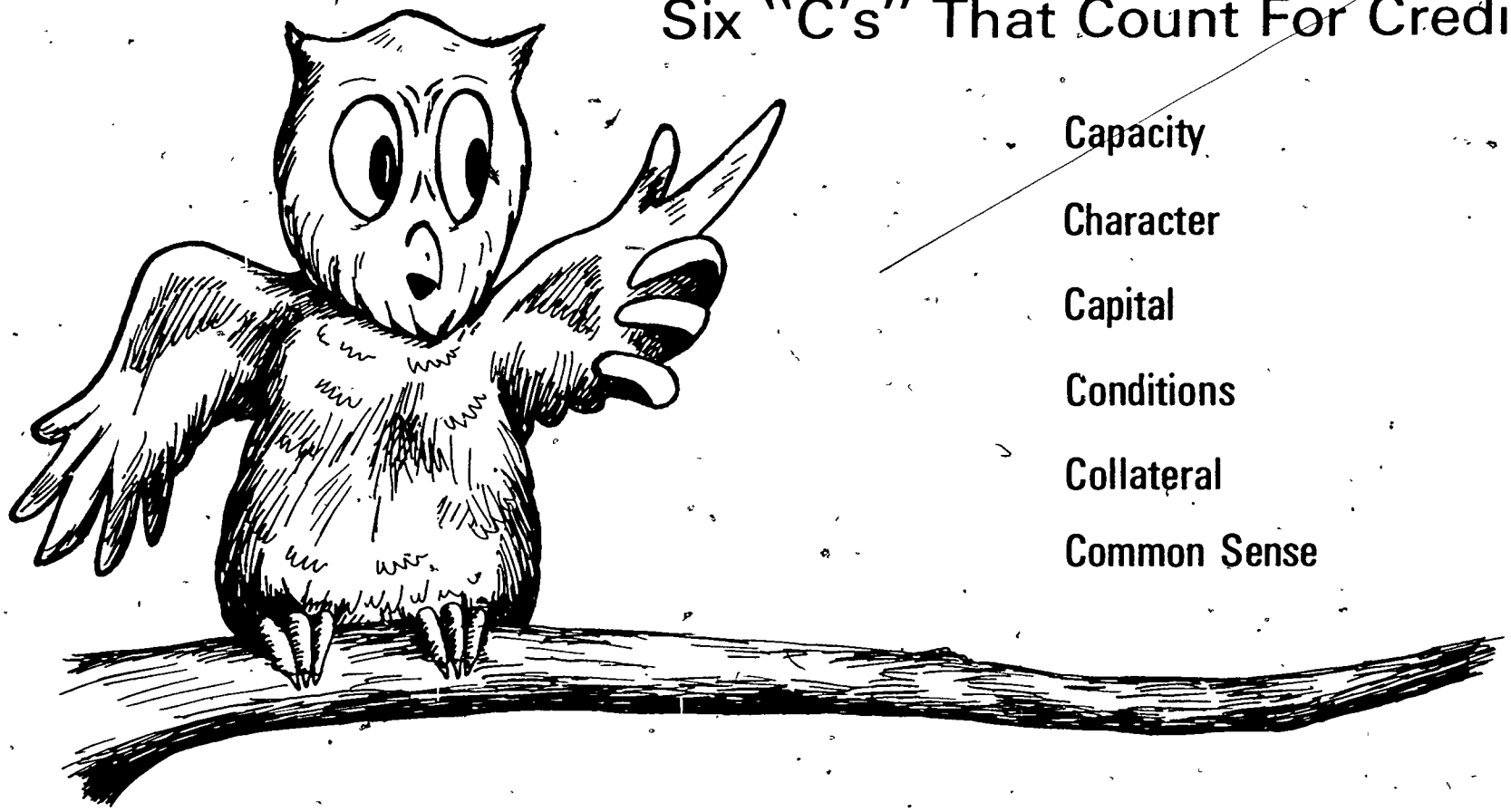
Use Credit Wisely



Six "C's" That Count For Credit

- Capacity
- Character
- Capital
- Conditions
- Collateral
- Common Sense

CREDIT
UNIT II

ASSIGNMENT SHEET #1--CALCULATE INTEREST RATES

1. Calculate the cost of borrowing on single-payment loan in the following problems.

   a. $300 at 6% interest for 20 months

   b. $100 at 6% for 6 months

   c. $500 at 10% interest for 20 months

2. Calculate the cost of borrowing on installment loan in the following problems.

   a. $300 to be paid back at $19.24 per month for 20 months

   b. $100 to be paid back at $18.15 per month for 6 months

   c. $500 to be paid back at $30.92 per month for 20 months

CREDIT
UNIT II

ANSWERS TO ASSIGNMENT SHEET #1

1. a. $30.00

   b. $3.00

   c. $83.33

2. a. $84.80

   b. $8.90

   c. $118.40

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CREDIT
UNIT II

TEST

1. Match the following terms to the correct definition.

_____a. Credit		1.	Something of value, pledged to insure payment of a loan
_____b. Debtor		2.	A promise to pay at a future time for something of value that is received now
_____c. Security		3.	The method of purchase whereby the seller agrees to let the buyer purchase what he wants during an "open" period and pay in full at the end of the period
_____d. Capacity		4.	A form generally used to show charges for services
_____e. Discount		5.	The net amount of money one receives from a loan after the discount is subtracted from the principal
_____f. Finance charge		6.	One who borrows and promises to pay later
_____g. Proceeds		7.	The method of purchasing merchandise and promising to make weekly, monthly, or sometimes annual payments on it
_____h. Open charge account		8.	The factor in credit that has to do with a customer's ability to earn
_____i. Installment buying		9.	The amount of money that a merchant charges to cover his cost of handling a particular credit account
_____j. Bill		10.	The interest deducted in advance from the total amount borrowed

2. Write four guidelines for using credit.

   a.

   b.

   c.

   d.

3. List the six C's and define each in the following phrase: "These six C's Count for Credit."

   a.

   b.

   c.

   d.

   e.

   f.

4. Name the two basic classifications of consumer credit.

   a.

   b.

5. Name six noninstallment sales credit plans.

   a.

   b.

   c.

   d.

   e.

   f.

6. Calculate the difference in the cost of borrowing on

   a. Single-payment loan

   b. Installment loan

   in the following problem:

   > Mr. Bill Right can borrow $150 for 6 months at 10 percent interest and repay the principal and the interest at the end of the 6 months; or he can borrow $150 and repay it in 6 monthly payments of $25 plus the interest.

7. Discuss the Truth-In-Lending Act.

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CREDIT
UNIT II

ANSWERS TO TEST

1. a. 2
   b. 6
   c. 1
   d. 8
   e. 10
   f. 9
   g. 5
   h. 3
   i. 7
   j. 4

2. Any four of the following:
   a. Use credit for items which have a higher price than one can afford to pay with one or two paychecks
   b. Use credit for goods which have a long useful life
   c. Use individual income as a guide on which to base credit
   d. Make a large down payment, reduce monthly payments, and lower interest
   e. Estimate future income and expenses before using credit
   f. Avoid temptation in using credit after one item has been paid off

3. a. Character--A sincere attitude for paying bills
   b. Capacity--An ability to repay
   c. Capital--Owning more than one's debt
   d. Conditions--Satisfying agreements between the parties
   e. Collateral--Possessions set aside as security for debts
   f. Common sense--Ability to use credit wisely

4. a. Loan credit

   b. Installment credit

5. a. Open charge account

   b. Budget account

   c. Revolving charge account

   d. Travel plans

   e. Bank credit card

   f. Teen-age account

6. a. Single-payment loan

   Cost: $7.50

$$\frac{150}{1} \times \frac{10}{100} \times \frac{6}{12} =$$

$$\frac{150}{1} \times \frac{1}{10} \times \frac{1}{2} = \$7.50$$

   b. Installment loan cost: $26.25

7. Discussion should include the following:

   a. Passed in 1968

   b. Affects all businesses which extend credit

   c. Discloses annual rate of interest

   d. Discloses annual amount of dollars

   e. Discloses total number of dollars paid as finance charge

   f. Informs of disclosure before signing

BANKING SERVICES
UNIT III

TERMINAL OBJECTIVE

After completion of this unit, the student should be able to match terms and definitions, name advantages of having a checking account, describe the types of checking accounts, identify the types of endorsements, and demonstrate the ability to use checking account forms. This knowledge should be evidenced through demonstration and by scoring eighty-five percent on the unit test.

SPECIFIC OBJECTIVES

After completion of this unit, the student should be able to:

1. Match ten terms associated with checking accounts with their definitions.
2. Name two advantages of having a checking account.
3. List the two types of checking accounts.
4. Demonstrate the ability to use a checking account by correctly filling out:
   a. A signature card.
   b. Deposit slips.
   c. Check stubs.
   d. Checks.
   e. A bank reconciliation form.
   f. Endorsements of checks when given the type of endorsement.

BANKING SERVICES
UNIT III

SUGGESTED ACTIVITIES

I. DE Teacher-Coordinator:

A. Provide students with objective sheet.

B. Provide students with information and assignment sheets.

C. Discuss terminal and specific objectives.

D. Discuss information and assignment sheets.

E. Invite a guest speaker from a bank.

F. Arrange field trip to a local bank.

1. If a group tour is impossible, perhaps two or three people could make this visit and report to the class.

2. If there is more than one bank in the community, a comparison might be made between their services.

G. Give test.

(NOTE: Consult audio visual supplement for suggested films.)

II. Students:

A. Read objective sheet.

B. Study information sheet.

C. Complete assignment sheets.

D. Take a field trip to a local bank.

E. Take test.

INSTRUCTIONAL MATERIALS

I. Included in this unit:

A. Objective sheet

B. Information sheet

C. Assignment sheets

1. Assignment Sheet #1--Endorsing Checks

2. Assignment Sheet #2--Individual Checking Account

D. Answers to assignment sheets

E. Test

F. Answers to test

II. References:

A. Parsky, Larry M. *Mathematics for Everyday Living, Book VII.* Johnstown, Pennsylvania: Mafex Associates, Inc., Box 519, 1969.

B. Alft, Elmer C. *Your Oklahoma Banks.* Oklahoma City, Oklahoma: Oklahoma Bankers' Association.

III. Optional teaching aids--Pamphlets

A. *Teacher's Guide to Banking*

B. *Student's Guide to Banking*

C. *Using Bank Services*

D. *The Story of American Banking*

E. *Personal Money Management*

(NOTE: The five booklets above are available in quantity through your local commercial banker he will order from Oklahoma Bankers' Association, 643 N.E. 41, Oklahoma City, Oklahoma 73102.)

F. *Know Your Money,* Treasury Department, U.S. Secret Service.

(NOTE: For sale by the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402.)

G. *4000 Years of Banking,* The National Cash Register Company, Dayton, Ohio.

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BANKING SERVICES
UNIT III

INFORMATION SHEET

I. Terms and definitions

A. Account--A record of all financial transactions and the dates; shows the current balance

B. Account number--Numerical identification given to a bank account

C. Balance--Amount of money in a checking account

D. Bank statement--Bank's record of deposits made and checks drawn (cashed) against the checking account

E. Check--Written order presented to a person's bank to pay money to someone else

F. Checking account--An account where a depositor may write checks against money on deposit in the account

G. Currency--Paper money

H. Deposit--To put money into a checking account

I. Endorse--Payee puts his signature on the back of the check so he can cash it

J. Endorsement--Payee's signature on the back of the check

K. Payee--Person, firm, or organization to whom the check is made out

L. Service charge--Cost charged by the bank for maintaining the checking account

M. Abbreviated date--The month is written either as a word abbreviation or a number abbreviation

II. Advantages of having a checking account

A. Money can be lost or stolen, but a check can have payment stopped

B. Bills can be paid by mail

C. A check can be written for any amount of money in the checking account

D. Canceled checks serve as proof of payment

E. Checks can only be cashed when properly endorsed

INFORMATION SHEET

III. Types of checking accounts

A. Individual

1. Only one person can legally write checks
2. Usually used by single people

B. Joint

1. Two or more persons can legally write checks
2. Most common with married people

IV. Signature card

A. Must be filled before you open a checking account

B. Procedure

1. Print full name on line 1
2. Print address on line 2
3. Print name of the place where you work on the first part of line 3
4. Write signature on the second part of line 3; same signature should be used in writing all checks
5. If opening a joint account, the other person must print his place of employment and write his signature on line 4
6. Print name and address on lines 5, 6, 7, and 8 the way you want your name and address to appear on all checks, if you want specially printed checks

Example:

ACCOUNT NUMBER 0031-2555-1

(1) NAME Doe, Robert A. Doe, Martha J.

(2) ADDRESS 1456 West Bryan, Big Town, Oklahoma 12345

	EMPLOYMENT	SIGNATURE
(3)	Machine Tool Co. 15 North St., Big Town, Okla.	X Robert A. Doe
(4)	Smith Variety Store 4207 Main St., Big Town, Okla.	X Martha J. Doe

ACCOUNT CAPTION AND ADDRESS

(5) 5. Robert A. Doe

(6) 6. Martha J. Doe

(7) 7. 1456 West Bryan

(8) 8. Big Town, Okla. 12345

The First National Bank authorizes to recognize the above signature (s) in payment of funds or transactions or other business.

INFORMATION SHEET

V. Deposit slip

A. Fill out in order to put cash or checks in checking account

B. Procedure

1. Print full name on line 1
2. Print address on line 2
3. Print account number on line 3 (assigned by the bank)
4. Print the date on line 4
5. Put the amount of paper money where "currency" is printed
6. Put the amount of cents where "coin" is printed
7. List each check separately on the lines where "checks" is printed
8. Add the total amount of money deposited (currency, coin, and checks) and place this answer on line 8
9. If the bank teller is to give you back some money, he must list this amount of money on line 9
10. To get the total of the deposit, the teller must subtract the amount on line 5 from line 4 and write the total deposit on line 10

Example:

Deposit To The Account Of

(1) Robert A. Doe (NAME)

(2) 1456 West Bryan, Big Town, Okla. (ADDRESS)

(3) ACCOUNT NUMBER 0031-2555-1

(4) Date Aug. 21 197

Checks and other items are received for deposit subject to the terms and conditions of this bank's collection agreement

DEPOSITED IN
FIRST NATIONAL BANK
Detroit, Michigan

	DOLLARS	CENTS	
CURRENCY	48	00	(5)
COIN		75	(6)
CHECKS	286	24	(7)
TOTAL OF ABOVE ITEMS	334	99	(8)
LESS CASH RECEIVED	—	—	(9)
AMOUNT OF DEPOSIT	334	99	(10)

VI. Check stub

A. One's record of money deposited or spent

B. Should be filled out before the check is written

INFORMATION SHEET

C. Procedure

1. Write the check number and the amount of the check on the top line
2. Write the date
3. Write the name of the person or company (payee) to whom the check is written
4. Write the purpose of the payment
5. Enter the balance of the checking account("Balance Carried Forward" from the previous check stub) after the printed "Balance Brought Forward"
6. If a deposit was made, enter the amount after "Amount Deposited"
7. To get total, add "Amount Deposited" to "Balance Brought Forward"
8. Enter the amount for the check after "Amount This Check"
9. To get "Balance Carried Forward" subtract "Amount This Check" from the "Total".

Example:

No. 101	$120	00/100	(1)
June 1, 19--			(2)
To Imperial Apartments			(3)
For rent			(4)
Bal. Brought Forward	-	-	(5)
Amount Deposited	189	00	(6)
Total	189	00	(7)
Am't. This Check	120	00	(8)
Bal. Carried Forward	69	00	(9)

INFORMATION SHEET

VII. Check

A. Fill out, sign, and remove from the stub

B. Use ink, write legibly, and do not mark over

(NOTE: If you make a mistake, tear up the check and start over void that stub.)

C. Procedure

1. Number your checks in order

   a. Helps keep them in order

   b. Helps identify lost or stolen checks

2. Write the date; this should be the date the check is written

3. Write the name of the payee after the printed words, "Pay to the Order of"

4. Write the numerical amount close to the dollar sign

5. Write the amount in words beginning as far to the left as possible

   (NOTE: The numerical amount and the amount in words must be the same.)

6. Write your legal signature at the bottom right of the check

   (NOTE: This signature must be the same as the one written on the signature card.)

Example:

No. 102	$169.74/100	FIRST NATIONAL BANK No. 102	(1)
June 10, 19--		June 10 19--	(2)
To State Insur. Co			(3)
For Car insurance		PAY TO THE ORDER OF State Insurance Company $169.74/100	(4)
Bal. Brought Forward	69.00	One hundred sixty-nine and 74/100 DOLLARS	(5)
Amount Deposited	240.93	Robert A. Sammuels Rita Sammuels	
Total	309.93		
Am't. This Check	169.74		
Bal. Carried Forward	140.19	Account No. 0031-2555-1 Robert A Sammuels	(6)

INFORMATION SHEET

VIII. Reconciling the bank statement

A. Bank statement sent out each month with the canceled checks paid during that month

B. Should be compared with your records

C. Procedure

1. Arrange canceled checks in numerical order--101, 102, 103, etc.

2. Match each check with the check stub

   a. Compare the amount on the check with the amount on the check stub to make sure they are the same

   b. Place a check mark on each stub that has a canceled check

3. Stubs without checks mean that the bank has not received the checks yet

   a. These are called "outstanding" checks

   b. List and total these on the bank reconciliation form

4. If all deposits were not shown on the statement, total these and write this total on the bank reconciliation form

5. Write down on the bank reconciliation the check stub balance from the last check stub

6. Follow the procedures outlined on the bank reconciliation form

7. The "corrected check stub balance" and the "corrected bank statement balance" on the bank reconciliation form should be the same amount

(NOTE: If these two amounts are not the same and your computation is correct, then the bank should be notified immediately to check for an error in their records.)

Example:

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INFORMATION SHEET

EXAMPLE:

BANK STATEMENT

FIRST NATIONAL BANK
Detroit, Michigan 48226

Mr. and Mrs. Allan R. Sweet
2131 Brooks Road
Hunnington Woods, Michigan

ACCOUNT NUMBER
0031-2211-6
STATEMENT PERIOD
5-1-69 · 5-31-69

NUMBER	
2	8
Deposits	Checks

Previous Balance	− Deposits	− Checks	− Service Charge	= Present Balance
$.00	$303.25	$257.31	$.80	$45.14

PLEASE EXAMINE AT ONCE REPORT ANY ERROR DIRECTLY TO OUR AUDITOR WITHIN FIVE (5) DAYS.

BANK RECONCILIATION FORM

I CHECK STUB BALANCE	$ 45 94	
A Less Service Charge	$ .80	
B Corrected Check Stub Balance (Subtract Service Charge From The Check Stub Balance)		$ 45 14
II BANK STATEMENT BALANCE	$ 45 14	
A Total Outstanding Deposits	$ 00	
B (Add Outstanding Deposits To Bank Statement Balance)	$ 45 14	
C Less Outstanding Checks		
No ____ $ ____		
No ____ $ ____		
No ____ $ ____		
Total Outstanding Checks	$ 00	
D. Corrected Bank Statement Balance (Subtract Total Outstanding Check Total From Answer B)		$ 45 14

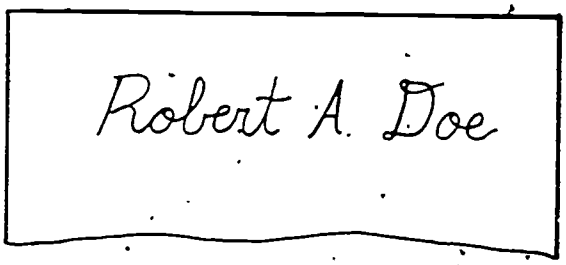
INFORMATION SHEET

IX. Types of endorsements

A. Blank endorsement

1. Payee signs his signature on the top of the back of the check
2. If lost, the check could be cashed by the finder just by adding his endorsement

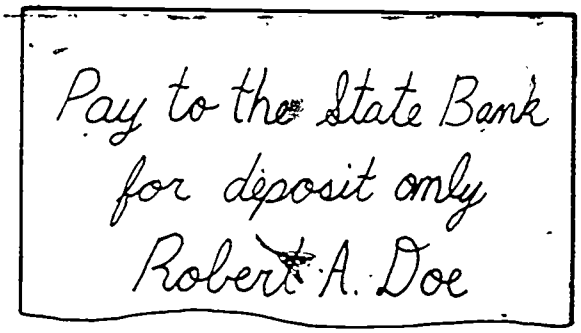
Example:



B. Restrictive endorsement

1. Made when a check is to be deposited into an account
2. Write at the top of the back of the check "Pay to the (name of the bank) for deposit only" and then sign name
3. If lost, no one can cash this check because it can only be deposited into the payee's account

Example:

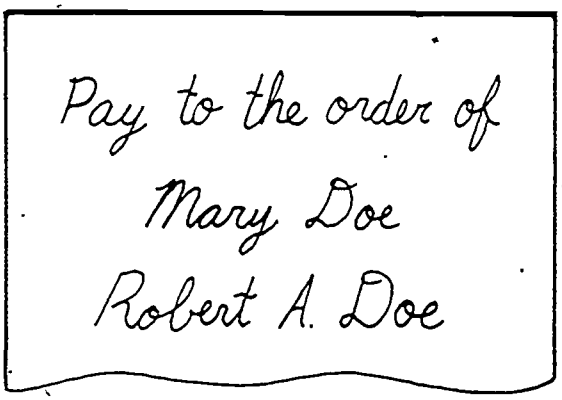


INFORMATION SHEET

C. Full endorsement

1. Payment of the check is made only to a specific person or company
2. If lost, the check cannot be cashed by the finder
3. Write at the top of the back of the check "Pay to the order of (name of person or company)" and sign name

Example:



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BANKING SERVICES
UNIT III

ASSIGNMENT SHEET #1--ENDORSING CHECKS

1. In the blank under each endorsement below, write the kind of endorsement shown. (Blank, restrictive, or full)

Martha Doe

A. _____

Pay to the order of
First National Bank
for deposit only
Marvin Cantrell

B. _____

Pay to the order of
Jean Smith
Glen Hall

C. _____

Pay to the order of
Harris Drug
Casper Payne

D. _____

Pay to the order of
Carter Electric Co.
Connie Day

E. _____

Robert Doe

F. _____

Pay to the Federal
Savings and Loan
For deposit only
C. Flowers

G. _____

Pay to the order of
John Edwards
Ellis Matthews

H. _____

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ASSIGNMENT SHEET #1

2. Endorse the checks below as indicated and in the space under each check write the kind of endorsement.

   a. Pay to the City Bank for deposit only, Paul Price

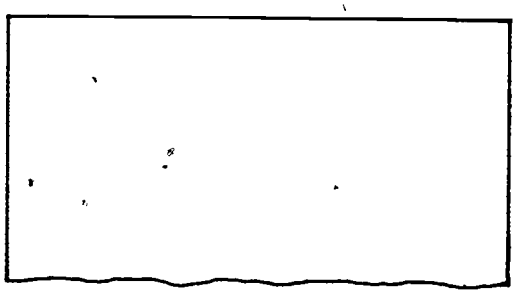
   b. Pay to the order of Sam Coffey, Charles Hughes

   c. Jack L. Brown

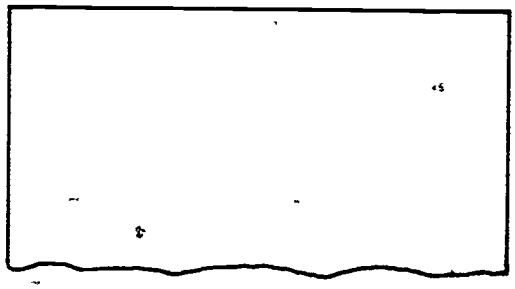
   d. Pay to the order of Best's Department Store, Bob L. Alexander

   e. Pay to the National Savings and Loan Association for deposit only, Howard Kirk

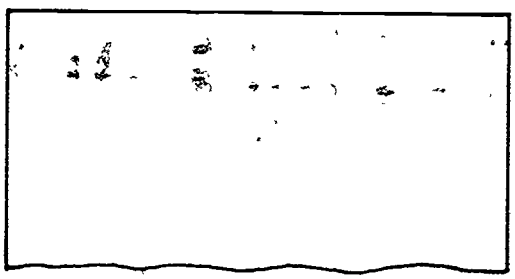
   f. Mary Hunter



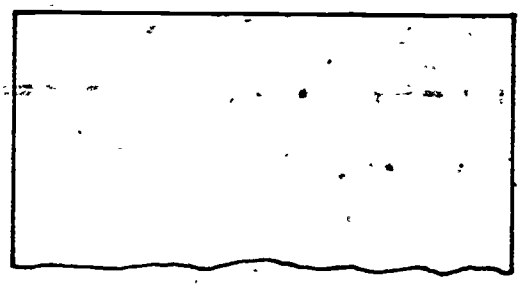
A. _____



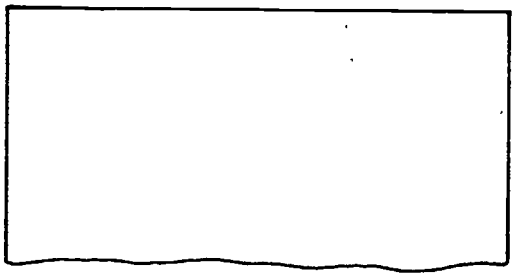
B. _____



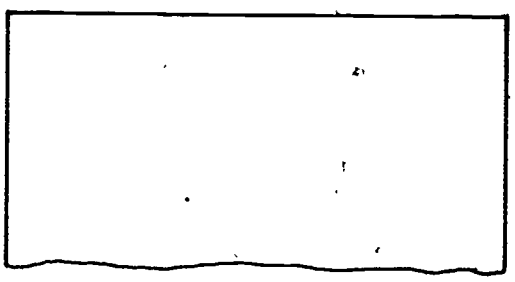
C. _____



D. _____



E. _____



F. _____

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BANKING SERVICES
UNIT III

ASSIGNMENT SHEET #2--INDIVIDUAL CHECKING ACCOUNT

1. Gary Jones wants to open an individual checking account. Use the following information to fill out a signature card:

   NAME: Gary M. Jones

   ADDRESS: 12 Pryor Drive, Elkburg, Oklahoma 43210

   PLACE OF EMPLOYMENT: Harry's Auto Sales, 1114 West Seventh, Elkburg, Oklahoma 43210

   ACCOUNT NO.: 1002-4444-7

2. Fill out the necessary forms deposit slips, check stubs, and checks for Mr. Jones as follows:

   a. On October 1, 197_, Gary M. Jones deposited $15.00 in currency, $.43 in coin, and checks for $102.14 and $12.52.

   b. Mr. Jones wrote a check for $75.50 for a car payment to Westwood Loan Company on October 1, 197_. This is check no. 101.

   c. Dr. Ralph Lewis received a check for $15.00 for an office call on October 2, 197_.

   d. On October 5, 197_, Mr. Jones wrote a check to Smith's Garage for car repair in the amount of $20.75.

   e. On October 8, 197_, Mr. Jones deposited $10.00 in currency and a check for $103.52.

   f. Mr. Jones wrote a check to Federal Oil Company for $13.96 for payment of bill on October 9, 197_.

   g. On October 12, 197_, Mr. Jones wrote a check to Glen's Service Station for an oil and filter change. The check was for $7.75.

   h. Mr. Jones bought a coat from Black's Men's Wear on October 14, 197_. He wrote a check for $29.95.

   i. On October 15, 197_, Mr. Jones wrote a check to Flynn's Department Store for $32.12. He bought some shirts.

   j. Mr. Jones had to have new lenses for his eye glasses on October 20, 197_, he wrote a check to Oklahoma Optical Company for $24.00 for these lenses.

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ASSIGNMENT SHEET #2

ACCOUNT NUMBER	
NAME	
ADDRESS	
EMPLOYMENT	SIGNATURE X
EMPLOYMENT	SIGNATURE X

ACCOUNT CAPTION AND ADDRESS

5. _____
6. _____
7. _____
8. _____

The First National Bank authorizes to recognize the above signature (s) in payment of funds or transactions or other business.

Deposit To The Account Of

_____ (NAME)

_____ (ADDRESS)

ACCOUNT NUMBER

Date 19

Checks and other items are received for deposit subject to the terms and conditions of this bank's collection agreement

DEPOSITED IN
FIRST NATIONAL BANK
Detroit, Michigan

	DOLLARS	CENTS
CURRENCY		
COIN		
CHECKS		
TOTAL OF ABOVE ITEMS		
LESS CASH RECEIVED		
AMOUNT OF DEPOSIT		

Deposit To The Account Of

_____ (NAME)

_____ (ADDRESS)

ACCOUNT NUMBER

Date 19

Checks and other items are received for deposit subject to the terms and conditions of this bank's collection agreement

DEPOSITED IN
FIRST NATIONAL BANK
Detroit, Michigan

	DOLLARS	CENTS
CURRENCY		
COIN		
CHECKS		
TOTAL OF ABOVE ITEMS		
LESS CASH RECEIVED		
AMOUNT OF DEPOSIT		

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ASSIGNMENT SHEET #2

NO. ____ $ ____ DATE ____ 19__ TO ____ FOR ____ BAL. BRO'T FOR'D AMT. DEPOSITED TOTAL AMT. THIS CHECK BAL. CARR'D FOR'D	DOLLARS / CENTS	BOULDER BANK and Trust Company TULSA, OKLA. ____ 19__ PAY TO THE ORDER OF ____ $ ____ ____ DOLLARS SAMPLE ⑆106 2⑈ 1 26 3⑆	NO. ____ 86-1263 / 1062
NO. ____ $ ____ DATE ____ 19__ TO ____ FOR ____ BAL. BRO'T FOR'D AMT. DEPOSITED TOTAL AMT. THIS CHECK BAL. CARR'D FOR'D	DOLLARS / CENTS	BOULDER BANK and Trust Company TULSA, OKLA. ____ 19__ PAY TO THE ORDER OF ____ $ ____ ____ DOLLARS SAMPLE ⑆106 2⑈ 1 26 3⑆	NO. ____ 86-1263 / 1062
NO. ____ $ ____ DATE ____ 19__ TO ____ FOR ____ BAL. BRO'T FOR'D AMT. DEPOSITED TOTAL AMT. THIS CHECK BAL. CARR'D FOR'D	DOLLARS / CENTS	BOULDER BANK and Trust Company TULSA, OKLA. ____ 19__ PAY TO THE ORDER OF ____ $ ____ ____ DOLLARS SAMPLE ⑆106 2⑈ 1 26 3⑆	NO. ____ 86-1263 / 1062
NO. ____ $ ____ DATE ____ 19__ TO ____ FOR ____ BAL. BRO'T FOR'D AMT. DEPOSITED TOTAL AMT. THIS CHECK BAL. CARR'D FOR'D	DOLLARS / CENTS	BOULDER BANK and Trust Company TULSA, OKLA. ____ 19__ PAY TO THE ORDER OF ____ $ ____ ____ DOLLARS SAMPLE ⑆106 2⑈ 1 26 3⑆	NO. ____ 86-1263 / 1062

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ASSIGNMENT SHEET #2

NO ____ $ ____ DATE ____ 19__ TO ____ FOR ____ BAL BRO'T FOR'D AMT DEPOSITED TOTAL AMT THIS CHECK BAL CAR'D FOR'D	DOLLARS / CENTS	BOULDER BANK and Trust Company TULSA, OKLA. ____ 19__	NO ____ 86-1263 / 1062 PAY TO THE ORDER OF ____ $ ____ ____ DOLLARS ⑆106211263⑆
NO ____ $ ____ DATE ____ 19__ TO ____ FOR ____ BAL BRO'T FOR'D AMT DEPOSITED TOTAL AMT THIS CHECK BAL CAR'D FOR'D	DOLLARS / CENTS	BOULDER BANK and Trust Company TULSA, OKLA. ____ 19__	NO ____ 86-1263 / 1062 PAY TO THE ORDER OF ____ $ ____ ____ DOLLARS ⑆106211263⑆
NO ____ $ ____ DATE ____ 19__ TO ____ FOR ____ BAL BRO'T FOR'D AMT DEPOSITED TOTAL AMT THIS CHECK BAL CAR'D FOR'D	DOLLARS / CENTS	BOULDER BANK and Trust Company TULSA, OKLA. ____ 19__	NO ____ 86-1263 / 1062 PAY TO THE ORDER OF ____ $ ____ ____ DOLLARS ⑆106211263⑆
NO ____ $ ____ DATE ____ 19__ TO ____ FOR ____ BAL BRO'T FOR'D AMT DEPOSITED TOTAL AMT THIS CHECK BAL CAR'D FOR'D	DOLLARS / CENTS	BOULDER BANK and Trust Company TULSA, OKLA. ____ 19__	NO ____ 86-1263 / 1062 PAY TO THE ORDER OF ____ $ ____ ____ DOLLARS ⑆106211263⑆

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ASSIGNMENT SHEET #2

3. Mr. Jones received this bank statement. Reconcile his check stub balance with the bank statement balance on the bank reconciliation form.

(NOTE: Use information from part 1 and 2 of Assignment Sheet #2.)

BANK STATEMENT

FIRST NATIONAL BANK

Mr. Gary M. Jones
12 Pryor Drive
Elkburg, Oklahoma 43210

ACCOUNT NUMBER
1002-4444-7
STATEMENT PERIOD
10-1-7_ - 10-31-7_

NUMBER	
2	7
Deposits	Checks

Previous Balance	+ Deposits	− Checks	− Service Charge	= Present Balance
$.00	$243.61	$219.03	$.50	$24.08

PLEASE EXAMINE AT ONCE. REPORT ANY ERROR DIRECTLY TO OUR AUDITOR WITHIN FIVE (5) DAYS.

BANK RECONCILIATION FORM

I. CHECK STUB BALANCE $_____

A. Less Service Charge $_____

B. Corrected Check Stub Balance (Subtract Service Charge From The Check Stub Balance.) $_____

II. BANK STATEMENT BALANCE $_____

A. Total Outstanding Deposits $_____

B. (Add Outstanding Deposits To Bank Statement Balance.) $_____

C. Less Outstanding Checks:

No._____ $_____

No._____ $_____

No._____ $_____

Total Outstanding Checks $_____

D. Corrected Bank Statement Balance (Subtract Total Outstanding Check Total From Answer B). $_____

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BANKING SERVICES
UNIT III

ANSWERS TO ASSIGNMENT SHEETS

Assignment Sheet # 1

1. a. Blank
   b. Restrictive
   c. Full
   d. Full
   e. Full
   f. Blank
   g. Restrictive
   h. Full
2. a. Restrictive
   b. Full
   c. Blank
   d. Full
   e. Restrictive
   f. Blank

Assignment Sheet # 2

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1.

ACCOUNT NUMBER 1002-4444-7

NAME Gary M. Jones

ADDRESS 12 Pryor Drive, Elkberg Oklahoma 43210

EMPLOYMENT	SIGNATURE
Harrys Auto Sales	X Gary M. Jones
EMPLOYMENT	SIGNATURE
	X

ACCOUNT CAPTION AND ADDRESS

5. _____

6. _____

7. _____

8. _____

The First National Bank authorizes to recognize the above signature (s) in payment of funds or transactions or other business.

2.

Deposit To The Account Of

Gary M. Jones
(NAME)

12 Pryor Dr Elkberg, Oklahoma 43210
(ADDRESS)

ACCOUNT NUMBER 1002-4444-7

Date October 1 19 7

Checks and other items are received for deposit subject to the terms and conditions of this bank's collection agreement

DEPOSITED IN
FIRST NATIONAL BANK
Detroit, Michigan

	DOLLARS	CENTS
CURRENCY	15	00
COIN		43
CHECKS	114	66
TOTAL OF ABOVE ITEMS	130	09
LESS CASH RECEIVED		
AMOUNT OF DEPOSIT	130	09

Deposit To The Account Of

Gary M. Jones
(NAME)

12 Pryor Drive Elkberg, Oklahoma 43210
(ADDRESS)

ACCOUNT NUMBER 1002-4444-7

Date October 8 19 7

Checks and other items are received for deposit subject to the terms and conditions of this bank's collection agreement

DEPOSITED IN
FIRST NATIONAL BANK
Detroit, Michigan

	DOLLARS	CENTS
CURRENCY	10	00
COIN		
CHECKS	103	52
TOTAL OF ABOVE ITEMS		
LESS CASH RECEIVED	113	52
AMOUNT OF DEPOSIT	113	52

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No 101 $ 75 50
DATE Oct 1 19 7
TO Heatwood Loan Co.
FOR Car Payment

	DOLLARS	CENTS
BAL BROT FORD		00
AMT DEPOSITED	130	09
TOTAL	130	09
AMT THIS CHECK	75	50
BAL CARD FORD	54	59

BOULDER BANK and Trust Company TULSA, OKLA

No 101
Oct 1 19 7 86-1263 / 1062

PAY TO THE ORDER OF Heatwood Loan Company $ 75.50

Seventy-five and 50/100 DOLLARS

Gary M. Jones

⑆106211263⑆

No 102 $ 15.00
DATE Oct 2 19 7
TO Dr Ralph Lewis
FOR Office Call

	DOLLARS	CENTS
BAL BROT FORD	54	59
AMT DEPOSITED		
TOTAL	54	59
AMT THIS CHECK	15	00
BAL CARD FORD	39	59

BOULDER BANK and Trust Company TULSA, OKLA

No 102
Oct. 2 19 71 86-1263 / 1062

PAY TO THE ORDER OF Dr Ralph Lewis $ 15.00

Fifteen and no/100 DOLLARS

Gary M. Jones

⑆106211263⑆

No 103 $ 20.75
DATE Oct 5 19 7
TO Smith's Garage
FOR Car Repair

	DOLLARS	CENTS
BAL BROT FORD	39	59
AMT DEPOSITED		
TOTAL	39	59
AMT THIS CHECK	20	75
BAL CARD FORD	18	84

BOULDER BANK and Trust Company TULSA, OKLA

No 103
Oct. 5 19 7 86-1263 / 1062

PAY TO THE ORDER OF Smith's Garage $ 20.75

Twenty and 75/100 DOLLARS

Gary M. Jones

⑆106211263⑆

No 104 $ 13.96
DATE Oct. 9 19 7
TO Federal Oil Company
FOR Gas

	DOLLARS	CENTS
BAL BROT FORD	18	84
AMT DEPOSITED	113	52
TOTAL	132	36
AMT THIS CHECK	13	96
BAL CARD FORD	118	40

BOULDER BANK and Trust Company TULSA, OKLA

No 104
Oct. 9 19 7 86-1263 / 1062

PAY TO THE ORDER OF Federal Oil Company $ 13.96

Thirteen and 96/100 DOLLARS

Gary M. Jones

⑆106211263⑆

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NO 105 $ 7.75			
DATE Oct 12 19 7			
TO Glen's Service Station			
FOR Oil Change			
	DOLLARS	CENTS	
BAL BRO'T FORD	118	40	
AMT DEPOSITED			
TOTAL	118	40	
AMT THIS CHECK	7	75	
BAL CARD FORD	110	65	

BOULDER BANK and Trust Company TULSA, OKLA

NO 105

Oct. 12 19 7 86-1263 / 1062

PAY TO THE ORDER OF Glen's Service Station $ 7.75

Seven and 75/100 DOLLARS

Gary M. Jones

⑆106 2⑈ 1 26 3⑆

NO 106 $ 29.95			
DATE Oct 14 19 7			
TO Black's Men's Wear			
FOR Coat			
	DOLLARS	CENTS	
BAL BRO'T FORD	110	65	
AMT DEPOSITED			
TOTAL	110	65	
AMT THIS CHECK	29	95	
BAL CARD FORD	80	70	

BOULDER BANK and Trust Company TULSA, OKLA

NO 106

Oct. 14 19 7 86-1263 / 1062

PAY TO THE ORDER OF Black's Men's Wear $ 29.95

Twenty-nine and 95/100 DOLLARS

Gary M. Jones

⑆106 2⑈ 1 26 3⑆

NO 107 $ 32.12			
DATE Oct 15 19 7			
TO Glynn's Dept Store			
FOR Shirts			
	DOLLARS	CENTS	
BAL BRO'T FORD	80	70	
AMT DEPOSITED			
TOTAL	80	70	
AMT THIS CHECK	32	12	
BAL CARD FORD	48	58	

BOULDER BANK and Trust Company TULSA OKLA

NO 107

Oct. 15 19 7 86-1263 / 1062

PAY TO THE ORDER OF Glynn's Department Store $ 32.12

Thirty-two and 12/100 DOLLARS

Gary M Jones

⑆106 2⑈ 1 26 3⑆

NO 108 $ 24.00			
DATE Oct. 20 19 7			
TO Okla. Optical Company			
FOR Glasses			
	DOLLARS	CENTS	
BAL BRO'T FORD	48	58	
AMT DEPOSITED			
TOTAL	48	58	
AMT THIS CHECK	24	00	
BAL CARD FORD	24	58	

BOULDER BANK and Trust Company TULSA OKLA

NO 108

Oct. 20 19 7 86-1263 / 1062

PAY TO THE ORDER OF Oklahoma Optical Company $ 24.00

Twenty-four and 00/100 DOLLARS

Gary M. Jones

⑆106 2⑈ 1 26 3⑆

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3.

BANK STATEMENT

FIRST NATIONAL BANK

Mr. Gary M. Jones
12 Pryor Drive
Elkburg, Oklahoma 43210

ACCOUNT NUMBER
1002-4444-7
STATEMENT PERIOD
10-1-7_ - 10-31-7_

NUMBER	
2	7
Deposits	Checks

Previous Balance	Deposits	Checks	Service Charge	Present Balance
$.00	$243.61	$219.03	$.50	$24.08

PLEASE EXAMINE AT ONCE REPORT ANY ERROR DIRECTLY TO OUR AUDITOR WITHIN FIVE (5) DAYS

BANK RECONCILIATION FORM

I	CHECK STUB BALANCE	$ 24.58	
	A Less Service Charge	$ .50	
	B Corrected Check Stub Balance (Subtract Service Charge From The Check Stub Balance)		$ 24.08
II	BANK STATEMENT BALANCE	$ 24.08	
	A. Total Outstanding Deposits	$ .00	
	B. (Add Outstanding Deposits To Bank Statement Balance)	$ .00	
	C Less Outstanding Checks		
	No.____ $____		
	No.____ $____		
	No.____ $____		
	Total Outstanding Checks	$ .00	
	D. Corrected Bank Statement Balance (Subtract Total Outstanding Check Total From Answer B)		$ 24.08

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BANKING SERVICES
UNIT III

TEST

1. Match these terms to the correct definition. Write the number of the correct definition in the blank.

_____a. Account	1. An account where a depositor may write checks against money on deposit in the account
_____b. Account number	2. Cost charged by the bank for maintaining the checking account
_____c. Balance	3. To put money into a checking account
_____d. Bank statement	4. Amount of money in a checking account
_____e. Check	5. Numerical identification given to a bank account
_____f. Checking account	6. Payee's signature on the back of the check
_____g. Deposit	7. A record of all financial transactions and the dates; shows the current balance
_____h. Endorse	8. Bank's record of deposits made and checks drawn (cashed) against the checking account
_____i. Endorsement	9. Payee puts his signature on the back of the check so he can cash it
_____j. Service charge	10. Written order presented to a person's bank to pay money to someone else

2. Name two advantages of having a checking account.

   a.

   b.

3. List the two types of checking accounts.

   a.

   b.

4. Demonstrate the ability to use a checking account by correctly filling out:

   a. A signature card.

   b. Deposit slips.

   c. Check stubs.

   d. Checks.

   e. A bank reconciliation form.

   f. Endorsements of checks when given the type of endorsement.

   (NOTE: This is to be completed prior to the test by using Assignment Sheets #1 and #2.)

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BANKING SERVICES
UNIT III

ANSWERS TO TEST

1. a. 7
   b. 5
   c. 4
   d. 8
   e. 10
   f. 1
   g. 3
   h. 9
   i. 6
   j. 2

2. Any two of the following:
   a. Money can be lost or stolen, but a check can have payment stopped
   b. Bills can be paid by mail
   c. A check can be written for any amount of money in the checking account
   d. Canceled checks serve as proof of payment
   e. Checks can only be cashed when properly endorsed

3. a. Individual account
   b. Joint account

4. Performance skills will be evaluated to the satisfaction of DE teacher-coordinator.

GENERAL INSURANCE
UNIT IV

TERMINAL OBJECTIVE

After completion of this unit, the student should be able to discuss in writing general information concerning types of insurance. He should also be able to discuss the different types of automobile insurance available and additional coverage available. Knowledge of this information will be evidenced by a score of eighty-five percent on the unit test.

SPECIFIC OBJECTIVES

After completion of this unit, the student should be able to:

1. Match terms associated with insurance to the correct definition.
2. List two common types of insurance.
3. Select from a list those items that are basic concepts of insurance.
4. Name two types of life insurance.
5. List the three standard types of protection in automobile insurance.
6. Select from a list those items that are true of automobile insurance.
7. Name the six basic coverages under standard automobile insurance.
8. Select from a list facts about liability insurance.
9. Select from a list those items that deal with collision automobile insurance.
10. Select from a list those items that deal with comprehensive automobile insurance.
11. List three facts about uninsured motorist insurance.
12. List three of the four facts about classification of drivers.
13. List three ways to save on automobile insurance.

GENERAL INSURANCE
UNIT IV

SUGGESTED ACTIVITIES

I. DE Teacher-Coordinator:

A. Provide students with objective sheet.

B. Provide students with information sheet.

C. Discuss terminal and specific objectives.

D. Discuss information sheet.

E. Have guest speaker on insurance.

F. Give test.

(NOTE: Consult audio visual supplement for suggested film.)

II. Student

A. Read objective sheet.

B. Study information sheet.

C. Take test.

INSTRUCTIONAL MATERIALS

I. Included in this unit:

A. Objective sheet

B. Information sheet

C. Test

D. Answers to test

II. References:

A. *Oklahoma Cooperative Vocational Education Course of Study*. Stillwater, Oklahoma: State Department of Vocational and Technical Education, Curriculum and Instructional Materials Center, 1972.

B. *A Teacher's Guide for Insurance: A Business and Office Curriculum Project.* Department of Vocational Education, Colorado State University, Fort Collins, Colorado, 1971.

C. *1972 Life Insurance Fact Book.* Institute of Life Insurancee, 277 Park Avenue, New York, New York, 1971.

D. Huebner-Block-Cline. *Property and Liability Insurance.* Seventh Edition. New York: Appleton-Century-Crofts, 1968.

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GENERAL INSURANCE
UNIT IV

INFORMATION SHEET

I. Terms and definitions

A. Application--A statement of information made by a person applying for insurance

B. Beneficiary--The person named in the policy to receive proceeds at death of insured.

C. Policy--The document stating terms of contract that is issued to policyholder by company

D. Premium--The payment or consideration one makes as policyholder agreed to in policy for insurance

E. Liability--When one is negligent and therefore liable for injury or damage caused to someone else

F. Collision--Insurance pays for damage to one's car regardless of the burden of negligence

G. Comprehensive--Insures auto against glass breakage, fire, theft, and all weather elements

H. Uninsured motorist--Coverage for holder to recover loss for bodily injury caused by a person having no liability insurance

II. Common types of insurance

A. Life

B. Automobile

III. Basic concepts of insurance

A. Shares economic loss

B. Spreads risk over a large group

C. Each person pays a small portion of each loss

D. Replaces value only

INFORMATION SHEET

IV. Types of life insurance

A. Term--Provides protection for life

B. Permanent

1. Cash value

2. Loan value

3. Assurance of having coverage at advanced age

V. Three standard types of protection in automobile insurance

A. Liability--Very important to have

B. Collision--Can get $50 or $100 deductible

C. Comprehensive--Can get $50 or $100 deductible

VI. Items that are true of automobile insurance

A. Responsibility to other property as well as to one's car

B. Reduces jeopardizing future income

C. Only way most people can protect themselves against automobile risk

D. Company assumes responsibility for settling claims

VII. Basic coverages under standard automobile insurance

A. Body injury liability

B. Property damage liability

C. Medical payments

D. Comprehensive physical damage

E. Collision

F. Protection against uninsured motorist

VIII. Facts about liability insurance

A. Protects one regardless of who is at fault

B. Pays for damage to others when one is at fault

INFORMATION SHEET

C. Compulsory in some states

D. Sold by casualty companies

E. Ninety percent of all claims settled out of court

F. 10/20/10--25/50/25--100/300/100

(NOTE: First number refers to thousands of dollars company will pay for injury to one person. Second number refers to amount paid for injuries resulting from one accident. Third number refers to amount paid for property damage.)

G. Damage to owner's car not covered

H. Cost varies from one area to another

IX. Items that deal with collision automobile insurance

A. Pays damage to automobile

B. Need not be at fault to collect

C. Premium depends on make and model of car

X. Items that deal with comprehensive automobile insurance

A. Damage to owner's car is covered such as glass breakage, fire, and theft

B. Premium depends on make and model of car

XI. Uninsured motorist insurance

A. One is insured if the other driver has no insurance

B. Part of liability policy

C. Covers only death or personal injury

XII. Facts about driver classification

A. Poor driving record--Charged more

B. Unmarried young male--Highest

C. Under 25 years of age--High

D. Unmarried young female--High

INFORMATION SHEET

XIII. Ways to save on automobile insurance

A. Safe driver discounts

B. Driver education discount

C. Two or more cars discount

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GENERAL INSURANCE
UNIT IV

TEST

1. Match the following terms to the correct definition.

_____a. Application	1.	Insures auto against glass breakage, fire, theft, and all weather elements
_____b. Beneficiary	2.	The document stating terms of contract that is issued to policyholder by company
_____c. Policy	3.	When one is negligent and therefore liable for injury or damage caused to someone else
_____d. Premium	4.	Coverage for holder to recover loss for bodily injury caused by a person having no liability insurance
_____e. Liability	5.	A statement of information made by a person applying for insurance
_____f. Collision	6.	The person named in the policy to receive proceeds at death of insured
_____g. Comprehensive	7.	The payment or consideration one makes as policyholder agreed to in policy for insurance
_____h. Uninsured motorist	8.	Insurance pays for damage to one's car regardless of the burden of negligence

2. List two common types insurance.

a.

b.

3. Place an "X" in front of those items that are basic concepts of insurance.

_____a. Shares economic loss

_____b. Spreads risk over long periods of time

_____c. Replaces value only

_____d. Each person pays a small portion of each loss

4. List two types of life insurance.

a.

b.

5. List the three standard types of protection in automobile insurance.

a.

b.

c.

6. Place an "X" in front of those items that are true of automobile insurance.

_____a. Only way most people can protect themselves against automobile risk

_____b. Company assumes responsibility for settling claims

_____c. Reduces future income

_____d. Responsibility to other property as well as to one's car

7. Name the six basic coverage under standard automobile insurance.

a.

b.

c.

d.

e.

f.

8. Place an "X" in front of those items that are facts about liability insurance.

_____a. Protects one regardless of who is at fault

_____b. Pays for damage to others when one is at fault

_____c. Compulsory in all states

_____d. All claims are settled in the courts

_____e. Cost varies from one area to the other

9. Place an "X" in front of the following items which deal with collision automobile insurance.

_____a. Pays damage to automobile

_____b. Premium same for all automobiles

_____c. Need not be at fault to collect

_____d. Pays same amount for each accident.

10. Place an "X" in front of the following items which deal with comprehensive automobile insurance

_____a. Glass breakage

_____b. Fire

_____c. Theft

_____d. Collision with other cars

_____e. Premium same for all cars

11. List three facts about uninsured motorist insurance

a.

b.

c.

12. List three of the four facts about classification of drivers.

a.

b.

c.

13. List three ways to save on automobile insurance.

a.

b.

c.

GENERAL INSURANCE
UNIT IV

ANSWERS TO TEST

1. a. 5
   b. 6
   c. 2
   d. 7
   e. 3
   f. 8
   g. 1
   h. 4
2. a. Life
   b. Automobile
3. a
   c
   d
4. a. Term
   b. Permanent
5. a. Liability
   b. Collision
   c. Comprehensive
6. a
   b
   d
7. a. Body injury liability
   b. Property damage liability
   c. Medical payments
   d. Comprehensive physical damage

e. Collision

f. Protection against uninsured motorist

8. a

b

e

9. a

c

10. a

b

c

11. a. One is are insured if the other driver has no insurance

b. Part of liability policy

c. Covers only death or personal injury

12. Any three of the following:

a. Poor driving record--Charged more

b. Unmarried young male--Highest

c. Unmarried young female--High

d. Under 25 years of age--High

13. a. Safe driver discounts

b. Driver education discount

c. Two or more cars discount

WHOLE NUMBERS
UNIT I

TERMINAL OBJECTIVE

After completion of this unit, the student should be able to solve problems involving the four basic operations of whole numbers, give the place value of a six digit number, and round off whole numbers up to thousands. This knowledge will be evidenced by scoring eighty-five percent on the unit test.

SPECIFIC OBJECTIVES

After completion of this unit, the student should be able to:

1. Identify the parts of subtraction, addition, division, and multiplication problems.
2. Name the place values in a six-digit numeral.
3. Round five numbers to nearest 10's, 100's, or 1,000's.
4. Solve stated problems using the four basic operations.

WHOLE NUMBERS
UNIT I

SUGGESTED ACTIVITIES

I. DE Teacher-Coordinator:

A. Provide students with objective sheet.

B. Provide students with information and assignment sheets.

C. Discuss terminal and specific objectives

D. Have students take pre-test. (Assignment Sheet #1)

E. Discuss information and assignment sheets.

F. Give test.

(NOTE: Consult audio visual supplement for suggested films.)

II. Student:

A. Read objective sheet.

B. Take pre-test.

C. Study information sheet.

D. Take test.

INSTRUCTIONAL MATERIALS

I. Included in this unit:

A. Objective sheet

B. Information sheet

C. Assignment sheets

1. Assignment Sheet #1--Pre-Test
2. Assignment Sheet #2--Place Value
3. Assignment Sheet #3--Rounding
4. Assignment Sheet #4--Addition

5. Assignment Sheet #5--Subtraction

6. Assignment Sheet #6--Multiplication

7. Assignment Sheet #7--Division

D. Answers to assignment sheets

E. Test

F. Answers to test

II. References:

A. Spann, Margaret. *Vocational Related Math.* Stillwater, Oklahoma: State Department of Vocational and Technical Education, 1972.

B. Piper B. Edwin. *Merchandising Mathematics.* Dallas, Texas: South-Western Publishing Company, 1967.

WHOLE NUMBERS
UNIT I

INFORMATION SHEET

I. Terms and definitions

A. Addends--The numbers that are added together

B. Sum or total--The answer to an addition problem

C. Minuend--The number from which another number is being subtracted

D. Subtrahend--The number which is being subtracted

E. Difference--The answer to a subtraction problem

F. Factors--Numbers that are multiplied

G. Product--The answer to a multiplication problem

H. Divisor--The number by which you divide

I. Dividend--The number that is divided

J. Quotient--The answer to a division problem

K. Remainder--The number that is left over when division is completed

II. Place value--143,285

A. 1--Hundred thousands

B. 4--Ten thousands

C. 3--Thousands

D. 2--Hundreds

E. 8--Tens

F. 5--Ones or units

III. Rounding numbers--14,827

A. Nearer ten--14,830

B. Nearer hundred--14800

IV. Basic operations

A. Addition

Example:

$$\begin{array}{r} 486 \\ 21 \\ 1213 \\ \hline 1720 \end{array}$$

B. Subtraction

Example:

$$\begin{array}{r} 4017 \\ 141 \\ \hline 3876 \end{array}$$

C. Multiplication

Example:

$$\begin{array}{r} 143 \\ 49 \\ \hline 1287 \\ 572 \\ \hline 7007 \end{array}$$

D. Division

Example:

$$\begin{array}{r} 13 \\ 12\overline{)156} \\ 12 \\ \hline 36 \\ 36 \\ \hline \end{array}$$

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WHOLE NUMBERS
UNIT I

ASSIGNMENT SHEET #1--PRE-TEST

_____ SCORE WHOLE NUMBERS _____
Section Name

Put answers to problems in the blocks provided.

Add and Check:

1. 7 + 3 + 9 + 4 + 8 + 16 =

2.
```
  279
  637
  738
  457
  962
+ 444
```

3.
```
 4789
 6837
 5393
+4579
```

4.
```
 569397
+379688
```

Subtract and Check:

5.
```
 4131
- 953
```

6.
```
 38332
- 19049
```

7.
```
 402302
- 91559
```

8.
```
 40050
- 8592
```

9.
```
  238
x  79
```

10.
```
 5698
x 209
```

11.
```
 8030
x 690
```

12. 409 x 8800 =

Divide and Check:

13. 4 7604

14. 9 27648

15. 26 157664

16. 54 96498

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ASSIGNMENT SHEET #1

Put answers to problems in the blocks provided.

Add and check:

17. 5.4 + 7.68 + 19 + 2.2 =

18. 81.51 + 65.52 + 11.5 + 14 =

19. $55.15 + $.75 + $10 + $12.37 =

20.
64.09
.85
1.07
10.
3.25

Subtract and Check:

21. 32 − 6.17

22. 23.5 − 6.01

23. 72.519 − 2.360

24. 632 - 2.79 =

Multiply and Check:

25. 23.3 × 4.3

26. 1.869 × 37

27. 5.766 × 8.01

28. 47.3 x .095 =

Divide and Check:

29. 8.3 .0415

30. 1.08 5.8969

31. 3.22 64400

32. 9.06 832.2516

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WHOLE NUMBERS
UNIT I

ASSIGNMENT SHEET #2--PLACE VALUE

1. Give the place value of each digit in the number 678,924.

   a. 6--

   b. 7--

   c. 8--

   d. 9--

   e. 2--

   f. 4--

2. Give the numeral for the following word numbers.

   _____ a. One hundred two

   _____ b. Three hundred forty-seven

   _____ c. Thirty-six dollars

   _____ d. Five thousand four hundred eleven

   _____ e. Twenty-three thousand forty-one dollars

   _____ f. Three hundred forty-seven thousand, five hundred eighty-nine

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WHOLE NUMBERS
UNIT I

ASSIGNMENT SHEET #3--ROUNDING

1. Round to the nearer ten.

   a. 35
   b. 326
   c. 468
   d. 9630
   e. 475
   f. 67,807
   g. 91,017
   h. 834
   i. 903
   j. 678,943

2. Round to the nearer hundred.

   a. 670
   b. 8920
   c. 4675
   d. 91,349
   e. 6793
   f. 68,924
   g. 893
   h. 4756
   i. 89,204
   j. 8910

3. Round to the nearer thousand.

   a. 6789
   b. 46,572
   c. 693,420
   d. 67,900
   e. 86,740
   f. 89,002
   g. 6734
   h. 56,099
   i. 86,743
   j. 91,900

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WHOLE NUMBERS
UNIT I

ASSIGNMENT SHEET #4--ADDITION

1. ADD:

1.	2.	3.	4.	5.	6.	7.	8.
16	96	17	34	56	51	36	79
94	14	21	25	24	37	74	24
71	53	72	51	75	42	69	15
39	57	45	18	35	23	41	95
65	12	21	61	72	14	28	77
15	68	24	11	38	33	16	39

9.	10.	11.	12.	13.	14.	15.	16.
35	12	33	83	17	25	76	45
12	65	12	27	83	13	34	65
63	33	65	12	10	72	12	26
18	14	67	65	62	81	98	84
31	83	43	33	17	18	39	12
61	13	19	67	31	11	71	64
45	82	91	43	81	72	15	34
12	64	23	15	29	25	81	83
23	14	67	85	15	13	14	27

17.	18.	19.	20.	21.	22.	23.	24.
$18.09	$10.10	$ 1.75	$17.26	$12.37	$ 1.27	$32.46	$ 6.05
.78	1.21	16.29	9.04	1.56	10.48	.74	13.12
4.46	15.57	1.25	40.76	42.83	15.09	1.26	1.98
12.26	7.75	75.03	.39	9.03	3.23	16.27	.19
.93	.09	8.42	.68	.72	.35	3.45	.46
.07	30.01	.94	1.39	8.12	9.26	11.92	.84
17.99	9.96	16.05	11.18	28.11	1.84	4.12	15.13
1.24	18.72	.59	18.11	5.39	7.78	.93	17.49
8.92	12.48	8.27	2.79	.07	19.72	3.17	8.27
15.55	8.93	13.03	10.06	13.60	12.29	19.18	18.03

2. Complete the following problems, using horizontal and vertical addition:

1. 10 + 2 + 4 + 6 + 9 + 8 = ____
   6 + 9 + 6 + 4 + 1 + 3 = ____
   9 + 3 + 8 + 7 + 4 + 9 = ____
   7 + 9 + 5 + 10 + 5 + 5 = ____
   10 + 4 + 8 + 7 + 6 + 9 = ____

   ___ + ___ + ___ + ___ + ___ + ___ = ____

2. 3 + 7 + 6 + 5 + 2 + 6 = ____
   2 + 10 + 9 + 4 + 8 + 9 = ____
   7 + 8 + 5 + 6 + 5 + 3 = ____
   12 + 4 + 9 + 8 + 10 + 8 = ____
   9 + 8 + 7 + 3 + 3 + 2 = ____

   ___ + ___ + ___ + ___ + ___ + ___ = ____

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WHOLE NUMBERS
UNIT I

ASSIGNMENT SHEET #5--SUBTRACTION

Subtract:

1.	75 56	2.	84 57	3.	4635 3187	4.	4178 1539
5.	218 119	6.	983 656	7.	771 289	8.	53 39
9.	74 26	10.	62 29	11.	77 39	12.	123 67
13.	111 79	14.	204 78	15.	356 178	16.	378 179
17.	4890 362	18.	365 209	19.	6720 4890	20.	7650 2312
21.	$4815 3927	22.	$51,425 50,535	23.	$27,312 25,497		
24.	$19,621 18,146	25.	$6,783 2499	26.	$577 199		
27.	$30,020 9,999	28.	$75,892 3,475	29.	$167,890 98,002		

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WHOLE NUMBERS
UNIT I

ASSIGNMENT SHEET #6--MULTIPLICATION

Find the product.

1.	2.	3.	4.	5.
3245 × 6	1203 × 3	2421 × 4	5103 × 5	4356 × 7

6.	7.	8.	9.	10.
481 × 7	3758 × 6	4256 × 4	908 × 6	3497 × 9

11.	12.	13.	14.	15.	16.
56 × 54	43 × 79	62 × 92	67 × 85	79 × 29	89 × 45

17.	18.	19.	20.	21.	22.
79 × 86	86 × 68	89 × 59	76 × 36	57 × 73	43 × 98

23.	24.	25.	26.	27.
892 × 864	719 × 396	728 × 830	654 × 951	913 × 537

28.	29.	30.	31.	32.
825 × 619	586 × 741	483 × 921	375 × 381	483 × 926

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WHOLE NUMBERS
UNIT I

ASSIGNMENT SHEET/ #7--DIVISION

Solve the division problems:

1. $7\overline{)49}$
2. $3\overline{)813}$
3. $4\overline{)48}$
4. $3\overline{)750}$
5. $5\overline{)830}$
6. $2\overline{)6704}$
7. $3\overline{)1206}$
8. $9\overline{)279}$
9. $29\overline{)8507}$
10. $62\overline{)7739}$
11. $28\overline{)5212}$
12. $34\overline{)5950}$
13. $17\overline{)8364}$
14. $71\overline{)18,318}$
15. $43\overline{)10,965}$
16. $56\overline{)7616}$
17. $92\overline{)30,084}$
18. $37\overline{)26,679}$
19. $7\overline{)4228}$
20. $15\overline{)24,090}$
21. $15\overline{)4530}$
22. $26\overline{)52,260}$
23. $13\overline{)91,169}$
24. $34\overline{)17,238}$
25. $36\overline{)10,080}$
26. $17\overline{)53,040}$
27. $321\overline{)110,424}$
28. $417\overline{)12,093}$
29. $558\overline{)65,844}$
30. $713\overline{)161,149}$
31. $308\overline{)165,432}$

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WHOLE NUMBERS
UNIT I

ANSWERS TO ASSIGNMENT SHEETS

Assignment Sheet #1

1.	47	12.	3599200	23.	70.159
2.	3517	13.	4901	24.	629.21
3.	21598	14.	3072	25.	100.19
4.	949085	15.	6064	26.	69.153
5.	3178	16.	1787	27.	46.18566
6.	19283	17.	34.28	28.	4.4935
7.	310743	18.	172.53	29.	.005
8.	31458	19.	78.27	30.	5.46
9.	18802	20.	79.26	31.	20,000
10.	1190882	21.	25.83	32.	91.86
11.	5540700	22.	17.49		

Assignment Sheet #2

1. a. hundred thousands
   b. ten thousands
   c. thousands
   d. hundreds
   e. tens
   f. ones or units
2. a. 102
   b. 347
   c. $36
   d. 5,411
   e. $23,041
   f. 347,589

Assignment Sheet #3

1.
a. 40
b. 330
c. 470
d. 9630
e. 480
f. 67,810
g. 91,020
h. 830
i. 900
j. 678,940

2.
a. 700
b. 8900
c. 4700
d. 91,300
e. 6800
f. 68,900
g. 900
h. 4800
i. 89,200
j. 8900

3.
a. 7000
b. 47,000
c. 693,000
d. 68,000
e. 87,000
f. 89,000
g. 7000
h. 56,000
i. 87,000
j. 92,000

Assignment Sheet #4

1.
1. 300
2. 300
3. 200
4. 200
5. 300
6. 200
7. 264
8. 329
9. 300
10. 380
11. 420
12. 430
13. 345
14. 330
15. 440
16. 440
17. $80.29
18. $114.82
19. $141.62
20. $111.66
21. $121.80
22. $81.31
23. $93.50
24. $81.56

2. 1. 193

2 188

Assignment Sheet #5

1.	19	9.	48	17.	4,528	25.	$4,284
2.	27	10.	33	18.	156	26.	$378
3.	1,448	11.	38	19.	1,830	27.	$20,021
4.	2,639	12.	56	20	5,338	28.	$72,417
5.	99	13.	32	21.	$888	29.	$69,888
6.	327	14.	126	22.	$890		
7.	482	15.	178	23.	$1,815		
8.	14	16.	179	24.	$1,475		

Assignment Sheet #6

1.	19,470	11.	3,024	21.	4,161	31.	142,875
2.	3,690	12.	3,397	22.	4,214	32.	447,258
3.	9,684	13.	5,704	23.	770,688		
4.	2,5650	14.	5,695	24.	284,724		
5.	30,492	15.	2,291	25.	604,240		
6.	3,367	16.	4,005	26.	621,954		
7.	22,548	17.	6,794	27.	490,281		
8.	17,024	18.	5,848	28.	510,675		
9.	5,448	19.	5,251	29.	434,226		
10.	31,473	20.	2,736	30.	44,843		

Assignment Sheet #7

1.	7	14.	258	27.	344
2.	271	15.	255	28.	29
3.	12	16.	136	29.	118
4.	250	17.	327	30.	226 R 11
5.	166	18.	721 R 2	31.	538 R 272
6.	3352	19.	604		
7.	402	20.	1606		
8.	31	21.	302		
9.	295 R 15	22.	2010		
10.	124 R 51	23.	7013		
11.	186 R 4	24.	507		
12.	175	25.	280		
13.	492	26.	3120		

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WHOLE NUMBERS
UNIT I

TEST

1. Identify the parts of the following operations from the list of words. Write the number of the correct word in the blank. Some of the words may be used more than once.

364 (a) -298 (b) 68 (c)	____a.	1. Factor
	____b.	2. Remainder
36 (d) x10 (e) 360 (f)	____c.	3. Sum
	____d.	4. Difference
11 (g) 12(j)135 (h) 132 3 (i)	____e.	5. Divisor
	____f.	6. Minuend
	____g.	7. Subtrahend
365 (k) 789 (k) 340 (k) 1494 (l)	____h.	8. Product
	____i.	9. Dividend
	____j.	10. Quotient
	____k.	11. Addend
	____l.	

2. Give the place values in the numeral 602,412.

a. 6--

b. 0--

c. 2--

d. 4--

e. 1--

f. 2--

365

3. Round:

   a. 146 to the nearer hundred

   b. 148,251 to the nearer ten

   c. 7962 to the nearer thousand

   d. 485 to the nearer hundred

   e. 12,421 to the nearer thousand

4. Solve the following:

   a. $\begin{array}{r} 367 \\ 2140 \\ \underline{672} \end{array}$

   b. $\begin{array}{r} 3526 \\ \underline{-\ 908} \end{array}$

   c. $\begin{array}{r} 39{,}670 \\ 234 \\ \underline{6{,}790} \end{array}$

   d. $\begin{array}{r} 375 \\ \underline{\times 23} \end{array}$

   e. $\begin{array}{r} 6248 \\ \underline{\times 324} \end{array}$

   f. $29\overline{)609}$

   g. $32\overline{)6892}$

   h. $\begin{array}{r} 36{,}489 \\ \underline{-20{,}892} \end{array}$

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WHOLE NUMBERS
UNIT I

ANSWERS TO TEST

1 a. 6 g. 10
b. 7 h. 9
c. 4 i. 2
d. 1 j. 5
e. 1 k. 11
f. 8 l. 3

2. a. Hundred thousands
b. Ten thousands
c. Thousands
d. Hundreds
e. Tens
f. Units or ones

3. a. 100
b. 148,250
c. 8000
d. 500
e. 12,000

4. a. 3179
b. 2618
c. 46,694
d. 8625
e. 2,028,352
f. 21
g. 215 R 12
h. 15,597

MULTIPLYING DECIMALS
UNIT II

TERMINAL OBJECTIVE

After completion of this unit, the student should be able to multiply decimal numbers correctly locating the decimal point in the product. This knowledge should be evidenced by scoring eighty-five percent on the unit test.

SPECIFIC OBJECTIVES

After completion of this unit, the student should be able to:

1. Multiply and locate the decimal point in ten stated problems.
2. Solve three problems using 10, 100, or 1000 as a factor.

MULTIPLYING DECIMALS
UNIT II

SUGGESTED ACTIVITIES

I. DE Teacher-Coordinator:

A. Provide students with objective sheet.

B. Provide students with information and assignment sheets.

C. Discuss terminal and specific objectives.

D. Discuss information and assignment sheets.

E. Give test.

II. Student:

A. Read objective sheet.

B. Study information sheet.

C. Complete assignment sheets.

D. Take test.

INSTRUCTIONAL MATERIALS

I. Included in this unit:

A. Objectives

B. Information sheet

C. Assignment sheets

1. Assignment Sheet #1--Locating Decimal Points
2. Assignment Sheet #2--Multiplying Decimals
3. Assignment Sheet #3--Multiplying by 10, 100, 1000

D. Answers to assignment sheets

E. Test

F. Answers to test

II. References:

A. Nelson, Gilbert D., Frank C. Moore, Carl Hamburger, and Philip Becker. *General Mathematics for the Shop.* Boston, Massachusetts: Houghton-Mifflin Company, 1951.

B. Brown, Walter C. *Basic Mathematics.* South Holland, Illinois: Goodheart-Willcox Company, 1968.

C. Gold, Marvin and Robert E. Carlberg. *Modern Applied Mathematics.* Boston, Massachusetts: Houghton-Mifflin Company, 1971.

D. Brown, Kenneth E., Daniel W. Sander, and Leonard Simon. *General Mathematics, Book I.* Dallas, Texas: Laidlaw Brothers, 1964.

E. Spann, Margaret. *Vocational Related Math. revised. Stillwater, Oklahoma:* State Department of Vocational and Technical Education, 1972.

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MULTIPLYING DECIMALS
UNIT II

INFORMATION SHEET

I. Multiplying decimal numerals

A. Multiply the same as with whole numbers

(NOTE: In writing the multiplication problems the decimal points do not have to be in column.)

B. Total the number of decimal places to the right of the decimal point in both of the factors being multiplied

C. Locate the decimal point by starting at the extreme right digit in the answer and count off as many places to the left as the total of B indicates

Examples: Multiply 27.935 x 7.7

27.935	3 places
7.07	2 places
195545	
1955450	
197.50045	5 places

2.31 x .014

2.31	2 places
.014	3 places
924	
231	
.03234	5 places

(NOTE: The zero was added to provide the fifth place as needed.)

II. Multiplying by 10, 100, or 1000

A. Multiplying by 10--Move the decimal point one place to the right

Example: 1.45 x 10 = 14.5

B. Multiplying by 100--Move the decimal point two places to the right

Example: 1.45 x 100 = 145

C. Multiplying by 1000--Move the decimal point three places to the right

Example: 1.45 x 1000 = 1450

(NOTE: A zero had to be added to get the third place.)

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MULTIPLYING DECIMALS
UNIT II

ASSIGNMENT SHEET #1--LOCATING DECIMAL POINTS

(NOTE: Total the number of decimal places to the right of the decimal point in both the factors. This total represents the correct number of decimal places in the product.)

Examples: $4.2 \times 0.3 = 1.26$ $1.4 \times 0.49 = 0.686$

$1 + 1 = 2$ places $1 + 2 = 3$ places

1. Using the examples above, explain how the decimal point was located in each of these problems.

   a. $14.7 \times 0.13 = 1.911$

   b. $0.07 \times 0.004 = 0.00028$

   c. $2.5 \times 7.5 = 18.75$

   d. $0.002 \times 15.4 = 0.0308$

   e. $15 \times 1.5 = 22.5$

   f. $0.008 \times 0.9 = 0.072$

2. Correctly place the decimal points in these products. Add zeros when needed.

   a. $224 \times 2.4 = 5376$

   b. $2.24 \times 0.024 = 5376$

   c. $0.688 \times 0.45 = 30960$

   d. $6.88 \times 0.45 = 30960$

   e. $3.61 \times 5.7 = 20577$

   f. $36.1 \times 5.7 = 20577$

   g. $22.4 \times 0.24 = 5376$

   h. $0.0224 \times 0.24 = 5376$

   i. $68.8 \times 0.45 = 30960$

   j. $6.88 \times 4.5 = 30960$

   k. $0.361 \times 5.7 = 20577$

   l. $0.361 \times 0.057 = 20577$

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MULTIPLYING DECIMALS
UNIT II

ASSIGNMENT SHEET #2--MULTIPLYING DECIMALS

Directions: Rewrite and multiply these problems. Locate the decimal point in the product.

1. 2.64 x 3.1 =
2. 120 x .33 =
3. 2.25 x .51 =
4. 35 x 8.5 =
5. 26.4 x 3.8 =
6. 7.02 x .92 =
7. .83 x .55 =
8. 28.2 x .9 =
9. .069 x .01 =
10. 7.52 x 3.01 =
11. 32.1 x 29.9 =
12. .168 x 12 =
13. 78 x 9.1 =
14. 69.3 x .75 =
15. .043 x 2.4 =
16. 574 x .34 =
17. 10.52 x .54 =
18. 9.06 x 4.3 =
19. 21.6 x .3 =
20. 60.1 x 8.2 =

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ASSIGNMENT SHEET #2

MULTIPLYING DECIMALS
UNIT II

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ASSIGNMENT SHEET #3--MULTIPLYING BY 10, 100, 1000

Directions: Multiply these problems.

1. $\frac{287}{100}$
2. $\frac{.0351}{10}$
3. $\frac{30.99}{100}$
4. $\frac{4.45}{1000}$
5. $\frac{64.8}{10}$
6. $\frac{.3967}{100}$
7. $\frac{37.8}{100}$
8. $\frac{.0064}{1000}$
9. $\frac{.3684}{10}$
10. $\frac{.0064}{10}$

11. 69.239 x 100 =
12. 5.766 x 10,000 =
13. 2,801 x 10 =
14. 8.16 x 100 =
15. 8.108 x 100 =
16. .892 x 10 =
17. 6.69 x 1,000 =
18. 47.3 x 100 =
19. .0957 x 100 =
20. 61.75 x 10 =

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MULTIPLYING DECIMALS
UNIT II

ANSWERS TO ASSIGNMENT SHEETS

Assignment Sheet #1

1. a. 1 + 2 = 3
   b. 2 + 3 = 5
   c. 1 + 1 = 2
   d. 3 + 1 = 4
   e. 0 + 1 = 1
   f. 3 + 1 = 4

2. a. 537.6
   b. .05376
   c. .30960
   d. 3.0960
   e. 20.577
   f. 205.77
   g. 5.376
   h. .005376
   i. 30.960
   j. 30.960
   k. 2.0577
   l. .020577

Assignment Sheet #2

1. 8.184
2. 39.60
3. 1.1475
4. 297.5
5. 100.32
6. 6.4584
7. .4565
8. 25.38
9. .00069
10. 22.6352
11. 959.79
12. 2.016
13. 709.8
14. 51.975
15. .1032
16. 195.16
17. 5.6808
18. 38.958
19. 6.48
20. 492.82

Assignment Sheet #3

1.	28,700	11.	6,923.9
2.	.351	12.	57,660
3.	3,099	13.	28,010
4.	4,450	14.	816
5.	648	15.	810.8
6.	39.67	16.	8.92
7.	3,780	17.	6,690
8.	6.4	18.	4,730
9.	3.684	19.	9.57
10.	.064	20.	617.5

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MULTIPLYING DECIMALS
UNIT II

TEST

1. Multiply and/or locate the decimal points in these ten problems.

   a. 2.6 x 4.7 = 1222

   b. 936 x .06 = 5634

   c. 8.03 x 9.2 = 73876

   d. .119 x .05 = 595

   e. .39 x .25 = 975

   f.
   ```
    9
   .8
   ```

   g.
   ```
   1.3
    98
   ```

   h.
   ```
   92.07
   7.392
   ```

   i. 16 x 1.5 =

   j. 9.5 x .76 =

2. Solve these three problems using 10, 100, or 1000 as a factor.

   a. 8.76 x 100 =

   b. .0816 x 1000 =

   c. 68.4 x 10 =

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MULTIPLYING DECIMALS
UNIT II

ANSWERS TO TEST

1. a. 12.22
   b. 56.34
   c. 73.876
   d. .00595
   e. .0975
   f. 7.2
   g. 127.4
   h. 680.58144
   i. 24.0
   j. 7.22
2. a. 876
   b. 81.6
   c. 684

PERCENT
UNIT III

TERMINAL OBJECTIVE

After completion of this unit, the student should be able to write fractions as decimals and percents, decimals as fractions and percents, and percents as fractions and decimals. This knowledge should be evidenced by scoring eighty-five percent on the unit test.

SPECIFIC OBJECTIVES

After completion of this unit, the student should be able to:

1. Write ten fractions as decimals and percents.
2. Write ten percents as fractions and decimals.
3. Write ten decimals as fractions and percents.
4. Convert whole or mixed numbers to fractions, decimals, and percents.

PERCENT
UNIT III

SUGGESTED ACTIVITIES

I. DE Teacher-Coordinator:

A. Provide students with objective sheet.

B. Provide students with information and assignment sheets.

C. Discuss terminal and specific objectives.

D. Discuss information and assignment sheets.

E. Demonstrate and discuss procedures outlined on the assignment sheets.

F. Give test.

II. Student:

A. Read objective sheet.

B. Study information sheet.

C. Complete assignment sheets.

D. Take test.

INSTRUCTIONAL MATERIALS

I. Included in this unit:

A. Objective sheet

B. Information sheet

C. Assignment sheets

1. Assignment Sheet #1--Write Fractions as Decimals and Percents
2. Assignment Sheet #2--Write Percents as Fractions and Decimals
3. Assignment Sheet #3--Write Decimals as Fractions and Percents
4. Assignment Sheet #4--Convert Whole or Mixed Numbers to Fractions, Decimals, and Percents

D. Answers to assignment sheets

E. Test

F. Answers to test

IV. References:

A. Olivo, C. Thomas and Thomas P. Olivo. *Basic Mathematics Simplified.* Albany, New York: Delmar Publishers, 1972.

B. Spann, Margaret. *Vocational Related Math.* revised. Stillwater, Oklahoma: State Department Vocational and Technical Education, 1972.

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PERCENT
UNIT III

INFORMATION SHEET

I. Writing fractions as decimals and percents

A. Fractions as decimals--Divide the numerator by the denominator

Example: $\frac{5}{8}$

$$8\overline{)\,5.000} = .625$$

48
20
16
40
40

B. Fractions as percents

1. Express the fraction in decimal form
2. Move the decimal point two places to the right
3. Place the % symbol after the number

Example: $\frac{7}{33}$

$$33\overline{)\,7.00} = .2121\ldots = .2121 = 21.21\%$$

66
40
33
70
66
40
33
7

(NOTE: Percent means that some number is being compared to 100.)

4. Multiply the numerator and denominator by that number which will change the denominator to 100
5. Drop the denominator
6. Add the % symbol

Example: $\frac{3}{4} = \frac{3}{4} \times \frac{25}{25} = \frac{75}{100} = 75\%$

INFORMATION SHEET

II. Expressing percents as fractions and decimals

A. Percents as fractions

1. Drop the percent symbol
2. Place the number over 100

(NOTE: Reduce to simplest form.)

Examples: $38\% = \frac{38}{100} = \frac{19}{50}$

$$33\ 1/3\% = \frac{33\ 1/3}{100} = \frac{\frac{100}{3}}{100} = \frac{1}{3}$$

B. Percents as decimals

1. Drop the percent symbol
2. Move the decimal point two places to the left

Examples: $74\% = .74$

$$33\frac{1}{3}\% = .33\frac{1}{3}$$

III. Expressing decimals as fractions and percents

A. Decimals as fractions

1. If there is one decimal place, drop the decimal point and place the number over 10

   Example: $.4 = \frac{4}{10} = \frac{2}{5}$

2. If there are two decimal places, drop the decimal point and place the number over 100

   Example: $.75 = \frac{75}{100} = \frac{3}{4}$

3. If there are three decimal places, drop the decimal point and place the number over 1000

   Example: $.375 = \frac{375}{1000} = \frac{3}{8}$

(NOTE: Do not forget to reduce to simplest form.)

INFORMATION SHEET

B. Decimals as percents

1. Move the decimal point two places to the right

2. Place the percent symbol after the number

Examples: 4 = 400%

.37 = 37%

IV. Whole or mixed numbers to fractions, decimals, and percent equivalents

Mixed or Whole number	Fractions	Decimals	Percent
12 1/2	1/8	.125 or .12 1/2	12 1/2%
20	1/5	.20	20%
25	1/4	.25	25%
33 1/3	1/3	.33 1/3	33 1/3%
37 1/2	3/8	.375 or .37 1/2	37 1/2%
40	2/5	.40	40%
50	1/2	.50	50%
60	3/5	.60	60%
62 1/2	5/8	.625 or .62 1/2	62 1/2%
66 2/3	2/3	.66 2/3	66 2/3%
75	3/4	.75	75%
80	4/5	.80	80%
87 1/2	7/8	.875 or .87 1/2	87 1/2%
1	1	1.00	100%

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PERCENT

UNIT III

ASSIGNMENT SHEET #1--WRITE FRACTIONS AS DECIMALS AND PERCENTS

1. Express each fraction as a decimal.

   a. 1/8

   b. 1/4

   c. 1/2

   d. 3/4

   e. 5/8

   f. 7/20

   g. 7/16

   h. 1/9

   i. 4/9

   j. 4/5

2. Express each fraction as a percent.

   a. 1/4

   b. 2/9

   c. 7/10

   d. 3/4

   e. 2/2

   f. 9/11

   g. 1/3

   h. 4/9

   i. 2/6

   j. 5/8

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PERCENT
UNIT III

ASSIGNMENT SHEET #2--WRITE PERCENTS AS FRACTIONS AND DECIMALS

1. Express each percent as a fraction.

   a. 50%

   b. 25%

   c. 33 1/3%

   d. 36%

   e. 28%

   f. 14 2/7%

   g. 21%

   h. 45%

   i. 66 2/3%

   j. 70%

2. Express each percent as a decimal.

   a. 47%

   b. 15%

   c. 33.3%

   d. 62%

   e. 75%

   f. 3%

   g. 16.8%

   h. 9%

   i. 10%

   j. 50%

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PERCENT
UNIT III

ASSIGNMENT SHEET #3--WRITE DECIMALS AS FRACTIONS AND PERCENTS

1. Express each decimal as a fraction.

   a. .5

   b. .8

   c. .7

   d. .25

   e. .68

   f. .55

   g. .94

   h. .375

   i. .875

   j. .212

2. Express each decimal as a percent.

   a. .12

   b. .19

   c. .7

   d. .29

   e. .37

   f. .42

   g. .5

   h. .523

   i. .746

   j. 3.75

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PERCENT
UNIT III

ASSIGNMENT SHEET #4--CONVERT WHOLE OR MIXED NUMBERS TO FRACTIONS, DECIMALS, AND PERCENTS

Fill in the blanks on the following chart

	Whole or Mixed Numbers	Fractions	Decimals	Percents
1.	12 1/2			12 1/2%
2.		1/5		20%
3.	25			
4.	33 1/3	1/3		
5.		3/8	.375 or .37 1/2	37 1/2%
6.		2/5		
7.		1/2	.50	
8.	60			
9.		5/8	.625 or .62 1/2	
10.		2/3		
11.	75			
12.		4/5		
13.				87 1/2%
14.				100%

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PERCENT
UNIT III

ANSWERS TO ASSIGNMENT SHEETS

Assignment Sheet #1

1.
- a. .125
- b. .25
- c. .50
- d. .75
- e. .625
- f. .35
- g. .4375
- h. .1111--
- i. .444---
- j. 80

2.
- a. 25%
- b. 22 2/9% or 22.22%
- c. 70%
- d. 75%
- e. 100%
- f. 81.81% or 81 9/11%
- g. 33 1/3% or 33.33%
- h. 44.44% or 44 4/9%
- i. 33 1/3% or 33.33%
- j. 62 1/2% or 62.5%

Assignment Sheet #2

1.
- a. 1/2
- b. 1/4
- c. 1/3
- d. 9/25
- e. 7/25
- f. 1/7
- g. 21/100
- h. 9/20
- i. 2/3
- j. 7/10

2.
- a. .47
- b. .15
- c. .333
- d. .62
- e. .75
- f. .03
- g. .168
- h. .09
- i. .10
- j. .50

Assignment Sheet #3

1.	a.	1/2	f.	11/20
	b.	4/5	g.	47/50
	c.	7/10	h.	3/8
	d.	1/4	i.	7/8
	e.	17/25	j.	53/250
2.	a.	12%	f.	42%
	b.	19%	g.	50%
	c.	70%	h.	52.3%
	d.	29%	i.	74.6%
	e.	37%	j.	375%

Assignment Sheet #4

1.	1/8	.125 or .12 1/2	
2.	20	.20	
3.	1/4	.25	25%
4.	.33 1/3	.33 1/3%	
5.	37 1/2		
6.	40	.40	40%
7.	50	50%	
8.	3/5	.60	60%
9.	62 1/2	62 1/2%	
10.	66 2/3	.66 2/3	66 2/3%
11.	3/4	.75	75%
12.	80	.80	80%
13.	87 1/2	7/8	.875 or .87 1/2
14.	1	1	1.00

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PERCENT
UNIT III

TEST

1. Write the following fractions as decimals and percents.

   a. 1/3
   b. 2/3
   c. 3/25
   d. 7/9
   e. 7/16
   f. 1/8
   g. 2/7
   h. 1/5
   i. 5/6
   j. 2/10

2. Write the following percents as fractions and decimals.

   a. 8%
   b. 12%
   c. 19%
   d. 22%
   e. 29%
   f. 32%
   g. 45%
   h. 72%
   i. 250%
   j. 100%

3. Write the following decimals as fractions and percents.

   a. .14
   b. .25
   c. .375
   d. .46
   e. .50
   f. .66
   g. 1.75
   h. 3.80
   i. .875
   j. 1.875

4. Performance on objective four will be evaluated by Assignment Sheet #4.

PERCENT
UNIT III

ANSWERS TO TEST

1. a. .33---; 33 1/3% or 33/33%
   b. .666---; 66 2/3% or 66.66%
   c. .12; 12%
   d. .777---; 77 7/9% or 77.77%
   e. .4375; 43.75% or 43 3/4%
   f. .125; 12.5% or 12 1/2%
   g. .2857; 28.57%
   h. .20; 20%
   i. .833---; 83 1/3% or 83.33%
   j. .20; 20%
2. a. 2/25; .08
   b. 3/25; .12
   c. 19/200; .19
   d. 11/50; .22
   e. 29/100; .29
   f. 8/25; .32
   g. 9/20; .45
   h. 18/25; .72
   i. 5/2; 2/50
   j. 1/1; 1
3. a. 7/50; 14%
   b. 1/4; 25%
   c. 3/8; 37.5% or 37 1/2%

d. 23/50; 46%

e. 1/2; 50%

f. 33/50; 66%

g. 7/4; 175%

h. 19/5; 380%

i. 7/8; 87.5% or 87 1/2%

j. 15/8; 187.5% or 187 1/2%

4. Evaluated to the satisfaction of the instructor. (Assignment Sheet #4)

WAGES
UNIT IV

TERMINAL OBJECTIVE

Upon completion of this unit, the student should be able to figure his wages if he is paid on an hourly basis or on a commission basis. This knowledge will be evidenced by scoring eighty-five percent on the unit test.

SPECIFIC OBJECTIVES

After completion of this unit, the student should be able to:

1. Solve seven problems on wages when given the number of hours worked and rate per hour.

2. Solve six problems when employee is paid a base pay plus a commission on his sales for the week.

WAGES
UNIT IV

SUGGESTED ACTIVITIES

I. DE Teacher-Coordinator:

A. Provide students with objective sheet.

B. Provide students with information and assignment sheets.

C. Discuss terminal and specific objectives.

D. Discuss information and assignment sheets.

E. Give test.

II. Student:

A. Read objective sheet.

B. Study information sheet.

C. Complete assignment sheets.

D. Take test.

INSTRUCTIONAL MATERIALS

I. Included in this unit:

A. Objective sheet

B. Information sheet

C. Assignment sheets

1. Assignment Sheet #1--Hourly Pay
2. Assignment Sheet #2--Hourly Wages Involving Overtime
3. Assignment Sheet #5--Rate of Commission

D. Answers to assignment sheets

E. Test

F. Answers to test

II. References:

A. Huffman, Harry, Ruth M. Twiss, and Leslie J. Whale. *Mathematics for Business Occupations.* New York: McGraw-Hill Book Company, 1968.

B. Brown, Kenneth E., Daniel W. Sander, and Leonard Simon. *General Mathematics, Book I.* Dallas, Texas: Laidlaw Brothers, 1964.

C. Lennes, N. J. and L. R. Traver. *Lennes Essentials of Arithmetic.* Dallas, Texas: Laidlaw Brothers, 1964.

D. Kravitz, Wallace W. and Vincent Brant. *Consumer Related Mathematics.* New York: Holt, Rinehart, and Winston, Inc., 1971.

E. Spann, Margaret. *Vocational Related Math.* Second revised edition. Stillwater, Oklahoma: State Department of Vocational and Technical Education, 1972.

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WAGES
UNIT IV

INFORMATION SHEET

I. Wages from hourly earnings

A. Regular hours x base rate = regular pay

Example: 40 (regular hours) x $1.68 (regular rate) = $67.20 regular pay

B. Overtime hours x 1 1/2 base rate = overtime pay

Example: 6 1/2 (overtime hours) x $2.52 (overtime rate) = $16.38 overtime pay

C. Regular pay + overtime pay = total pay or gross pay

Example: $67.20 (regular pay) + $16.38 (overtime pay) = $83.58 total pay

II. Earnings on a commission basis

A. Express the rate of commission as a decimal fraction

B. Multiply the number of dollars on which the commission is to be paid by the decimal fraction

C. Add the answer in Step B to the base pay

Example: A salary of $40.00 per week plus a 7% commission on all sales. Total sales $990. How much does he earn altogether.

7% = 7/100 = .07
.07 x 990 = $69.30
$40.00 + $69.30 = $109.30

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WAGES
UNIT IV

ASSIGNMENT SHEET #1--HOURLY PAY

1. John has a job washing dishes in a cafe. He works five days per week, eight hours per day. He is paid $1.00 for each hour he works.

   a. How many hours does he work each day?

   b. How many hours does he work per week?

   c. How much does he earn each day he works?

   d. How much is his pay for the week?

   e. If he only worked four days one week, how much would his pay be for that week?

2. Jim works as a janitor in an office building. He works eight hours per day Monday through Friday and four hours on Saturday. He is paid $1.00 for each hour he works.

   a. How many hours does he work per week?

   b. How much does he get paid for a week?

   c. Suppose he took a Saturday off one week, what would his pay be for that week?

3. Jim has a job working in a supermarket. He works seven hours per day Monday through Friday and five hours on Saturday. He is paid at a rate of $1.00 per hour.

   a. How many hours does he work per week?

   b. How much would his pay be for one week?

4. Frank has a job working in a gas station. He works eight hours a day, six days per week. He is paid $1.25 for each hour he works.

   a. How many hours does he work per day?

   b. How many hours does he work each week?

   c. How much does he earn per day?

   d. How much is his weekly wages?

5. John works for a nursery. He works five days per week, eight hours per day. He is paid at the rate of $1.25 for each hour he works.

   a. How many hours does he work each day?

   b. What is he paid per hour?

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ASSIGNMENT SHEET #1

c. How much does he earn per day?

d. How many hours does he work per week?

e. How much does he earn per week?

6. Harry works in a furniture shop. He works eight hours per day, six days per week. He is paid at the rate of $1.50 per hour.

a. How many hours does he work per week?

b. What is his pay per week?

7. Figure out the following problems:

a. 40 hours @ $1.52 per hour

b. 20 hours @ $1.00 per hour

c. 48 hours @ $1.50 per hour

d. 35 hours @ $1.10 per hour

e. 44 hours @ $1.30 per hour

f. 40 hours @ $1.15 per hour

g. 44 hours @ $1.60 per hour

h. 40 hours @ $1.38 per hour

8. Joe Brown works in a factory. He is paid by the hour at the rate of $1.55 per hour. He works eight hours per day, Monday through Friday. Figure out the following problems.

a. How much would his daily pay be?

b. How many hours did he work a week?

c. How much did he earn per week?

9. Frank Jones works in a supermarket. He is paid by the hour at the rate of $1.25 per hour. He works eight hours per day Monday through Friday and four hours on Saturday.

a. How much did he earn for each eight hour day he works?

b. How many days per week did he work?

c. How many hours does he work a week?

d. What are his earnings for the week?

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ASSIGNMENT SHEET #1

10. Jack Stapolsky has a job working in a bakery. He is paid by the hour at the rate of $1.15 per hour. He works seven hours per day Monday through Saturday. Figure out his pay for the week.

    a. How many hours does he work per week?

    b. How much did he get paid for each day he worked?

    c. What is his weekly wage?

11. Compute these wages.

    a. 40 hours @ $1.80 per hour

    b. 40 hours @ $1.35 per hour

    c. 40 hours @ $1.23 per hour

    d. 40 hours @ $1.35 per hour

    e. 40 hours @ $1.42 per hour

    f. 40 hours @ $1.39 per hour

12. Below is an account of the weekly pay roll for a certain company. Find the total number of hours each man worked and the wages for each. Also find the company's total payroll for the week.

Name	M.	T.	W.	T.	F.	S.	Hr.	Rate	Wages
a. John Doe	7	6	6	6	6½	7½		$1.50	
b. Pete Smith	4½	5½	6½	5	6	6		$2.00	
c. Amos Jones	5	5	6	6	7	7¼		$1.60	
d. David Roe	4	5	5	6	6	6½		$2.00	
e. Ellison West	5	5	6	6	6	6		$1.45	
f. Jerry Hill	5	5	5	5	5	5		$1.50	
g. Artie Bell	6	6	7	7	7½	5		$1.40	
h. John Reed	5	5	5	6	6	6		$1.30	
i. Ray Watson	6	7½	7¼	7¼	0	0		$1.75	
j. Charles Pierce	7	7	6	6	5	4		$1.80	
k.								Total =	

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WAGES
UNIT IV

ASSIGNMENT SHEET #2--HOURLY WAGES INVOLVING OVERTIME

Complete the following payroll table. Overtime is figured 1 1/2 times regular hourly wage.

	Number of Hours	Rate per Hour	Rate for Overtime	Regular Wages	Overtime Wages	Total Pay
1.	50	$1.50				
2.	48	2.00				
3.	54	.80				
4.	44	8.00				
5.	50	6.00				
6.	60	3.00				
7.	51	5.00				
8.	58	2.75				
9.	54	6.50				
10.	60	10.00				
11.	75	20.00				
12.	52	1.00				
13.	34	1.25				
14.	48	1.40				
15.	60	2.10				

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WAGES
UNIT IV

ASSIGNMENT SHEET #3--RATE OF COMMISSION

Complete the following table.

	Weekly Base Pay	Week's Sales	Rate of Commission on Sales	Total Pay
1.	$ 75.00	$ 950.00	3%	
2.	50.00	1800.00	10%	
3.	100.00	1200.00	30%	
4.	160.00	850.00	8%	
5.	120.00	800.00	12%	
6.	75.00	1000.00	5%	
7.	120.00	800.00	6%	
8.	60.00	750.00	15%	
9.	65.00	1000.00	8%	
10.	45.00	4500.00	5%	
11.	80.00	900.00	20%	
12.	95.00	2450.00	12%	
13.	100.00	430.00	25%	
14.	55.00	1500.00	15%	
15.	80.00	3000.00	5%	

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WAGES
UNIT IV

ANSWERS TO ASSIGNMENT SHEETS

Assignment Sheet #1

1. a. 8 hours
   b. 40 hours
   c. $8.00
   d. $40.00
   e. $32.00
2. a. 44 hours
   b. $44.00
   c. $40.00
3. a. 40 hours
   b. $40.00
4. a. 8 hours
   b. 48 hours
   c. $10.00
   d. $60.00
5. a. 8 hours
   b. $1.25
   c. $10.00
   d. 40 hours
   e. $40.00
6. a. 48 hours
   b. $72.00
7. a. $60.80
   b. $20.00
   c. $72.00

d. $38.50

e. $57.20

f. $46.00

g. $70.40

h. $55.20

8. a. $12.40

b. 40 hours

c. $62.00

9. a. $10.00

b. 6 days

c. 44 hours

d. $55.00

10. a. 35 hours

b. $8.05

c. $48.30

11. a. $72.00

b. $54.00

c. $49.20

d. $54.00

e. $56.80

f. $55.60

12.

	Hours	Wages
a.	39	$ 58.50
b.	33 1/2	67.00
c.	36 1/4	58.00
d.	32 1/2	65.00
e.	34	49.30
f.	30	45.00

g.	38 1/2		53.90
h.	33		42.90
i.	27 1/2		48.13
j.	35		63.00
k.		Total	$550.73

Assignment Sheet #2

1.	$ 2.25	$ 60.00	$ 22.50	$ 82.50
2.	3.00	80.00	24.00	104.00
3.	1.20	32.00	16.80	48.80
4.	12.00	320.00	48.00	368.00
5.	9.00	240.00	90.00	330.00
6.	4.50	120.00	90.00	210.00
7.	7.50	200.00	82.50	282.50
8.	4.13	150.00	74.34	224.34
9.	9.75	260.00	136.50	396.50
10.	15.00	400.00	300.00	700.00
11.	30.00	800.00	750.00	1550.00
12.	1.50	40.00	18.00	58.00
13.	1.88	42.50		42.50
14.	2.10	56.00	16.80	72.80
15.	3.15	84.00	63.00	147.00

Assignment Sheet #3

1.	$103.50	9.	$145.00	5.	$216.00	13.	$207.50
2.	$230.00	10.	$270.00	6.	$125.00	14.	$280.00
3.	$460.00	11.	$260.00	7.	$168.00	15.	$230.00
4.	$228.00	12.	$389.00	8.	$172.50		

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WAGES
UNIT IV

TEST

1. Solve these problems on wages.

	No. of Hours	Rate per Hour	Rate for Overtime	Regular Wages	Overtime Wages	Total Pay
a.	15	$ 1.60				
b.	12	1.25				
c.	17	.90				
d.	22	1.50				
e.	8	1.65				
f.	60	1.60				
g.	54	2.70				

2. Mrs. Smith is a photographe For each class photograph he takes he is paid $8.25. For each individual student photograph he is paid $0.55. Last week, Mr. Smith took 15 class photographs and 221 individual student photographs. How much did he earn last week?

3. Find the total weekly earnings for each employee listed in the following table.

	Employee	Weekly Base Salary	Week's Sales	Rate of Commission	Total Pay
a.	1	$ 30.00	$ 500.00	2%	
b.	2	48.00	2000.00	3%	
c.	3	50.00	250.00	4%	
d.	4	30.00	6000.00	5%	
e.	5	60.00	1060.00	6%	
f.	6	45.00	990.00	3 1/2%	

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WAGES
UNIT IV

ANSWERS TO TEST

1.

	Rate for Overtime	Regular Wages	Overtime Wages	Total Pay
a.	_____	_____	_____	$ 24.00
b.	_____	_____	_____	15.00
c.	_____	_____	_____	15.30
d.	_____	_____	_____	33.00
e.	_____	_____	_____	13.20
f.	$2.40	$64.00	$48.00	112.00
g.	$4.05	$68.00	$56.70	124.70

2. $245.30

3. a. $40.00

   b. $108.00

   c. $60.00

   d. $330.00

   e. $123.60

   f. $79.65

Audio-Visual Supplement

This supplement was written to benefit the teacher in DE I. The films, filmstrips, and slides recommended cannot all be used since the demand for these is great. However, a wide selection of materials is listed from which to choose. These audio-visual materials need to be booked as early as possible to assure coordination of scheduling. All these materials may be obtained from:

Oklahoma State Department, Curriculum
1515 West Sixth
Stillwater, Oklahoma 74074

A key to the listing includes: F. denotes film, F.S. refers to filmstrip, and S. designates slides.

A. Orientation

Unit I DECA

F. Tell It Like It Is
Association Sterling Films
8615 Directors Row
Dallas, Texas
PH. (214) 638-6791

Book this film as soon as possible for this school year. There are only forty copies, and they are in great demand. Give one or two alternate dates when ordering this film.

F. Second Effort. Color 30 min., 1968

Selling is compared to the game of football by Vince Lombardi. We must keep going back to the fundamental if we are to succeed.

State Department of Vocational and Technical Education
Curriculum and Instructional Materials Center
1515 West Sixth Avenue
Stillwater, Oklahoma 74074

D. Personal Development

Unit I Good Grooming

F.S. Young Fashion Forecast: Spring
F.S. Young Fashion Forecast: Fall
F.S. Does It Matter How I Look

Unit III Personality

F.S. Your Person and Personality
F.S. Your Personality: You Others Know
F.S. Your Attitude is Showing

E. Human Relations

Unit II Custom and Policies

F. Your Job: Good Work Habits Color, 13 1/2 min., 1970
F. Your Job: You and Your Boss Color, 16 min., 1970
F. Your Job: Fitting In Color, 15 min., 1970
F. Keeping Your Job Is Work Color, 12 min., 1972

F. Job Skills

Unit I Basic Selling

F.S. Know Your Product
F. Make It Happen Color, 30 min., 1968
F.S. Selling As a Career
F.S. Techniques in Selling
F.S. Sales Clerk Procedures
S. Successful Selling Ideas

Unit II Business Letter

F. Take a Letter From A to Z — Color, 18 min., 1971

Unit III Telephone

Bell Telephone Company

G. Employment

Unit I Finding The Right Job

F. Your Job: Finding the Right One — Color, 13 min., 1970
F. Getting a Job is a Job — Color, 20 min., 1968

Unit III Application Form

F.S. Your Job Application
F.S. How to Apply for a Job
F. Your Job: Applying for It — Color, 13 1/2 min., 1970
F. Applying for a Job — Color, 13 1/2 min., 1971

Unit IV Job Interview

F.S. Job Interview Tips

H. Financial Management

Unit I Budgeting

F.S. Receiving, Checking, and Marking

Unit II Credit

F.S. Credit: Consumer Resource
F.S. Credit Union
F.S. Charge Account Application
F. Credit: Capital Idea — Color, 18 min., 1970
F.S. Charge Card and Chargestatements

Unit III Banking Services

F.S. Bank Loan

Unit I General Insurance

F.S. Automobile Insurance

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ABSTRACT: THIS PUBLICATION IS DESIGNED TO PROVIDE A BASIC CORE OF INSTRUCTION IN HOME ECONOMICS CONSUMER AND HOMEMAKING EDUCATION AT THE HOME ECONOMICS II LEVEL. IT INCLUDES BASIC KNOWLEDGES AND SKILLS IN THE AREAS OF CHILD DEVELOPMENT, CLOTHING AND TEXTILES, CONSUMER EDUCATION, FOODS AND NUTRITION, HOUSING AND HOME FURNISHINGS, PERSONAL AND FAMILY RELATIONSHIPS, AND CAREER EXPLORATION NEEDED FOR TENTH GRADE HOME ECONOMIC STUDENTS. THE MATERIALS IN THIS PUBLICATION ARE DESIGNED TO COVER ONLY SIXTY PERCENT OF THE CLASS TIME. EACH INSTRUCTIONAL UNIT INCLUDES BEHAVIORAL OBJECTIVES, SUGGESTED ACTIVITIES FOR TEACHER AND STUDENTS, INFORMATION SHEETS, ASSIGNMENT SHEETS, JOB SHEETS, VISUAL AIDS, TESTS, AND ANSWERS TO THE TESTS. (AUTHOR/KE)

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VT 101 460

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OKLAHOMA VOCATIONAL HOME ECONOMICS EDUCATION

Home Economics II

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HOME ECONOMICS II

BASIC CORE
Tenth Grade

Ann Benson, Curriculum Specialist
State Department of Vocational and Technical Education
Stillwater, Oklahoma

Developed by the Curriculum and Instructional Materials Center
For the Division of Vocational Home Economics Education
May Rollow, State Supervisor
OKLAHOMA STATE BOARD OF VOCATIONAL AND TECHNICAL EDUCATION
Leslie Fisher, Chairman
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FOREWORD

This publication is designed to provide a basic core of instruction in home economics consumer and homemaking education at the Home Economics II level.

It includes basic knowledges and skills in the areas of Child Development, Clothing and Textiles, Consumer Education, Foods and Nutrition, Housing and Home Furnishings, Personal and Family Relationships, and Career Exploration needed for tenth grade home economics students. These build upon the basic materials included in the Home Economics I Curriculum.

The material in this publication is designed to cover only sixty percent of the class time. To cover the additional time in each area the individual instructor will need to supplement with materials which she feels necessary to meet the individual needs of students and community.

The purpose of the curriculum is to assist teachers in improving instruction in Vocational Home Economics II in Oklahoma. As teachers use these materials in the classroom, it is hoped that student performance will improve, that students will be better prepared to assume homemaking and family responsibilities, and that they will receive training in preparation for the dual role of homemaker and wage earner.

It is our belief that the teaching of Vocational Home Economics should become more effective with its use.

Francis T. Tuttle, State Director
State Department of Vocational and
Technical Education

May Rollow, State Supervisor
Home Economics Education

PREFACE

In these changing times when more and more women are in the labor force, the function of secondary home economics must include more assistance to students in making important decisions and choices and help them to acquire competence and skills in human relations, choice making, and achieving one's goals. In order to do this, curriculum must be constantly revised and rewritten.

Much effort has been made to make this publication basic, readable, and useable. This publication does not cover every area of home economics training that the student needs, but it does provide the basics and the opportunity for a student to progress from one year's study to the next without a great deal of repetition.

Three vital parts of instruction, Motivating, Personalizing, and Localizing, are left to the individual instructors, and such instructors should capitalize on them; then and only then will this publication really become a vital part of the teaching-learning process. It is the responsibility of the instructor to supplement this publication with materials which she feels are necessary for the particular area of the state.

After using this publication, it is hoped that each teacher will realize the effectiveness of this approach to teaching which focuses all resource material toward a measurable outcome. The student should be able to perform at a higher level because both the student and the instructor know exactly where each is going.

Ann Benson
Home Economics Curriculum Specialist

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USE OF THIS PUBLICATION

Instructional Units

Home Economics II curriculum includes seven areas. Each area consists of one or more units of instruction. Each instructional unit includes behavioral objectives, suggested activities for teacher and students, information sheets, assignment sheets, job sheets, visual aids, tests, and answers to the test. Units are planned for more than one lesson or class period of instruction and are designed to account for sixty percent of an instructor's time in teaching vocational home economics. The remaining forty percent is left to the individual instructor according to the demands of her local community.

Careful study of each instructional unit by the teacher will help her determine:

A. The amount of material that can be covered in each class period.
B. The skills which must be demonstrated.
    1. Supplies needed
    2. Equipment needed
    3. Amount of practice needed
    4. Amount of class time needed for demonstrations
C. Supplementary materials such as pamphlets and filmstrips that must be ordered.
D. Resource people that must be contacted.

Objectives

Each unit of instruction is based on behavioral objectives. These objectives state the goals of the course thus providing a sense of direction and accomplishment for the student.

Behavioral objectives are stated in two forms: Terminal Objectives stating the subject matter to be covered in a unit of instruction; Specific Objectives stating the student performance necessary to reach the terminal objective.

Since the objectives of the unit provide direction for the teaching-learning process, it is important for the teacher and students to have a common understanding of the intent of the objectives. A limited number of performance terms have been used in the objectives for this curriculum to assist in promoting the effectiveness of the communication among all individuals using the materials.

Following is a list of performance terms and their synonyms which were used in this material:

Name	Identify	Describe
Label	Select	Define
List in writing	Mark	Discuss in writing
List orally	Point out	Discuss orally
Letter	Pick out	Interpret
Record	Choose	Tell how
Repeat	Locate	Tell what
Give		Explain

Order	Distinguish	Construct
Arrange	Discriminate	Draw
Sequence		Make
List in order		Build
Classify		Design
Divide		Formulate
Isolate		Reproduce
Sort		Transcribe
		Reduce
		Increase
		Figure
		Cost

Demonstrate
Show your work
Show procedure
Perform an experiment
Perform the steps
Operate
Remove
Replace
Turn off/on
(Dis) assemble
(Dis) connect

Reading of the objectives by the student should be followed by a class discussion to answer any questions concerning performance requirements for each instructional unit.

Teachers should feel free to add objectives which will fit the material to the needs of her students and community. When a teacher adds objectives, she should remember to supply the needed information, assignment and/or job sheets, and criterion tests.

Suggested Activities

Each unit of instruction has a Suggested Activities sheet outlining steps to follow in accomplishing specific objectives. The activities are listed according to whether they are the responsibility of the instructor or the student.

Instructor: Duties of the instructor will vary according to the particular unit; however, for best use of the material they should include the following: provide students with objective sheet, information sheet, assignment sheets, and job sheets; preview filmstrips, make transparencies, and arrange for resource materials and people; discuss terminal and specific objectives and information sheets; give test. Teachers are encouraged to use any additional instructional activities and teaching methods to aid students in accomplishing the objectives.

Students: Student activities are listed which will help the student to achieve the objectives for the unit.

Information Sheets

Information sheets provide content essential for meeting the cognitive (knowledge) objectives of the unit. The teacher will find that information sheets serve as an excellent guide for presenting the background knowledges necessary to develop the skills specified in the terminal objective.

Students should read the information sheets before the information is discussed in class. Students may take additional notes on the information sheets.

Transparency Masters

Transparency masters provide information in a special way. The students may see as well as hear the material being presented, thus reinforcing the learning process. Transparencies may present new information or they may reinforce information presented in the information sheets. They are particularly effective for such activities as learning and locating the parts of a machine.

Transparencies should be made and placed in the notebook where they will be immediately available for use. Transparencies direct the class's attention to the topic of discussion. They should be left on the screen only when topics shown are under discussion. (NOTE: Stand away from the overhead projector when discussing transparency material. The noise of the projector may cause the teacher to speak too loudly.)

Job Sheets

Job sheets are an important segment of each unit. The instructor should be able to and in most situations should demonstrate the skills outlined in the job sheets. Procedures outlined in the job sheets give direction to the skill being taught and allow both student and teacher to check student progress toward the accomplishment of the skill. Job sheets provide a ready outline for a student to follow if he has missed a demonstration. Job sheets also furnish potential employers with a picture of the skills being taught and the performances he might reasonably expect from a person who has had this training.

Assignment Sheets

Assignment sheets give direction to study and furnish practice for paper and pencil activities to develop the knowledges which are necessary prerequisites to skill development. These may be given to the student for completion in class or used for homework assignments. Answer sheets are provided which may be used by the student and/or teacher for checking student progress.

Test and Evaluation

Paper-pencil and performance tests have been constructed to measure student achievement of each objective listed in the unit of instruction. Individual test items may be pulled out and used as a short test to determine student achievement of a particular

objective. This kind of testing may be used as a daily quiz and will help the teacher spot difficulties being encountered by students in their efforts to accomplish the terminal objective. Test items for objectives added by the teacher should be constructed and added to the test. Progress sheets are provided for student and teacher to record acceptable performance of skills outlined in job sheets.

Test Answers

Test answers are provided for each unit. These may be used by the teacher and/or student for checking student achievement of the objectives.

OBTAINING A JOB
UNIT I

TERMINAL OBJECTIVE

After completion of this unit, the student should be able to list personal appearance tips, sources of information about companies and benefits of firms. The student should be able to state rules to guide him during the interview and list points that an interviewer looks for during the interview. This knowledge will be evidenced by scoring eighty-five percent on the unit test.

SPECIFIC OBJECTIVES

After completion of this unit, the student should be able to:

1. Match terms associated with obtaining a job to the correct definition.
2. List tips on personal appearance and attitudes for women and/or men.
3. List facts which should be learned about a company before applying for a job.
4. List areas in which most companies have policies.
5. Select from a list the alternative sources of finding information on a company's customs and policies.
6. Choose from a list benefits of a given firm.
7. Discuss employee responsibilities.
8. List ways of selling oneself in a personal interview.
9. Select from a list five points the interviewer looks for during the interview.
10. State rules to observe during the interview.
11. Write three general rules to follow in answering questions in an oral interview.
12. List tips for the first day on the job.
13. Select from a list those desirable characteristics of all workers.

OBTAINING A JOB
UNIT I

SUGGESTED ACTIVITIES

I. Instructor:

A. Provide students with objective sheet.

B. Provide students with information and assignment sheets.

C. Make transparencies.

D. Discuss terminal and specific objectives.

E. Discuss information and assignment sheets.

F. Assist students in determining company information, and help them use this information in completing each assignment sheet.

G. Role play practice interviews.

H. Give test.

II. Student:

A. Read objectives.

B. Study information sheet.

C. Complete each assignment sheet.

D. Take test.

INSTRUCTIONAL MATERIALS

I. Included in this unit:

A. Objectives

B. Information sheet

C. Transparency master: TM #1--Points to Remember in Interview

D Assignment sheets

1. Assignment Sheet #1--Determine Company Information

2. Assignment Sheet #2--Answer the Interviewer's Questions

E. Test

F. Answers to test

II. References:

A. Goble, Dorothy Y. *How to Get a Job and Keep It.* Austin, Texas: Steck-Vaughn Company, 1969.

B. Blackledge, Walter L., Ethel H. Blackledge, and Helen J. Keily. *You and Your Job.* Cincinnati: South-Western Publishing Company, 1967.

C. Moynihan, Paul, Jane Moynihan, and Giles A. Daeger. *You and Your Job--What Is It?* Chicago, Illinois: J. G. Ferguson Publishing Company, 1968.

D. Kimbrell, Grady and Ben S. Vineyard. *Activities for Succeeding in the World of Work.* Bloomington, Illinois: McKnight and McKnight Publishing Company, 1972.

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OBTAINING A JOB
UNIT I

INFORMATION SHEET

I. Terms and definitions

A. Employer--One that employs others

B. Employee--One employed by another usually for wages or salary

C. Interview--A meeting to obtain information

D. Wages--The compensation paid on an hourly basis

E. Salaries--The compensation of executives, supervisors, or other employees who are paid on a basis rather than an hourly rate

F. Reference--A person to whom inquiries as to character or ability can be made

G. Security--The precautions taken to protect secret business files and information

H. Policies--The objectives and standards of a business

I. Hiring--The beginning of employment

J. Fringe benefits--Those supplemental benefits (incentives) a business provides for its workers besides wages and/or salaries

II. Tips on personal appearance and attitude

A. Women

1. Be neat and clean

(NOTE: Wear clean clothes that are right for the job.)

2. Do not use too much makeup and perfume

3. Hands and fingernails should be clean

(NOTE: Avoid extra long nails and bright nail polish.)

4. Select jewelry suitable for working hours

(NOTE: Avoid flashy earrings and bracelets.)

5. Choose a neat, becoming hairstyle

INFORMATION SHEET

6. Be sure clothes are in good condition

(NOTE: Avoid tight, extremely short skirts. Wear hose and shoes with heels if you are applying for office work.)

7. In a personal conversation do not chew gum or smoke, even if offered a cigarette

8. Be alert

(NOTE: Show a real interest in the job you are asking about.)

9. Use good manners

(NOTE: Be courteous. Say "thank you" for services and attention given to you. Have a ready smile and a friendly attitude.)

10. Try not to show nervousness when talking with someone about a job

(NOTE: Some nervousness is expected.)

11. Develop and use a pleasant speaking voice

B. Men

1. Be neat and clean

(NOTE: Have your hair combed.)

2. Be clean shaven and have a neat haircut

3. Shine shoes and be sure they are in good shape

4. Wear clean clothes that are in good condition and right for the job

5. Have clean hands and fingernails

6. Do not chew gum or smoke when meeting someone about a job

7. Be friendly but not too eager

(NOTE: Do not be afraid to smile.)

8. Be alert

(NOTE: Show a real interest in the job you are asking about.)

INFORMATION SHEET

9. Use good manners

(NOTE: Be courteous. Say "thank you" for services and attention given to you.)

10. During a job conversation, try not to show nervousness

(NOTE: Relax; some nervousness is expected.)

11. Develop and use a pleasant speaking voice

III. Facts which should be learned about a company before applying for a job

A. Know what products they make

B. Know what services they render

C. Find out how long they have been in business

D. Know if they have expanded or varied their operations

IV. Areas in which most companies have policies

A. Employee benefits and working conditions

1. Hours of work
2. Pay period
3. Length of lunch period and coffee breaks
4. Smoking policies
5. Use of telephone for personal business
6. Policy about friends visiting one on the job
7. Dress regulations
8. Things one can and cannot make decisions about
9. Unions and professional organizations
10. Hiring and separation policies

B. Security precautions

1. Security regulations
2. Employee ethics
3. Methods for disposing of confidential materials

INFORMATION SHEET

C. Public relations

1. Internal--Among employees in the organization

2. External--With the public

V. Sources for finding information on a company's customs and policies

A. Company's training manual

B. Company newsletters, bulletins, and other literature

C. Advertisements

D. Financial reports

E. Articles in the news media

F. Fellow employees

G. In-service training programs

H. Departmental meetings

VI. Benefits of a given firm

A. Salaries and/or wages

B. Fringe benefits

1. Insurance and hospitalization

2. Pension and retirement plans

3. Paid vacations and holidays

4. Sick leave

5. Stock and/or profit sharing plans

6. Medical facilities

7. Tuition refunds and/or other educational programs

C. Personal satisfactions

D. Tenure

E. Opportunity for advancement

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INFORMATION SHEET

VII. Employee responsibilities

A. Know company

1. Products
2. Services
3. Policies, rules, and regulations

B. Know job

1. Duties
2. Responsibilities

C. Promote goodwill

1. Internal
2. External

D. Be ethical

1. Do not divulge privileged company information
2. Do job for which paid
3. Handle complaints courteously
4. Treat competitors and salesmen with courtesy
5. Give customers and the public respect and consideration
6. Use professional ethics
7. Do not gossip

VIII. Ways of selling oneself in a personal interview

A. If interview is in the morning, allow enough time for getting ready

B. Be on time

C. Go alone for the interview

D. Be careful of appearance

E. Stand erect

INFORMATION SHEET

F. Look pleasant

G. Introduce self in a quiet, easy way

H. Sit erect and avoid signs of nervousness

I. Be ready to take a performance test if applying for a job involving skills

J. Be ready to talk about individual work experiences and special skills

K. Know something about the firm or plant where applying for work

L. Make a list of the questions to ask the interviewer about the job

(NOTE: Be willing to tell how we can help the company in addition to ways the company can help us.)

M. Know the wage or salary that should be paid for the job

N. Take a pen, pencil, and a writing pad to the interview

(NOTE: Prepare job search folder.)

IX. Six points the interviewer looks for during the interview (Transparency 1)

A. Personality

B. Appearance

C. Preparation

D. Experience

E. References

F. Attitude

X. Rules to observe during the interview

A. Greet interviewer by name if known and can be pronounced correctly

B. Wait until interviewer offers a chair before sitting down

C. Do not chew gum or smoke, even if invited to do so

D. Know what job is available

E. Be ready for a surprise question and think before answering

INFORMATION SHEET

F. Let the interviewer do most of the talking, but do not just be a yes or no applicant

G. Sit up straight in chair

H. Look interviewer directly in the eye during the conversation

I. Make sure that good points get across to interviewer

J. Try not to get discouraged if employer indicates more qualifications are needed or that a call may be received later

K. If asked about the last jobs held, be honest

(NOTE: Be ethical in discussion of prior jobs. However, do not go into indepth detail.)

L. At the end of the interview, show the interviewer that his time was appreciated

M. Do not use slang

XI. General rules to follow in answering questions in an oral interview

A. Be brief

B. Be positive

C. Be honest

XII. Tips for the first day on the job

A. Go to work a few minutes ahead of time

(NOTE: Report early to your supervisor.)

B. Listen to instructions carefully

(NOTE: Ask questions if you do not understand what is expected of you.)

C. Be friendly to fellow employees, but do not waste time by visiting on the job

D. Do not be too familiar with department heads

(NOTE: Use courtesy in referring to supervisors.)

E. Try not to be over anxious

(NOTE: Do your best work.)

INFORMATION SHEET

F. Report mistakes to immediate supervisor

(NOTE: Learn from your mistakes so that you will not make them a second time.)

G. Learn the company rules and regulations

(NOTE: Do your job the way the boss wants it done.)

H. Think for self

(NOTE: Take a real interest in your work.)

I. Clean up after work

(NOTE: Keep your work area neat.)

J. Do not be a clock watcher

XIII. Desirable characteristics of all workers

A. Ability to get along with other workers

B. Dependability

C. Efficiency

D. Good health

E. Initiative

F. Reliability

G. Promptness

H. Skill

I. Loyalty

J. Persistence

K. Helpfulness

L. Cheerfulness

M. Willingness

N. Attendance

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Points to Remember in an Interview

- Personality
- Appearance
- Preparation
- Experience
- Attitude
- References

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OBTAINING A JOB
UNIT I

ASSIGNMENT SHEET #1--DETERMINE COMPANY INFORMATION

List facts which you should learn about a company when you are applying for a job.

Choose a company for which you might want to work and assume that you are to go for an interview. You are asked the question, "Why do you want to work for our firm?" Obtain up-to-date information, and prepare a written answer.

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OBTAINING A JOB
UNIT I

ASSIGNMENT SHEET #2--ANSWER THE INTERVIEWER'S QUESTIONS

Select a job for which you would like to apply. Where applicable, answer the following questions as practice for the interview.

1. For what job (position) are you applying? What is your job preference?

2. Do you have any experience in this type of work? What other jobs did you have that are similar to the work you are applying?

3. Describe the work you did on your last job.

4. Why did you leave your last job?

5. What did you think of your former employers? Supervisors? May we contact your present employer?

6. Are you looking for permanent or temporary employment?

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ASSIGNMENT SHEET #2

7. What hours are you available for work? Can you work a split shift?

8. What tools or equipment can you use? Do you own any of these tools?

9. Why did you apply for a job with this company? What do you know about this company?

10. Are any of your friends or relatives employed here?

11. What training have you had that would help you in this particular job?

12. Have you had any special courses or training?

13. If you know what the job pays, will you be satisfied with this pay?

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ASSIGNMENT SHEET #2

14. Do you drive? Have a car? A driver's license? Have you ever received any tickets? If so, for what?

15. How many days did you miss on your last job due to illness or emergencies?

16. What provisions have you made for your children?

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OBTAINING A JOB
UNIT I

TEST

1. Match the following terms to their correct definitions.

_____a.	One employed by another usually for wages or salary	1.	Wages
_____b.	The objectives and standards of a business	2.	Security
_____c.	Those supplemental benefits (incentives) a business provides for its workers besides wages and/or salaries	3.	Hiring
_____d.	The compensation paid on an hourly basis	4.	Salaries
_____e.	A meeting to obtain information	5.	Employee
_____f.	One that employs others	6.	Employer
_____g.	The compensation of executives, supervisors, or other employees who are paid on a basis rather than an hourly rate	7.	Interview
_____h.	A person to whom inquiries as to character or ability can be made	8.	Reference
_____i.	The precautions taken to protect secret business files and information	9.	Policies
_____j.	The beginning of employment	10.	Fringe benefits

2. List tips on personal appearance and attitudes. Girls, list those for women, and boys, list those for men.

a.

b.

c.

d.

e.

f.

3. List four facts which should be learned about a company before applying for a job.

a.

b.

c.

d.

4. List eight areas in which most companies have policies.

a.

b.

c.

d.

e.

f.

g.

h.

5. Select and place an "X" to the left of sources of finding information on a company's customs and policies.

_____a. Company's training manual

_____b. Company newsletters, bulletins, and other literature

_____c. Advertisements

_____d. Financial reports

_____e. Competitors

_____f. Articles in the news media

_____g. Fellow employees

_____h. In-service training programs

_____i. Departmental meetings

6. Choose and place an "X" to the left of benefits of a business organization.

_____a. Sick leave

_____b. Time off for good behavior

_____c. Medical facilities

_____d. Paid vacations and holidays

_____e. Salaries and/or wages

_____f. Personal satisfactions

7. Discuss employee responsibilities.

8. List seven ways of selling oneself in a personal interview.

a.

b.

c.

d.

e.

f.

g.

9. Select and place an "X" to the left of five points the interviewer looks for during the interview.

_____a. Experience

_____b. Preparation

_____c. Family background

_____d. Personality

_____e. Type of car you drive

_____f. Leisure time activities

_____g. Appearance

_____h. Address

_____i. References

10. State six rules to observe during the interview.

a.

b.

c.

d.

e.

f.

11. Write three general rules to follow in answering questions in an oral interview.

a.

b.

c.

12. List six tips for the first day on the job.

a.

b.

c.

d.

e.

f.

13. Select and place an "X" to the left of those desirable characteristics of all workers.

_____a. Loyalty

_____b. Efficiency

_____c. Willingness

_____d. Unwilling to accept responsibility

_____e. Reliability

_____f. Indifference

_____g. Skill

_____h. Initiative

_____i. Laziness

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OBTAINING A JOB
UNIT I

ANSWERS TO TEST

1. a. 5
   b. 9
   c. 10
   d. 1
   e. 7
   f. 6
   g. 4
   h. 8
   i. 2
   j. 3

2. Any six of the following:

   a. Women

      1) Be neat and clean
      2) Do not use too much makeup and perfume
      3) Hands and fingernails should be clean
      4) Select jewelry suitable for working hours
      5) Choose a neat, becoming hairstyle
      6) Be sure clothes are in good condition
      7) In a personal conversation do not chew gum or smoke, even if offered a cigarette
      8) Be alert
      9) Use good manners
      10) Try not to show nervousness when talking with someone about a job
      11) Develop and use a pleasant speaking voice

Any six of the following:

b. Men

1) Be neat and clean

2) Be clean shaven and have a neat haircut

3) Shine shoes and be sure they are in good shape

4) Wear clean clothes that are in good condition and right for the job

5) Have clean hands and fingernails

6) Do not chew gum or smoke when meeting someone about a job

7) Be friendly but not too eager

8) Be alert

9) Use good manners

10) During a job conversation, try not to show nervousness

11) Develop and use a pleasant speaking voice

3. a. Know what products they make

b. Know what services they render

c. Find out how long they have been in business

d. Know if they have expanded or varied their operations

4. Any eight of the following:

a. Hours of work

b. Pay period

c. Length of lunch period and coffee breaks

d. Smoking policies

e. Use of telephone for personal business

f. Policy about friends visiting one on the job

g. Dress regulations

h. Things one can and cannot make decisions about

i. Unions and professional organizations

j. Hiring and separation policies

k. Security regulations

l. Employee ethics

m. Methods for disposing of confidential materials

n. Internal Public Relations--Among employees in the organization

o. External Public Relations--With the public

5. a

b

c

d

f

g

h

i

6. a

c

d

e

f

7. Discussion should include:

a. Know company

1) Products

2) Services

3) Policies, rules, and regulations

b. Know job

1) Duties

2) Responsibilities

c. Promote goodwill

1) Internal

2) External

d. Be ethical

1) Do not divulge privileged company information

2) Do job for which paid

3) Handle complaints courteously

4) Treat competitors and salesmen with courtesy

5) Give customers and the public respect and consideration

6) Use professional ethics

7) Do not gossip

8. Any seven of the following:

a. If interview is in the morning, allow enough time for getting ready

b. Be on time

c. Go alone for the interview

d. Be careful of appearance

e. Stand erect

f. Look pleasant

g. Introduce self in a quiet, easy way

h. Sit erect and avoid signs of nervousness

i. Be ready to take a performance test if applying for a job involving skills

j. Be ready to talk about individual work experiences and special skills

k. Know something about the firm or plant where applying for work

l. Make a list of the questions to ask the interviewer about the job

m. Know the wage or salary that should be paid for the job

n. Take a pen, pencil, and a writing pad to the interview

9. a

   b

   d

   g

   i

10. Any six of the following:

   a. Greet interviewer by name if known and can be pronounced correctly

   b. Wait until interviewer offers a chair before sitting down

   c. Do not chew gum or smoke, even if invited to do so

   d. Know what job is available

   e. Be ready for a surprise question and think before answering.

   f. Let the interviewer do most of the talking, but do not just be a yes or no applicant

   g. Sit up straight in chair

   h. Look interviewer directly in the eye during the conversation

   i. Make sure that good points get across to interviewer

   j. Try not to get discouraged if employer indicates more qualifications are needed or that a call may be received later.

   k. If asked about the last jobs held, be honest.

   l. At the end of the interview, show the interviewer that his time was appreciated

   m. Do not use slang

11. a. Be brief

   b. Be positive

   c. Be honest

12. Any six of the following

   a. Go to work a few minutes ahead of time

   b. Listen to instructions carefully

c. Be friendly to fellow employees, but do not waste time by visiting on the job

d. Do not be too familiar with department heads

e. Try not to be over anxious

f. Report mistakes to immediate supervisor

g. Learn the company rules and regulations

h. Think for self

i. Clean up after work

j. Do not be a clock watcher

13. a

b

c

e

g

h

PROGRESS ON THE JOB
UNIT II

TERMINAL OBJECTIVE

After completion of this unit, the student should be able to name desirable traits of workers, discuss steps to aid in advancement, and name benefits of additional education and training. The student should be able to discuss activities and commitments which help prepare him for advancement and responsibility and develop a program of self-development. This knowledge will be evidenced through demonstration and by scoring eighty-five percent on the unit test.

SPECIFIC OBJECTIVES

After completion of this unit, the student should be able to:

1. Match terms associated with progress on the job to the correct definition.
2. Name the reason ninety percent of the people are fired from their jobs.
3. Select from a list those traits that make one either delightful or irritating to work with.
4. Name problems created by a worker "just putting in [illegible] time."
5. Select from a list those elements employers consider in deciding whom to promote.
6. Distinguish between ways good and poor attitudes show through in a job.
7. Discuss in writing three steps that help one advance on the job.
8. Name benefits of additional education and training.
9. Discuss in writing three activities and commitments that will better prepare one for advancement and responsibility.
10. Discuss in a short paragraph the meaning of the statement, "There is dignity in all work."
11. Demonstrate the ability to develop a program of self-development.

PROGRESS ON THE JOB
UNIT II

SUGGESTED ACTIVITIES

I. Instructor:

A. Provide students with objective sheet.

B. Provide students with information and assignment sheets.

C. Make transparency.

D. Discuss terminal and specific objectives.

E. Discuss information and assignment sheets.

F. Assist students in continuing their programs for self-development.

G. Give test.

II. Student:

A. Read objectives.

B. Study information sheet.

C. Complete assignment sheets.

D. Take test.

INSTRUCTIONAL MATERIALS

I. Included in this unit:

A. Objectives

B. Information sheet

C. Transparency Master #1--Of Ten Workers Who Lose Their Jobs

D. Assignment sheets

1. Assignment Sheet #1--A Program for Self-Development

2. Assignment Sheet #2--Set Job Goals

E. Test

F. Answers to test

II. References:

A. Blackledge, Walter L., Ethel H. Blackledge, and Helen J. Keily. *You and Your Job.* Cincinnati: South-Western Publishing Company, 1967.

B. Goble, Dorothy Y. *How to Get a Job and Keep It.* Austin, Texas: Steck-Vaughn Company, 1969.

C. Moynihan, Paul, Jane Moynihan, and Giles A. Doeger. *You and Your Job--What Is It?* Chicago, Illinois: J. G. Ferguson Publishing Company, 1968.

D. Kimbrell, Grady and Ben S. Vineyard. *Activities for Succeeding in the World of Work.* Bloomington Illinois: McKnight and McKnight Publishing Company, 1972.

E. Kimbrell, Grady and Ben S. Vineyard. *Succeeding in the World of Work.* Bloomington, Illinois: McKnight and McKnight Publishing Company, 1970.

III. Films:

A. "Your Job: Fitting In" (Available from Curriculum Center)

B. "Your Job: Getting Ahead" (Available from Curriculum Center)

C. "Your Job: Good Work Habits" (Available from Curriculum Center)

D. "Your Job: You and Your Boss" (Available from Curriculum Center)

E. "Keeping Your Job is Work" (Available from Curriculum Center)

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PROGRESS ON THE JOB
UNIT II

INFORMATION SHEET

I. Terms and definitions

A. Adaptability--The ability to adjust easily to new situations

B. Cooperativeness--The ability to work harmoniously with others toward some desired goal

C. Goodwill--A feeling of rapport and respect that has been established between individuals

D. Initiative--The act of being a self-starter; finding things that need to be done without having to be told, the ability to proceed without being told

E. Perseverance--The action of following a job through to its completion

F. Seniority--A status attained by length of continuous service

G. Compromise--A mutual agreement made by concession on both sides

H. Criterion--A standard by which something is judged

I. Dependability--The quality of being reliable

J. Dignity--The formal reserve of one's manners and language

K. Honesty--One's truthfulness in all words and deeds

L. Improvise--To make do with what one has

M. Loyalty--The support for a cause

N. Morale--A state of mind which reflects an individual's attitudes toward his job, fellow workers, and employers

O. Tact--A keen sense of what to say or do to maintain good relations

P. Tenure--The length of time a job is held

Q. Negotiate--To confer with another so as to arrive at the settlement of some matter

II. The reason ninety percent of the people are fired from their jobs--Inability to get along with others (Transparency 1)

(NOTE: This inability to get along refers to frequent tardiness or absence from work, too little ambition, unwillingness to follow company rules, carelessness, dishonesty, inability to communicate effectively, irresponsibility, and lack of adaptability.)

INFORMATION SHEET

III. Traits that make one either delightful or irritating to work with

A. Delightful

1. Sense of humor
2. Perseverance
3. Tolerance
4. Energy
5. Enthusiasm
6. Self-confidence
7. Consideration for others
8. Doing more than one's share
9. Offers to help others

B. Irritating

1. Hums or whistles incessantly
2. Gossips
3. Overuses the telephone for personal calls
4. Fusses with hair or uses strong perfume
5. Chews gum or smokes thoughtlessly
6. Interrupts frequently
7. Uses foul language
8. Criticizes or belittles others
9. Says unkind things
10. Uses transistor radios thoughtlessly

IV. Problems that may be created by the worker who is "just putting in his time"

A. Low morale of self and among other workers

B. Costly to company

INFORMATION SHEET

C. Deterioration to individual work habits

D. Lowering self image

V. Elements employers consider in deciding whom to promote

(NOTE: These are not listed in order of importance.)

A. Attitude

B. Seniority

C. Knowledge of present job

D. Quality of work

E. Quantity of work

F. Initiative

G. Perseverance

H. Cooperativeness, goodwill

I. Ability to think

J. Adaptability

K. Adequacy of training

L. Attendance

M. Self-management

N. Growth

VI. Ways attitudes show through in one's job

A. Good attitudes

1. Dressing the part
2. Watching one's grooming
3. Using a pleasant voice and tone quality
4. Keeping alert and sitting up straight
5. Keeping the quality of work first in importance and quantity secondary

INFORMATION SHEET

6. Being sincere and loyal
7. Being punctual
8. Being dependable
9. Remembering names
10. Being cheerful
11. Being responsibile toward company property
12. Keeping problems to self
13. Looking at positive aspects of job and fellow workers
14. Willing to help others

B. Poor attitudes

1. Calling the boss by his first name because some of the co-workers do
2. Making personal calls frequently
3. Using company time, stationery, and stamps for personal correspondence
4. Telling others how to do their job
5. Gossiping
6. Being overly familiar or "chummy" with co-workers

VII. Steps that will help one advance on the job

A. Master present job completely

1. Follow directions
2. Ask questions
3. Follow standard office practices
4. Meet deadlines
5. Keep standards high
6. Check the accuracy of one's work

INFORMATION SHEET

B. Develop a program for self-improvement

1. Improve personality
2. Increase skills
3. Continue education

C. Show initiative on the job

1. Take on additional responsibilities
2. Handle more complicated work
3. Suggest improvements

(NOTE: Do not be overly ambitious at the expense of a more qualified person.)

4. Develop self-motivation

VIII. Benefits of additional education and training

A. Advancement and job stability

B. Better pay

C. More exciting and challenging positions

D. Increased responsibilities

E. Prestige

F. Personal satisfaction

IX. Activities and commitments that will better prepare one for advancement and responsibility

A. Reading

1. To increase general knowledge
2. To improve vocabulary
3. To enlarge areas of interest and broaden scope of understanding
4. To keep abreast in one's field

B. Joining and participating in professional organizations

INFORMATION SHEET

C. Volunteering for civic and community projects

1. To collect money for health organizations
2. To tutor less advantaged children
3. To participate in city clean-up projects
4. To offer personal services to hospitals or nursing homes

X. Meaning of "There is dignity in all work"

A. All jobs have an entry level

(NOTE: Seldom does one begin "at the top" when entering an occupation.)

B. All jobs have importance

C. All productive and honest work should have equal dignity

(NOTE: The garbage collector's contribution to social welfare is as important as that of the teacher or the lawyer, even though the focus of supply and demand may measure their market worth differently.)

D. Accomplishment of a job promotes satisfaction and respect toward self

(NOTE: Many other factors may be added to this list.)

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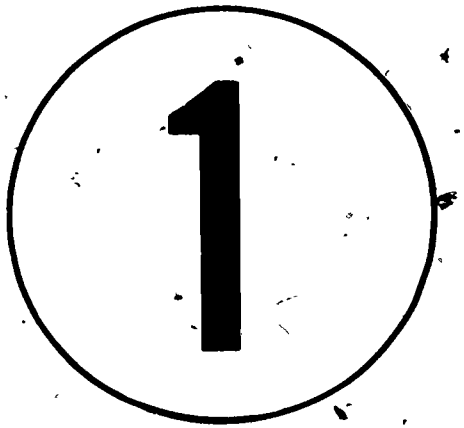
Of Ten Workers Who Lose Their Jobs



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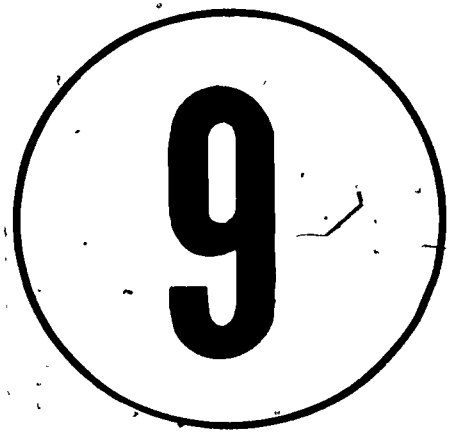

Do Not Know How to Get Along with People

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PROGRESS ON THE JOB
UNIT II

ASSIGNMENT SHEET #1--A PROGRAM
FOR SELF-DEVELOPMENT

A professional worker cannot afford to discontinue her educational pursuits after high school graduation. She must constantly be working to improve her personality and skills. She has the responsibility to keep abreast in her field so that she will be able to suggest ways to reduce costs, increase efficiency, and stimulate profits. The good worker must develop a plan for self-development.

Hints to remember in setting up your plan:

1. Select only one or two items to work on at first; add additional items later as progress is made and as your schedule permits.
2. Set aside a certain time of the week for study and improvement. Do not be tempted to skip your improvement sessions.
3. Keep your plans simple enough that they do not interfere with your job by making you tired and sluggish.
4. Visit the public library often to review new books and periodicals.
5. Check into courses offered at local schools or universities.
6. Try to learn from others.
7. Finish each program that you start.

Directions: Complete the following questions.

1. What personal areas are you weak in? Grooming? Voice? Personality? etc. List those areas in which you need improvement.

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ASSIGNMENT SHEET #1

2. What skills do you have that need improvement? List them below.

3. Do you consistently try to improve your skills?

4. Do you do additional reading in those areas in which you are interested?

5. How many hours do you spend watching television per week (approximately)?

6. Could you devote one-third of this time to self-improvement?

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ASSIGNMENT SHEET #1

Procedures for making your plan for self-development:

1. Keep track, on a separate sheet of paper, of how you spend your time each day for a week.

2. Review the way you spend your time.

3. List the hours that you plan to spend during the week for self-development.

4. List three immediate goals you hope to achieve.

   a.

   b.

   c.

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ASSIGNMENT SHEET #1

5. Outline below your self-development plan for the next month.

6. After one month of working on your individual improvement plan, review the results. What have you achieved? What had you hoped to achieve that you did not?

7. List the times you let something else take precedence over your self-development program.

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PROGRESS ON THE JOB
UNIT II

ASSIGNMENT SHEET #2--SET JOB GOALS

In the table on the following page, list, in order of importance, the key responsibilities of your ~~job~~ or the major job functions for which you are held accountable for producing results. For each job function, list the specific results you expect to accomplish during a time period agreed upon by you and your teacher. Objectives should include what is to be accomplished and by what date. Evaluate each objective at the beginning of the time period as to whether it will be extremely difficult, difficult, have some difficulty, be easy, or extremely easy to achieve. As your teacher suggests, periodically (at least twice during the time period) check for achievement of each objective and record when it has been exceeded, achieved, partially met, little done, or no activity has been done in accomplishing the objective.

At the end of the time period, answer the following questions:

1. Why were some of the objectives met more easily than others?

2. When do you expect to complete the unfinished objectives?

3. Do you need to make any changes in your objectives?

ASSIGNMENT SHEET #2

EVALUATION	Achievement of the Objective	No Activity	
		Little Done	
		Partially Met	
		Achieved	
		Exceeded	
	Difficulty of the Objective	Extremely Easy	
		Easy	
		Some Difficulty	
		Difficult	
		Extremely Difficult	
JOB OBJECTIVES			
MAJOR JOB FUNCTIONS			

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PROGRESS ON THE JOB
UNIT II

TEST

1. Match the following terms to the correct definitions.

_____a.	A standard by which something is judged	1.	Goodwill
_____b.	The formal reserve of one's manners and language	2.	Criterion
_____c.	To make do with what one has	3.	Honesty
_____d.	The length of time a job is held	4.	Improvise
_____e.	The action of following a job through to its completion	5.	Morale
_____f.	The ability to adjust easily to new situations	6.	Tenure
_____g.	A feeling of rapport and respect that has been established between individuals	7.	Perseverance
_____h.	A status attained by length of continuous service	8.	Dependability
_____i.	One's truthfulness in all words and deeds	9.	Dignity
_____j.	A keen sense of what to say or do to maintain good relations	10.	Adaptability
_____k.	A state of mind which reflects an individual's attitudes toward his job, fellow workers, and employers	11.	Cooperativeness
_____l.	The support for a cause	12.	Initiative
_____m.	The quality of being reliable	13.	Seniority
_____n.	A mutual agreement made by concession on both sides	14.	Compromise
_____o.	The act of being a self-starter; finding things that need to be done without having to be told; the ability to proceed without being told	15.	Loyalty
		16.	Negotiate
		17.	Tact

_____p. The ability to work harmoniously with others toward some desired goal

_____q. To confer with another so as to arrive at the settlement of some matter

2. Name the reason ninety percent of the people are fired from their jobs.

3. Select and place a "D" in front of each trait below that would make one delightful to work with. Place an "I" in front of each trait that would make one irritating to work with.

_____a. Gossips

_____b. Tolerance

_____c. Interrupts

_____d. Gets ahead of others in line

_____e. Self-confidence

_____f. Offers to help others

_____g. Energy

_____h. Uses foul language

_____i. Uses strong perfume

4. Name two problems created by a worker "just putting in his time."

a.

b.

5. Select and place an "X" in front of each of the following which are elements employers consider in deciding whom to promote.

_____a. How much you earn

_____b. Who you know

_____c. Adequacy of training

_____d. Number of previous requests for raises

_____e. Quality of work

_____f. Seniority

_____g. Knowledge of present job

_____h. Perseverance

_____i. How expensively you dress

6. Distinguish between ways good and poor attitudes show through in a job by placing a "G" in front of each item below which shows a good attitude on the job. Place a "P" in front of each item that shows a poor attitude.

_____a. Being punctual

_____b. Remembering names

_____c. Making personal calls frequently

_____d. Telling others how to do their job

_____e. Calling the boss by his first name because some of the co-workers do

_____f. Dressing the part

_____g. Keeping the quality of work first in importance and quantity secondary

_____h. Being overly familiar or "chummy" with co-workers

7. Discuss in writing three steps that help one advance on the job.

8. Name five benefits of additional education and training.

a.

b.

c.

d.

e.

9. Discuss three activities and commitments that will better prepare one for advancement and responsibility.

10. Discuss in a short paragraph the meaning of the statement, "There is dignity in all work."

11. Demonstrate the ability to develop a program of self-development.

(NOTE: If this has not been accomplished prior to the test, ask the instructor when the above activity should be completed.)

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PROGRESS ON THE JOB
UNIT II

ANSWERS TO TEST

1. a. 2
   b. 9
   c. 4
   d. 6
   e. 7
   f. 10
   g. 1
   h. 13
   i. 3
   j. 17
   k. 5
   l. 15
   m. 8
   n. 14
   o. 12
   p. 11
   q. 16

2. Inability to get along with others

3. a. I
   b. D
   c. I
   d. I
   e. D

f. D

g. D

h. I

i. I

4. Any two of the following:

a. Low morale of self and among other workers

b. Costly to company

c. Deterioration to individual work habits

d. Lowering self image

5. c

e

f

g

h

6. a. G

b. G

c. P

d. P

e. P

f. G

g. G

h. P

7. Discussion should include:

a. Master present job completely

1) Follow directions

2) Ask questions

3) Follow standard office practices

4) Meet deadlines

5) Keep standards high

6) Check the accuracy of one's work

b. Develop a program for self-improvement

1) Improve personality

2) Increase skills

3) Continue education

c. Show initiative on the job

1) Take on additional responsibilities

2) Handle more complicated work

3) Suggest improvements

4) Develop self-motivation

8. Any five of the following:

a. Advancement and job stability

b. Better pay

c. More exciting and challenging positions

d. Increased responsibilities

e. Prestige

f. Personal satisfaction

9. Discussion should include:

a. Reading

1) To increase general knowledge

2) To improve vocabulary

3) To enlarge areas of interest and broaden scope of understanding

4) To keep abreast in one's field

b. Joining and participating in professional organizations

c. Volunteering for civic and community projects

1) To collect money for health organizations

2) To tutor less advantaged children

3) To participate in city clean-up projects

4) To offer personal services to hospitals or nursing homes

10. Discussion should include:

a. All jobs have an entry level

b. All jobs have importance

c. All productive and honest work should have equal dignity

d. Accomplishment of a job promotes satisfaction and respect toward self

11. Evaluated to the satisfaction of the instructor.

BUSINESS ETIQUETTE - UNIT III

TERMINAL OBJECTIVE

After completing this unit, the student should be able to list guidelines for getting acquainted, the corner stones of success, and ways of getting along with the boss and fellow workers. The student should be able to state reasons for holding a job and give reasons for workers losing their jobs. This knowledge will be evidenced by scoring eighty-five percent on the unit test.

SPECIFIC OBJECTIVES

After completion of this unit, the student should be able to:

1. Match terms associated with business etiquette to the correct definition.
2. List guidelines for getting acquainted.
3. Distinguish between indispensable and undesirable characteristics of a worker.
4. Select from a list the four corner stones of success.
5. List two advantages of getting along with your employer and fellow workers.
6. List three ways to get along well with the boss.
7. List four guidelines for getting along with fellow workers.
8. Select from a list the reasons workers lose their jobs.
9. List reasons why it is important to have a job one enjoys.
10. Select from a list major reasons for holding a job.
11. Read and react to a letter "Dear Kid."

BUSINESS ETIQUETTE
UNIT III

SUGGESTED ACTIVITIES

I. Instructor:

A. Provide students with objective sheet.

B. Provide students with information and assignment sheets.

C. Make transparencies.

D. Discuss terminal and specific objectives.

E. Discuss information and assignment sheets.

F. Lead classroom discussion of the letter "Dear Kid".

G. Assist students in contacting an employer for interview purposes.

H. Give test.

II. Student:

A. Read objectives.

B. Study information sheet.

C. Complete each assignment sheet.

D. Take test.

INSTRUCTIONAL MATERIALS

I. Included in this unit:

A. Objectives

B. Information sheet

C. Transparency masters

1. TM 1--Corner Stones of Success
2. TM 2--Major Reasons for Holding a Job

D. Assignment sheets

1. Assignment Sheet #1--React to Letter "Dear Kid"
2. Assignment Sheet #2--Personal Interview with Employer

E. Test

F. Answers to test

II. References:

A. Blackledge, Walter L., Ethel H. Blackledge, and Helen J. Kelly. *You and Your Job.* Cincinnati: South-Western Publishing Company, 1967.

B. Goolé, Dorothy Y. *How to Get a Job and Keep It.* Austin, Texas: Steck-Vaughn Company, 1969.

BUSINESS ETIQUETTE
UNIT III

INFORMATION SHEET

I. Terms and definitions

A. Attitude--A feeling or emotion toward the people and things around one

B. Good grooming--Neat, clean appearance

C. Good manners--Good social conduct

D. Friendliness--The outward evidence of a cheerful willingness to work and be friends

E. Character--A combination of qualities, traits, and features that make one an individual

II. Guidelines for getting acquainted

A. Be pleasant, cheerful, and friendly to everyone

B. Take time to know the individuals before joining cliques

C. Do not force self on others

D. If invited, try out company sponsored social groups and/or teams

E. Be able to converse with others

F. Have desire to get acquainted with others

G. Learn interests of others

III. Indispensable and undesirable characteristics of a worker

A. Indispensable characteristics

1. Punctuality
2. Accuracy
3. Reliability
4. Honesty
5. Initiative
6. Dependability
7. Attendance
8. Tolerance

INFORMATION SHEET

B. Undesirable characteristics

1. Disloyalty
2. Inconsideration
3. Excessive tardiness
4. Lack of initiative
5. Carelessness
6. Poor attitude
7. Absenteeism
8. Inability to apologize
9. Inability to accept others handicaps

IV. Corner stones of success (Transparency 1)

A. Good manners

B. Good grooming

C. Good speech and communication

D. Good work

V. Advantages of getting along with your employer and fellow workers

A. Greater personal satisfaction

B. Better opportunities for advancement

C. Greater productivity for the company

D. Contribute to overall morale

VI. Ways to get along well with the boss

A. Quickly learn all that is possible when undertaking a new job

B. Follow the rules and regulations of the employing company when starting a new job

C. Follow instructions carefully, even if the reasons for them are not fully understood

INFORMATION SHEET

D. Take pride in the company for which employed

E. Accept constructive criticism

F. Do not carry a grudge

G. Do what needs to be done without being told

H. Contribute individual skills, ideas, energy, and time to make a better product or service

I. Do not be afraid to ask questions

J. Accept responsibility for making mistakes and attempt to correct them

VII. Guidelines for getting along with fellow workers

A. Be concerned for others--Their interests, their problems, their welfare

B. Cooperate with others--Lend a helping hand without thinking about getting anything in return

C. Respect others, even if some of their actions do not conform to our standards

D. Listen and understand what others are saying

E. Give credit to others and be glad to see them succeed without worrying about individual status

F. Do not get personal feelings hurt over what someone else says

(NOTE: He was probably just in a "bad mood" that day. Take it as good-natured kidding, and do not try to get even.)

G. Seek promotion on individual merits--Never try to get ahead by holding others back or "running them down"

H. Look for ways to foster friendship and group spirit as well as ways to reduce conflict and hard feelings

I. Leave personal problems at home

J. Keep personal confidences entrusted to you

. Reasons workers lose their jobs

A. Regular tardiness or frequent absence from work

B. Too little ambition

INFORMATION SHEET

C. Unwillingness to follow company rules

D. Carelessness

E. "Troublemaking"--Hostile attitude

F. Too much attention to outside interests

G. Dishonesty--"Passing the buck"

H. Inability to communicate effectively

I. Irresponsibility

J. Lack of adaptability

IX. Reasons it is important to have a job one enjoys.

A. About one-third of the average adult's life is spent on the job

B. Greater job satisfaction

C. Better attitude

D. Better attendance

E. More willingness for self-improvement through future study

F. Better relationships with the boss

G. Respect authority of others

X. Major reasons for holding a job (Transparency 2)

A. Income to meet obligations

B. Personal satisfaction

C. Develop skills for promotion and higher pay

D. To obtain extra items

E. Enjoyment

F. To feel successful

G. To fit into society

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Corner Stones of Success

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Major Reasons for Holding a Job

- Income to Meet Obligations
- Personal Satisfaction
- Develop Skills for Promotion and Higher Pay
- To Obtain Extra Items
- Enjoyment
- To Feel Successful
- To Fit into Society

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BUSINESS ETIQUETTE
UNIT III

ASSIGNMENT SHEET #1 - REACT TO LETTER "DEAR KID"

Read the following letter and react to the questions which follow the letter.

Dear Kid:

Today you asked me for a job. From the look of your shoulders as you walked out, I suspect you've been turned down before, and maybe you believe by now that kids out of high school can't find work.

But, I hired a teenager today. You saw him. He was the one with polished shoes and a necktie. What was so special about him? Not experience, neither of you had any. It was his attitude that put him on the payroll instead of you. Attitude, son. A-T-T-I-T-U-D-E. He wanted that job badly enough to shuck the leather jacket, get a haircut, and look in the phone book to find out what this company makes. He did his best to impress me. That's where he edged you out.

Ever hear of "empathy?" It's the trick of seeing the other fellow's side of things. I couldn't have cared less that you're behind in your car payments. That's your problem and the president's. What I needed was someone who'd go out in the plant, keep his eyes open, and work for me like he'd work for himself. If you have even the vaguest idea of what I'm trying to say, let it show the next time you ask for a job. You'll be head and shoulders over the rest.

Look Kid. The only time jobs grew on trees was while most of the manpower were wearing G.I.'s and pulling K.P. For all the rest of history you've had to get a job like you get a girl: "Case" the situation, wear a clean shirt, and try to appear reasonably willing.

Maybe jobs aren't as plentiful right now, but a lot of us can remember when master craftsmen walked the streets. By comparison you don't know the meaning of "scarce."

You may not believe it, but all around you employers are looking for young men smart enough to go after a job in the old-fashioned way. When they find one, they can't wait to unload some of their worries on him.

For both our sakes, get eager, will you?

Contributed by Brother "Friday" Fitzgerald

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ASSIGNMENT SHEET #1

1. List the indispensable and undesirable characteristics of the boy in the letter.

2. How was the boy in the letter lacking in the four corner stones to success?

3. Do you feel that this boy would be able to get along with a boss or fellow workers? Give reasons for your answer.

4. What recommendations would you make to this boy if he were one of your friends?

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BUSINESS ETIQUETTE
UNIT III

ASSIGNMENT SHEET #2--PERSONAL INTERVIEW WITH EMPLOYER

Select any employer who lives in the community. In a personal interview with him, determine the indispensable and undesirable characteristics which he looks for in hiring a worker. How does this list differ from the information sheet?

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BUSINESS ETIQUETTE
UNIT III

TEST

1. Match the following terms to the correct definition.

_____a.	The outward evidence of a cheerful willingness to work and be friends	1.	Character
		2.	Good manners
_____b.	Neat, clean appearance	3.	Attitude
_____c.	A combination of qualities, traits, and features that make one an individual	4.	Good grooming
		5.	Friendliness
_____d.	Good social conduct		
_____e.	A feeling or emotion toward the people and things around one		

2. List four guidelines for getting acquainted.

a.

b.

c.

d.

3. Distinguish between indispensable and undesirable characteristics of a worker by placing an "I" to the left of the indispensable characteristics and a "U" to the left of those which are undesirable.

_____a. Accuracy

_____b. Inconsideration

_____c. Initiative

_____d. Carelessness

_____e. Punctuality

_____f. Honesty

_____g. Disloyalty

_____h. Reliability

4. Select and place an "X" to the left of the four corner stones of success.

_____a. Lots of money

_____b. Good manners

_____c. Good work

_____d. Good looks

_____e. New car

_____f. Good grooming

_____g. Good speech and communication

5. List two advantages of getting along with your employer and fellow workers.

a.

b.

6. List three ways to get along well with the boss.

a.

b.

c.

7. List four guidelines for getting along with fellow workers.

a.

b.

c.

d.

8. Select and place an "X" to the left of the reasons workers lose their jobs.

_____a. Regular tardiness or frequent absence from work

_____b. Too little ambition

_____c. Unwillingness to follow company rules

_____d. Carelessness

_____e. "Troublemaking"--Hostile attitude

_____f. Too much attention to outside interests

_____g. Dishonesty--"Passing the buck"

_____h. Inability to communicate effectively

9. List four reasons why it is important to have a job one enjoys.

a.

b.

c.

d.

10. Select and place an "X" to the left of the major reasons for holding a job.

_____a. To feel successful

_____b. Enjoyment

_____c. To impress the person you date

_____d. To obtain extra items

_____e. Income to meet obligations

_____f. To improve social status

_____g. Personal satisfaction

11. Read and react to a letter "Dear Kid."

(NOTE: If this has not been accomplished prior to the test, ask the instructor when the above activity should be completed.)

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BUSINESS ETIQUETTE
UNIT III

ANSWERS TO TEST

1. a. 5
   b. 4
   c. 1
   d. 2
   e. 3

2. Any four of the following:
   a. Be pleasant, cheerful, and friendly to everyone
   b. Take time to know the individuals before joining cliques
   c. Do not force self on others
   d. If invited, try out company sponsored social groups and/or teams
   e. Be able to converse with others
   f. Have desire to get acquainted with others
   g. Learn interests of others

3. a. I
   b. U
   c. I
   d. U
   e. I
   f. I
   g. U
   h. I

4. b
   c
   f
   g

5. Any two of the following:

   a. Greater personal satisfaction

   b. Better opportunities for advancement

   c. Greater productivity for the company

   d. Contribute to overall morale

6. Any three of the following:

   a. Quickly learn all that is possible when undertaking a new job

   b. Follow the rules and regulations of the employing company when starting a new job

   c. Follow instructions carefully, even if the reasons for them are not fully understood

   d. Take pride in the company for which employed

   e. Accept constructive criticism

   f. Do not carry a grudge

   g. Do what needs to be done without being told

   h. Contribute individual skills, ideas, energy, and time to make a better product or service

   i. Do not be afraid to ask questions

   j. Accept responsibility for making mistakes and attempt to correct them

7. Any four of the following:

   a. Be concerned for others--Their interests, their problems, their welfare

   b. Cooperate with others--Lend a helping hand without thinking about getting anything in return

   c. Respect others, even if some of their actions do not conform to our standards

   d. Listen and understand what others are saying

   e. Give credit to others and be glad to see them succeed without worrying about individual status

   f. Do not get personal feelings hurt over what someone else says

g. Seek promotion on individual merits--Never try to get ahead by holding others back or "running them down"

h. Look for ways to foster friendship and group spirit as well as for ways to reduce conflict and hard feelings

i. Leave personal problems at home

j. Keep personal confidences entrusted to you

8. a

b

c

d

e

f

g

h

9. Any four of the following:

a. About one-third of the average adult's life is spent on the job

b. Greater job satisfaction

c. Better attitude

d. Better attendance

e. More willingness for self-improvement through future study

f. Better relationships with the boss

g. Respect authority of others

10. a

b

d

e

g

11. Evaluated to the satisfaction of the instructor.

GUIDING THE PRESCHOOL CHILD
UNIT I

TERMINAL OBJECTIVE

After completion of this unit, the student should be able to list developmental tasks of preschool children and discuss characteristics of early childhood and advantages of a good nursery school. The student should be able to obtain needed information while preparing to hold a preschool and to assist other students in planning and conducting a playschool. This knowledge will be evidenced through demonstration and by scoring eighty five percent on the unit test.

SPECIFIC OBJECTIVES

After completion of this unit, the student should be able to:

1. Define terms associated with guiding the preschool child.
2. List developmental tasks of preschool children.
3. Discuss characteristics of early childhood.
4. Discuss advantages for the child in a good nursery school.
5. State the purpose of an organized playschool provided by home economics students.
6. List criteria to be used as a basis for developing plans for organizing the playschool.
7. Discuss steps used in preparation for a playschool.
8. List guides for students to follow while conducting a playschool.
9. List information which should be included in letters sent to parents of preschool children invited to a playschool.
10. List information which should be obtained for children attending playschool.
11. List criteria to be used for selecting books for the preschool child.
12. Describe teaching skills which assist in guiding young children.
13. State rules for guidance when supervising group play.
14. List criteria to be used in preparation of nutritional snacks for children.
15. Demonstrate the ability to assist other students in planning and conducting a preschool.

GUIDING THE PRESCHOOL CHILD
UNIT I

SUGGESTED ACTIVITIES

I. Instructor:

A. Provide students with objective sheet.

B. Provide students with information and assignment sheets.

C. Make transparencies.

D. Discuss terminal and specific objectives.

E. Discuss information and assignment sheets.

F. Assign reports as needed for observation of children.

G. Supervise students and children during playschool.

H. Give test.

II. Students:

A. Read objectives.

B. Study information sheet.

C. Complete each assignment sheet as assigned by teacher.

D. Take responsibility in holding playschool.

E. Take test.

INSTRUCTIONAL MATERIALS

I. Included in this unit:

A. Objectives

B. Information sheet

C. Transparency masters

1. TM 1--Developmental Tasks for Preschool Children

2. TM 2--Guides for Students to Follow While Conducting Playschool

D. Assignment sheets

1. Assignment Sheet #1--Develop Schedule for Responsibilities
2. Assignment Sheet #2--Send Letters to Parents
3. Assignment Sheet #3--Observe Characteristics of Early Childhood
4. Assignment Sheet #4--Observe Personality Characteristics of Children
5. Assignment Sheet #5--Observe Fundamental Emotional Needs of Children
6. Assignment Sheet #6--Observe Child for Guidance Unit
7. Assignment Sheet #7--Observe Children at Play
8. Assignment Sheet #8--Write Reports from Observations

E. Test

F. Answers to test

II. References:

A. *Human Development and the Family.* Stillwater, Oklahoma: State Department of Vocational and Technical Education, 1969.

B. Baker, Katherine Read and Xenia F. Fane. *Understanding and Guiding Young Children.* Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1971.

C. Ames, Louise Bates. *Child Care and Development.* Philadelphia, Pennsylvania: J.B. Lippincott Company, 1970.

D. Westlake, Helen Gum. *Relationships: A Study in Human Behavior.* Lexington, Massachusetts: Ginn and Company, 1972.

E. Duvall, Evelyn Mills. *Family Development.* Fourth Edition. Philadelphia, Pennsylvania: J.B. Lippincott Company, 1971.

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GUIDING THE PRESCHOOL CHILD
UNIT I

INFORMATION SHEET

I. Terms and definitions

A. Early childhood--Children at ages three, four, and five

B. Developmental task--Growth responsibility that arises at or about a certain time in the life of an individual in which successful accomplishment leads to success in later tasks

II. Developmental tasks of preschool children (Transparency 1)

A. Settling into healthy daily routines of rest and activity

B. Mastering good eating habits

C. Mastering the basics of toilet training

D. Developing the physical skills appropriate to his stage of motor development

E. Becoming a participating member of his family

F. Beginning to master his impulses and to conform to others' expectations

G. Developing healthy emotional expressions for a wide variety of experiences

H. Learning to communicate effectively with an increasing number of others

I. Developing the ability to handle potentially dangerous situations

J. Learning to be an autonomous person with initiative and a conscience of his own

K. Laying foundations for understanding the meanings of life

III. Characteristics of early childhood

A. Ask questions

B. Observe

C. Make-believe

D. Need to explore and try things out

E. Rapid development of large muscles

1. Needs opportunities to run, climb, slide, and jump

a. Gains control over muscles

b. Develops coordination

INFORMATION SHEET

2. May perform extremely well in one skill and very poorly in another

F. Speaking habits

1. Three year old--May speak in sentences and use words as tools of thought

2. Four year old

a. Asks many questions

b. Recognizes the relationship between things

c. Displays an active tendency to state an idea and to generalize from it

3. Five year old

a. Talks without infantile speech

b. Can tell a long story

G. Competitiveness appears

H. Aggressiveness appears

IV. Advantages for the child in a good nursery school

A. School tends to encourage awareness of others rather than self

B. Can reduce sibling rivalry

C. Allows the child to experience life away from the protection of his family

D. Acquaints him with the routine of going to school

E. Encourages self-identity by giving the child a life of his own

(NOTE: It gives the child status in his family.)

F. Promotes self-reliance

G. Allows a child to function where he is developmentally, while at the same time gently stimulating him toward the next stage

H. Should develop a child's language

I. Should provide exposure to books, art, and play materials not provided in the home

J. Should teach concepts underlying good manners; that is, consideration for the rights of others

INFORMATION SHEET

V. Purpose of an organized playschool provided by home economics students--To provide an opportunity to observe young children at play and to have some direct experiences with them

VI. Criteria to be used as a basis for developing plans for organizing the playschool

- A. Source(s) of children
- B. Number and ages of children
- C. Information about playschool to be given to parents
- D. Time of arrival for children
- E. Transportation of children to school
- F. Method of getting mother's cooperation
- G. Storage of children's wraps
- H. Activities to provide within limits of time and space
- I. Arrangement of room
- J. Equipment to be used
- K. Source of playthings
- L. Types of precautions to take for health and safety
- M. Responsibility for various activities
- N. Preparation for responsibilities
- O. Methods of guiding children in behavior and activities
- P. Method of observation
- Q. Information to obtain during observation
- R. Method of evaluation
- S. Information to obtain about children prior to playschool

VII. Steps used in preparation for a playschool

- A. Spend several days making preparation for the playschool
  1. Get room prepared
  2. Collect toys and equipment

INFORMATION SHEET

3. Plan responsibilities

4. Set up schedules for play activities of children

5. Make decisions on observation procedures

B. Develop schedule for responsibilities

(NOTE: A plan may be developed so students can rotate such responsibilities as supervisor, assistant supervisor, hostess, housekeeper, and/or observer.)

C. Send a letter or visit the parents to inform them of the plans for conducting a playschool

1. Ask permission for their child to participate

2. Appropriate invitations may be sent to the children inviting them to the playschool

D. Obtain information about children who will be attending playschool by asking parents to complete a questionnaire

E. Provide for adequate space in the classroom to accommodate small group and whole group activities

(NOTE: If assigned to observe, one should be seated as inconspicuously as possible.)

F. Develop observation sheets and other devices which will be suitable for obtaining information on varying behavior patterns and characteristics of children as they participate in the playschool activities

G. Plan class periods for discussion and evaluation of observations and playschool activities

(NOTE: It is desirable to schedule the playschool every other day or only three or four days during the week so that evaluation may be done frequently and there will be ample time for planning.)

VIII. Guides for students to follow while conducting a playschool (Transparency 2)

A. The atmosphere of the school should be calm, unhurried, and friendly

B. Students should speak slowly and in short sentences to children

(NOTE: Never use baby talk. Requests should be made with respect and in the positive rather than the negative. Avoid "Do you want to?" in routine matters. Better forms are "Now you are ready to..." or "Now it is time to...")

C. Laugh with the child; never at the child

INFORMATION SHEET

D. If it is necessary to move about the room, do so quietly

E. Avoid talking to other students and to the children unless working directly with them

(NOTE: Remember to be only a part of the background when observing.)

F. Respect the child's personality

G. Avoid displaying too much affection to any one child

H. Be calm and cheerful when children receive a bump or fall down

(NOTE: Notify the teacher if you think there is a slight chance a child has received an injury.)

I. Avoid becoming too excited over things children do

J. Interfere with a child's activity only if he is in danger of hurting himself, is purposefully being destructive, or is interfering with others

K. Observe all children rather than individuals

IX. Information which should be included in letters sent to parents of preschool children invited to a playschool

A. Teacher's name

B. Date of playschool

C. Length of playschool

D. Hours of playschool

E. Reasons for school

F. Components of program

INFORMATION SHEET

Example of a letter to parents:

_____ High School

_____ Date

Dear _____:

Our home economics class, under the direction of _____, plans to hold a playschool for four year olds on (date). It will operate for _____ weeks in the home economics department on _____. (days of the week)

The hours are to be from _____ to _____. The children will be carefully supervised at all times.

Our program, provided free of charge, will include play with children their own age, stories, music, rest periods, and a nutritional snack.

We are planning this playschool as a unit in our sophomore Home Economics class where we study child development. We feel it is very important for us to have some experience with young children as we learn about them.

If you wish to enroll your four year old, please fill in the following and mail it to _____, our homemaking teacher.

Name of Child _____

Date of Birth _____

Who will bring the child to Playschool? _____

Who will pick up the child at (give time)? _____

Will the child be able to attend every day (barring illness or emergency)? _____

X. Information which should be obtained for children attending playschool

A. Name of child

B. Age of child

C. Nickname (if any)

D. Date of birth

E. Telephone number of parents

F. Brothers' and sisters' names and ages

G. Other information

INFORMATION SHEET

Example of information sheet:

Name of Child _____ _____ _____ Age _____

Nickname (if any) _____ _____ _____ Date of Birth _____

Telephone number where parents or person responsible while child is at playschool can be reached _____

Brothers' Names and Ages _____

_____

Sisters' Names and Ages _____

_____

Previous experience in organized group play _____

_____

List any special health needs of the child (allergies or special assistance)

_____

List any other needs of the child _____

Is there anything we should specifically know about your child? _____

_____

PARENT'S OR GUARDIAN'S SIGNATURE _____

ADDRESS _____

HOME TELEPHONE NUMBER _____

Doctor's name and any specific instructions _____

XI. Criteria to be used for selecting books for the preschool child

A. Interesting

B. Desirable length

C. Story content of the book not confusing

D. Suitable style of writing

INFORMATION SHEET

E. Suitable illustrations

F. Extends the child's knowledge or gives him some understanding of human behavior or of the world in which he lives

G. Appropriate conclusion

H. Ethically sound

I. Acceptable physical characteristics

XII. Teaching skills which assist in guiding young children

A. Give directions or suggestions in a positive way

B. Use a quiet, confident tone of voice

C. Give directions in as few words as possible and use simple words

(NOTE: Repeat as necessary.)

D. Offer the child a choice only when the choice is up to him

E. Give the child plenty of time to finish his play if it is possible

F. Make desirable behavior interesting

G. Encourage the child to be independent

H. Let children use all art media such as paints, clay, crayons, or collage materials as avenues for self-expression without models to copy

I. Depend on motivating the child by encouragement and approval

XIII. Rules for guidance when supervising group play

A. Supervise for good health

1. Be sure that each child's clothing is adjusted to the weather

2. Be sure that children practice sanitary habits

3. Protect the child's health

B. Supervise for safety

1. Check equipment to be sure it is safe to use

2. Watch children closely when they are using play equipment which may present dangers

INFORMATION SHEET

XIV. Criteria to be used in preparation of nutritional snacks for children

A. Should contain all nutrients

B. Appetite can be stimulated with special treats

C. Should be prepared and served simply

D. May become restless if allowed to sit too long

E. Serve plain foods

F. May use silverware.

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Developmental Tasks for Preschool Children

Daily Routines of Rest and Activity

Physical Skills

Eating Habits • Toilet Training

Healthy Emotional Expressions

Conform to Others Expectations

Communicate Effectively

Become an Autonomous Person

Participate as a Family Member

Handle Potentially Dangerous Situations

Basic Understanding of the Meaning of Life

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Guides for Students to Follow While Conducting A Playschool

- Calm, Unhurried, and Friendly Atmosphere
- Never Laugh At a Child
- Move About Room Quietly
- Speak Slowly and In Short Sentences
- Respect the Child's Personality
- Avoid Talking to Other Students
- Do Not Interfere With a Child's Activity
- Avoid Becoming Too Excited
- Be Calm and Cheerful When Children Fall
- Avoid Displaying Too Much Affection to Any Child

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GUIDING THE PRESCHOOL CHILD
UNIT I

ASSIGNMENT SHEET #1--DEVELOP SCHEDULE FOR RESPONSIBILITIES

On either an individual basis or as a class activity, develop a schedule of responsibilities for a playschool.

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GUIDING THE PRESCHOOL CHILD
UNIT I

ASSIGNMENT SHEET #2--SEND LETTERS TO PARENTS

Write a letter to parents of a child to be invited to the playschool. Include all information which is suggested in the information sheet.

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GUIDING THE PRESCHOOL CHILD
UNIT I

ASSIGNMENT SHEET #3--OBSERVE CHARACTERISTICS OF EARLY CHILDHOOD

Observe the children in the playschool to determine if they show the characteristics of early childhood discussed in the information sheet. Give examples of the following characteristics.

1. Ask questions

2. Make-believe

3. Large muscles are developing

4. Appropriate speaking habits

5. Show competitiveness

6. Aggressiveness

7. Maturity and leadership characteristics

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GUIDING THE PRESCHOOL CHILD
UNIT I

ASSIGNMENT SHEET #4--OBSERVE PHYSICAL AND PERSONALITY CHARACTERISTICS OF CHILDREN

1. Name of Child _____

   Age _____

   Sex _____

2. What are his physical characteristics?

3. Observe and comment on the following:

   a. Did he share his toys? Give an example.

   b. Did he play with others?

   c. Was he cooperative? Give an example.

   d. In what ways did he show affection toward other children?

   e. In what ways did he show affection toward teenagers and adults?

   f. How did he care for toys and equipment? What toys and equipment did he use?

4. Observe his choice of toys.

   a. What play materials did he use most?

   b. Did his choice of toys reveal any personality characteristics? If so, what?

5. Is he able to express himself? Give an example.

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ASSIGNMENT SHEET #4

6. What personality characteristics did you observe which might need guidance and direction?

7. What leadership characteristics did you observe?

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GUIDING THE PRESCHOOL CHILD
UNIT I

ASSIGNMENT SHEET #5--OBSERVE FUNDAMENTAL EMOTIONAL NEEDS OF CHILDREN

1. Name of Child _____

   Age _____

   Sex _____

   Number of brothers and sisters _____ Position in family _____

2. How did he show a need for, or a feeling of security?

3. Did he exhibit any fears? If so, what were they?
   How did he show his fear?

4. What methods did he use to gain recognition (attention)? Were they legitimate methods? Explain.

5. How did the child show affection or the need for it?

6. What were new experiences to him? What was his response to the new experience?

7. Write a paragraph telling your opinion of his emotional control as related to his age.

(NOTE: Teacher may need to supplement this assignment sheet with additional information.)

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GUIDING THE PRESCHOOL CHILD
UNIT I

ASSIGNMENT SHEET #6--OBSERVE CHILD
FOR GUIDANCE UNIT

1. What evidence of fatigue did you observe?
   a. Unusually active and faster in movements
   b. Louder voice
   c. Eyes glassy, red spots on cheeks
   d. Tenseness
   e. Instability
2. Did any child show signs of fear? How?
   a. Posture (way he holds shoulders)
   b. Head down
   c. Color of face
3. What toys seemed to be enjoyed the most? Why?
4. Did child show signs of excitement? Explain.

(NOTE: Teacher may need to supplement this assignment sheet with additional information.)

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GUIDING THE PRESCHOOL CHILD
UNIT I

ASSIGNMENT SHEET #7--OBSERVE CHILDREN AT PLAY

Use the following guide while observing children at play. Spend some time watching children participating in play activities at the playschool or a kindergarten group to better understand the need for and value of play to a child.

1. What toys did the children seem to like best?

2. What toys were used by the three year olds?

3. What toys were used by the five year olds?

4. List some specific activities the children were doing.

   Examples: Fingerpainting, looking at books, playing with toys such as dolls, blocks, cars, tricycles, etc., painting on easel, playing house

5. Were they having fun? What were they learning?

6. Were there any arguments over toys? Did the children settle the argument themselves or did the teacher or mother have to step in?

7. In any group games you observed, did all children participate?

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ASSIGNMENT SHEET #7

8. Did the children start the activities themselves or did the supervisor suggest what to do? How much direction did the adult give, once the games were started?

9. Did the children help to put away their toys?

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GUIDING THE PRESCHOOL CHILD
UNIT I

ASSIGNMENT SHEET #8--WRITE REPORTS FROM OBSERVATIONS

(NOTE: These reports may be completed all at one time or individually according to the teacher's directions.)

First Report--Due: _____

Write on the characteristics of children between the ages of two and five as you have observed them during the observation project.

Use a minimum of five characteristics of each age illustrated with actual incidents seen during this project.

Second Report--Due: _____

Report at least five ways of gaining children's cooperation as you see them applied, or as you see opportunities for their application. (Use a minimum of ten examples.)

Final Report--Due: _____

Write a brief review of three children in play school. Include what progress you have noticed in the child--his play habits, his ways of getting along with other children, and any other points you have noticed about the child.

Some additional ideas that could be used in reporting. These might be used for a day's absence when it is impossible to observe children, or for extra credit:

"What I Have Learned from Observing Preschool Children"
"How to Tell a Story to a Group of Preschool Children"
"How to Conduct a News Circle"
"Games Suitable for Preschool Children"
"Music for Preschool Children"

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GUIDING THE PRESCHOOL CHILD
UNIT I

TEST

1. Define the following terms associated with guiding the preschool child.
   a. Developmental task--
   b. Early childhood--
2. List six developmental tasks of preschool children.
   a.
   b.
   c.
   d.
   e.
   f.
3. Discuss characteristics of early childhood.

4. Discuss advantages for the child in a good nursery school.

5. State the purpose of an organized playschool provided by home economics students.

6. List ten criteria to be used as a basis for developing plans for organizing the playschool.

a.

b.

c.

d.

e.

f.

g.

h.

i.

j.

7. Discuss steps used in preparation for a playschool.

8. List five guides for students to follow while conducting a playschool.

   a.

   b.

   c.

   d.

   e.

9. List six kinds of information which should be included in letters sent to parents of preschool children invited to a playschool.

   a.

   b.

   c.

   d.

   e.

   f.

10. List five types of information which should be obtained for children attending playschool.

a.

b.

c.

d.

e.

11. List five criteria to be used for selecting books for the preschool child.

a.

b.

c.

d.

e.

12. Describe teaching skills which assist in guiding young children.

13. State rules for guidance when supervising group play.

a.

1)

2)

3)

b.

1)

2)

14. List three criteria to be used in preparation of nutritional snacks for children.

a.

b.

c.

15. Demonstrate the ability to assist other students in planning and conducting a preschool.

(NOTE: If this has not been accomplished prior to the test, ask your instructor when the above activity should be completed.)

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GUIDING THE PRESCHOOL CHILD
UNIT I

ANSWERS TO TEST

1. a. Growth responsibility that arises at or about a certain time in the life of an individual in which successful accomplishment leads to success in later tasks

   b. Children at ages three, four, and five

2. Any six of the following:

   a. Settling into healthy daily routines of rest and activity

   b. Mastering good eating habits

   c. Mastering the basics of toilet training

   d. Developing the physical skills appropriate to his stage of motor development

   e. Becoming a participating member of his family

   f. Beginning to master his impulses and to conform to others' expectations

   g. Developing healthy emotional expressions for a wide variety of experiences

   h. Learning to communicate effectively with an increasing number of others

   i. Developing the ability to handle potentially dangerous situations

   j. Learning to be an autonomous person with initiative and a conscience of his own

   k. Laying foundations for understanding the meanings of life

3. Discussion should include:

   a. Ask questions

   b. Observe

   c. Make-believe

   d. Need to explore and try things out

e. Rapid development of large muscles

1) Needs opportunities to run, climb, slide, and jump

a) Gains control over muscles

b) Develops coordination

2. May perform extremely well in one skill and very poorly in another

f. Speaking habits

1) Three year old--May speak in sentences and use words as tools of thought

2) Four year old

a) Asks many questions

b) Recognizes the relationship between things

c) Displays an active tendency to state an idea and to generalize from it

3) Five year old

a) Talks without infantile speech

b) Can tell a long story

g. Competitiveness appears

h. Aggressiveness appears

4. Discussion should include:

a. School tends to encourage awareness of others rather than self

b. Can reduce sibling rivalry

c. Allows the child to experience life away from the protection of his family

d. Acquaints him with the routine of going to school

e. Encourages self-identity by giving the child a life of his own

f. Promotes self-reliance

g. Allows a child to function where he is developmentally, while at the same time gently stimulating him toward the next stage

h. Should develop a child's language

i. Should provide exposure to books, art, and play materials not provided in the home

j. Should teach concepts underlying good manners; that is, consideration for the rights of others

5. To provide an opportunity to observe young children at play and to have some direct experiences with them

6. Any ten of the following:

a. Source(s) of children

b. Number and ages of children

c. Information about playschool to be given to parents

d. Time of arrival for children

e. Transportation of children to school

f. Method of getting mother's cooperation

g. Storage of children's wraps

h. Activities to provide within limits of time and space

i. Arrangement of room

j. Equipment to be used

k. Source of playthings

l. Types of precautions to take for health and safety

m. Responsibility for various activities

n. Preparation for responsibilities

o. Methods of guiding children in behavior and activities

p. Method of observation

q. Information to obtain during observation

r. Method of evaluation

s. Information to obtain about children prior to playschool

7. Discussion should include:

   a. Spend several days making preparation for the playschool

      1) Get room prepared

      2) Collect toys and equipment

      3) Plan responsibilities

      4) Set up schedules for play activities of children

      5) Make decisions on observation procedures

   b. Develop schedule for responsibilities

   c. Send a letter or visit the parents to inform them of the plans for conducting a playschool

      1) Ask permission for their child to participate

      2) Appropriate invitations may be sent to the children inviting them to the playschool

   d. Obtain information about children who will be attending playschool by asking parents to complete a questionnaire

   e. Provide for adequate space in the classroom to accommodate small group and whole group activities

   f. Develop observation sheets and other devices which will be suitable for obtaining information on varying behavior patterns and characteristics of children as they participate in the playschool activities

   g. Plan class periods for discussion and evaluation of observations and playschool activities

8. Any five of the following:

   a. The atmosphere of the school should be calm, unhurried, and friendly

   b. Students should speak slowly and in short sentences to children

   c. Laugh with the child; never at the child

   d. If it is necessary to move about the room, do so quietly

   e. Avoid talking to other students and to the children unless working directly with them

   f. Respect the child's personality

g. Avoid displaying too much affection to any one child.

h. Be calm and cheerful when children receive a bump or fall down

i. Avoid becoming too excited over things children do

j. Interfere with a child's activity only if he is in danger of hurting himself, is purposefully being destructive, or is interfering with others

k. Observe all children rather than individuals

9. a. Teacher's name

b. Date of playschool

c. Length of playschool

d. Hours of playschool

e. Reasons for school

f. Components of program

10. Any five of the following:

a. Name of child

b. Age of child

c. Nickname (if any)

d. Date of birth

e. Telephone number of parents

f. Brothers' and sisters' names and ages

g. Other information

11. Any five of the following:

a. Interesting

b. Desirable length

c. Story content of the book not confusing

d. Suitable style of writing

e. Sutiable illustrations

f. Extends the child's knowledge or gives him some understanding of human behavior or of the world in which he lives

g. Appropriate conclusion

h. Ethically sound

i. Acceptable physical characteristics

12. Description should include:

a. Give directions or suggestions in a positive way

b. Use a quiet, confident tone of voice

c. Give directions in as few words as possible and use simple words

d. Offer the child a choice only when the choice is up to him

e. Give the child plenty of time to finish his play if it is possible

f. Make desirable behavior interesting

g. Encourage the child to be independent

h. Let children use all art media such as paints, clay, crayons, or collage materials as avenues for self-expression without models to copy

i. Depend on motivating the child by encouragement and approval

13. a. Supervise for good health

1) Be sure that each child's clothing is adjusted to the weather

2) Be sure that children practice sanitary habits

3) Protect the child's health

b. Supervise for safety

1) Check equipment to be sure it is safe to use

2) Watch children closely when they are using play equipment which may present dangers

14. Any three of the following:

a. Should contain all nutrients

b. Appetite can be stimulated with special treats

c. Should be prepared and served simply

d. May become restless if allowed to sit too long

e. Serve plain foods

f. May use silverware

15. Evaluated to the satisfaction of the instructor.

MIDDLE CHILDHOOD
UNIT II

TERMINAL OBJECTIVE

After completion of this unit, the student should be able to name general needs, factors which contribute to health needs and basic emotional needs of middle childhood. The student should be able to select from a list those factors which influence social, emotional, and intellectual development and arrange in order the stages of gross motor and speech development. This knowledge will be evidenced by scoring eighty-five percent on the unit test.

SPECIFIC OBJECTIVES

After completion of this unit, the student should be able to:

1. Match terms associated with middle childhood to the correct definition.
2. Name three general needs related to middle childhood development.
3. Select from a list the age(s) during middle childhood when physical growth takes place most rapidly for both sexes.
4. Name factors causing differences of physical growth development during middle childhood.
5. Match the stages of gross motor development during middle childhood to the ages of occurrence.
6. Name three factors that contribute to proper health needs during middle childhood.
7. Select from a list factors which influence social development.
8. Discuss the importance of peer group relationships during middle childhood.
9. Name basic emotional needs of all children.
10. Select from a list factors which influence emotional development.
11. Discuss reasons children in middle childhood exhibit behavioral problems.
12. Select from a list factors which influence intellectual development.
13. Match the stages of speech development during middle childhood to the ages of occurrence.
14. Observe a class of middle childhood students during a recess period and complete a survey form observing activities and behavior.

MIDDLE CHILDHOOD
UNIT II

SUGGESTED ACTIVITIES

I. Instructor:

A. Provide students with objective sheet.

B. Provide students with information and assignment sheets.

C. Discuss terminal and specific objectives.

D. Discuss information sheet.

E. Explain assignment sheet and make arrangements for students to observe elementary children during recess period.

(NOTE: If this is not possible, this assignment may be completed on an individual basis as an out of class activity.)

F. Lead discussion of assignment sheets after the observation period.

G. Supervise students during observation period.

H. Give test.

II. Students:

A. Read objectives.

B. Study information sheet.

C. Complete assignment sheets by observing elementary school children.

D. Participate in discussion following observation.

E. Take test.

INSTRUCTIONAL MATERIALS

I. Included in this unit:

A. Objectives

B. Information sheet

C. Assignment Sheet #1--Observe Elementary Children

D. Test

E. Answers to test

II. References:

A. *Human Development and the Family.* Stillwater, Oklahoma: State Department of Vocational and Technical Education, 1969.

B. Ames, Louise Bates. *Child Care and Development.* Philadelphia, Pennsylvania: J. B. Lippincott Company, 1970.

C. Brisbane, Holly E. *The Developing Child.* Peoria, Illinois: Charles A. Bennett Company, Inc., 1971.

D. Shuey, Rebekah M., Elizabeth L. Woods, and Esther Mason Young. *Learning About Children.* Philadelphia, Pennsylvania: J. B. Lippincott Company, 1969.

E. Hurlock, Elizabeth B. *Child Growth and Development.* St. Louis, Missouri: Webster Division: McGraw-Hill Book Company, 1970.

F. Westlake, Helen Gum. *Relationships: A Study in Human Behavior.* Lexington, Massachusetts: Ginn and Company, 1972.

G. Baker, Katherine Read and Xenia F. Fane. *Understanding and Guiding Young Children.* Englewood Cliffs, New Jersey: Prentice Hall, Inc., 1971.

H. Public Documents Distribution Center. *Your Child From 6 to 12.* (29K), 1970, Pueblo Industrial Park, Pueblo, Colorado, 81001.

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MIDDLE CHILDHOOD
UNIT II

INFORMATION SHEET

I. Terms and definitions

A. Middle childhood--Stage of being six to twelve years of age

B. Developmental task--Growth responsibility that arises at or about a certain time in the life of an individual in which successful accomplishments leads to success in later tasks

C. Personality--The whole person including all his physiological, psychological, and social characteristics

D. Basic needs--Those things felt to be essential for the individual, family, or society.

E. Maturation--Process of coming to full growth and development

F. Heredity--Characteristics and potentialities attributable to the genes

G. Muscular coordination--Ability to move the body effectively depending upon the maturation of the nervous system

H. Behavior--Manner of behaving or acting

I. Environment--Surroundings

J. Puberty--The time of sexual maturing

K. Sibling--Brother or sister

L. Gross motor behavior--Way an individual's whole body moves about

M. Development--Arrival at a more advanced or effective stage

N. Peer group--A group of like or similar individuals

II. General needs related to middle childhood development

A. Health

B. Recreation

C. Nutrition

III. Ages during middle childhood when physical growth takes place most rapidly--Ten to twelve years of age

(NOTE: This occurs just before sexual maturity.)

INFORMATION SHEET

IV. Factors causing differences of physical growth development

A. Heredity

B. Nutrition

C. Individual growth patterns

D. Bone structure

E. Sex

V. Stages of gross motor development during middle childhood

A. Six years--Almost constant motion although somewhat clumsy and may fall

B. Seven years--Cautious; varies between quite active and extremely quiet

C. Eight years--More active, speedy, rhythmical, and graceful in physical actions

D. Nine years--Works and plays hard; likely to do one thing till exhausted; loves to wrestle; shows interest in team games

E. Ten to twelve years--Active, but no longer overly active; more poised as he sits or moves

(NOTE: Research shows that motor development strongly influences peer acceptance which influences self concept.)

VI. Factors which contribute to proper health needs during middle childhood

A. Food

B. Sleep

C. Activity

VII. Factors which influence social development

A. Family influences

B. Sibling relations

C. Peer group

INFORMATION SHEET

VIII. Importance of peer group relationships

- A. Approval
- B. Friendship
  - 1. Is affectionate
  - 2. Loves to talk
- C. Personal gratification
- D. Chance to share with others

IX. Basic emotional needs of all children

- A. To love and feel loved
- B. To feel dependent on those around him
- C. To feel protected
- D. To feel safe and secure
- E. To succeed
- F. To feel appreciated and accepted
- G. To feel special
- H. To feel needed
- I. To feel useful
- J. To be disciplined and have limits
- K. To experience both solitude and companionship
- L. To be helped in learning to handle hurt feelings and disappointments in a positive way
- M. To feel joy and pleasure and to express laughter
- N. To have a model of what grown-up people are like

X. Factors which influence emotional development

- A. Environment
- B. Basic individuality

  (NOTE: This includes personality and body type.)
- C. Age

INFORMATION SHEET

XI. Reasons children in middle childhood exhibit behavioral problems

A. Lack of understanding by others

B. Earlier problems in the home

C. Need for attention and love

1. At home

2. In school

D. Additional leisure time

E. Increased attention given mental illness and juvenile delinquency

XII. Factors which influence intellectual development

A. School adjustment

B. Learning abilities and disabilities

C. Speech development

D. Heredity

E. Environment

XIII. Stages of speech development during middle childhood

A. Six years--May use language aggressively; calls names, threatens, contradicts, argues, and uses slang or mild profanity

B. Seven years--Uses language complainingly: nobody likes him, people are mean and unfair, he has nobody to play with; if angry, he may retreat into silence

C. Eight years--May talk a lot, exaggerate, boast, and tell tall tales

D. Nine to twelve years--Language used as a tool; no longer out of bounds verbally; uses language to express subtle and refined emotions; independent, critical thinking emerges

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MIDDLE CHILDHOOD
UNIT II

ASSIGNMENT SHEET #1--OBSERVE ELEMENTARY CHILDREN

Observe a class of middle childhood students during a recess period and answer the following questions.

1. What different types of activities were being played?

2. Were there indications of a peer group relationship? If yes, describe.

3. Did you observe indications of separation of sexes? If yes, describe and give examples.

4. Did you see examples of children progressing through the stages of gross motor development indicated on the information sheet? Explain.

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ASSIGNMENT SHEET #1

5. What kinds of behavioral problems did you observe? What might have been some reasons for these problems?

6. Did you see examples of children progressing through the stages of speech development indicated on the information sheet? Explain.

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MIDDLE CHILDHOOD
UNIT II

TEST

1. Match the following terms to the correct definition.

_____a. Arrival at a more advanced or effective stage

_____b. Way an individual's whole body moves about

_____c. Brother or sister

_____d. The time of sexual maturing

_____e. Surroundings

_____f. Manner of behaving or acting

_____g. Ability to move the body effectively depending upon the maturation of the nervous system

_____h. Characteristics and potentialities attributable to the genes

_____i. Process of coming to full growth and development

_____j. Those things felt to be essential for the individual, family, or society

_____k. The whole person including all his physiological, psychological, and social characteristics

_____l. Growth responsibility that arises at or about a certain time in the life of an individual in which successful accomplishment leads to success in later tasks

_____m. Stage of being six to twelve years of age

_____n. A group of like or similar individuals

1. Behavior
2. Basic needs
3. Development
4. Developmental task
5. Environment
6. Gross motor behavior
7. Heredity
8. Maturation
9. Middle childhood
10. Muscular coordination
11. Personality
12. Puberty
13. Peer group
14. Sibling

2. Name three general needs related to middle childhood development.

a.

b.

c.

3. Select and place an "X" to the left of the age(s) during middle childhood when physical growth takes place most rapidly for both sexes.

_____a. Six to eight years

_____b. Eight to ten years

_____c. Ten to twelve years

4. Name four factors causing differences of physical growth development during middle childhood.

a.

b.

c.

d.

5. Match the stages of gross motor development during middle childhood to the ages of occurrence on the right.

_____a. Cautious; varies between quite active and extremely quiet	1. Six years
_____b. Works and plays hard; likely to do one thing till exhausted; loves to wrestle; shows interest in team games	2. Seven years
_____c. Active, but no longer overly active; more poised as he sits or moves	3. Eight years
_____d. More active, speedy, rhymical, and graceful in physical actions	4. Nine years
_____e. Almost constant motion although some what clumsy and may fall	5. Ten to twelve years

6. Name three factors that contribute to proper health needs during middle childhood.

a.

b.

c.

7. Select and place and "X" to the left of those factors which influence social development.

_____a. Peer group

_____b. Amount of food eaten

_____c. Name

_____d. Family influences

_____e. Sibling relations

8. Discuss the importance of peer group relationships during middle childhood.

9. Name eight basic emotional needs of all children.

a.

b.

c.

d.

e.

f.

g.

h.

10. Select and place an "X" to the left of those factors which influence emotional development.

_____a. Nutrition

_____b. Basic individuality

_____c. Age

_____d. Grade in school

_____e. Environment

_____f. Family size

11 Discuss reasons children in middle childhood exhibit behavioral problems.

12. Select and place an "X" to the left of those factors which influence intellectual development.

_____a. Heredity

_____b. Name

_____c. School adjustment

_____d. Environment

_____e. Speech development

_____f. Number of children in family

_____g. Learning abilities and disabilities

_____h. Economic success

13. Match the stages of speech development on the left to the age of occurrence on the right

_____a. Uses language complainingly nobody likes him, people are mean and unfair, he has nobody to play with; if angry, he may retreat into silence	1. Six years
_____b. Language used as a tool, no longer out-of-bounds verbally; uses language to express subtle and refined emotions, independent; critical thinking emerges	2. Seven years
_____c. May talk a lot, exaggerate, boast, and tell tall tales	3. Eight years
_____d. May use language aggressively, calls names, threatens, contradicts, argues, and uses slang or mild profanity	4. Nine to twelve years

14 Observe a class of middle childhood students during a recess period and complete a survey form observing activities and behavior.

(NOTE: If this has not been accomplished prior to the test, ask the instructor when the above activity should be completed.)

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MIDDLE CHILDHOOD
UNIT II

ANSWERS TO TEST

1. a. 3
   b. 6
   c. 14
   d. 12
   e. 5
   f. 1
   g. 10
   h. 7
   i. 8
   j. 2
   k. 11
   l. 4
   m. 9
   n. 13
2. a. Health
   b. Recreation
   c. Nutrition
3. c
4. Any four of the following:
   a. Heredity
   b. Nutrition
   c. Individual growth patterns
   d. Bone structure
   e. Sex

5. a. 2
   b. 4
   c. 5
   d. 3
   e. 1

6. a. Food
   b. Sleep
   c. Activity

7. a
   d
   e

8. Discussion should include:
   a. Approval
   b. Friendship
      1) Is affectionate
      2) Loves to talk
   c. Personal gratification
   d. Chance to share with others

9. Any eight of the following:
   a. To love and feel loved
   b. To feel dependent on those around him
   c. To feel protected
   d. To feel safe and secure
   e. To succeed
   f. To feel appreciated and accepted
   g. To feel special
   h. To feel needed

i. To feel useful

j. To be disciplined and have limits

k. To experience both solitude and companionship

l. To be helped in learning to handle hurt feelings and disappointments in a positive way

m. To feel joy and pleasure and to express laughter

n. To have a model of what grown-up people are like

10. b

c

e

11. Discussion should include:

a. Lack of understanding by others

b. Earlier problems in the home

c. Need for attention and love

1. At home

2. In school

d. Additional leisure time

e. Increased attention given mental illness and juvenile delinquency

12. a

c

d

e

g

13. a. 2

b. 4

c. 3

d. 1

14. Evaluated to the satisfaction of the instructor

LABELING
UNIT I

TERMINAL OBJECTIVE

After completion of this unit, the student should be able to list and discuss various sources of information about fabrics, discuss the purpose of federal laws (specifically the Textile Fiber Products Identification Act), and discuss other information to look for on tags and labels. This knowledge will be evidenced by scoring eighty-five percent on the unit test.

SPECIFIC OBJECTIVES

After completion of this unit, the student should be able to:

1. Define terms associated with textile labeling.
2. List sources of information about fabrics.
3. Select the most reliable source of information for any specific textile product.
4. Name major points of concern the customer has when buying fabrics.
5. Discuss the purpose of federal laws regarding labels.
6. Explain the function of the Federal Trade Commission.
7. State the major provisions of the Textile Fiber Products Identification Act of 1960.
8. List points to look for on tags and labels of fabrics and clothing.

LABELING
UNIT I

SUGGESTED ACTIVITIES

I. Instructor:

A. Provide students with objective sheet.

B. Provide students with information sheet.

C. Make transparencies.

D. Discuss terminal and specific objectives.

E. Discuss information sheet.

F. Require students to bring various labels and hang-tags for the class to compare consumer information.

G. Assign special reports to those students interested in recent textile legislation.

H. Give test.

II. Student:

A. Read objectives.

B. Study information sheet.

C. Bring labels and hang-tags to compare in class.

D. Do special report if assigned by teacher.

E. Take test.

INSTRUCTIONAL MATERIALS

I. Included in this unit:

A. Objectives

B. Information sheet

C. Transparency masters

1. TM 1--Provisions of Textile Fiber Products Identification Act
2. TM 2--Label Information

D. Test

E. Answers to test

II. References:

A. Books

1. Dunn, Lucille, Annetta Bailey, and Wanda Vansickle, Ph.D., *Steps in Clothing Skills.* Peoria, Illinois: Charles A. Bennett Company, Inc., 1970.

2. McDermott, Irene E., and Jeanne L. Norris. *Opportunities in Clothing.* Peoria, Illinois: Charles A. Bennett Company, Inc., 1968.

3. Craig, Hazel Thompson. *Clothing: A Comprehensive Study.* Philadelphia, Pennsylvania: J. B. Lippincott Company, 1968.

4. Barclay, Marion S., Frances Champion, Jeanne Hayden Brinkley, and Kathleen W. Funderburk. *Teen Guide to Homemaking* New York: Webster Division, McGraw-Hill Book Company, 1972.

B. Pamphlets

1. *Your Clothing Dollar*, 1972, 40pp., 25 cents, Money Management Institute, Household Finance Corporation, Prudential Plaza, Chicago, Illinois, 60601.

2. *Care Labeling of Textile Wearing Apparel, 1971, 51 pp., free,* Federal Trade Commission, Washington, D.C. 20580.

3. *Textile Fibres and Care,* 1971, 1 page leaflet, free, Department of Consumer and Corporate Affairs, Ottawa, Canada.

LABELING
UNIT I

INFORMATION SHEET

I. Terms and definitions

A. Textiles--Fabric or material suitable for making garments

B. Generic--Relating to or characteristic of a whole group or class

(NOTE: Generic name refers to a family of fibers which all have similar chemical compositions.)

II. Sources of information about fabrics

A. Tags

B. Pamphlets

C. Booklets

D. Newspapers

E. Periodicals

F. Scientific publications

G. Advertisements in newspapers, radio, and television

H. Reliable salespeople

III. Most reliable source of information for any specific textile product is the label and/or hang-tag

IV. Major points of concern the customer has when buying fabrics

A. Performance

B. Care of fabric

C. Fiber content

D. Cost

E. Fashion or style

F. Brands and labels

INFORMATION SHEET

V. Purpose of federal laws regarding labels

A. To provide protection for the buyer

B. To protect the consumer from misrepresentation

VI. Function of the Federal Trade Commission--Government agency charged with the responsibility of preventing unfair competition in trade between states and with foreign nations

VII. Major provisions of the Textile Fiber Products Identification Act of 1960 (Transparency 1)

A. All garments and piece goods must be labeled according to their fiber content

B. All fibers that constitute 5% or more of the content must be designated by generic name

VIII. Points other than major provisions to look for on tags and labels (Transparency 2)

A. Fiber content

B. Size

C. Brand name

D. Shrinkage expectancy

E. Special finishes

F. Care suggestions

G. Price

H. Guarantee or warranty

I. Manufacturer

ERIC

Provisions of the Textile Fiber Products Identification Act

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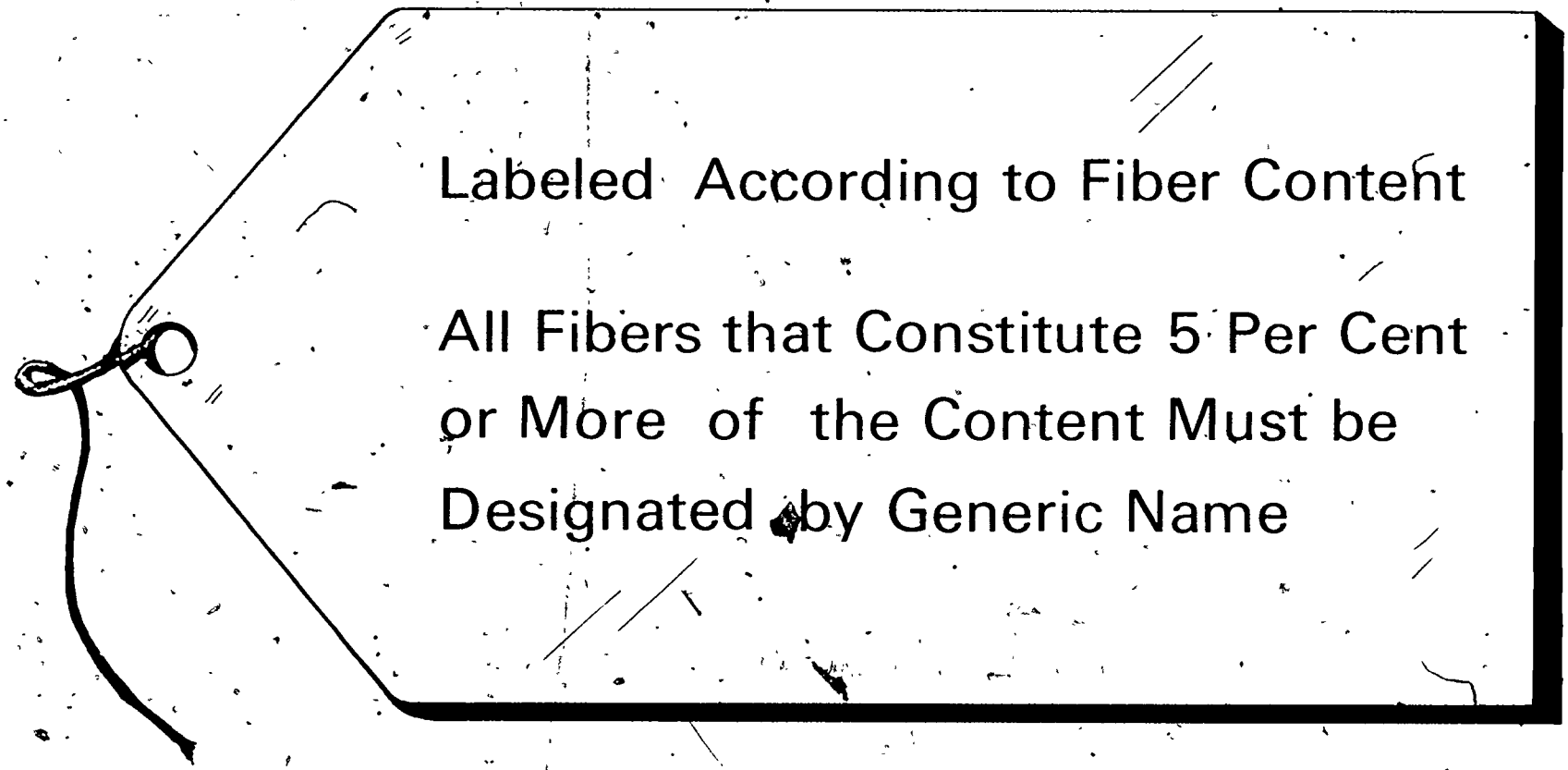

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TM 1

H.E. II - 7-C

ERIC

Label Information

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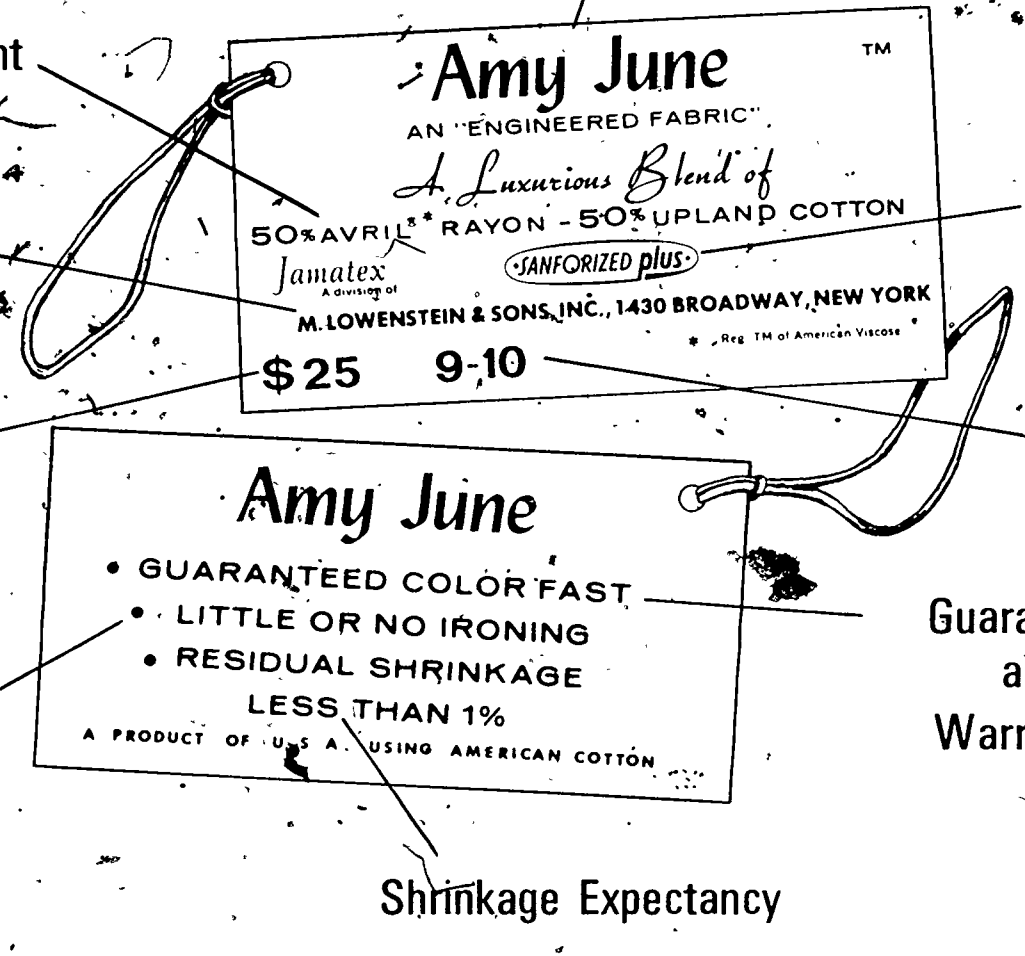

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LABELING
UNIT I

TEST

1. Define the following terms.

   A. Textiles--

   B. Generic--

2. List five reliable sources for obtaining information about fabrics.

   a.

   b.

   c.

   d.

   e.

3. Place an "X" to the left of the most reliable source of information for any specific textile product.

   _____a. Newspaper advertisements

   _____b. Best friend

   _____c. Label and/or hang-tag

   _____d. Saleslady

4. Name four major points of concern the consumer has when buying fabrics.

   a.

   b.

   c.

   d.

5. Discuss the purpose of federal laws regarding labels.

6. Explain the function of the Federal Trade Commission.

7. State the major provisions of the Textile Fiber Products Identification Act of 1960.

   a.

   b.

8. List six points to look for on tags and labels.

   a.

   b.

   c.

   d.

   e.

   f.

LABELING
UNIT I

ANSWERS TO TEST

1. a. Fabric or material suitable for making garments
   b. Relating to or characteristic of a whole group or class
2. Any five of the following:
   a. Tags
   b. Pamphlets
   c. Booklets
   d. Newspapers
   e. Periodicals
   f. Scientific publications
   g. Advertisements in newspapers, radio, and television
   h. Reliable salespeople
3. c
4. Any four of the following:
   a. Performance
   b. Care of fabric
   c. Fiber content
   d. Cost
   e. Fashion or style
   f. Brands and labels
5. Discussion should include:
   a. To provide protection for the buyer
   b. To protect the consumer from misrepresentation

6. Government agency charged with the responsibility of preventing unfair competition in trade between states and with foreign nations

7. a. All garments and piece goods must be labeled according to their fiber content

   b. All fibers that constitute 5% or more of the content must be designated by generic name

8. Any six of the following:

   a. Fiber content

   b. Size

   c. Brand name

   d. Shrinkage expectancy

   e. Special finishes

   f. Care suggestions

   g. Price

   h. Guarantee or warranty

   i. Manufacturer

TEXTILES
UNIT II

TERMINAL OBJECTIVE

After completion of this unit, the student should be able to list classes of textile fibers, methods of fabric construction, characteristics of fabrics, and natural fibers. The student should be able to identify weaves and discuss reasons for blending fibers and basic methods of applying design to fabric. This knowledge will be evidenced by scoring eighty-five percent on the unit test.

SPECIFIC OBJECTIVES

After completion of this unit, the student should be able to:

1. Match terms associated with textiles to the correct definition.
2. Name two main classes of textile fibers.
3. List four natural fibers and a source of each.
4. Discuss briefly man-made fibers and their sources.
5. Name three methods of fabric construction.
6. List characteristics of fabrics which are influenced by the method of fabric construction.
7. Identify four methods of weaving.
8. Discuss reasons for blending fibers.
9. Discuss two basic methods of applying design to fabric.
10. Name purposes of applying finishes to fabrics.

TEXTILES
UNIT II

SUGGESTED ACTIVITIES

I. Instructor:

A. Provide students with objective sheet.

B. Provide students with information and assignment sheets.

C. Make transparencies.

D. Discuss terminal and specific objectives.

E. Discuss information and assignment sheets.

F. Provide samples of fabrics for the students to observe for completion of Assignment Sheet #1.

G. Give test.

II. Student:

A. Read objectives.

B. Study information sheet and complete assignment sheet.

C. Take test.

INSTRUCTIONAL MATERIALS

I. Included in this unit:

A. Objectives

B. Information sheet

C. Transparency masters

1. TM 1--Methods of Fabric Construction
2. TM 2--Methods of Weaving

D. Assignment Sheet #1--Determine Methods of Fabric Construction

E. Test

F. Answers to test

II. References:

A. Craig, Hazel Thompson. *Clothing: A Comprehensive Study*. Philadelphia, Pennsylvania: J. B. Lippincott Company, 1968.

B. Carson, Byrta. *How You Look and Dress*. St. Louis, Missouri: Webster Division, McGraw-Hill Book Company, 1969.

C. Dunn, Lucille, Annetta Bailey and Wanda Vansickle, Ph.D. *Steps in Clothing Skills*. Peoria, Illinois: Charles A. Bennett Company, Inc., 1970.

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TEXTILES
UNIT II

INFORMATION SHEET

I. Terms and definitions

A. Textile--Fabric or material suitable for making garments

B. Weaving--Interlacing of two sets of yarns

C. Finish--Anything that is done to fiber, yarn, or fabric either before or after weaving or knitting to change appearance, hand, and performance

D. Fabric--Cloth that is made by assembling fibers or yarns

E. Fibers--Hair like substances which are twisted together into yarns large enough and strong enough for weaving into cloth

F. Yarn--Grouping of fibers into a continuous strand

G. Blends--Two or more different types of fibers spun together to form a yarn

(NOTE: Blends usually take on the good qualities of each kind of fiber used in the yarn.)

H. Filament yarns--Single continuous fibers

(NOTE: Filament yarns are made from filament fibers.)

I. Staple fibers--Short fibers

(NOTE: Many staple fibers are twisted together to make spun or short yarns.)

J. Ply yarn--Made by a second twisting operation which combines two or more singles to increase the diameter, strength, or quality

(NOTE: Each part of the yarn is called a ply.)

K. Single yarn--Product of the first twisting operation which is performed by the spinning frame

L. Warp yarns--Vertical or lengthwise yarns which run parallel with the selvage

M. Filling yarns--Horizontal or crosswise yarns which run at right angles to the selvage

N. Selvage--Lengthwise edge of fabric formed as the filling yarns turn back at the edges and go to the other side during the weaving process

INFORMATION SHEET

O. Bias--Any position that does not follow the threads of the fabric

(NOTE: True bias is the diagonal of a perfect square on the straight of the grain.)

P. Grain--Direction of weaving

Q. Sanforized--Shrink resistant guarantee which says that garments will not shrink beyond one percent

R. Mercerizing--A process of treating threads or fabrics with lye water which increases the luster, strength, and elasticity of textiles and makes them easier to dye

S. Wash and wear--Finish applied to make garment crease resistant during wear, washing, and drying

T. Water-repellent--Textiles which have received finish so that they resist water

U. Waterproof--Textiles such as rubber, plastic, and coated fabrics which cannot be penetrated by water

V. Fire-retardant--Used interchangeably with flame resistant to mean a chemical finish applied to fabric which makes it slow to ignite or less likely to burn

W. Pre-shrunk--Shrink resistant guarantee which says that garments will not shrink beyond three percent

X. Permanent press--Shape setting process which makes it possible for entire garment to be washed and worn many times with little or no ironing

II. Classes of textile fibers

A. Natural

B. Man-made

III. Natural fibers and their sources

A. Cotton--Cotton plant

B. Linen--Flax

C. Wool--Fleece of sheep

D. Silk--Silk worm

INFORMATION SHEET

IV. Man-made fibers and their sources

A. Transitional--Combinations of man-made and natural substances

1. Rayon
2. Acetate
3. Triacetate

B. Synthetic--Made entirely of chemical substances

1. Nylon
2. Polyesters
3. Acrylics

V. Methods of fabric construction (Transparency 1)

A. Interlocking of fibers

(NOTE: Sometimes called felting)

B. Weaving

C. Knitting

VI. Characteristics influenced by the method of fabric construction

A. Surface texture

B. Design

C. Stability

D. Durability

E. Absorbency

VII. Methods of weaving (Transparency 2)

A. Plain weave

(NOTE: Filling yarn passes first over and then under the warp yarns with the process reversed in each row.)

Examples: Organdy, muslin, gingham, and burlap

INFORMATION SHEET

B. Basket weave

(NOTE: This is a variation of the plain weave in which two or more yarns are used in both the warp and filling.)

Examples: Hopsacking, Oxford cloth, and basket weave woolens

C. Twill weave

(NOTE: Recognized by diagonal ridges formed by the yarns exposed on the surface)

Examples: Denim and gabardine

D. Satin weave

(NOTE: Warp yarns pass or "float" over several yarns before interlacing with filling yarn to produce a high luster. In sateen weave the process is reversed and the filling yarns float.)

VIII. Reasons for blending fibers

A. Economy

B. Variety

C. Greater warmth and strength

D. Less shrinkage or absorbency

E. Resistance to abrasion, wrinkling, and pilling

IX. Basic methods of applying design to fabric

A. Printing

1. Dye or ink is used to form design on the surface

2. Prints are applied after fabric is made

B. Weaving

1. Colorfast dyes are used as fabric is woven

2. Two or more colors of yarns are used

(NOTE: Woven stripes should be straight because the yarns that form the striped design also form the grainline of the fabric.)

INFORMATION SHEET

X. Purposes of applying finishes

A. To prevent shrinkage when washed and dried

B. To prevent fabric from easily wrinkling

C. To give fabric body

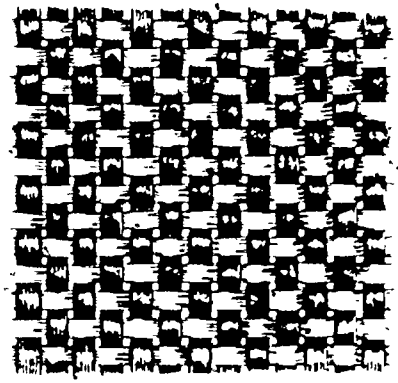
D. To help fabrics stay clean easier

E. To prevent water from soaking into fibers

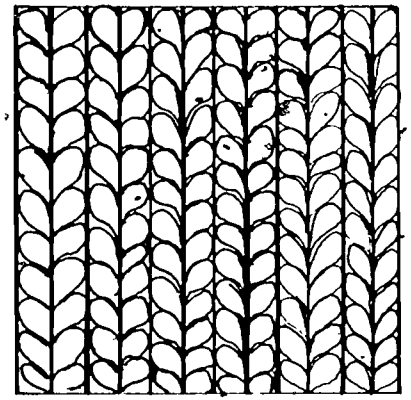
F. To prevent fabrics from catching fire quickly

Methods of Fabric Construction

Felting



Weaving



Knitting

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Methods of Weaving

Plain Weave

Basket Weave

Twill Weave

Satin Weave

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TEXTILES
UNIT II

ASSIGNMENT SHEET #1--DETERMINE METHODS OF FABRIC CONSTRUCTION

Observe the samples of fabrics which your teacher has provided for you. Identify the method of contruction used.

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TEXTILES
UNIT II

TEST

1. Match the terms on the right to the correct definition.

_____a. Cloth that is made by assembling fibers or yarns

_____b. Made by a second twisting operation which combines two or more singles to increase the diameter, strength, or quality

_____c. Horizontal or crosswise yarns which run at right angles to the selvage

_____d. Two or more different types of fibers spun together to form a yarn

_____e. Shrink resistant guarantee which says that garments will not shrink beyond one percent

_____f. Textiles which have received finish so that they resist water

_____g. Product of the first twisting operation which is performed by the spinning frame

_____h. Fabric or material suitable for making garments

_____i. Short fibers

_____j. Used interchangeably with flame resistant to mean a chemical finish applied to fabric which makes it slow to ignite or less likely to burn

_____k. A process of treating threads or fabrics with lye water which increases luster, strength, and elasticity of textiles and makes them easier to dye

1. Ply yarn
2. Fibers
3. Finish
4. Single yarn
5. Water-repellent
6. Selvage
7. Filament yarns
8. Textile
9. Fire-retardant
10. Blends
11. Filling yarns
12. Fabric
13. Mercerizing
14. Bias
15. Waterproof
16. Weaving
17. Yarn
18. Wash and wear
19. Grain
20. Staple fibers
21. Preshrunk
22. Warp yarns

_____l. Finish applied to make garment crease resistant during wear, washing, and drying

_____m. Lengthwise edge of fabric formed as the filling yarns turn back at the edges and go to the other side during the weaving process

_____n. Textiles such as rubber, plastic, and coated fabrics which cannot be penetrated by water

_____o. Vertical or lengthwise yarns which run parallel with the selvage

_____p. Single continuous fibers

_____q. Hair like substances which are twisted together into yarns large enough and strong enough for weaving into cloth

_____r. Interlacing of two sets of yarns

_____s. Anything that is done to fiber, yarn, or fabric, either before or after weaving or knitting to change appearance, hand, and performance

_____t. Grouping of fibers into a continuous strand

_____u. Any position that does not follow the threads of the fabric

_____v. Direction of weaving

_____w. Shape setting process which makes it possible for entire garment to be washed and worn many times with little or no ironing

_____x. Shrink resistant guarantee which says that garments will not shrink beyond three percent

23. Permanent press

24. Sanforized

2. Name two main classes of textile fibers.

a.

b.

3. List four natural fibers and one source of each.

   a.

   b.

   c.

   d.

4. Discuss briefly man-made fibers and their sources.

5. Name three methods of fabric construction.

   a.

   b.

   c.

6. List four characteristics of fabrics which are influenced by the method of fabric construction.

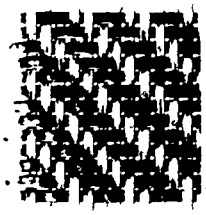
   a.

   b.

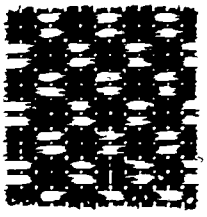
   c.

   d.

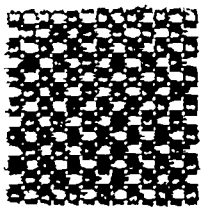
7. Identify the following four methods of weaving.



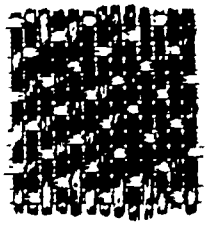
a. _____



b. _____



c. _____



d. _____

8. Discuss reasons for blending fibers.

9. Discuss two basic methods of applying design to fabric.

   a.

   b.

10. Name four purposes of applying finishes to fabrics.

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TEXTILES
UNIT II

ANSWERS TO TEST

1. a. 12
   b. 1
   c. 11
   d. 10
   e. 24
   f. 5
   g. 4
   h. 8
   i. 20
   j. 9
   k. 13
   l. 18
   m. 6
   n. 15
   o. 22
   p. 7
   q. 2
   r. 16
   s. 3
   t. 17
   u. 14
   v. 19
   w. 23
   x. 21

2. a. Natural
   b. Man-made
3. a. Cotton--Cotton plant
   b. Linen--Flax
   c. Wool--Fleece of sheep
   d. Silk--Silk worm
4. Discussion should include:
   A. Transitional--Combinations of man-made and natural substances
      1. Rayon
      2. Acetate
      3. Triacetate
   B. Synthetic--Made entirely of chemical substances
      1. Nylon
      2. Polyesters
      3. Acrylics
5. a. Interlocking of fibers
   b. Weaving
   c. Knitting
6. Any four of the following:
   a. Surface texture
   b. Design
   c. Stability
   d. Durability
   e. Absorbency
7. a. Twill
   b. Basket
   c. Plain
   d. Satin

8. Discussion should include:

   a. Economy

   b. Variety

   c. Greater warmth and strength

   d. Less shrinkage or absorbency

   e. Resistance to abrasion, wrinkling, and pilling

9. a. Printing

      1) Dye or ink is used to form design on the surface

      2) Prints are applied after fabric is made

   b. Weaving

      1) Colorfast dyes are used as fabric is woven

      2) Two or more colors of yarns are used

10. Any four of the following:

   a. To prevent shrinkage when washed and dried

   b. To prevent fabric from easily wrinkling

   c. To give fabrics body

   d. To help fabrics stay clean easier

   e. To prevent water from soaking into fibers

   f. To prevent fabrics from catching fire quickly

BUYING READY TO WEAR GARMENTS
UNIT III

TERMINAL OBJECTIVE

After completion of this unit, the student should be able to write questions to ask when buying ready-to wear garments, describe points to consider when buying a dress, and list factors to help in spending money wisely. The student should be able to discuss qualities essential to all garments, general check points for garment workmanship and fit, and differences in costs of self-made and ready-to-wear garments. This knowledge will be evidenced through demonstration and by scoring eighty-five percent on the unit test.

SPECIFIC OBJECTIVES

After completion of this unit, the student should be able to.

1. Match terms associated with buying ready-to-wear garments to the correct definition.
2. Write questions to consider before buying ready-to-wear garments.
3. Name basic rules of buymanship.
4. Discuss points to consider when buying a dress.
5. List factors to help in spending money wisely.
6. Select factors which help the consumer to know when a sale means savings.
7. Discuss qualities essential to all garments.
8. List general standards of a well fitted garment.
9. Discuss general information for checking garment workmanship and fit.
10. Match characteristics to three price ranges of garments.
11. Explain in writing the differences in costs of self-made and ready-made garments.
12. Demonstrate the ability to:
    a. Select a garment when given a choice of several garments from which to choose.
    b. Classify garments into three price ranges.

BUYING READY TO WEAR GARMENTS
UNIT III

SUGGESTED ACTIVITIES

I. Instructor:

A. Provide students with objective sheet.

B. Provide students with information and assignment sheets.

C. Make transparencies.

D. Discuss terminal and specific objectives.

E. Discuss information and assignment sheets.

F. Provide garments for the students to use in completion of assignment sheets 2 and 3. A field trip to a dress shop or having a resource person bring garments to class would be appropriate for these activities, or they could be modified to become take home assignments.

G. Give test.

II. Student:

A. Read objectives.

B. Study information sheet and complete each assignment sheet.

C. Take field trip to dress shop.

D. Take test.

INSTRUCTIONAL MATERIALS

I. Included in this unit:

A. Objectives

B. Information sheet

C. Transparency masters

1. TM 1--Points to Consider When Buying a Dress

2. TM 2--Standards of a Well Fitted Garment

D. Assignment sheets

1. Assignment Sheet #1--Prepare a Checklist

2. Assignment Sheet #2--Selection of Garment

3. Assignment Sheet #3--Classify Garments into Price Ranges

E. Answers to Assignment Sheet #1

F. Test

G. Answers to test

II. References:

A. Books

1. Barclay, Marion S., Frances Champion, Jeanne Hayden Brinkley and Kathleen W. Funderburk. *Teen Guide to Homemaking. New York: Webster Division, McGraw-Hill Book Company, 1972.*

2. *Carson, Byrta. How You Look and Dress.* St. Louis, Missouri: Webster Division, McGraw-Hill Book Company, 1969.

3. Sturm, Mary Mark, Edwina Hefley Grieser. *Guide to Modern Clothing.* St. Louis. Missouri: Webster Division, McGraw-Hill Book Company, 1968.

4. Craig, Hazel Thompson. *Clothing: A Comprehensive Study.* Philadelphia, Pennsylvania: J. B. Lippincott Company, 1968.

B. Pamphlet--Consumer Information Services, Department 703--Public Relations. *Selecting Teen Fashions.* Chicago, Illinois: Sears Roebuck and Company, 1971.

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BUYING READY TO WEAR GARMENTS
UNIT III

INFORMATION SHEET

I. Terms and definitions

A. Ready-to-wear--Garments purchased in their completed form rather than as fabric to be constructed

B. Fad--Styles which come and go rapidly, usually lasting no more than a season

C. Fashion--Styles that stay popular for a varying period of years

D. Style--Accepted design which repeats

II. Questions to consider before buying ready-to-wear garments

A. Is the fabric suitable for the garment?

B. Will the fabric performance be in keeping with that expected of the garment?

C. Are the fabric finishes desirable for the type of garment?

(NOTE: The way a garment is put together not only affects its looks when new, but also gives an indication of the wear you can expect.)

III. Basic rules of buymanship

A. Spend the "big money" where it counts most

(NOTE: For instance, if you need a new coat, even though you may not buy it early, make an allowance for it first when planning your expenditures.)

B. Do not go on an impulsive spending spree

C. Think in terms of different effects you can obtain by coordinating separates

D. Shop for fashion at a price that fits your pocketbook

E. Consider the upkeep of clothing

F. Shop for accessories carefully

G. Check to see how apparel looks in back when you try it on

H. Unless completely satisfied with appearance and fit, do not buy the garment

INFORMATION SHEET

IV. Points to consider when buying a dress (Transparency 1)

A. Color--Becoming to your personality, skin, hair, and eyes

B. Design--Flattering to your figure

C. Fabric

1. Wrinkle resistant
2. Easily laundered or dry cleaned

D. Trimming

1. Attractive
2. Easy to handle in cleaning

E. Sleeves

1. Comfortable
2. Proper length for style

F. Seams

1. Straight
2. Deep enough for strength
3. Proper length of stitches

(NOTE: Long stitches may indicate poor quality.)

G. Armholes

1. Comfortable
2. Correct location

H. Design in fabric--Matches at key seam lines

I. Hemline

1. Even
2. Sturdy hem which is invisible on outside of garment

V. Factors to help in spending money wisely

A. Buy simple, basic clothing rather than elaborate clothing since it can be worn on numerous occasions

B. Buy clothing that can be worn more than one season

INFORMATION SHEET

C. Avoid colors that you tire of easily

D. Think twice before you buy a certain color or type of garment just because everybody is wearing it

E. Consider care expense in relation to overall expense of garment

(NOTE: Light colored garments may readily show soil.)

F. Plan your shopping to avoid buying clothing in a hurry or in a haphazard way

G. Avoid poorly constructed garments, regardless of how inexpensive, because they usually wear out in a very short time

H. Invest the largest part of your clothing allowance in those articles that receive the hardest wear, such as your coat and school clothes

I. Avoid having too many of one kind of clothing in your wardrobe

J. Avoid buying clothing that can be worn only for one occasion

K. Watch for sales, but buy only if you find something you really need

L. Buy good accessories

M. Buy clothing you enjoy wearing

VI. Factors which help the consumer to know when a sale means savings

A. If there is an immediate or near-future need for the merchandise

B. If the color and style fit into your wardrobe

C. If the garment fits correctly or requires only minor alteration

D. If it can be bought without adding interest or carrying charges which offset the savings

VII. Qualities essential to all garments

A. Appeal

1. Color, style, texture or a combination of these or other elements

2. A basic appeal or only a passing one

3. Becoming to you and thus appeals to those who see you wear it

(NOTE: Reject items lacking appeal so that your wardrobe is consistently successful.)

INFORMATION SHEET

B. Comfort

1. Quality which makes you feel physically at ease

(NOTE: May be determined by fit and fiber content.)

2. Important for the enjoyment of clothing

(NOTE: Clothing that is comfortable does not need to be adjusted and you are unaware of it during use.)

C. Satisfaction

1. Quality by which a garment fulfills your expectations

2. Questions to ask when checking for satisfaction

a. Does the garment harmonize with accessories?

b. Does it fit correctly?

c. Does it have the special qualities for which you are looking?

d. Is the price reasonable in relation to the service expected?

VIII. General standards of a well fitted garment (Transparency 2)

A. Key lines on grain

B. Lines conform to body structure

C. Garment hangs smooth

D. Adequate ease

E. Balanced garment

IX. General information for checking garment workmanship and fit

A. Grain of fabric

1. Make certain the center, front, and back are on the grain or straight of fabric so that the garment hangs well

2. Observe if sleeves are on the straight of the grain so that they do not twist

B. Seams

1. Look for even stitching, especially top stitching

2. Look for adequate width of seams that show no signs of puckering

INFORMATION SHEET

3. Make sure plaids and stripes match at seams

4. Check for reasonable length of stitching

C. Hems

1. Analyze for evenness

2. Scan for adequate depth

D. Pockets

1. See that patch pockets match

2. Look for reinforcements at the top corners

3. Check for even application

E. Collars

1. Examine centering

2. Confirm smooth corners

3. See that plaids and stripes match

F. Fastenings

1. Examine worked buttonholes for stitching

2. Examine bound buttonholes for even binding and firm ends

3. Test to see if zippers open and close easily

4. See that buttons are firmly sewed in place

G. Linings

1. Insure that lining requires the same cleaning as outer garment

2. Observe that the better linings are an equal weight fabric with similar stretch as the garment

H. See that trim coordinates to the design and fabric of the garment

INFORMATION SHEET

X. Price ranges of garments and their characteristics

(NOTE: Check the cost of a garment against budget and value expected from the garment.)

A. Low

1. Often of poor quality
2. Usually expensive because of lack of service
3. Occasionally a wise choice for garments to be worn once or only a few times

B. Middle

1. Likely to have the better lasting qualities
2. Usually has the best qualities for the price

C. High

1. Sometimes in highest price range because they are high fashion
2. Possibly of unique or uneasily obtained fabric
3. Unlikely that garment gives exceptional or longer wear
4. May be paying for brand name and store

XI. Differences in costs of self-made and ready-to-wear garments

A. Using the same fabric as in the ready- made garment, a self-made garment should cost considerably less depending upon finishes and patterns used

B. Obtaining the services of a dressmaker should save over buying ready-to-wear

(NOTE: Some sources state as much as sixty-five percent can be saved by home sewing, and at least twenty percent can be saved by using the services of a dressmaker.)

Points to Consider When Buying a Dress

Color

Fabric

Sleeves

Design

Hemline

Armholes

Trimming

Seams

Design in Fabric

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Standards of a Well Fitted Garment

- Key Lines Must be on Grain
- Lines Must Conform to Body Structure
- Set of Garment Must be Smooth
- Ease Must be Adequate
- Garment Must be Balanced

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BUYING READY TO WEAR GARMENTS
UNIT III

ASSIGNMENT SHEET #1--PREPARE A CHECKLIST

*Develop a checklist to use in judging the quality of a garment by using the information sheet, textbooks or other related information. Be prepared to give reasons for the factors used on the checklist.

*This assignment sheet will be evaluated to the satisfaction of the instructor.

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BUYING READY TO WEAR GARMENTS
UNIT III

ASSIGNMENT SHEET #2--SELECTION OF GARMENT

*Using the check points for garment workmanship and fit and the checklist made on Assignment Sheet #1, select a garment to fit your own personal needs and taste. Give reasons for your selection.

*This assignment sheet will be evaluated to the satisfaction of the instructor.

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BUYING READY TO WEAR GARMENTS
UNIT III

ASSIGNMENT SHEET #3--CLASSIFY GARMENTS INTO PRICE RANGES

*Classify the garments which have been made available to you into three price ranges using the characteristics given in the information sheet. This assignment should be done without the use of price tags.

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Buying Ready to Wear Garments
Unit III
Answers to Assignment Sheet #1

Example of checklist:

Check Points	Adequate	Not Adequate
I. Grain of Fabric		
A. Center, front, and back on straight of grain		
B. Sleeves on straight of grain so they do not twist		
II. Seams		
A. Even stitching		
B. Adequate width of seams		
C. Stripes and plaids match		
D. Reasonable length of stitching		
III. Hems		
A. Even		
B. Adequate depth		
IV. Pockets		
A. Patch pockets match		
B. Reinforced at top corners		
C. Evenly applied		
V. Collars		
A. Centered		
B. Smooth corners		
C. Plaids and stripes match		
VI. Fastenings		
A. Even buttonholes		
B. Zippers open and close easily		
C. Buttons firmly sewn in place		
VII. Linings		
A. Requires same cleaning as outer garmet		
B. Equal weight as outer garmet		
VIII. Trim		
A. Coordinates with design		
B. Coordinates with fabric		

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BUYING READY TO WEAR GARMENTS
UNIT III

TEST

1. Match the terms on the right to the correct definition.

_____a. Styles that stay popular for a varying period of years	1.	Fad
_____b. Styles which come and go rapidly, usually lasting no more than a season	2.	Fashion
_____c. Accepted design which repeats	3.	Ready-to-wear
_____c. Garments purchased in their completed form rather than as fabric to be construc	4.	Style

2. Write three questions to ask yourself before buying ready-to-wear garments.

a.

b.

c.

3. Name six basic rules of buymanship

a.

b.

c.

d.

e.

f.

4. Discuss the following points to consider when buying a dress.

a. Color

b. Design

c. Fabric

d. Trimming

e. Sleeves

f. Seams

g. Armholes

h. Design in fabric

i. Hemline

5. List ten factors to help in spending money wisely.

a.

b.

c.

d.

e.

f.

g.

h.

i.

j.

6. Select factors which help the consumer to know when a sale means savings by placing an "X" to the left of each factor.

_____a. If the garment fits correctly or requires only minor alteration

_____b. If the garment is inexpensive

_____c. If there is an immediate or near-future need for the merchandise

_____d. If the color and style fit into your wardrobe

_____e. If the garment is characteristic of the latest fad

_____f. If it can be bought without adding interest or carrying charges which offset the savings

7. Discuss three qualities essential to all garments.

a.

b.

c.

8. List five general standards of a well fitted garment.

a.

b.

c.

d.

e.

9. Discuss general information for checking garment workmanship and fit.

a. Grain of fabric

b. Seams

c. Hems

d. Pockets

e. Collars

f. Fastenings

g. Linings

h. Trimming

10. Match the characteristics on the right to the price ranges of garments on the left.

_____a. High	1. Usually expensive because of lack of service
_____b. Medium	2. Possibly of unique or uneasily obtained fabric
_____c. Low	3. Likely to have the better lasting qualities

11. Explain the differences in costs of self-made and ready-made garments.

12. Demonstrate the ability to:

    a. Select a garment when given a choice of several garments from which to choose.

    b. Classify garments into three price ranges.

    (NOTE: If this has not been accomplished prior to the test, ask the instructor when the above activities are due.)

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BUYING READY TO WEAR GARMENTS
UNIT III

ANSWERS TO TEST

1. a. 2
   b. 1
   c. 4
   d. 3
2. a. Is the fabric suitable for the garment?
   b. Will the fabric performance be in keeping with that expected of the garment?
   c. Are the fabric finishes desirable for the type of garment?
3. Any six of the following:
   a. Spend the "big money" where it counts most
   b. Do not go on an impulsive spending spree
   c. Think in terms of different effects you can obtain by coordinating separates
   d. Shop for fashion at a price that fits your pocketbook
   e. Consider the upkeep of clothing
   f. Shop for accessories carefully
   g. Check to see how apparel looks in back when you try it on
   h. Unless completely satisfied with appearance and fit, do not buy the garment
4. Discussion should include the following:
   a. Color--Becoming to your personality, skin, hair and eyes
   b. Design--Flattering to your figure
   c. Fabric
      1. Wrinkle resistant
      2. Easily laundered or dry cleaned
   d. Trimming
      1. Attractive
      2. Easy to handle in cleaning

e. Sleeves

1. Comfortable
2. Proper length for style

f. Seams

1. Straight
2. Deep enough for strength
3. Proper length of stitches

g. Armholes

1. Comfortable
2. Correct location

h. Design in fabric--Matches at key seam lines

i. Hemline

1. Even
2. Sturdy hem which is invisible on outside of garment

5. Any ten of the following:

a. Buy simple, basic clothing rather than elaborate clothing since it can be worn on numerous occasions.

b. Buy clothing that can be worn more than one season

c. Avoid colors that you tire of easily

d. Think twice before you buy a certain color or type of garment just because everybody is wearing it

e. Consider care expense in relation to overall expense of garment

f. Plan your shopping to avoid buying clothing in a hurry or in a haphazard way

g. Avoid poorly constructed garments, regardless of how inexpensive, because they usually wear out in a very short time

h. Invest the largest part of your clothing allowance in those articles that receive the hardest wear, such as your coat and school clothes

i. Avoid having too many of one kind of clothing in your wardrobe

j. Avoid buying clothing that can be worn only for one occasion

k. Watch the sales, but buy only if you find something you really need

l. Buy good accessories

m. Buy clothing you enjoy wearing

6. a

c

d

f

7. Discussion should include the following.

a. Appeal

1) Color, style, texture or a combination of these or other elements

2) A basic appeal or only a passing one

3) Becoming to you and thus appeals to those who see you wear it

b. Comfort

1) Quality which makes you feel physically at ease

2) Important for the enjoyment of clothing

c. Satisfaction

1) Quality by which a garment fulfills your expectations

2) Questions to ask when checking for satisfaction

a) Does the garment harmonize with accessories?

b) Does it fit correctly?

c) Does it have the special qualities for which you are looking?

d) Is the price reasonable in relation to the service expected?

8. a. Key lines on grain

b. Lines conform to body structure

c. Garment hangs smooth

d. Adequate ease

e. Balanced garment

9. Discussion should include the following.

a. Grain of fabric

1) Make certain the center, front, and back are placed on the grain or straight of fabric so that the garment hangs well

2) Observe if sleeves are on the straight of the grain so that they do not twist

b. Seams

1) Look for even stitching, especially top stitching

2) Look for adequate width of seams that show no signs of puckering

3) Make sure plaids and stripes match at seams

4) Check for reasonable length of stitching

c. Hems

1) Analyze for evenness

2) Scan for adequate depth

d. Pockets

1) See that patch pockets match

2) Look for reinforcements at the top corners

3) Check for even application

e. Collars

1) Examine centering

2) Confirm smooth corners

3) See that plaids and stripes match

f. Fastenings

1) Examine worked buttonholes for stitching

2) Examine bound buttonholes for even binding and firm ends

3) Test to see if zippers open and close easily

4) See that buttons are firmly sewed in place

g. Linings

1) Insure that lining requires the same cleaning as outer garment

2) Observe that the better linings are an equal weight fabric with similar stretch as the garment

h. Trimming--See that trim coordinates to the design and fabric of the garment

10. a. 2

b. 3

c. 1

11. a. Using the same fabric as in the ready-made garment, a self-made garment should cost considerably less depending upon finishes and pattern used

b. Obtaining the services of a dressmaker should save twenty percent over buying ready-to-wear

12. Performance skills will be evaluated to the satisfaction of the instructor.

GARMENT CONSTRUCTION
UNIT IV

TERMINAL OBJECTIVE

After completion of this unit, the student should be able to identify pressing equipment, describe button types, and name characteristics of a quality hem. The student should be able to list conditions necessary for set-in sleeves and demonstrate the ability to do various construction techniques. This knowledge will be evidenced through demonstration and by scoring eighty-five percent on the unit test.

SPECIFIC OBJECTIVES

After completion of this unit, the student should be able to:

1. Match terms associated with garment construction to the correct definition.
2. Identify equipment used for pressing.
3. Describe two types of buttons.
4. Name four characteristics of a quality hem.
5. List three conditions which result in a perfect set-in sleeve.
6. Demonstrate the ability to:
   a. Make a collar.
   b. Put in a zipper with a lapped application.
   c. Set in a sleeve.
   d. Sew on a hook and eye.
   e. Sew on a snap.
   f. Sew on a pierced button.
   g. Sew on a shank button.
   h. Sew a turned-and-stitched hem.
   i. Sew a hem with seam binding.
   j. Sew a tailor's hem.

GARMENT CONSTRUCTION
UNIT IV

SUGGESTED ACTIVITIES

I. Instructor:

A. Provide students with objective sheet.

B. Provide students with information and job sheets.

C. Make transparencies.

D. Discuss terminal and specific objectives.

E. Discuss information and job sheets.

F. Provide leadership and give assistance to students while completing job sheets.

(NOTE: Job sheets may be incorporated into actual procedure of making a garment or used in making samples.)

G. Give test.

II. Student:

A. Read objectives.

B. Study information sheet and complete each job sheet.

C. Take test.

INSTRUCTIONAL MATERIALS

I. Included in this unit:

A. Objectives

B. Information sheet

C. Transparency master -- TM #1--Pressing Equipment

D. Job Sheets

1. Job Sheet #1--Make a Collar
2. Job Sheet #2--Put in Zipper (Lapped Application)
3. Job Sheet #3--Set in Sleeve
4. Job Sheet #4--Sew on Hook and Eye
5. Job Sheet #5--Sew on a Snap
6. Job Sheet #6--Sew on Pierced Button
7. Job Sheet #7--Sew on Shank Button
8. Job Sheet #8--Sew a Turned-and-Stitched Hem
9. Job Sheet #9--Sew Hem with Seam Binding
10. Job Sheet #10--Sew a Tailor's Hem

E. Test

F. Answers to test

II. References:

A. Educational Bureau. *Coats and Clark's Sewing Book.* New York: Coats and Clark Inc., 1967.

B. Eisinger, Larry, ed. *The Complete Book of Sewing.* New York: Greystone Press, 1972.

GARMENT CONSTRUCTION
UNIT IV

INFORMATION SHEET

I. Terms and definitions

A. Lapped zipper--One edge of opening forms a lap that completely conceals the zipper

B. Pressing--Application of heat with a lifting and lowering motion

C. Ironing--The hearty, bearing down and stroking operation that follows laundering

D. Hemline--Line on which a hem is folded up

E. Inside hemming--Stitches are taken between hem and garment fabric

(NOTE: In the finished hem, the thread is protected against friction, the common cause of a hem coming undone.)

F. Flat hemming--Edge of hem is sewn flat to garment with stitches taken through hem edge and close to this edge on the underside of garment

G. Tailor's hem--A flat and inconspicuous hem particularly suitable for most heavy and medium-weight fabrics

II. Equipment used for pressing (Transparency 1)

A. Iron

B. Press cloth

C. Ironing board

D. Sleeve board

(NOTE: Useful for pressing seams in sleeves and other narrow spaces, the end of the sleeve board is good for darts and curved edges. It should be well padded.)

E. Pressing ham

(NOTE: This is a firmly packed, rounded pressing cushion excellent for pressing curved seams, darts, and especially sleeve caps.)

F. Seam roll

(NOTE: This is used to press open seams where a sharp line is not desirable or the seam is not otherwise accessible.)

INFORMATION SHEET

G. Point presser

(NOTE: This is particularly useful in turning collars, facings, and corners where a sharp pointed edge is desired.)

H. Needle board

(NOTE: The needle board is used to press velvet and other pile fabrics to avoid matting the pile.)

III. Types of buttons (Transparency 2)

A. Pierced--Two or four holes through which it is sewed on

B. Shank--Has a solid top and a shank or stem underneath for sewing on

(NOTE: The shank may be in one piece with the button or may consist of a wire or fabric loop.)

(CAUTION: Holes or shank must be free of rough edges which might cut through the thread.)

IV. Characteristics of a quality hem

A. Inconspicuous

B. Even

C. Gives body to the garment edge

D. Does not interfere with the hang of the garment

V. Conditions for perfect set-in sleeves

A. Exact line up of matching points

B. Evenly distributed ease in sleeve cap

C. Stitching around armhole kept even and sewed with correct seam allowance

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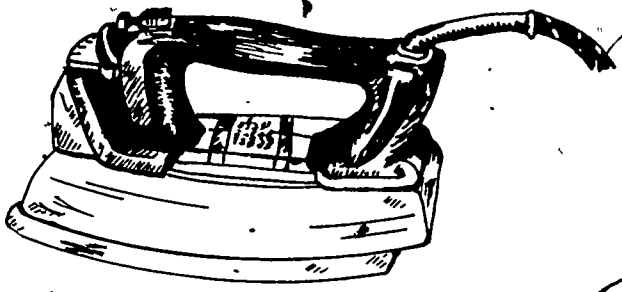
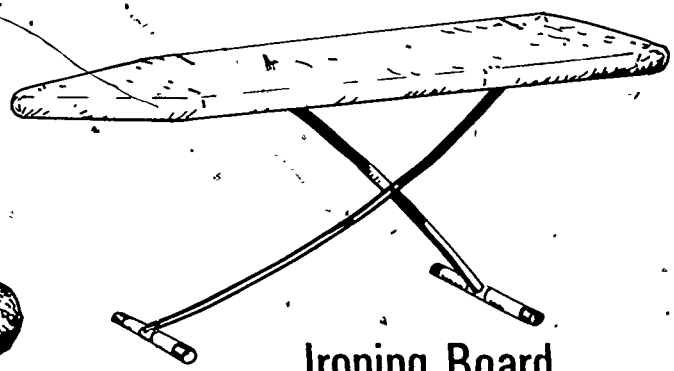
Pressing Equipment

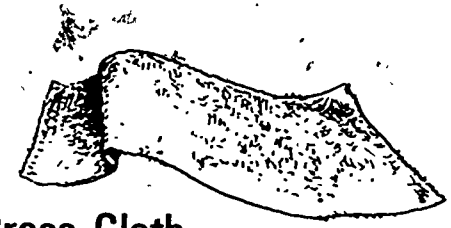


Iron

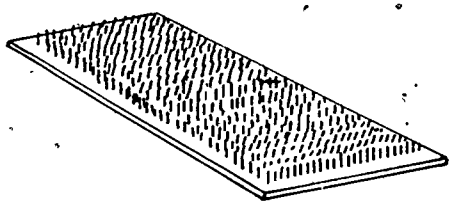


Ironing Board

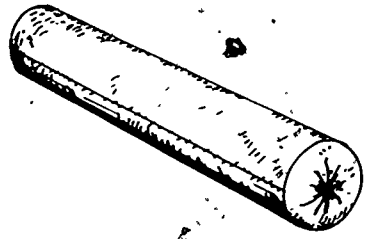
Pressing Ham



Press Cloth

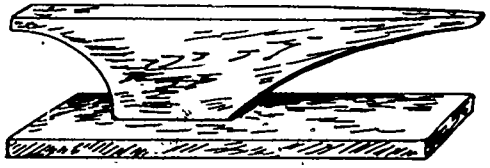


Needle Board

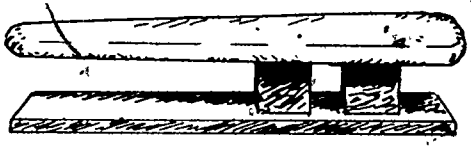


Seam Roll

Point Presser



Sleeve Board



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GARMENT CONSTRUCTION
UNIT IV

JOB SHEET #1--MAKE A COLLAR

I. Equipment and supplies needed

A. Interfacing

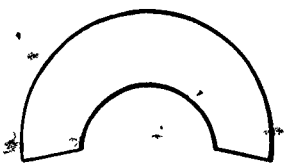
B. Scissors

C. Sewing machine

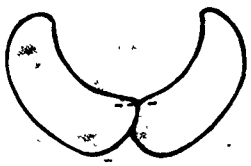
D. Pins

II. Procedure

(NOTE: Directions apply to collars made in one section or in two sections.)



One-Section



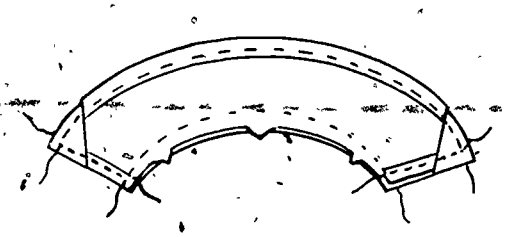
Two-Section

A. Mark seamlines on interfacing

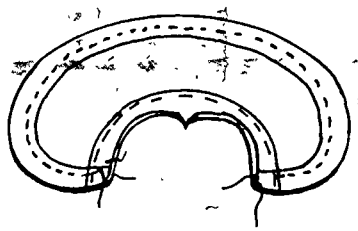
(NOTE: This is done to make a perfectly finished edge.)

B. Trim away corners of interfacing, if any

C. Staystitch interfacing, marked side up to wrong side of upper collar



Two-Piece Collar with Corners



Two-Piece Collar with Rounded Edge

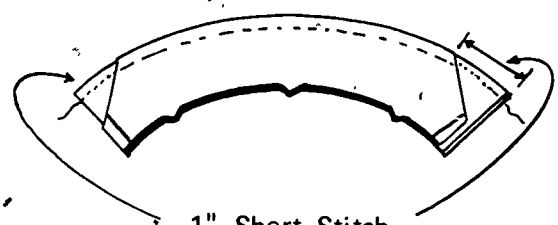
(NOTE: This piece will hereafter be handled and referred to as one piece, and to avoid confusion, staystitching is not shown in drawings after this step.)

JOB SHEET #1

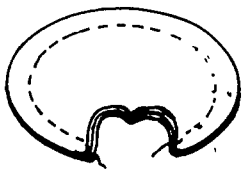
D. Staystitch undercollar

E. Pin undercollar to upper collar, right sides together

F. With interfacing side up, stitch outer edge on marked seamline

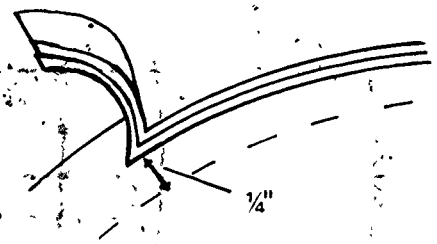


1" Short Stitch



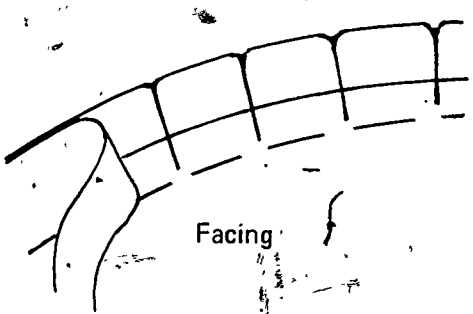
G. On collar with corners, stitch from edge to edge of fabric, as shown, reinforcing corners by shortening stitch at beginnings and end; do not stitch ends of collar.

H. Trim seam allowances to 1/4 inch, as shown



I. Grade seam allowances

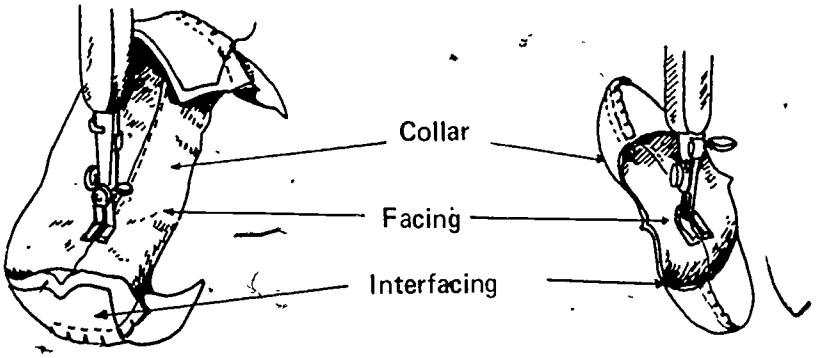
J. Clip at 1/4 inch intervals



Facing

JOB SHEET #1

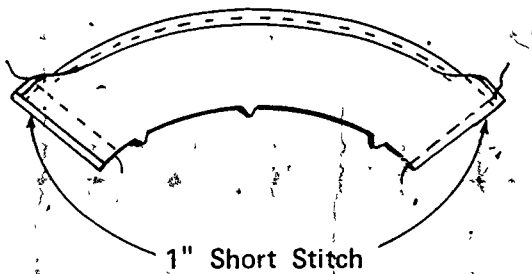
K. Understitch



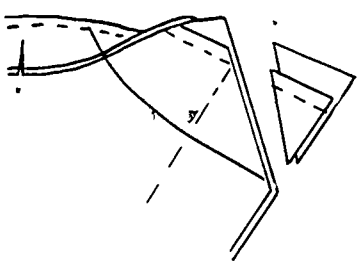
(NOTE: On rounded-edge collar, understitch entire seam. On collar with corners, start and stop understitching one inch from ends.)

L. The rounded-edge collar is now finished. Turn to right side and press

M. On collar with corners, stitch end seams shortening stitch at corners as before



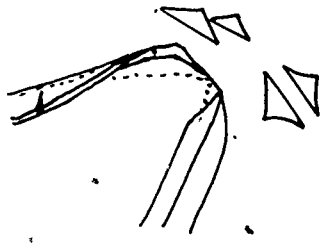
N. Trim corners



O. Press end seams open with point of iron

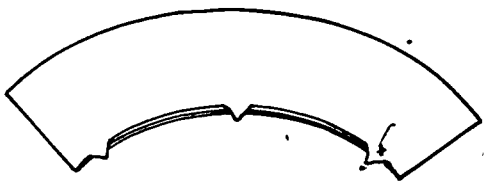
JOB SHEET #1

P. Trim, grade, and taper end seam allowances toward corner



Q. Pushing out corners carefully, turn collar to right side

R. Press



GARMENT CONSTRUCTION
UNIT IV.

JOB SHEET #2--PUT IN ZIPPER (LAPPED APPLICATION)

I. Equipment and supplies needed

A. Sewing machine with regular presser foot

B. Zipper foot

C. Zipper

D. Iron

E. Ironing board

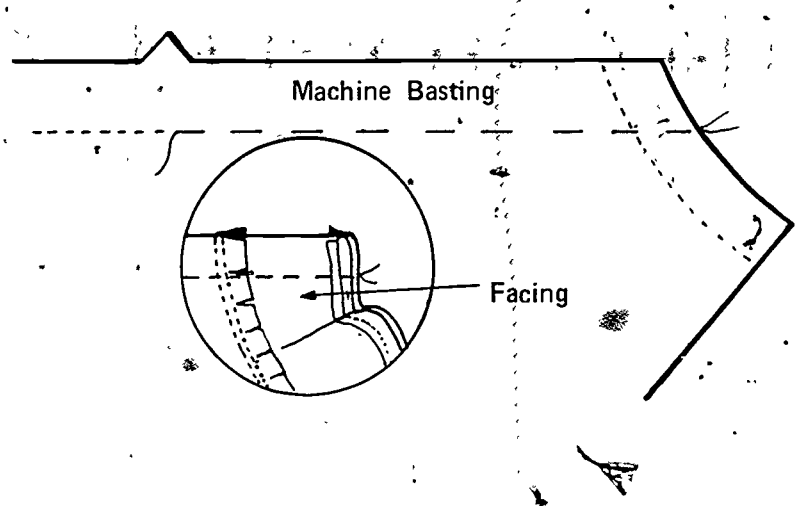
II. Procedure

A. Stitch seam which is to contain zipper placket; stop at mark (usually notches) that indicate opening, but do not tie off threads

(NOTE: Length of opening is adjusted, if necessary, when you are ready to insert zipper.)

B. Trim any interfacing that may extend to the zipper placket

C. Machine baste (longest stitch) opening together on seamline, as shown



D. Press basted seam open

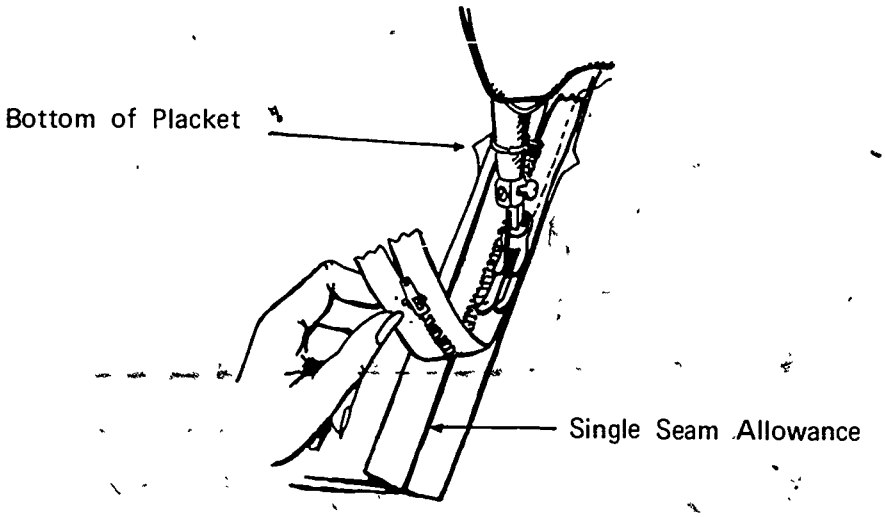
(NOTE: In a neck placket, if facing has already been applied, extend it out, lining up neck seam, and continue stitching to edge of facing. Keep facing extended for rest of application.)

JOB SHEET #2

(NOTE: Pinning or hand basting are not specified in any of these directions. While they can be dispensed with, there is no reason why you should not pin or handbaste if, for instance, your fabric is hard to handle or if you feel safer to do so.)

(CAUTION: Preshrink zipper and never stretch zipper or fabric during application.)

E. With bottom of placket away from you, extend the right-hand seam allowance by itself as shown



F. Place closed zipper on it face-down, with end stop at bottom of opening mark

G. Hold zipper so that coil or chain lies with its full width on the extended seam allowance and its edge exactly against seamline, not on it

H. Stitch along edge of tape, checking position of coil or chain as shown, every inch or two

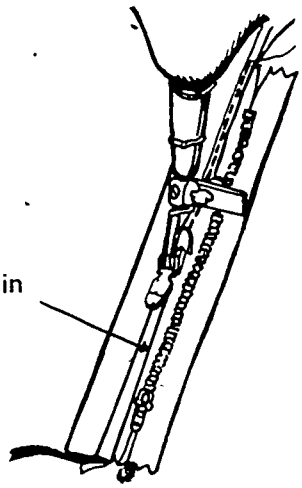
(NOTE: Stitching may curve out around slider.)

I. Change to zipper foot and regular stitch

J. Turn (flip) zipper face-up, forming a fold in seam allowance (not in tape)

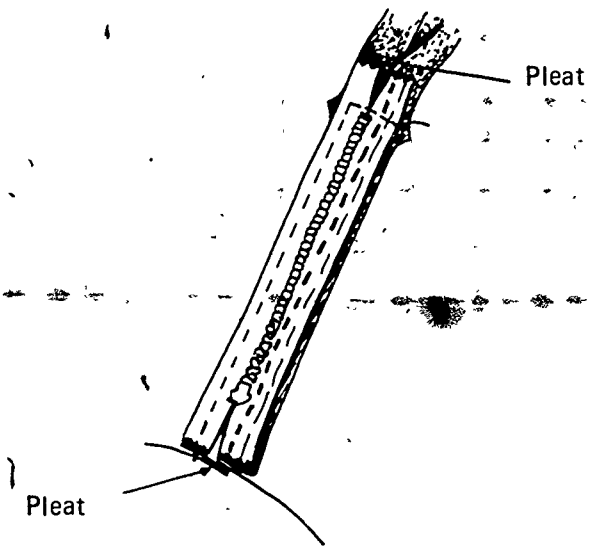
JOB SHEET #2

K. Bring fold close to coil or chain but not close enough to touch, and topstitch fold to zipper tape, as shown, the full length of tape



L. Spread garment out flat as shown and turn zipper face down over free seam allowance

(NOTE: A pleat will form at each end of the placket; this is as it should be.)



M. At bottom of zipper, stitch across tapes and pleat through all thicknesses; stop at guideline or at about the center of tape

(NOTE: This stitching can be done on the right side of garment.)

N. Pivot on needle and stitch along zipper

JOB SHEET #2

(NOTE: It is helpful to hold fingers lightly over zipper while stitching.)

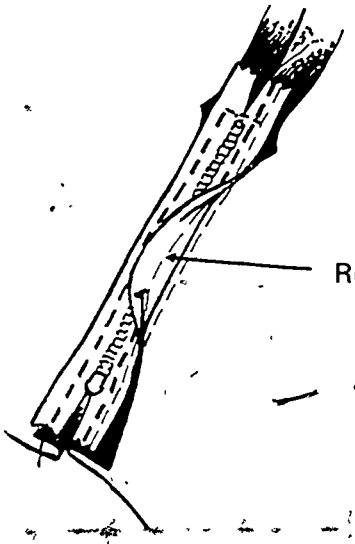
O. As you approach the top, make sure the pleat in the seam allowance is maintained, and that the tape lies straight

P. Stitch to end of tape

Q. At bottom of placket bring thread ends to inside

(NOTE: If necessary, take out a stitch or two so that, on the outside, stitching does not cross garment seam.)

R. On inside, clip machine-basting that holds opening together and pull out threads



S. Press finished placket first on wrong side, then on right side, carefully pressing out crease under lap

(NOTE: On a coil zipper, use press cloth.)

GARMENT CONSTRUCTION
UNIT IV

JOB SHEET #3--SET IN SLEEVE

I. Equipment and supplies needed

A. Sewing machine

B. Pins

C. Ironing board

D. Iron

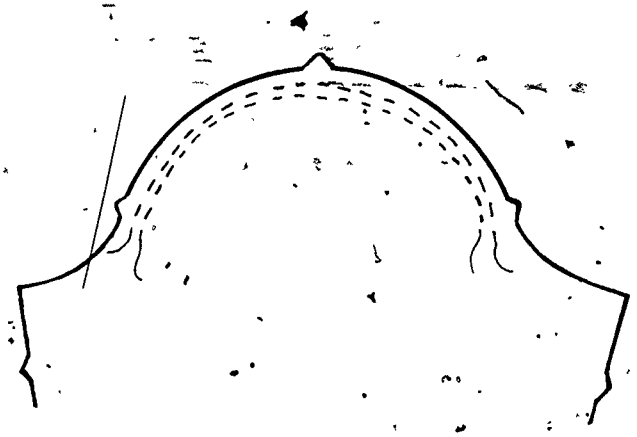
E. Sleeve board or pressing ham

F. Thread

II. Procedure

A. Make a row of ease stitching (8-10 stitches to the inch) on seamline of sleeve cap, between notches

B. To help control fullness, stitch a second line within seam allowance, 1/8 inch from first one



C. Stitch underarm seam

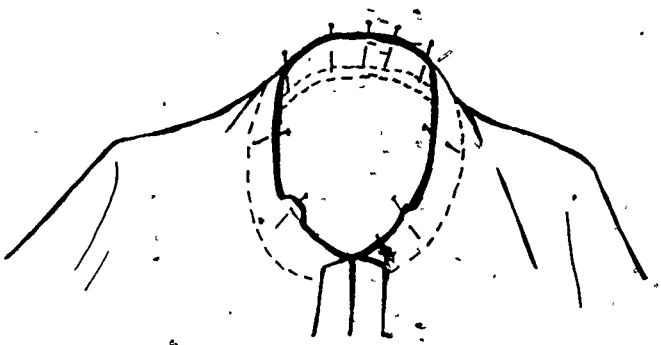
D. Press open

E. Finish bottom of sleeve

F. With garment wrong side out, place sleeve in armhole, right sides together.

JOB SHEET #3

G. Pin together at underarm seams, notches, dots, shoulder seam; then place a pin 1/2 inch to either side of shoulder seam as shown



(NOTE: This inch in top of sleeve cap is straight-grain and has no ease.)

H. Gently draw threads between notches and these two pins until cap loosely fits armhole

(NOTE: Do not pull too tight.)

I. Distribute ease evenly

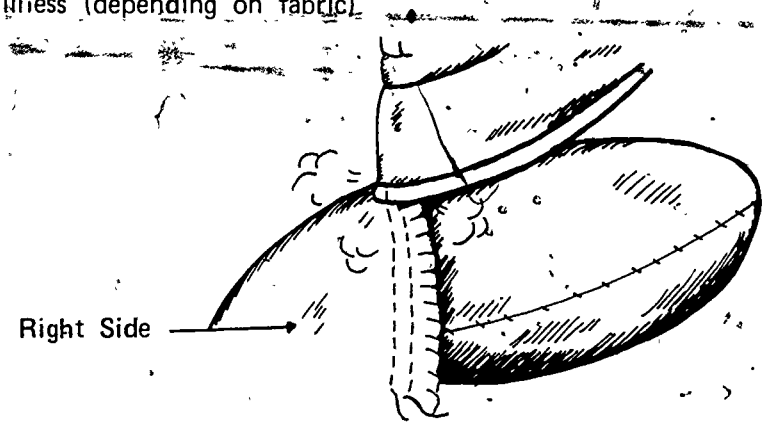
J. Pull all thread ends through to wrong side

K. Tie securely

L. Remove pins and take out sleeves

M. Handling sleeve carefully, place sleeve cap, right side out, over end of sleeve board or pressing ham

N. With point of steam iron, press sleeve cap shrinking or smoothing out fullness (depending on fabric)

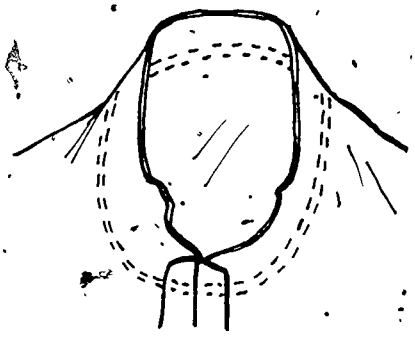


O. Pin sleeve into armhole as before, adding pins all around at intervals of not more than 1 1/2 inches unless you prefer to baste sleeve in

JOB SHEET #3

P. Starting at underarm seam with sleeve side up, stitch around carefully removing pins as you come to them

Q. Make a second row of stitching within seam allowance 1/4 inch from first row of stitching

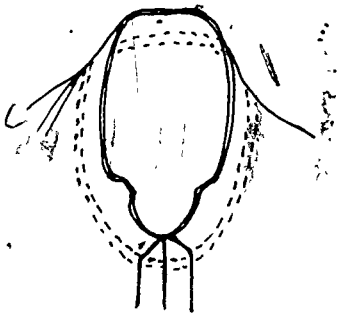


R. Between notches at underarm, trim away seam allowance close to stitching

S. Trim remainder of seam to 1/2 inch

T. Press stitching line without opening seam

U. Turn seam into sleeve, without pressing



GARMENT CONSTRUCTION
UNIT IV

JOB SHEET #4--SEW ON HOOK AND EYE

I. Equipment and supplies needed

A. Needle

B. Thread

C. Hook and eye

D. Scissors

II. Procedure

A. Place hook in position on underside of overlap about 1/8 inch from edge

B. Conceal knot under hook

C. Take a few stitches to secure bill of hook

D. Pass needle through fabric to eyelets of hook

E. Take four or five stitches through each eyelet

F. Fasten thread securely

G. Cut

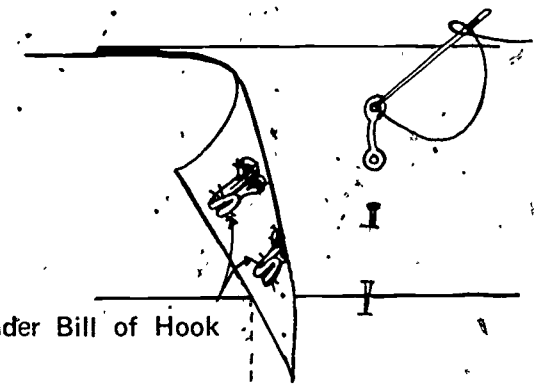
H. Pin opening together

I. Mark place for eye with a pin on underlay

J. Sew eye in place by taking four or five stitches through each eyelet

K. Fasten thread securely

L. Cut



Stitches Under Bill of Hook

GARMENT CONSTRUCTION
UNIT IV

JOB SHEET #5--SEW ON A SNAP

I. Equipment and supplies needed

A. Needle

B. Thread

C. Two halves of the snap--The ball and socket

D. Scissors

II. Procedure

A. Ball half of snap

1. Place ball half in position on underside of opening overlap
2. Conceal knot in thread under snap
3. Take four or five stitches through each hole
4. Fasten thread securely
5. Cut thread

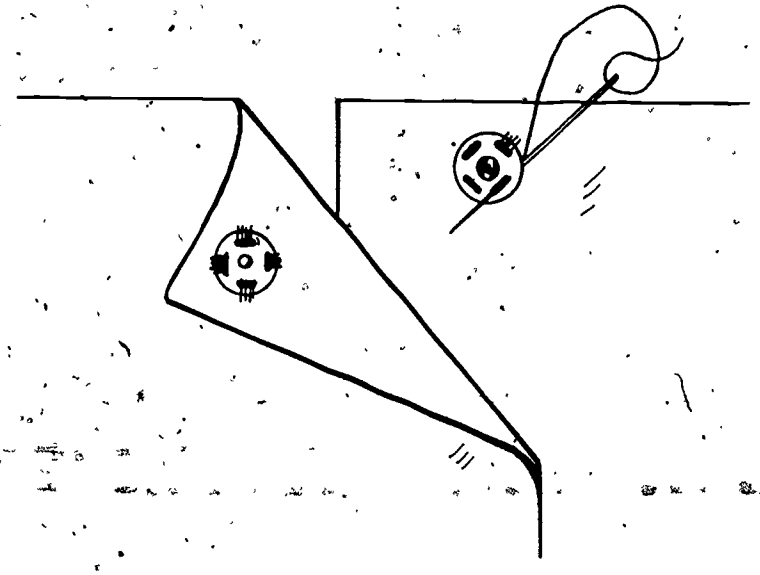
B. Socket half of snap

1. Pin opening together
2. If ball has no hole through the center, rub chalk on it
3. Press firmly against underlay

   (NOTE: Some fabrics can be marked like this without chalk.)
4. Center socket over mark
5. Take four or five stitches through each hole
6. If there is a hole through the ball, push threaded needle (no knot) from right side of garment through hole into underlay
7. Slip ball half off needle and thread
8. Make knot
9. Center socket over it

JOB SHEET #5

10. Take four or five stitches through each hole
11. Fasten thread securely
12. Cut thread



GARMENT CONSTRUCTION
UNIT IV

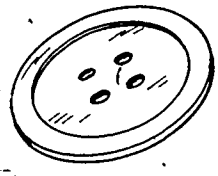
JOB SHEET #6--SEW ON PIERCED BUTTON

I. Equipment and supplies needed

A. Needle

B. Thread

C. Pierced button



D. Bobby pin, matchstick, or toothpick

II. Procedure

A. Thread needle

(NOTE: Use thread, single or doubled, depending on fabric. If thread is doubled, be careful to draw it up evenly with each stitch.)

B. Make a small knot at end

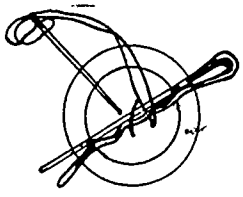
C. On right side of garment take one small stitch at button position picking up all thicknesses, but be careful not to let stitch show through facing fabric in a jacket or a coat

(NOTE: Knot will be covered by botton.)

D. Take a second small stitch across the same place

E. Bring thread up through one hole in button

F. Centering button over stitch, place a bobby pin, matchstick, or toothpick (depending on length of shank desired) between button and fabric



G. Take three or four stitches through each pair of holes

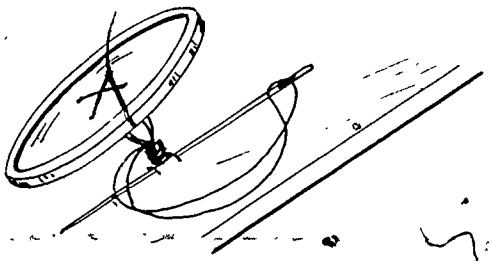
H. Bring needle and thread out between button and fabric

I. Remove bobby pin or other

J. Wind thread a number of times around the attaching thread to form a shank

JOB SHEET #6

K. Take a small stitch in fabric



L. Take several small stitches under button, looping thread over needle to form knots

M. Cut, do not break, thread

GARMENT CONSTRUCTION
UNIT IV

JOB SHEET #7--SEW ON SHANK BUTTON

I. Equipment and supplies needed.

A. Needle

B. Thread

C. Shank button

D. Bobby pin, matchstick, or toothpick

II. Procedure

A. Thread needle

(NOTE: Use thread, single or doubled, depending on fabric. If thread is doubled, be careful to draw it up evenly with each stitch.)

B. Make a small knot at end

C. On right side of garment, take one small stitch at button position picking up all thicknesses, but be careful not to let stitch show through facing fabric in a jacket or a coat

(NOTE: Knot will be covered by button.)

D. If length of shank is sufficient, take six to eight stitches (less if thread is doubled) through shank, then proceed to Step J.

E. If shank needs lengthening, take a first stitch through shank, then place a bobby pin, matchstick, or toothpick underneath

F. Take three or more stitches through shank

G. Bring needle and thread out between shank and fabric

H. Remove bobby pin, matchstick, or toothpick

I. Wind thread a number of times around the attaching thread

J. Take a small stitch in fabric

K. Take several small stitches under button, looping thread over needle to form knots

L. Cut, do not break thread

GARMENT CONSTRUCTION
UNIT IV

JOB SHEET #8--SEW A TURNED-AND-STITCHED HEM

I. Equipment and supplies needed

A. Sewing machine

B. Ironing board

C. Pins

D. Needle

E. Thread

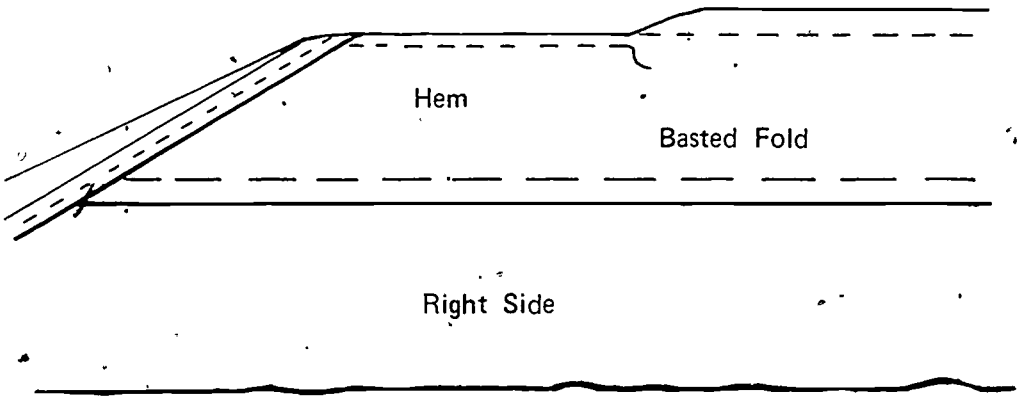
II. Procedure

A. On a straight skirt, make a line of machine stitching 1/4 inch from cut edge through a single thickness of hem fabric

(NOTE: On a curved hem, you will already have done this while reducing fullness.)

B. Turn edge to inside on stitching line

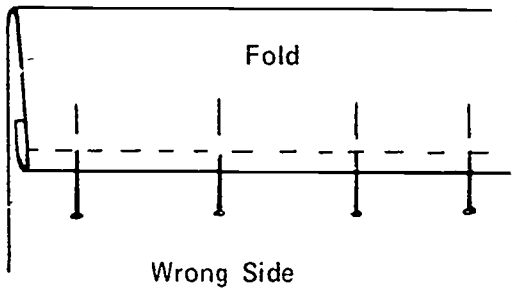
C. Topstitch through hem edge only avoiding bulk of garment



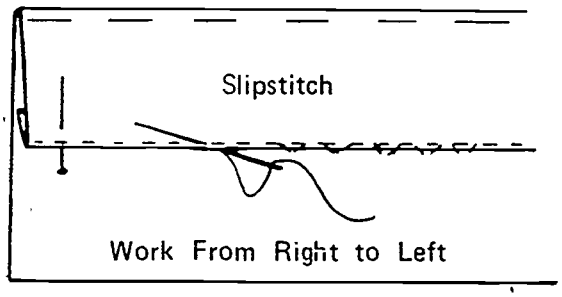
D. Place work on ironing board wrong side out

JOB SHEET #8

E. Matching at seams, pin or baste hem in place about 1/4 inch below topstitching



F. Sew by hand with slip stitch



GARMENT CONSTRUCTION
UNIT IV

JOB SHEET #9--SEW HEM WITH SEAM BINDING

I. Equipment and supplies needed

A. Seam binding

(NOTE: Seam binding may be either straight or bias. For use on a curved hem, prepare seam binding by steam-pressing it into a slight curve.)

B. Needle

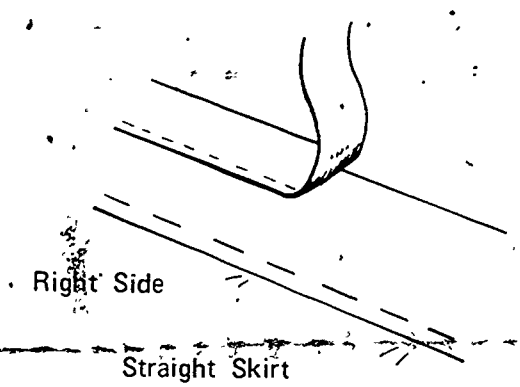
C. Thread

D. Sewing machine

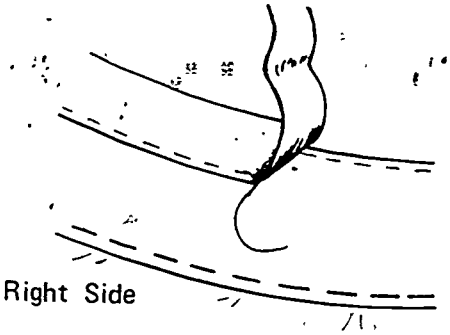
E. Ironing board

II. Procedure

A. Topstitch binding to right side of hem about 1/4 inch from cut edge, as shown, easing it to fabric

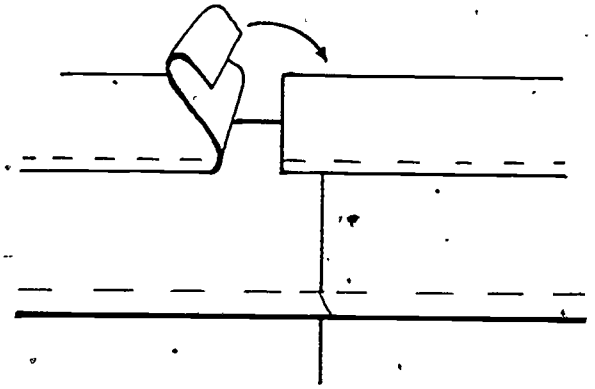


Straight Skirt



Gored or Circular Skirt

B. Overlap end, turned under as shown



JOB SHEET #9

C. Place work on ironing board wrong side out

D. Matching at seams, pin or baste hem to garment just below seam binding

E. Sew with either blind-stitch or catch-stitch

GARMENT CONSTRUCTION
UNIT IV

JOB SHEET #10--SEW A TAILOR'S HEM

I. Equipment and supplies needed

A. Sewing machine

B. Pinking shears (optional)

C. Pins

D. Needle

E. Thread

F. Ironing board

II. Procedure

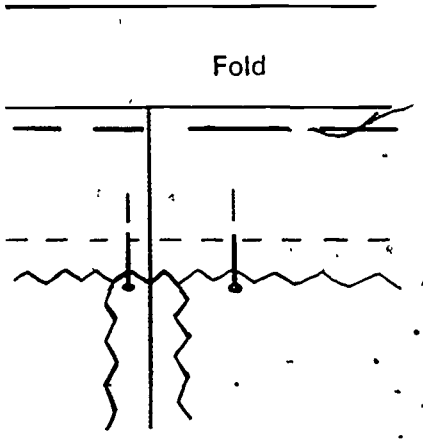
A. On a skirt, make a line of machine stitching 1/4 inch below cut edge through single thickness of hem fabric

B. On firm fabric, pink edge

(NOTE: If fabric ravels easily, overcast edge by hand or machine.)

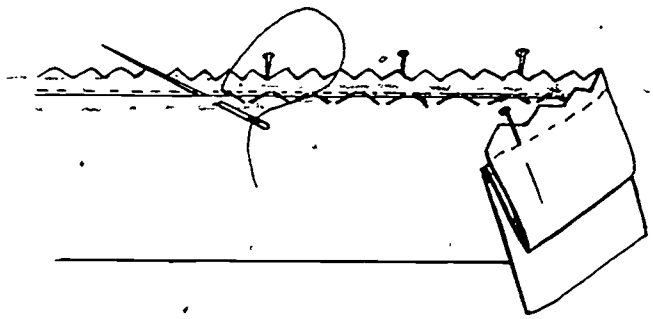
C. Place work on ironing board wrong side out

D. Matching at seams, pin or baste hem in place about 1/4 inch below stitching line

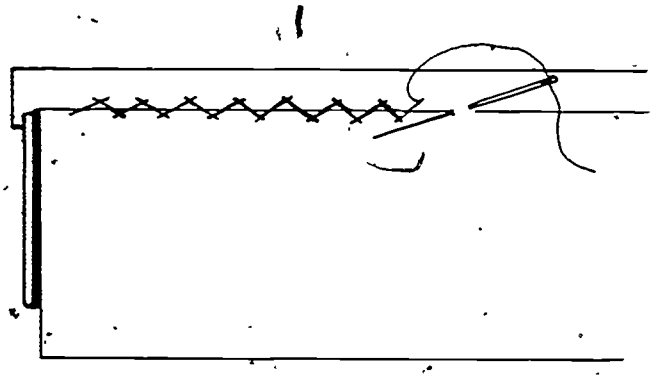


JOB SHEET #10

E. Sew with inside hemming, using blind-stitch or catch-stitch



Blind-Stitch



Catch-Stitch

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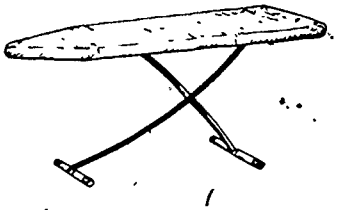
GARMENT CONSTRUCTION
UNIT IV

TEST

1. Match the terms on the right to the correct definition.

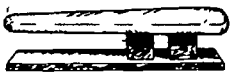
____a.	Edge of hem is sewn flat to garment with stitches taken through hem edge and close to this edge on the underside of garment	1. Tailor's hem
____b.	The hearty, bearing down and striking operation that follows laundering	2. Ironing
____c.	Application of heat with a lifting and lowering motion	3. Lapped zipper
____d.	A flat and inconspicuous hem particularly suitable for most heavy and medium-weight fabrics	4. Flat hemming
____e.	One edge of opening forms a lap that completely conceals the zipper	5. Pressing
____f.	Stitches are taken between hem and garment fabric	6. Hemline
____g.	Line on which a hem is folded up	7. Inside hemming

2. Identify the following equipment used for pressing.



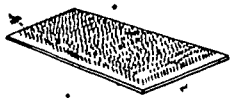
a. _____

b. _____

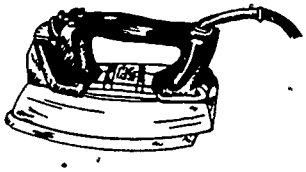


c. _____

d. _____



e. _____



f. _____

g. _____

h. _____

3. Describe two types of buttons.

a.

b.

4. Name four characteristics of a quality hem.

a.

b.

c.

d.

5. List three conditions which result in a perfect set-in sleeve.

a.

b.

c.

6. Demonstrate the ability to:

   a. Make a collar.

   b. Put in a zipper with a lapped application.

   c. Set in a sleeve.

   d. Sew on a hook and eye.

   e. Sew on a snap.

   f. Sew on a pierced button.

   g. Sew on a shank button.

   h. Sew on a turned-and-stitched hem.

   i. Sew a hem with seam binding.

   j. Sew a tailor's hem.

   (NOTE: If this has not been accomplished prior to the test, ask the instructor when the above activities should be completed.)

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GARMENT CONSTRUCTION
UNIT IV

ANSWERS TO TEST

1. a. 4
   b. 2
   c. 5
   d. 1
   e. 3
   f. 7
   g. 6
2. a. Ironing board
   b. Seam roll
   c. Sleeve board
   d. Press cloth
   e. Needle board
   f. Iron
   g. Pressing ham
   h. Point presser
3. Pierced--Two or four holes through which it is sewed on
   Shank--Has a solid top and a shank or stem underneath for sewing on
4. a. Inconspicuous
   b. Even
   c. Gives body to the garment edge
   d. Does not interfere with the hang of the garment
5. a. Exact line up of matching points
   b. Evenly distributed ease in sleeve cap
   c. Stitching around armhole kept even and sewed with correct seam allowance
6. Performance skills will be evaluated to the satisfaction of the instructor.

BANKING SERVICES
UNIT I

TERMINAL OBJECTIVE

After completion of this unit, the student should be able to describe various banking services and the Federal Reserve System. He should be able to make deposits, write checks, and reconcile a bank statement. This knowledge will be evidenced by scoring eighty-five percent on the unit test.

SPECIFIC OBJECTIVES

After completion of this unit, the student should be able to:

1. Match terms associated with banking services to the correct definition.
2. List functions of banks.
3. Discuss kinds of banks.
4. Match methods of making bank payments other than personal checks to their characteristics.
5. List other bank services.
6. Discuss types of loans concerning methods of repayment and security.
7. Describe in three steps the method for reconciling a bank statement with the check stub record.
8. List factors to consider when writing a check.
9. Write checks and reconcile a bank statement.

BANKING SERVICES
UNIT I

SUGGESTED ACTIVITIES

I. Instructor:

A. Provide students with objective sheet.

B. Provide students with information and assignment sheets.

C. Make transparencies.

D. Discuss terminal and specific objectives.

E. Discuss information and assignment sheets.

F. Provide field trip to bank and/or ask resource person from bank to visit class to discuss banking.

G. Give test.

II. Student:

A. Read objectives.

B. Study information sheet.

C. Complete each assignment sheet.

D. Take field trip and/or listen to resource person from bank.

E. Take test.

INSTRUCTIONAL MATERIALS

I. Included in this unit:

A. Objectives

B. Information sheet

C. Transparency masters

1. TM 1--Cashier's Check
2. TM 2--Bank Money Order
3. TM 3--Traveler's Check
4. TM 4--Reconciliation of Statement
5. TM 5--Sample Check

D. Assignment sheets

1. Assignment Sheet #1--Write Checks
2. Assignment Sheet #2--Write Checks and Make Deposits
3. Assignment Sheet #3--Reconcile a Bank Statement

E. Test

F. Answers to test

II. References:

A. Warmke, Roman F., Eugene D. Wyllie, and Beulah E. Sellers. *Consumer Decision Making*. Cincinnati: South-Western Publishing Company, 1972.

B. Thal, Helen M. *Your Family and Its Money*. Boston: Houghton Mifflin Company, 1968.

III. Optional teaching aids:

A. Pamphlets

1. "Teacher's Guide to Banking"
2. "Student's Guide to Banking"
3. "Using Bank Services"
4. "The Story of American Banking"
5. "Personal Money Management"
6. "How Banks Help"

(NOTE: The six booklets above are available in quantity through your local banker or order from Oklahoma Bankers' Association, 611 Colcord Building, Oklahoma City, Oklahoma 73102.)

7. "Know Your Money," Treasury Department, U.S. Secret Service.

   (NOTE: For sale by the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402.)

8. "4000 Years of Banking," The National Cash Register Company, Dayton, Ohio.

B. Films

1. "Manage Your Money" (16mm., 14 min., color)
2. "Money Talks" (16mm., 20 min., b/w)
3. "Paying by Check" (16mm., 14 1/2 min., color)
4. "Pay to the Order Of" (16mm., 10 min.)

5. "Your Town" (16mm., 15 min., color)

6. "A Man to Know" (16mm., 13 1/2 min.)

(NOTE: The six films can be obtained free of charge by having your local banker contact Oklahoma Bankers' Association, 611 Colcord Building, Oklahoma City, Oklahoma 73102.)

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BANKING SERVICES
UNIT I

INFORMATION SHEET

I. Terms and definitions

A. Bank--Financial institution authorized by its charter to perform certain functions

B. Bank charter--Permit to do business

C. Depositors--Creditors of a bank because the bank owes them money

D. Checking account service--Money deposits from business and individuals which are paid out when the depositors write checks

E. Demand deposits--Deposits in a checking account

(NOTE. These deposits are so named because the bank must pay out the money whenever the depositor demands or orders it to do so.)

F. Check--The depositor's written order directing the bank to pay out money for him

G. Payee--Person to whom a check is payable

H. Drawee--Bank on which the check is drawn

I. Joint account--Two persons use the same bank checking account or savings account

J. Bank statement--Regular report of deposits and checks

K. Collateral--Bonds, stocks, or rights to proceeds from an insurance policy and other personal property such as automobiles and livestock which serve as security for a loan

L. Account--Record kept of one's transactions

M. Cancelled check--A check that has been paid by the bank

N. Checkbook--A bound book containing blank checks and check stubs or a check register

O. Clearinghouse--A place where banks exchange checks drawn on each other

(NOTE: This is part of the federal reserve system.)

P. Deposits--The money placed in a bank in one's checking or savings account

INFORMATION SHEET

Q. Deposit slip--A form which accompanies a deposit and shows the item and amount to be deposited

R. Drawer--The person who signs the check

S. FDIC--Federal Deposit Insurance Corporation, a government corporation paid for by banks which insures individual bank accounts up to $20,000

T. Interest--The amount paid for the use of money

U. Maintenance charge--A fixed monthly charge made by a bank for maintaining an account

V. Reconciliation--A statement showing how the checkbook balance and the bank statement were brought into agreement

W. Safe deposit box--A compartment in a bank vault for storing valuables

X. Service charge--The amount a bank charges for checking account services

Y. Signature card--A record of the depositor's signature which authorizes payment of check he writes.

Z. Time deposits--Deposits which earn interest

(NOTE: These deposits may not be drawn on immediate notice.)

AA. Co-sign--Confirmation, usually by the parents, of a contract made by a minor

(NOTE: Co-sign may be referred to as countersign.)

BB. Endorsement--A signature written on the reverse or blank side of the check which is evidence that the payee received the money

CC. Loan--Lending of something for the borrower's temporary use

DD. Principal--A capital sum placed at interest, due as a debt, or used as a fund

EE. Overdraw--To draw checks on a bank account for more than the balance

FF. Installment--One of the parts into which a debt is divided when payments are made at intervals

GG. Passbook--The depositor's book in which a bank enters his deposits and withdrawals

(NOTE: A passbook is also called a bankbook.)

HH. Foreclosure--Obtaining possession and title to property when mortgagor fails to fulfill his obligation

INFORMATION SHEET

II. Functions of banks

A. To receive deposits or money subject to withdrawal by the depositor either on demand or after notice has been given

B. To make loans

C. To pay interest

III. Kinds of banks

A. State

1. Organized as a corporation
2. Obtains authority through charter granted by the state in which it operates
3. May be a member of Federal Reserve System
4. May be various types of banks
   a. Commercial bank
   b. Savings bank
   c. Trust company
   d. Investment bank

B. National

1. Obtains charter from the federal government
2. Subject to the regulations of the Federal Reserve System and the banking laws enacted by the federal government
3. Always organized as a corporation
4. Must be a member of the Federal Reserve System

IV. Methods of making bank payments other than personal checks

A. Bank draft

1. Check of one bank drawn upon funds deposited to its credit with some other bank
2. Convenient means of transferring money when the individual who is making payment is not known in the place the money is to be sent

INFORMATION SHEET

B. Certified check

1. An ordinary check drawn by a depositor in the usual way but presented to the bank for certification by the drawer
2. Bank stamps or writes a certification on the check
3. Amount of the check is deducted immediately from the depositor's account balance
4. Check becomes an obligation of the bank rather than of the depositor.

C. Cashier's check (Transparency 1)

1. Bank draws check on itself
2. Used to pay bills owed by the bank
3. Can be purchased to transmit money to another person in much the same way as a person buys a bank draft

D. Bank money order (Transparency 2)--Serves essentially the same function in transmitting money for a customer as a cashier's check

(NOTE: Sometimes called a register check or a personal money order. In many banks, the bank money order is replacing the cashier's check.)

E. Traveler's check (Transparency 3)

1. May be purchased from the American Express Company or from almost any bank
2. Fee is charged for each check
3. Each check is signed by the buyer in the presence of the bank agent at the time of purchase
4. When cashed, it must be signed again in the presence of the person cashing it with a signature that matches the original signature

F. Wire money

V. Other bank services

A. Savings accounts

B. Safe-deposit boxes

C. Financial and tax advice

INFORMATION SHEET

D. Charge account services

E. Revolving credit

F. Sale of government bonds

G. Estate planning

H. Insurance

VI. Types of loans

A. Methods of repayment

1. Single-payment loan--Repayment is made with one lump sum

2. Installment loan--Repayment made in regular installments

(NOTE: Principle plus interest equals regular installments.)

B. Security

1. Unsecured loan

(NOTE: This is sometimes called a signature loan.)

a. The contract is signed binding yourself to the terms of the contract

b. Your character and honor are sufficient to enable you to obtain a loan

c. If you fail to abide by the contract, you are sued for the amount due

2. Secured loan

(NOTE: This is sometimes called a collateral loan.)

a. You have to pledge or turn over to the lender some kind of property called collateral which serves as security for the loan

b. The lender has a claim against this property until the loan is repaid

c. If the loan is not repaid, the lender can keep the property or sell it to satisfy his claim against you

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INFORMATION SHEET

VII. Method of reconciling a bank statement (Transparency 4)

A. Step 1: Add to the bank statement balance the amount of any deposits made after the statement was issued.

B. Step 2: Subtract from the bank statement balance those checks which are "outstanding" (those which have not been paid)

(NOTE: The bank will return your cancelled checks with the statement so you will know which ones have not been paid.)

C. Step 3: Subtract the service charge from your check stub balance.

(NOTE: The bank statement balance should equal your checkbook stub balance.)

VIII. Factors to consider when writing a check (Transparency 5)

A. Write in ink

B. Write plainly

(NOTE: Signature should be written the same each time.)

C. Write to prevent space between dollar sign and check amount

D. Spell out amount in writing

E. Never make payable to cash

F. Never sign a blank check

G. Void check if mistake is made

(NOTE: Record must be voided also.)

H. Write reason check was given

(NOTE: Checks should be cashed within six months.)

Cashier's Check

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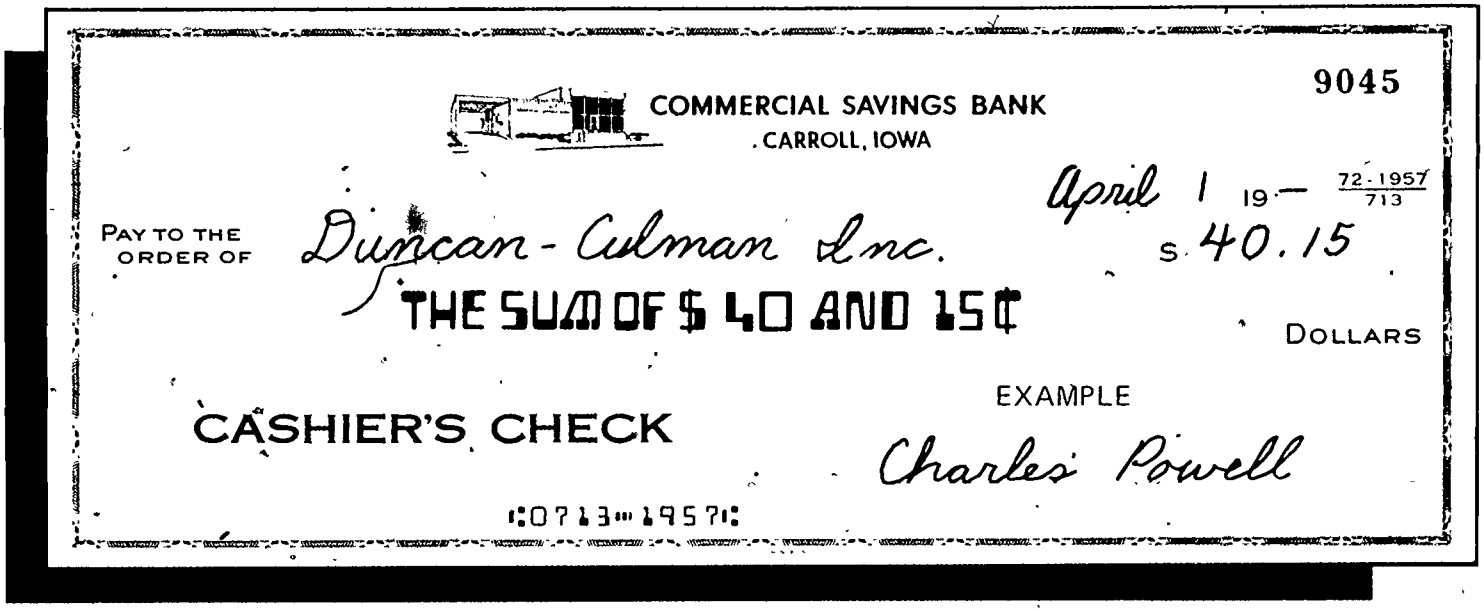


9045

COMMERCIAL SAVINGS BANK
CARROLL, IOWA

April 1 19— 72-1957/713

PAY TO THE ORDER OF Duncan-Culman Inc. $ 40.15

THE SUM OF $ 40 AND 15¢ DOLLARS

EXAMPLE

CASHIER'S CHECK

Charles Powell

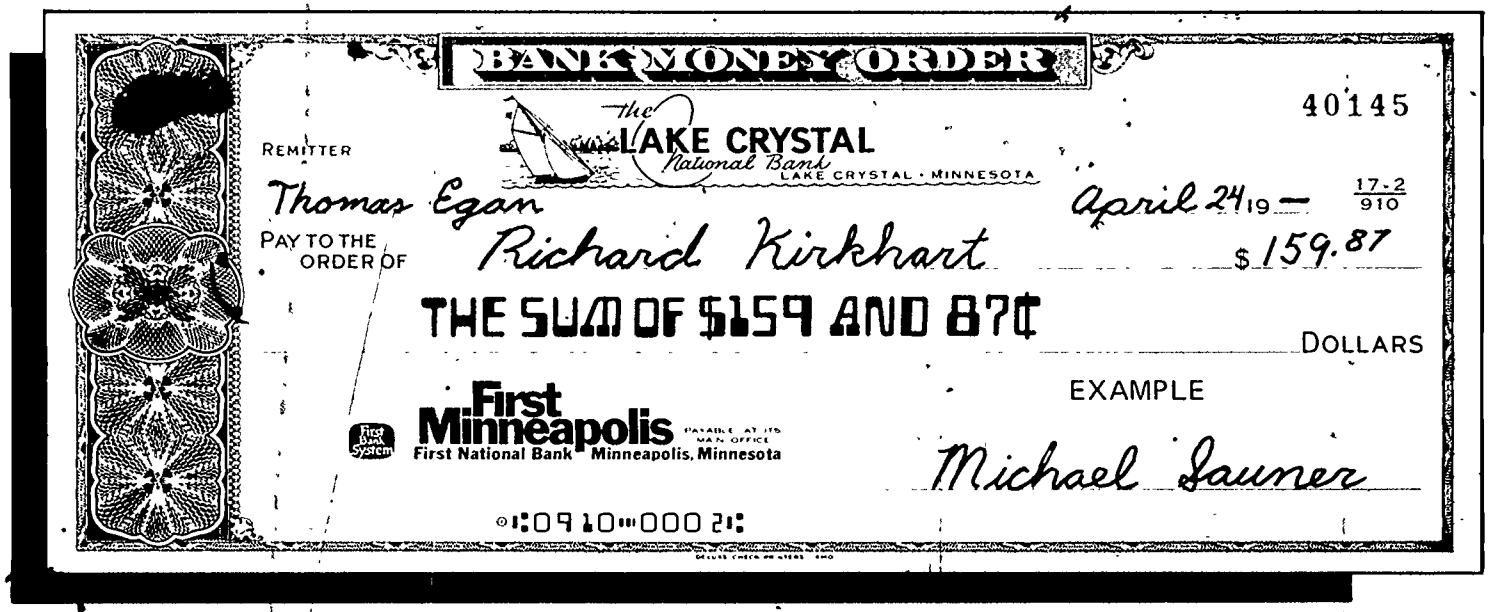
⑆0713⑈1957⑆

228

TM 1

H.E. II - 13-D

Bank Money Order


BANK MONEY ORDER

40145

The LAKE CRYSTAL National Bank
LAKE CRYSTAL · MINNESOTA

REMITTER Thomas Egan

April 24 19 — 17-2/910

PAY TO THE ORDER OF Richard Kirkhart $ 159.87

THE SUM OF $159 AND 87¢ DOLLARS

EXAMPLE

First Minneapolis
First National Bank Minneapolis, Minnesota

Michael Sauner

⑆09 10 000 2⑆

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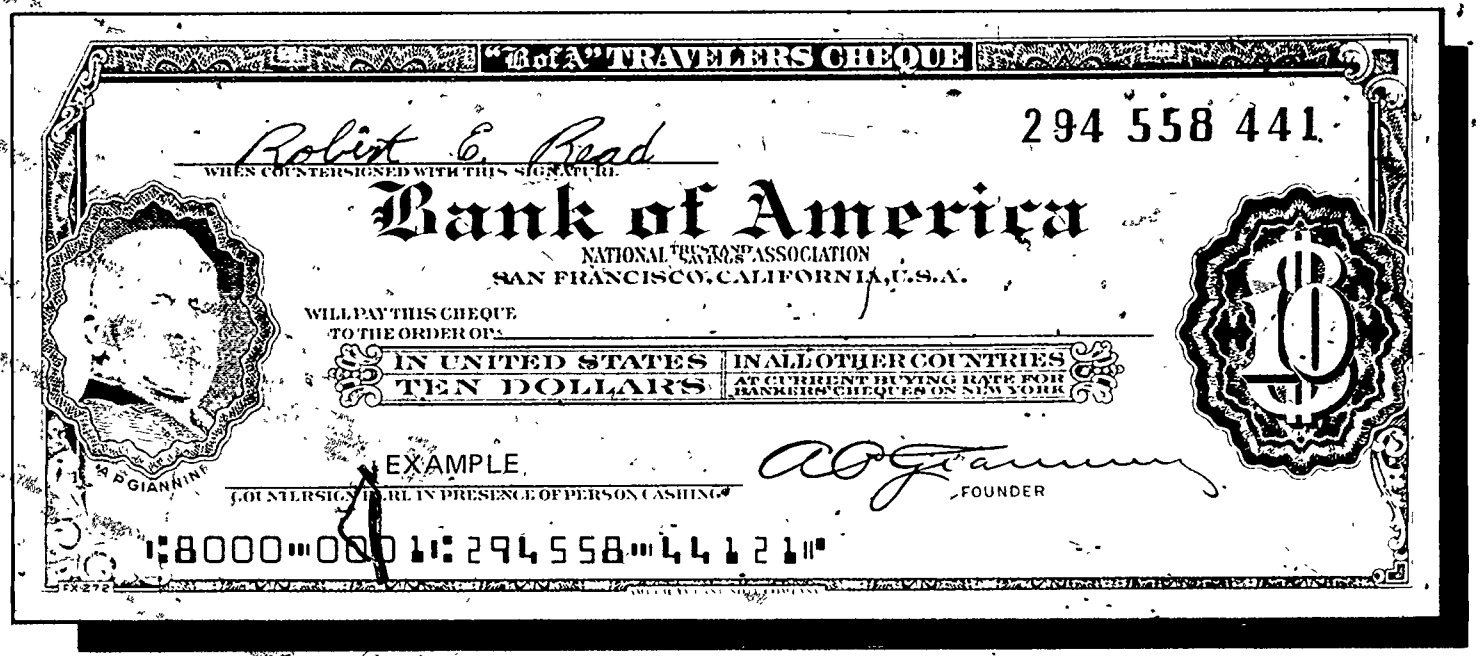
Traveler's Check



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Reconciliation of Statement

Bank Balance, Oct. 30		$325.15	Checkbook balance, Oct. 30		$293.88
Less Outstanding Checks:					
# 9	5.00				
#10	16.17				
#11	12.50				
Total Checks Outstanding		33.67	Less Service Charge		2.40
Bank Balance		$291.48	Correct Checkbook Balance		$291.48

231

TM 4

H.E. II-- 19-D

ERIC

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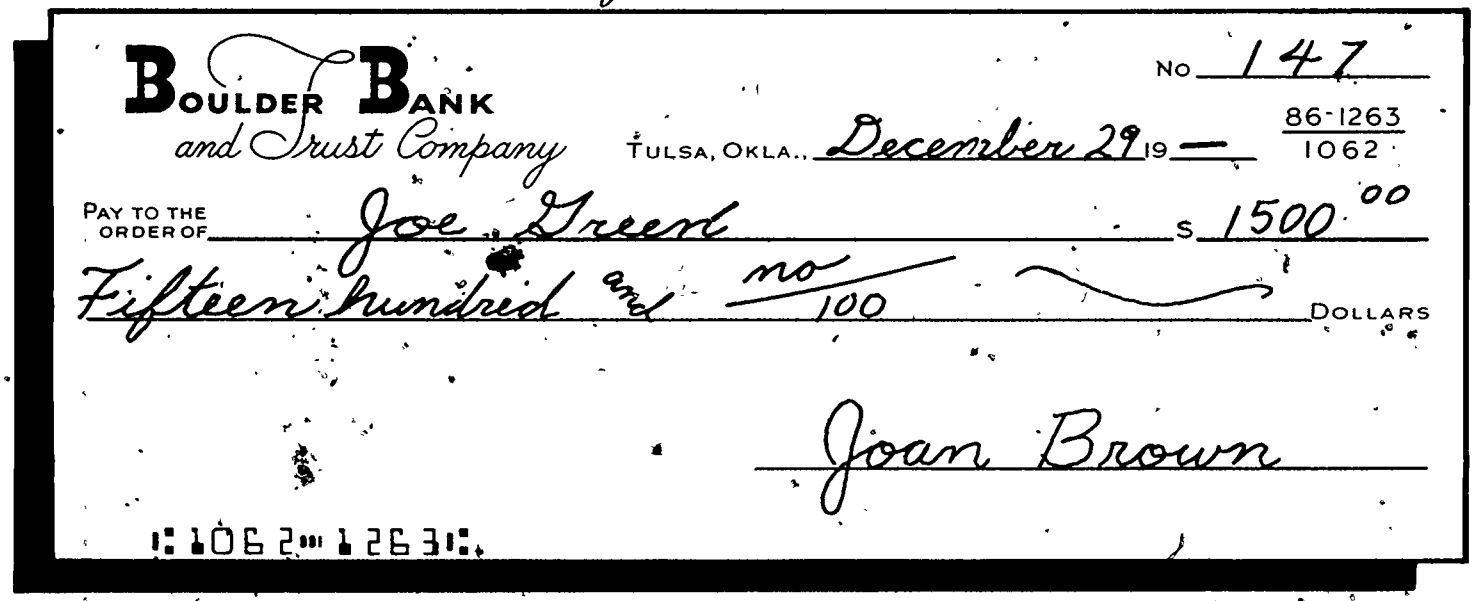
Sample Check



BOULDER BANK
and Trust Company

TULSA, OKLA., December 29 19—

No 147

86-1263
1062

PAY TO THE ORDER OF Joe Green $ 1500.00

Fifteen hundred and no/100 DOLLARS

Joan Brown

⑆1062⑈1263⑆

232

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BANKING SERVICES
UNIT I

ASSIGNMENT SHEET #1--WRITE CHECKS

Write two checks using the information below.

Check #1 ____

Date: Determined when check is written

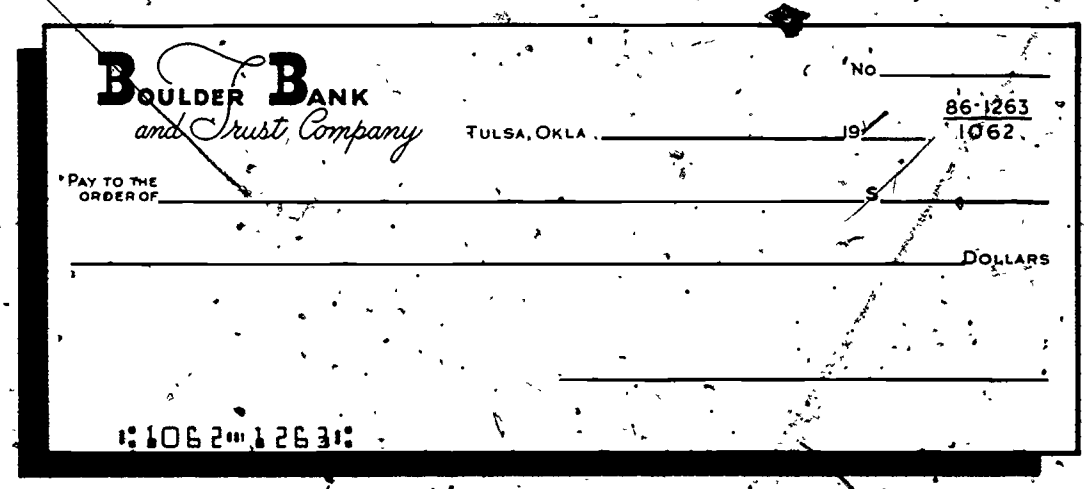
Pay to: John Doe

Amount: $150.00

For: House rent

Sign your name

(NOTE: When finished writing the check, write void across the face of the check.)



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ASSIGNMENT SHEET #1

Check #2

Date: Determined when check is written

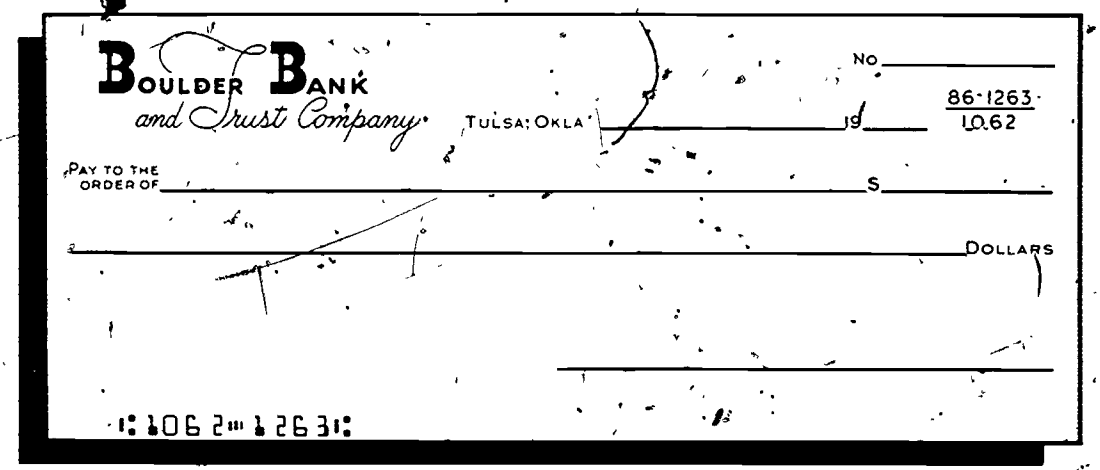
Pay to: Henry Doe

Amount: $15.58

For: Groceries

Sign your name

(NOTE: When finished writing the check, write, void across the face of the check.)



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BANKING SERVICES
UNIT I

ASSIGNMENT SHEET #2--WRITE CHECKS AND MAKE DEPOSITS

Write checks and make out deposit slips for your account, John and/or Mary Smith, in the situations below. Be sure to include all necessary information. Start with a checkbook balance of $186.83. Your first check number will be No. 15.

(NOTE: Use the blank checks and deposit slips provided in this unit.)

Oct. 1, 197-	Write check to Neighborhood Food Market for $5.60 for groceries
Oct. 6	Pay Anderson and Company for shoe repair, $14.65
Oct. 6	Make deposit of silver, $1.75; currency, $6.00; and one check made on First City Bank for $8.50
Oct. 18	Pay Fashion Shop $18.75 for dress
Oct. 20	Make deposit of currency, $6.00; silver, $8.75; and check on Boulder Bank and Trust Company for $85.00
Oct. 27	Pay school club dues, $35.00
Oct. 30	Pay Alexander Fabric Company for sewing materials, $25.00
Oct. 30	Make deposit of currency, $6.00; silver, $.65

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ASSIGNMENT SHEET #2

BOULDER BANK and Trust Company

NO _____

TULSA, OKLA. _____ 19___ 86-1263 / 1062

PAY TO THE ORDER OF _____ $ _____

_____ DOLLARS

⑆106200126311

BOULDER BANK and Trust Company

NO _____

TULSA, OKLA. _____ 19___ 86-1263 / 1062

PAY TO THE ORDER OF _____ $ _____

_____ DOLLARS

⑆106200126311

DEPOSIT TICKET

_____

_____

Date _____ 19 ____

Deposited With

BOULDER BANK & TRUST COMPANY
Tulsa, Oklahoma 74100

"018866"

CASH			
CHECKS			
List			
Singly			
Be Sure Each Item is Endorsed			
TOTAL			
Less Cash Received			
NET DEPOSIT			

Checks and Other Items Are Received Subject To The Regulations of This Bank

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ASSIGNMENT SHEET #2

BOULDER BANK and Trust Company

NO. _____

TULSA, OKLA. _____ 19____

86-1263
1062

PAY TO THE ORDER OF _____ $ _____

_____ DOLLARS

⑆1062⑈1263⑆

DEPOSIT TICKET

_____

_____

Date _____ 19____

Deposited With

BOULDER BANK & TRUST COMPANY
Tulsa, Oklahoma 74100

"018866"

CASH			
CHECKS			
List			
Singly			
Be Sure Each Item is Endorsed			
	TOTAL		
Less Cash Received			
NET DEPOSIT			

Checks and Other Items Are Received Subject To The Regulations of This Bank

BOULDER BANK and Trust Company

NO. _____

TULSA, OKLA. _____ 19____

86-1263
1062

PAY TO THE ORDER OF _____ $ _____

_____ DOLLARS

⑆1062⑈1263⑆

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ASSIGNMENT SHEET #2

BOULDER BANK and Trust Company

No _____

TULSA, OKLA. _____ 19____ 86-1263 / 1062

PAY TO THE ORDER OF _____ $ _____

_____ DOLLARS

⑆106201263⑆

DEPOSIT TICKET

_____

_____

Date _____ 19 _____

Deposited With

BOULDER BANK & TRUST COMPANY
Tulsa, Oklahoma 74100

"018866"

CASH			
CHECKS			
List			
Singly			
Be Sure Each. Item is Endorsed			
TOTAL			
Less Cash Received			
NET DEPOSIT			

Checks and Other Items Are Received Subject To The Regulations of This Bank

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BANKING SERVICES
UNIT I

ASSIGNMENT SHEET #3--RECONCILE A BANK STATEMENT

Below is a sample bank statement covering the transactions made in Assignment Sheet #2. Reconcile your bank balance (from Assignment Sheet #2) with the bank statement on the form at the bottom of the page.

BANK STATEMENT In Account With

John and/or Mary Smith
56 Terrace Avenue
Tulsa, Oklahoma 74105

BOULDER BANK & TRUST COMPANY
Tulsa, Oklahoma 74105

CHECKS	DEPOSITS	DATE	BALANCE
BALANCE BROUGHT FORWARD		10-1-73	$186.83
$ 5.60-		10-2	181.23
	$16.25+	10-6	197.48
14.65-		10-15	182.83
18.75-	99.75+	10-20	263.83
35.00-		10-28	228.83
	6.65+	10-30	235.48
2.50SC			232.98

PLEASE EXAMINE AT ONCE. IF NO ERROR IS REPORTED IN TEN DAYS, THE ACCOUNT WILL BE CONSIDERED CORRECT.

KEY
EC ERROR CORRECTED
OD OVERDRAFT
SC SERVICE CHARGE

CHECKBOOK BALANCE BANK STATEMENT BALANCE

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BANKING SERVICES
UNIT I

TEST

1. Match the terms in each section to the correct definition on that page.

_____a. Permit to do business

_____b. Regular report of deposits and checks

_____c. Record kept of one's transactions

_____d. Person to whom a check is payable

_____e. Deposits which earn interest

_____f. The amount paid for the use of money

_____g. Federal Deposit Insurance Corporation, a government corporation paid for by banks which insures individual bank accounts up to $20,000

_____h. Bank on which the check is drawn

_____i. A check that has been paid by the bank

_____j. Two persons use the same bank checking account or savings account

_____k. A bound book containing blank checks and check stubs or a check register

_____l. The money placed in a bank in one's checking or savings account

1. Time deposits
2. FDIC
3. Bank statement
4. Checkbook
5. Deposits
6. Drawee
7. Bank charter
8. Payee
9. Account
10. Interest
11. Joint account
12. Cancelled check

_____m. A record of the depositor's signature which authorizes payment of check he writes

_____n. The amount a bank charges for checking account services

_____o. A compartment in a bank vault for storing valuables

_____p. Financial institution authorized by its charter to perform certain functions

_____q. Deposits in a checking account

_____r. Creditors of a bank because the bank owes them money

_____s. A statement showing how the checkbook balance and the bank statement were brought into agreement

_____t. A fixed monthly charge made by a bank for maintaining an account

_____u. The person who signs the check

_____v. A form which accompanies a deposit and shows the item and amount to be deposited

_____w. The depositor's written order directing the bank to pay out money for him

_____x. Money deposits from business and individuals which are paid out when the depositors write checks.

13. Check
14. Drawer
15. Bank
16. Signature card
17. Depositors
18. Reconciliation
19. Deposit slip
20. Safe deposit box
21. Service charge
22. Demand deposits
23. Checking account service
24. Maintenance charge

_____y. Bonds, stocks, rights to proceeds from an insurance policy and other personal property such as automobiles and livestocks which serve as security for a loan

_____z. A place where banks exchange checks drawn on each other

____aa. Confirmation, usually by the parents, of a contract made by a minor

____bb. Obtaining possession and title to property when mortgagor fails to fulfill his obligation

____cc. To draw checks on a bank account for more than the balance

____dd. Lending of something for the borrower's temporary use

____ee. The depositor's book in which a bank enters his deposits and withdrawals

____ff. One of the parts into which a debt is divided when payments are made at intervals

____gg. A capital sum placed at interest, due as a debt, or used as a fund

____hh. A signature written on the reverse or blank side of the check which is evidence that the payee received the money

25. Passbook
26. Loan
27. Collateral
28. Co-sign
29. Foreclosure
30. Installment
31. Overdraw
32. Principal
33. Endorsement
34. Clearinghouse

2. List three functions of banks.

a.

b.

c.

3. Discuss two kinds of banks.

4. Match the methods of making bank payments other than personal checks to their characteristics.

_____a.	An ordinary check drawn by a depositor in the usual way but presented to the bank for certification by the drawer	1. Cashier's check
_____b.	Used to pay bills owed by the bank	2. Bank draft
_____c.	May be purchased from the American Express Company or from almost any bank	3. Traveler's check
_____d.	Check of one bank drawn upon funds deposited to its credit with some other bank	4. Bank money order
_____e.	Serves essentially the same function in transmitting money for a customer as a cashier's check	5. Certified check

5. List five other bank services.

a.

b.

c.

d.

e.

6. Discuss types of loans concerning methods of repayment and security.

7. Describe in three steps the method of reconciling a bank statement with the check stub record.

   a.

   b.

   c.

8. List six factors to consider when writing a check.

   a.

   b.

   c.

   d.

   e.

   f.

9. Objective nine will be evaluated by completion of the assignment sheets.

   (NOTE: If this has not been accomplished prior to the test, ask your instructor when the above activity should be completed.)

BANKING SERVICES
UNIT I

ANSWERS TO TEST

1. a. 7
   b. 3
   c. 9
   d. 8
   e. 1
   f. 10
   g. 2
   h. 6
   i. 12
   j. 11
   k. 4
   l. 5
   m. 16
   n. 21
   o. 20
   p. 15
   q. 22
   r. 17
   s. 18
   t. 24
   u. 14
   v. 19
   w. 13

x. 23.

y. 27.

z. 34

aa. 28

bb. 29

cc. 31

dd. 26

ee. 25

ff. 30

gg. 32

hh. 33

2. a. To receive deposits of money subject to withdrawal by the depositor either on demand or after notice has been given

b. To make loans

c. To pay interest

3. Discussion should include:

a. State

1. Organized as a corporation

2. Obtains authority through charter granted by the state in which it operates

3. May be a member of Federal Reserve System

4. May be various types of banks

a. Commercial bank

b. Savings bank

c. Trust company

d. Investment bank

b. National

1. Obtains charter from the federal government

2. Subject to the regulations of the Federal Reserve System and the banking laws enacted by the federal government

3. Always organized as a corporation

4. Must be a member of the Federal Reserve System

4. a. 5

b. 1

c. 3

d. 2

e. 4

5. Any five of the following:

a. Savings accounts

b. Safe-deposit boxes

c. Financial and tax advice

d. Charge account services

e. Revolving credit

f. Sale of government bonds

g. Estate planning

h. Insurance

6. Discussion should include:

a. Methods of repayment

1. Single-payment loans--Repayment is made with one lump sum

2. Installment loans--Repayment made in regular installments

b. Security

1. Unsecured loan

a. The contract is signed, binding yourself to the terms of the contract

b. Your character and honor are sufficient to enable you to obtain a loan

c. If you fail to abide by the contract, you are sued for the amount due

2. Secured loan

a. You have to pledge or turn over to the lender some kind of property called collateral which serves as security for the loan

b. The lender has a claim against this property until the loan is repaid

c. If the loan is not repaid, the lender can keep the property or sell it to satisfy his claim against you

7. a. Step 1: Add to the bank statement balance the amount of any deposits made after the statement was issued

b. Step 2: Subtract from the bank statement balance those checks which are "outstanding" (those which have not been paid)

c. Step 3: Subtract the service charge from your check stub balance

8. Any six of the following:

a. Write in ink

b. Write plainly

c. Write to prevent space between dollar sign and check amount

d. Spell out amount in writing

e. Never make payable to cash

f. Never sign a blank check

g. Void check if mistake is made

h. Write reason check was given

9. Evaluated to the satisfaction of the instructor.

CREDIT
UNIT II

TERMINAL OBJECTIVE

After completion of this unit, the student should be able to decide for himself when to use credit, determine the cost of credit, and tell how the Truth-In-Lending Act affects him. This knowledge will be evidenced by scoring eighty-five percent on the unit test.

SPECIFIC OBJECTIVES

After completion of this unit, the student should be able to:

1. Match credit terms with their meanings.
2. Write four guidelines for buying on credit.
3. List and explain the six C's of credit.
4. Name the basic ways consumer credit can be classified.
5. Name six noninstallment sales credit plans.
6. Calculate the difference in cost of buying on single-payment loan and installment loan.
7. Discuss in writing the Truth-In-Lending Act.

CREDIT
UNIT II

SUGGESTED ACTIVITIES

I. Instructor:

A. Provide students with objective sheet.

B. Provide students with information and assignment sheets.

C. Make [illegible]rencies.

D. Discuss terminal and specific objectives

E. Discuss information and assignment sheets.

F. Show film.

G. Give test.

II. Student:

A. Read objectives.

B. Study information sheet.

C. Complete assignment sheets.

D. Take test.

INSTRUCTIONAL MATERIALS

I. Included in this unit:

A. Objectives

B. Information sheet

C. Transparency Master #1--Use Credit Wisely

D. Assignment sheets

1. Assignment Sheet #1--Criteria for Using Credit

2. Assignment Sheet #2--Credit Obligations

3. Assignment Sheet #3--Calculate Interest Rates

E. Test

F. Answers to test

II. References:

A. DeBrum-Haines-Malsbary-Crabbe. *General Business for Economic Understanding.* Tenth Edition. Dallas, Texas: South-Western Publishing Company, 1971.

B. Price-Mussleman-Hall-Weeks. *General Business for Everyday Living.* Third Edition. Dallas, Texas: Gregg Division, McGraw-Hill Book Company, 1966.

C. Kimbrell-Vineyard. *Succeeding in the World of Work.* First Edition. Bloomington, Illinois: McKnight and McKnight Publishing Company, 1970.

D. Warmke, Roman F., Eugene D. Wyllie, and Beulah E. Sellers. *Consumer Decision Making.* Cincinnati: South-Western Publishing Company, 1972.

E. Wilhelms-Heimerl-Jelley. *Consumer Economics.* Third Edition. Dallas, Texas: McGraw-Hill Book Company, Gregg Division.

F. Warmke-Wyllie-Wilson-Eyster. *Consumer Economic Problems.* Eighth Edition. Dallas, Texas: South-Western Publishing Company.

G. International Consumer Credit Association, 375 Jackson Avenue, St. Louis, Missouri 63130.

H. List of Materials on Money and Banking for Secondary School Teachers, 1970, available from Banking Education Committee, American Bankers Association, 90 Park Avenue; New York, New York, 10016.

I. Thal, Helen M. *Your Family and Its Money.* Boston, Massachusetts: Houghton Mifflin Company, 1968.

III. Optional Teaching Aids:

A. Films:

1. "Charge Cards and Charge Statements" (available from Curriculum Center)

2. "The Credit Union" (available from Curriculum Center)

3. "Credit! A Consumer Resource" J. C. Penney, Inc. (available from Curriculum Center)

4. "The Debt Set" Oklahoma Consumer Credit Association (available from: 837 S. W. 29th or 531 N. W. 32nd, Oklahoma City, Oklahoma)

5. "Be Credit Wise" Money Management Institute (available from: Household Finance Corporation, Prudential Plaza, Chicago, Illinois 60601.)

6. "How to Choose and Use Retail Credit" (available from Consumer Information Services, Department 703 - Public Relations, Sears, Roebuck and Company, 303 East Ohio Street, Chicago, Illinois 60611.)

B. Record: "Credit Card Blues." Montie Montana Jr. (Available from Montana Associates, Inc., Box 102, Calabasas, California, 91301.)

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CREDIT
UNIT II

INFORMATION SHEET

I. Terms and definitions

A. Bill--A statement generally used to show charges for goods and services

B. Budget plan--A type of plan in which a customer makes a purchase and pays for it in equal payments over a period of three months

C. Conditional sales contract--An agreement whereby the buyer can take possession of the article and use it

D. Credit--A promise to pay at a future time for something of value that is received now

E. Credit card--An identification card which permits a person to obtain goods and/or services on credit

F. Credit memorandum--A form showing the detailed record of returned merchandise

G. Creditor--The person who sells on credit or makes a loan

H. Credit rating--An individual's reputation for paying his debts on time

I. Credit union--A cooperative association which accepts deposits and makes small loans to its members

J. Debtor--One who borrows and promises to pay later

K. Discount--The interest deducted in advance from the total amount borrowed

L. Down payment--An amount of money paid on the purchase price of an item at the time of purchase

M. Co-signer--A person who signs a note and is responsible for payment if the original borrower does not pay.

N. Finance charge--The amount of money that a merchant charges to cover his cost of handling a particular credit account

O. Installment buying--The method of purchasing merchandise and promising to make weekly, monthly, or sometimes annual payments on it

P. Mortgage--Contract of claim or obligation

Q. Open charge account--The method of purchase whereby the seller agrees to let the buyer purchase what he wants during an "open" period and pay in full at the end of the period

INFORMATION SHEET

R. Promissory note--A written promise to repay borrowed money at a definite time

S. Receipt--A written acknowledgment that money, goods, or services have been received

T. Repossess--The taking back of merchandise that was sold on credit if payments were not made as agreed

U. Retail credit bureau--An organization which keeps records on persons in a community who have done business on credit with local firms

V. Security--Something of value pledged to insure payment of a loan

(NOTE: It is sometimes called collateral.)

W. Uncollectible account The amounts owed by credit customers who do not pay their bills

II. Guidelines for using credit

A. Use credit for items which have a higher price than one can afford with one or two paychecks

B. Use credit for goods which have a long useful life

C. Use ability to pay as a guide on which to base credit

D. Make a large down payment, reduce monthly payments, and lower interest

E. Estimate future income and expenses before using credit

F. Avoid temptation in using credit after one item has been paid off

III. The six C's that count for credit (Transparency 1)

A. Character--A sincere attitude for paying bills

B. Capacity--An ability to repay

C. Capital--Owning more than one's debt

D. Conditions--Satisfying agreements between the parties

E. Collateral--Possessions used as security for debts

F. Common sense--Ability to use credit wisely

(NOTE: "These six C's Count for Credit" might be explained as each of the six C's is important. Use the above definitions together and they make a good credit risk.)

INFORMATION SHEET

IV. Basic classifications of consumer credit

- A. Service
- B. Cash
- C. Sales

V. Noninstallment credit sales plans

- A. Open charge account
- B. Budget account
- C. Revolving charge account
- D. Travel plans
- E. Bank credit card
- F. Teen-age account

VI. Methods of calculating cost

- A. Single-payment loan cost
  - 1. Calculated on percentage
  - 2. Interest stated in dollar terms
  - 3. Straight time
  - 4. Formula: Principal x Rate x Time
- B. Installment loan cost
  - 1. Calculated on unpaid balance
  - 2. Calculated each month
  - 3. Increases cost of loan

VII. Truth-In-Lending Act (a disclosure law)

- A. Passed in 1968
- B. Affects all businesses which extend credit
- C. Discloses annual rate of interest

INFORMATION SHEET

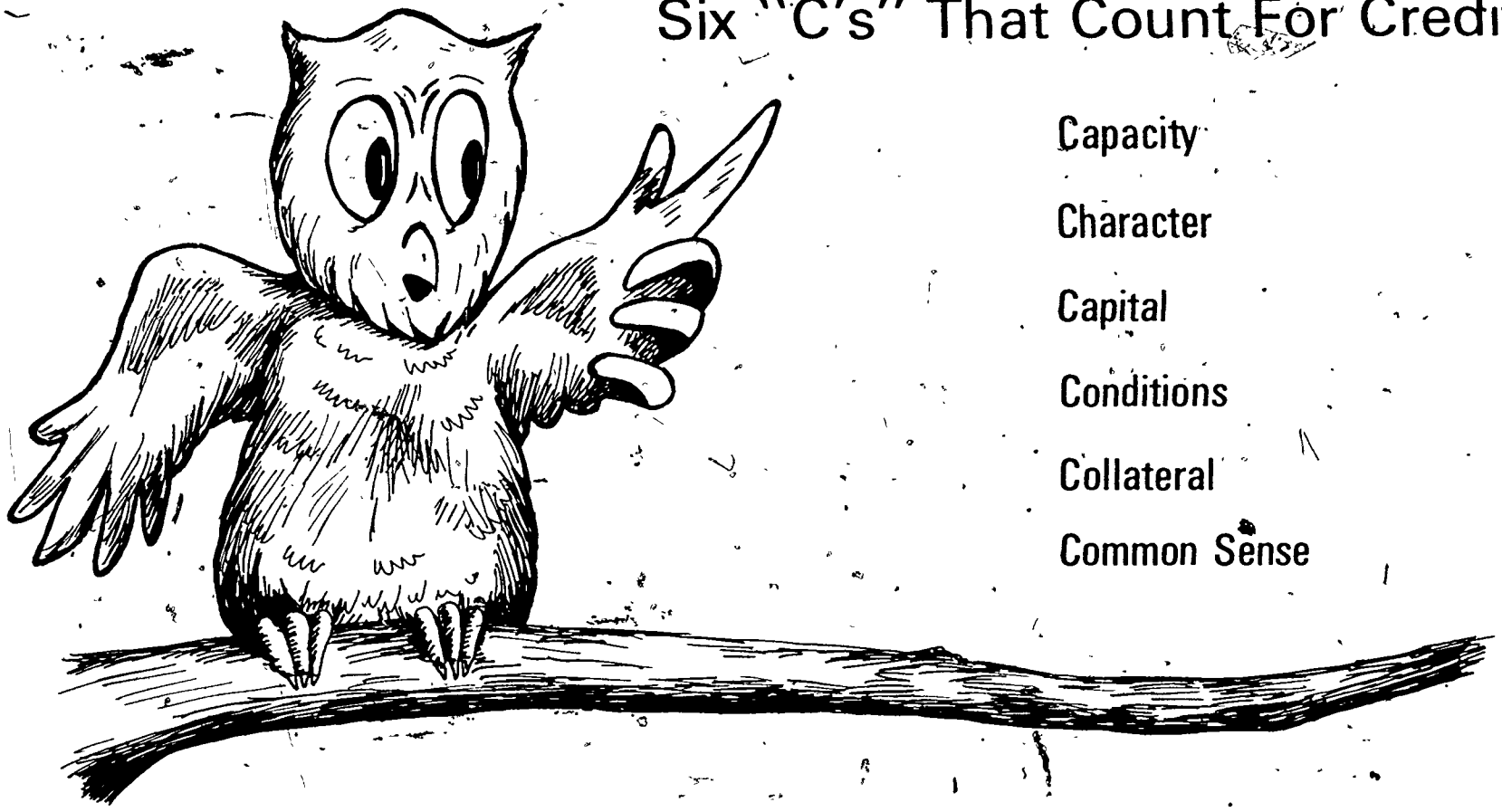
D. Discloses annual amount of dollars

E. Discloses total number of dollars paid as finance charge

F. Informs of disclosure before signing

G. Maximum rate of interest is one and one-half percent per month

Use Credit Wisely



Six "C's" That Count For Credit

- Capacity
- Character
- Capital
- Conditions
- Collateral
- Common Sense

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CREDIT
UNIT II

ASSIGNMENT SHEET #1--CRITERIA FOR USING CREDIT

In your present status as a student, set up:

1. Criteria for using credit wisely
2. List of things to look for in credit contracts
3. Factors to be considered when shopping for credit

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CREDIT
UNIT II

ASSIGNMENT SHEET #2--CREDIT OBLIGATIONS

1. Investigate and write out your findings of the consequences for failure to meet credit obligations.

2. List your sources of information.

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CREDIT
UNIT II

ASSIGNMENT SHEET #3--CALCULATE INTEREST RATES

1. Calculate the cost of borrowing on single-payment loan in the following problems.
   a. $300 at 6% interest for 20 months
   b. $100 at 6% for 6 months
   c. $500 at 10% interest for 20 months
2. Calculate the cost of borrowing on installment loan in the following problems.
   a. $300 to be paid back at $19.24 per month for 20 months
   b. $100 to be paid back at $18.15 per month for 6 months
   c. $500 to be paid back at $30.92 per month for 20 months

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CREDIT
UNIT II

ANSWERS TO ASSIGNMENT SHEET #3

1. a. $30.00
   b. $3.00
   c. $83.40
2. a. $84.80
   b. $8.90
   c. $118.40

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CREDIT
UNIT II

TEST

1. Match the terms on the right to the correct definitions.

_____	a. The amount of money that a merchant charges to cover his cost of handling a particular credit account	1.	Uncollectible account
_____	b. An individual's reputation for paying his debts on time.	2.	Security
_____	c. A statement generally used to show charges for goods and services	3.	Retail credit bureau
_____	d. The amounts owed by credit customers who do not pay their bills	4.	Repossess
_____	e. A written acknowledgment that money, goods, or services have been received	5.	Receipt
_____	f. The method of purchasing merchandise and promising to make weekly, monthly, or sometimes annual payments on it	6.	Promissory note
_____	g. The interest deducted in advance from the total amount borrowed	7.	Open charge account
_____	h. A person who signs a note and is responsible for payment if the original borrower does not pay	8.	Mortgage
_____	i. A promise to pay at a future time for something of value that is received now	9.	Installment buying
_____	j. A type of plan in which a customer makes a purchase and pays for it in equal payments over a period of three months	10.	Finance charge
_____	k. Contract of claim or obligation	11.	Co-signer
_____	l. The taking back of merchandise that was sold on credit if payments were not made as agreed	12.	Down payment
		13.	Discount
		14.	Debtor
		15.	Credit union
		16.	Credit rating
		17.	Creditor
		18.	Credit memorandum
		19.	Credit card
		20.	Credit
		21.	Conditional sales contract

_____m. Something of value pledged to insure payment of a loan

_____n. An agreement whereby the buyer can take possession of the article and use it

_____o. An identification card which permits a person to obtain goods and/or services on credit

_____p. The person who sells on credit or makes a loan

_____q. One who borrows and promises to pay later

_____r. An amount of money paid on the purchase price of an item at the time of purchase

_____s. A cooperative association which accepts deposits and makes small loans to its members

_____t. A form showing the detailed record of returned merchandise

_____u. The method of purchase whereby the seller agrees to let the buyer purchase what he wants during an "open" period and pay in full at the end of the period

_____v. A written promise to repay borrowed money at a definite time

_____w. An organization which keeps records on persons in a community who have done business on credit with local firms

22. Budget plan

23. Bill

2. Write four guidelines for using credit.

a.

b.

c.

d.

3. List the six C's and define each in the following phrase: "These six C's Count for Credit."

   a.

   b.

   c.

   d.

   e.

   f.

4. Name the three basic classifications of consumer credit.

   a.

   b.

   c.

5. Name six noninstallment sales credit plans.

   a.

   b.

   c.

   d.

   e.

   f.

6. Calculate the difference in the cost of borrowing on a/an

   a. Single-payment loan

   b. Installment loan

   in the following problem:

   Mr. Bill Right can borrow $150 for 6 months at 10 percent interest and repay the principal and the interest at the end of the 6 months; or he can borrow $150 and repay it in 6 monthly payments of $25 plus the interest.

7. Discuss the Truth-In-Lending Act.

CREDIT
UNIT II

ANSWERS TO TEST

1. a. 10
   b. 16
   c. 23
   d. 1
   e. 5
   f. 9
   g. 13
   h. 11
   i. 20
   j. 22
   k. 8
   l. 4
   m. 2
   n. 21
   o. 19
   p. 17
   q. 14
   r. 12
   s. 15
   t. 18
   u. 7
   v. 6
   w. 3

2. Any four of the following:

   a. Use credit for items which have a higher price than one can afford to pay with one or two paychecks

   b. Use credit for goods which have a long useful life

   c. Use ability to pay as a guide on which to base credit

   d. Make a large down payment, reduce monthly payments, and lower interest

   e. Estimate future income and expenses before using credit

   f. Avoid temptation in using credit after one item has been paid off

3. a. Character--A sincere attitude for paying bills

   b. Capacity--An ability to repay

   c. Capital--Owning more than one's debt

   d. Conditions--Satisfying agreements between the parties

   e. Collateral--Possessions used as security for debts

   f. Common sense--Ability to use credit wisely

4. a. Service

   b. Cash

   c. Sales

5. a. Open charge account

   b. Budget account

   c. Revolving charge account

   d. Travel plans

   e. Bank credit card

   f. Teen-age account

6. Single-payment loan

   Cost: $7.50

$$\frac{150}{1} \times \frac{10}{100} \times \frac{6}{12} =$$

$$\frac{150}{1} \times \frac{1}{10} \times \frac{1}{2} = \$7.50$$

   b. Installment loan cost: $26.25

7. Discussion should include the following:

   a. Passed in 1968

   b. Affects all businesses which extend credit

   c. Discloses annual rate of interest

   d. Discloses annual amount of dollars

   e. Discloses total number of dollars paid as finance charge

   f. Informs of disclosure before signing

   g. Maximum rate of interest is one and one-half percent per month

BUYING PRACTICES
UNIT III

TERMINAL OBJECTIVE

After completion of this unit, the student should be able to name basic needs, list choices to be made when buying, and describe advertising in detail. The student should be able to name consumer problems, discuss contracts and warranties, and list sources of consumer protection. This knowledge will be evidenced by scoring eighty-five percent on the unit test.

SPECIFIC OBJECTIVES

After completion of this unit, the student should be able to:

1. Match terms associated with buying practices to the correct definition.
2. List factors which determine individual buying practices.
3. Name tangible and intangible basic needs.
4. List choices to be made during buying.
5. Describe the ultimate function of advertising.
6. Discuss major functions of advertising.
7. List guides for consumers in analyzing advertisements.
8. Discuss two major views toward advertising.
9. Describe three kinds of advertising.
10. Select from a list the person who ultimately pays for advertising.
11. Name three problems encountered by consumers when attempting to spend money wisely for goods and services.
12. Name the basic elements of a contract.
13. Discuss two types of warranties.
14. List major sources of consumer protection.

BUYING PRACTICES
UNIT III

SUGGESTED ACTIVITIES

I. Instructor:

A. Provide students with objective sheet.

B. Provide students with information and assignment sheets.

C. Make transparencies.

D. Discuss terminal and specific objectives.

E. Discuss information and assignment sheets.

F. Assist students in investigating sources of consumer protection.

G. Give test.

II. Student:

A. Read objectives.

B. Study information sheet.

C. Complete each assignment sheet.

D. Take test.

INSTRUCTIONAL MATERIALS

I. Included in this unit:

A. Objectives

B. Information sheet

C. Transparency masters

1. TM 1--Consumer Choices
2. TM 2--Consumer Problems
3. TM 3--Basic Elements of a Contract

D. Assignment sheets

1. Assignment Sheet #1--Determine Kinds of Advertising
2. Assignment Sheet #2--Sources of Consumer Protection

E. Test

F. Answers to test

II. References:

A. Warmke, Roman F., Eugene D. Wyllie, and Beulah E. Sellers. *Consumer Decision Making.* Cincinnati, Ohio: South-Western Publishing Company, 1972.

B. Barclay, Marion S., Frances Champion, Jeanne Hayden Brinkley, and Kathleen W. Funderburk. *Teen Guide to Homemaking.* New York: Webster Division, McGraw Hill Book Company, 1972.

C. Thal, Helen M. *Your Family and Its Money.* Boston: Houghton Mifflin Company, 1968.

D. Fitzsimmons, Cleo, and Nell White. *Management for You.* Philadelphia, Pennsylvania: J.B. Lippincott Company, 1969.

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BUYING PRACTICES
UNIT III

INFORMATION SHEET

I. Terms and definitions

A. Economics--Study of the process by which we make and spend our incomes

B. Economic good--Any material object useful to man in satisfying his wants or needs and scarce enough that he is willing to pay for it

C. Consumer--Any person, business firm, or governmental unit that engages in the process of choosing goods and services, spending money for them, and using these goods and services primarily to satisfy individual wants

D. Contract--Written agreement between two or more competent parties that creates an obligation enforceable by law

E. Warranties--Promises or representations made by the salesman before or after the sale of a specific product

F. Breach of warranty--A case of misrepresentation or if goods do not fulfill the reasonable expectations of a warranty

G. Values--Set of beliefs and ideals that are developed as we grow, learn, and design our lives

(NOTE: These ideals or beliefs give direction to a person's life, guide his behavior, and frequently determine what he will do with his time, money, and many other resources.)

H. Goals--Objectives toward which we work

I. Needs--Materials necessary to sustain life

J. Wants--Those things or services which add pleasure and meaning to one's life

II. Factors which determine individual buying practices

A. Values

B. Goals

C. Needs

D. Wants

INFORMATION SHEET

III. Basic needs

A. Tangible

1. Food
2. Clothing
3. Shelter

B. Intangible

1. Love
2. Security
3. Self-realization
4. Need for new experiences

IV. Choices to be made during buying (Transparency 1)

A. Between wants and needs

B. Between one product and another of the same kind

C. Between two entirely different kinds of products

D. Between spending money now or saving it

V. Ultimate function of advertising--To sell goods and services for the advertiser

VI. Major functions of advertising

A. Stimulate consumer demand through obtaining:

1. Wider acceptance and greater use of products not yet universally used

   Example: Wash-and-wear apparel

2. Greater use of products already widely used

   Examples: Potatoes or citrus fruits

3. Wider acceptance of a commodity by consumers who have not used it

INFORMATION SHEET

B. Educate prospective consumers regarding:

1. Personal benefits and satisfactions derived from using a particular product

2. Various uses of a product

3. Merits of a particular brand or make

C. Inform consumers about new products, developments in present products, and changes in fashions and customs

D. Maintain contact with consumers who, without advertising, may never know a product is available

E. Stress exclusive features and important advantages of a product

F. Build consumer preference for a particular brand of product, thus resulting in a price above competitive brands

G. Develop large-scale distribution, thus making possible low-cost mass production

H. Establish a trade name slogan or product image

I. Create goodwill and develop consumer respect for the firm

J. Obtain a list of prospective customers and prepare the way for salesmen

K. Obtain a larger share of the business available

L. Promote the use of one class of product

Example: Margarine as opposed to butter

VII. Guides for consumers in analyzing advertisements

A. Study advertisements continually to learn about new products and services, improvements, and developments; learn to recognize trademarks, brand names, and both the manufacturers and retailers of the commodities you want; use advertisements as a source of information

B. Discover the kind of appeal used in an advertisement--emotional or reason-why; this knowledge will help you in using the advertisements wisely in making consumer choices

C. Look for statements indicating the quality of the product advertised; if the advertisement is not adequate, seek more information from manufacturer or retailer

INFORMATION SHEET

D. Do not be influenced by absurd and meaningless statements or implications in advertisements; many of them are not complimentary to one's intelligence

E. Evaluate with great care testimonials used in advertisements; ordinarily an advertising testimonial is of little value

F. Search for informative statements that explain the essential features of a product--specifications, standards, and performance

G. Develop a pattern to follow in analyzing advertisements; become an efficient and wise consumer by forming analytical habits for evaluating advertisements

VIII. Two major views toward advertising

A. Critics outlook of advertising

1. Promotes brand-switching rather than increasing total demand and is an economic waste
2. Increases the prices of goods
3. Promotes wasteful obsolescence
4. Appeals too much to emotions rather than to reason
5. Controls the press
6. Often in poor taste and needs improvement

B. Supporters opinion of advertising

1. Increases total demand
2. Often makes lower prices possible
3. Enhances economic and individual freedom by allowing consumers the right of "uneconomical" obsolescence
4. Frees the press from political control
5. Can and should be improved

(NOTE: Critics and proponents need to recall that advertising has not caused our economic system; advertising has resulted from it.)

INFORMATION SHEET

IX. Kinds of advertising

A. Consumer advertising--Advertising for the ultimate consumer, or the person who buys for personal or household use, not for a business or a profession

B. Primary advertising--Advertising that stresses the benefits of a certain class or type of product rather than particular brands of that product

Example: The beef industry stimulates the demand for steak through advertising.

C. Selective advertising

1. Advertising which attempts to persuade consumers generally to buy one brand rather than another

2. This is the type most frequently addressed to consumers

X. Person who ultimately pays for advertising--Consumer

XI. Problems encountered by consumers when attempting to spend money wisely for goods and services (Transparency 2)

A. Does the product or service adequately meets his needs?

B. How can he know the quality of the product or service?

C. How can he be certain that the price is fair and reasonable?

D. How should he react to salesmen?

(NOTE: To solve these problems, the consumer needs a great deal of information about the product or service he is considering to protect himself from making poor choices and from questionable and unethical practices on the part of salesmen.)

XII. Basic elements of a contract (Transparency 3)

A. There must be an offer and acceptance

B. The parties must be competent

C. The purpose or subject of the agreement must be legal

D. There must be a consideration

E. The agreement must be in proper legal form

INFORMATION SHEET

XIII. Types of warranties

A. Express

1. A definite statement of fact about a product

2. A written guarantee

B. Implied

1. The buyer rightfully expects the article purchased to serve its purpose

2. There is no definite statement in regard to the product

XIV. Major sources of consumer protection

A. Consumer-sponsored services

B. Professional associations

C. Businesses, associations, and independent testing and certifying agencies

(NOTE: These organizations provide information for the guidance and protection of consumers.)

D. Government agencies and acts

ERIC

Consumer Choices

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One Product and Another of the Same Kind

Two Entirely Different Kinds of Products

Wants and Needs

Spending Money Now or Saving It

278

TM 1

H.E. II - 79-D

ERIC

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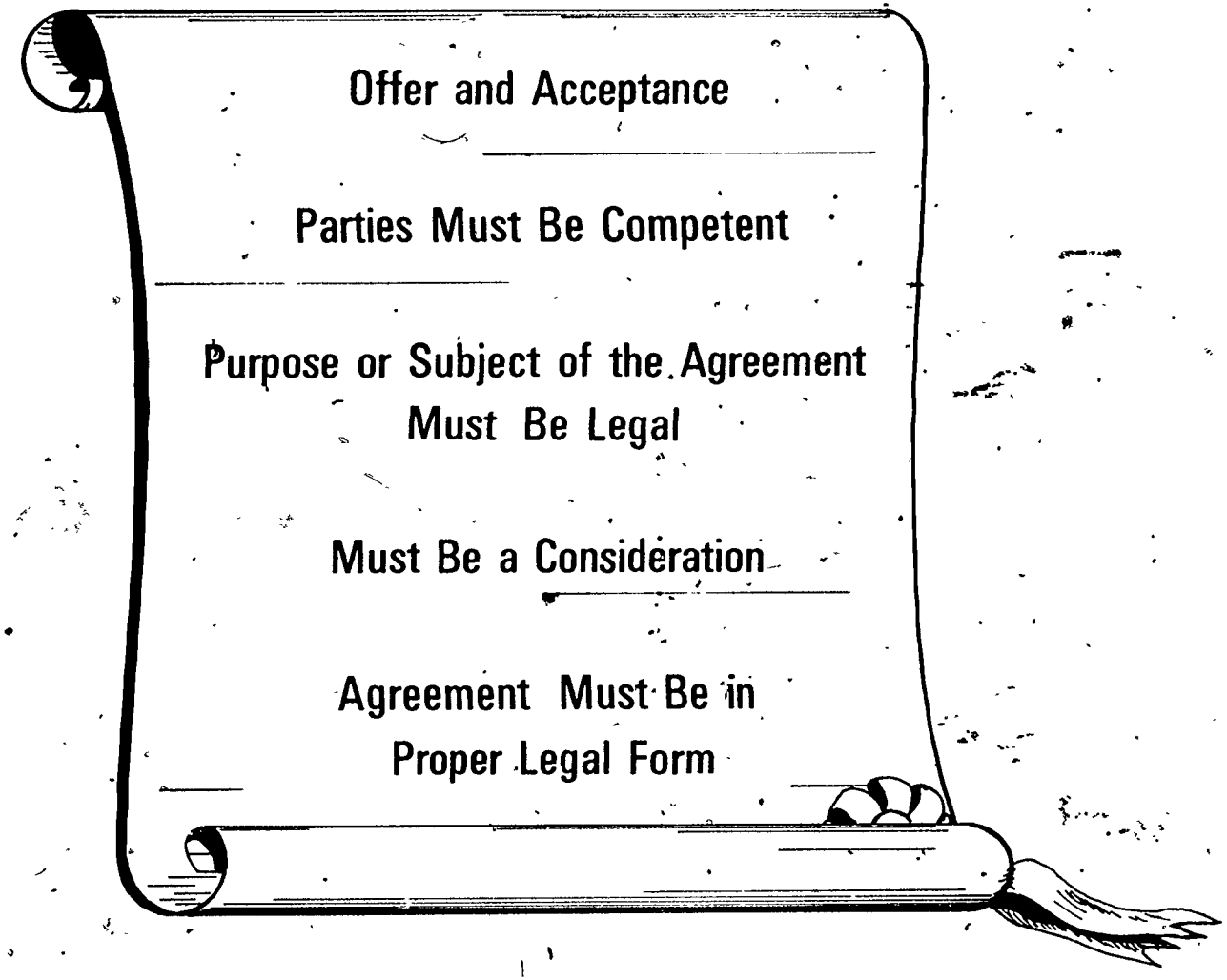
Consumer Problems

- Is the Product or Service of a nature that it adequately meets his needs?
- How can he know the Quality of the product or service?
- How can he be certain that the Price is Fair and Reasonable?

ERIC

Basic Elements of a Contract



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BUYING PRACTICES
UNIT III

ASSIGNMENT SHEET #1--DETERMINE KINDS OF ADVERTISING

Using newspapers, magazines, mail circulars, and other available sources obtain and bring to class five examples of advertisements. Are they examples of consumer, primary, or selective advertising? How do you know this?

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BUYING PRACTICES
UNIT III

ASSIGNMENT SHEET #2--SOURCES OF CONSUMER PROTECTION

Determine what sources of consumer protection are available to you in your area. This information may be obtained by asking businessmen, reading newspapers, using the telephone directory, and other methods. List these sources below. Are they consumer sponsored, professional associations, testing and certifying agencies, or government agencies?

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BUYING PRACTICES
UNIT III

TEST

1. Match the following terms to the correct definition.

_____a.	Study of the process by which we make and spend our incomes	1.	Values
_____b.	A case of misrepresentation or if goods do not fulfill the reasonable expectations of a warranty	2.	Needs
_____c.	Objectives toward which we work	3.	Consumer
_____d.	Those things or services which add pleasure and meaning to one's life	4.	Economics
_____e.	Materials necessary to sustain life	5.	Contract
_____f.	Written agreement between two or more competent parties that creates an obligation enforceable by law	6.	Goals
_____g.	Promises or representations made by the salesman before or after the sale of a specific product	7.	Wants
_____h.	Set of beliefs and ideals that are developed as we grow, learn, and design our lives	8.	Economic good
_____i.	Any person, business firm, or governmental unit that engages in the process of choosing goods and services, spending money for them, and using these goods and services primarily to satisfy individual wants	9.	Warranties
_____j.	Any material object useful to man in satisfying his wants or needs and scarce enough that he is willing to pay for it	10.	Breach of warranty

2. List four factors which determine individual buying practices.

   a.

   b.

   c.

   d.

3. Name three tangible and four intangible basic needs.

   a.

      1.

      2.

      3.

   b.

      1.

      2.

      3.

      4.

4. List four choices to be made during buying.

   a.

   b.

   c.

   d.

5. Describe the ultimate function of advertising.

6. Discuss the major functions of advertising.

7. List five guides for consumers in analyzing advertisements.

a.

b.

c.

d.

e.

8. Discuss two major views toward advertising.

a.

b.

9. Describe three kinds of advertising.

a.

b.

c.

10. Place an "X" to the left of the person who ultimately pays for advertising.

_____a. Salesman

_____b. Consumer

_____c. Local merchant

11. Name three problems encountered by consumers when attempting to spend money wisely for goods and services.

a.

b.

c.

12. Name the basic elements of a contract.

13. Discuss two types of warranties.

a.

b.

14. List four major sources of consumer protection.

a.

b.

c.

d.

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BUYING PRACTICES
UNIT III

ANSWERS TO TEST

1. a. 4
   b. 10
   c. 6
   d. 7
   e. 2
   f. 5
   g. 9
   h. 1
   i. 3
   j. 8
2. a. Values
   b. Goals
   c. Needs
   d. Wants
3. a. Tangible
      1) Food
      2) Clothing
      3) Shelter
   b. Intangible
      1) Love
      2) Security
      3) Self-realization
      4) Need for new experiences

4. a. Between wants and needs

   b. Between one product and another of the same kind

   c. Between two entirely different kinds of products

   d. Between spending money now or saving it

5. To sell goods and services for the advertiser

6. Discussion should include:

   a. Stimulate consumer demand through obtaining:

      1) Wider acceptance and greater use of products not yet universally used

      2) Greater use of products already widely used

      3) Wider acceptance of a commodity by consumers who have not used it

   b. Educate prospective consumers regarding:

      1) Personal benefits and satisfactions derived from using a particular product

      2) Various uses of a product

      3) Merits of a particular brand or make

   c. Inform consumers about new products, developments in present products, and changes in fashions and customs

   d. Maintain contact with consumers who, without advertising, may never know a product is available

   e. Stress exclusive features and important advantages of a product

   f. Build consumer preference for a particular brand of product, thus resulting in a price above competitive brands

   g. Develop large-scale distribution, thus making possible low-cost mass production

   h. Establish a trade name slogan or product image

   i. Create goodwill and develop consumer respect for the firm

   j. Obtain a list of prospective customers and prepare the way for salesmen

   k. Obtain a larger share of the business available

   l. Promote the use of one class of product

7. Any five of the following:

   a. Study advertisements continually to learn about new products and services, improvements, and developments; learn to recognize trademarks, brand names, and both the manufacturers and retailers of the commodities you want; use advertisements as a source of information

   b. Discover the kind of appeal used in an advertisement--emotional or reason-why; this knowledge will help you in using the advertisements wisely in making consumer choices

   c. Look for statements indicating the quality of the product advertised; if the advertisement is not adequate, seek more information from manufacturer or retailer

   d. Do not be influenced by absurd and meaningless statements or implications in advertisements; many of them are not complimentary to one's intelligence

   e. Evaluate with great care testimonials used in advertisements; ordinarily an advertising testimonial is of little value

   f. Search for informative statements that explain the essential features of a product--specifications, standards, and performance

   g. Develop a pattern to follow in analyzing advertisements; become an efficient and wise consumer by forming analytical habits for evaluating advertisements

8. Discussion should include:

   a. Critics outlook of advertising:

      1. Promotes brand-switching rather than increasing total demand and is an economic waste
      2. Increases the prices of goods
      3. Promotes wasteful obsolescence
      4. Appeals too much to emotions rather than to reason
      5. Controls the press
      6. Often in poor taste and needs improvement

   b. Supporters opinion of advertising

      1. Increases total demand
      2. Often makes lower prices possible
      3. Enhances economic and individual freedom by allowing consumers the right of "uneconomical" obsolescence
      4. Frees the press from political control
      5. Can and should be improved

9. a. Consumer advertising--Advertising for the ultimate consumer, or the person who buys for personal or household use, not for a business or a profession

   b. Primary advertising--Advertising that stresses the benefits of a certain class or type of product rather than particular brands of that product

   c. Selective advertising

      1. Advertising which attempts to persuade consumers generally to buy one brand rather than another

      2. This is the type most frequently addressed to consumers

10. b

11. Any three of the following:

   a. Does the product or service adequately meets his needs?

   b. How can he know the quality of the product or service?

   c. How can he be certain that the price is fair and reasonable?

   d. How should he react to salesmen?

12. a. There must be an offer and acceptance

   b. The parties must be competent

   c. The purpose or subject of the agreement must be legal

   d. There must be a consideration

   e. The agreement must be in proper legal form

13. Discussion should include:

   a. Express

      1) A definite statement of fact about a product

      2) A written guarantee

   b. Implied.

      1) The buyer rightfully expects the article purchased to serve its purpose

      2) There is no definite statement in regard to the product

14. a. Consumer-sponsored services

   b. Professional associations

c. Businesses, associations, and independent testing and certifying agencies

d. Government agencies and acts

MEATS IDENTIFICATION
UNIT I

TERMINAL OBJECTIVE

After completion of this unit, the student should be able to identify bones used in meat identification and describe color characteristics of various meats. The student should be able to distinguish between tender and less tender cuts of meats and match names of common commercial cuts of meats to bones found in the animal. This knowledge will be evidenced by scoring eighty-five percent on the unit test.

SPECIFIC OBJECTIVES

After completion of this unit, the student should be able to:

1. Define the term meat identification.
2. Match terms associated with meat identification to the correct definition.
3. Discuss in writing the purposes of knowing how to identify meats.
4. List four types of common meat.
5. Name the four components of meat.
6. Describe in writing color characteristics of beef, veal, pork and lamb.
7. Identify five bones used in meat identification.
8. Identify the eight basic wholesale cuts of meat.
9. Identify the seven basic retail cuts of meat.
10. Classify five bones of meat into tender and less tender cuts.
11. Match names of common commercial cuts of meats to five bones found in beef, pork, and lamb.

MEATS IDENTIFICATION
UNIT I

SUGGESTED ACTIVITIES

I. Instructor:

A. Provide students with objective sheet.

B. Provide students with information and assignment sheets.

C. Make transparencies.

D. Discuss terminal and specific objectives.

E. Discuss information and assignment sheets.

F. Arrange field trip to a grocery store to allow students an opportunity to see the different colors, bones, and cuts involved in meats identification.

G. Give test.

II. Student:

A. Read objectives.

B. Study information sheet.

C. Complete assignment sheets .

D. Participate in field trip.

E. Take test.

INSTRUCTIONAL MATERIALS

I. Included in this unit:

A. Objectives

B. Information sheet

C. Transparency masters

1. TM 1--Bones Used in Meat Identification

2. TM 2--The Eight Basic Wholesale Cuts of Meat

3. TM 3--The Seven Basic Retail Cuts of Meat

4. TM 4--Tender and Less Tender Cuts of Meat

D. Assignment sheets

1. Assignment Sheet #1--Location and Structure of Wholesale Cuts

2. Assignment Sheet #2--Sources of Common Commercial Cuts

E. Answers to assignment sheets

F. Test

G. Answers to test

II. References:

A. McDermott, Irene E., Madel B. Trilling and Florence Williams Nicholas. *Food for Modern Living*. Philadelphia, Pennsylvania: J. B. Lippincott Company, 1967.

B. Shank, Dorothy E., Natalie K. Fitch, Pauline A. Chapman, and Mary Suzanne Sickler. *Guide to Modern Meals*. St., Louis, Missouri: Webster Division, McGraw-Hill Book Company, 1970.

III. Additional materials

A. Pamphlets

1. Lessons on Meat

2. 101 Meat Cuts

(NOTE: Order the above from: National Livestock and Meat Board
36 South Wabash Avenue
Chicago, Illinois 60603)

3. *Martha Logan's Meat Handi-Book*. Swift and Company, 1968.

B. Filmstrips--*How to Buy Meat*, Part I and II. Swift and Company.

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MEATS IDENTIFICATION
UNIT I

INFORMATION SHEET

I. Meat identification--The identification of cuts of meats by observing the physical characteristics of meats

II. Terms and definitions

A. Cut--A portion of meat specified by the consumer

B. Beef--Meat of mature cattle, usually six months of age or more

C. Veal--Resembles beef cuts in shape but are only 1/3 to 1/2 the size because veal is from small, immature cattle, usually six months of age or less

D. Lamb--Meat of young sheep less than a year old; darker red than veal and the cuts are even smaller

E. Mutton--Meat of mature sheep, over one year old

F. Pork--Meat of hogs, usually around seven months of age

G. Lean--Muscle fibers which carry the vitamins, minerals, and protein

H. Connective tissue--Creamy white, threadlike strands that bind the muscle fibers in little bundles, and the muscle to the bone

I. Fat--Surrounds the carcass of the animals just beneath the skin

J. Bone--The part of the meat that is not usually eaten

K. Steak--Larger cuts of meat one inch or less in thickness

L. Chop--Smaller cuts of meats one inch or less in thickness

M. Roast--Cuts of meats usually two inches or more in thickness

(NOTE: Roast take longer periods of time to prepare than do steaks and chops.)

N. Variety meats--Edible parts of animals other than skeletal muscles which include various organs and parts such as tongue, feet, liver, kidney, sweetbreads, brains, heart, and jowls (in hogs)

O. Tender cuts--The least exercised portions of the animal usually located along the backbone and upper ribs

P. Less tender cuts--The most exercised portions of the animal depending upon age and condition of the animal

INFORMATION SHEET

Q. Wholesale cuts--Large pieces of meat that are to be divided into smaller retail cuts

R. Retail cuts--Small cuts of meat that are ready for consumption

S. Marbling--Intermingling of fat throughout the lean

III. Purposes of knowing how to identify meats

A. Meat is the center of the menu

B. Meat is the food in the diet around which meals are planned, prepared, and served

C. Meat supplies a large proportion of the food nutrients essential to good health

D. Wise buymanship of meats

E. Proper cooking of meats

IV. Four types of common meats

A. Beef

B. Veal

C. Lamb

D. Pork

V. Components of meat

A. Lean

B. Connective tissue

C. Fat

D. Bone

VI. Color characteristics

(NOTE: Ideal cuts are described.)

A. Beef

1. Bright, cherry red

2. Firm, creamy white fat

INFORMATION SHEET

B. Veal

1. Pale, rosy beige
2. Small amount of pinkish white fat

C. Lamb

1. Dark pink to light red
2. Smooth covering of pinkish white fat

D. Pork.

1. Grayish pink with firm and fine texture
2. Very white fat

(NOTE: Pork fat is the source of lard.)

VIII. Bones used in meat identification (Transparency 1)

A. T-bone

B. Rib bone

C. Wedge bone

D. Round bone

E. Blade bone

VIII. Basic wholesale cuts of meat (Transparency 2)

A. Shoulder or chuck

B. Rib or hotel rack

C. Loin or short loin

D. Sirloin or hip

E. Leg, round, or ham

F. Shank and brisket

G. Short plate

H Flank

(NOTE: The names of the cuts differ among the types of animals, but these are basic to all animals.)

INFORMATION SHEET

IX. Basic retail cuts of meat (Transparency 3)

A. Blade

B. Rib

C. Loin

D. Sirloin

E. Leg, round, or ham.

F. Breast, brisket, and short plate

G. Arm

(NOTE: The names of the cuts differ among the animals, but these are basic for beef, veal, lamb, and pork.)

X. Tender and less tender cuts of meat (Transparency 4)

(NOTE: Tenderness of the meat will influence the cooking method to be used.)

A. T-Bone

1. Beef--tender
2. Pork--tender
3. Lamb--tender

B. Rib bone

1. Beef--tender
2. Pork--tender
3. Lamb--tender

C. Wedge bone

1. Beef--tender
2. Pork--tender
3. Lamb--tender

INFORMATION SHEET

D. Round bone

1. Beef--less tender
2. Pork--tender
3. Lamb--tender

E. Blade bone

1. Beef--less tender
2. Pork--less tender
3. Lamb--less tender

XI. Common commercial cuts

A. T-Bone

1. Beef
   a. T-Bone steak
   b. Porterhouse steak
   c. Club steak
2. Pork
   a. Loin chop
   b. Loin roast
3. Lamb
   a. Loin chop
   b. English chop

B. Rib bone

1. Beef
   a. Rib steak
   b. Rib roast
      (NOTE: Sometimes called standing rib roast.)
   c. Rolled rib roast

INFORMATION SHEET

2. Pork
   a. Rib chop
   b. Rib roast
3. Lamb
   a. Rib chop
   b. Rib roast

C. Wedge bone
1. Beef
   a. Sirloin steak
   b. Top sirloin steak
   c. Pin bone sirloin steak
2. Pork
   a. Sirloin chop
   b. Sirloin roast
3. Lamb
   a. Sirloin chop
   b. Sirloin roast

D. Round bone
1. Beef
   a. Round steak
   b. Top round steak
   c. Bottom round steak
   d. Arm roast
2. Pork
   a. Fresh ham steak
   b. Smoked ham center slice

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INFORMATION SHEET

c. Fresh ham roast

d. Smoked ham roast

e. Arm roast

3. Lamb

a. Leg chop (steak)

b. Lamb leg, sirloin half

(NOTE: Other less common cuts are the center leg, Frenched leg, and the American leg.)

E. Blade bone

1. Beef

a. Blade pot-roast

(NOTE: Sometimes called chuck roast.)

b. Blade steak

2. Pork

a. Fresh picnic shoulder

b. Smoked picnic shoulder

c. Boston shoulder

(NOTE: Boston shoulder is sometimes called Boston butt.)

d. Blade steak

3. Lamb

a. Blade chop

b. Square cut shoulder

F. Other common commercial cuts

1. Rump

2. Pikes peak roast (heel of round)

INFORMATION SHEET

3. Sirloin tip

4. Rib eye

5. Tenderloin

(NOTE: Veal and beef are similar, therefore, veal is not listed.)

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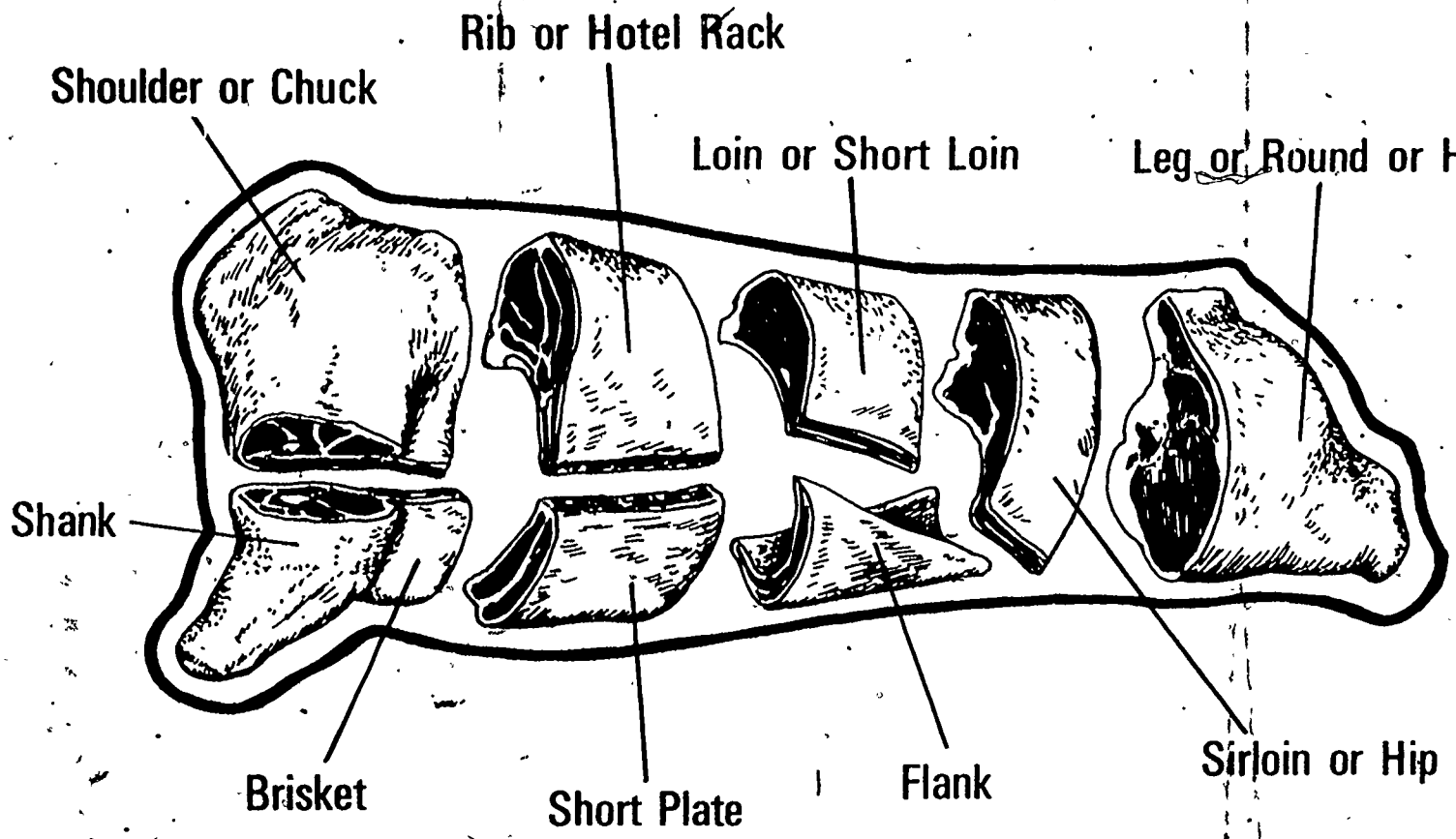
Bones Used in Meat Identification

The Eight Basic Wholesale Cuts of Meat



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The Seven Basic Retail Cuts of Meat

TM 3

Tender and Less Tender Cuts of Meat

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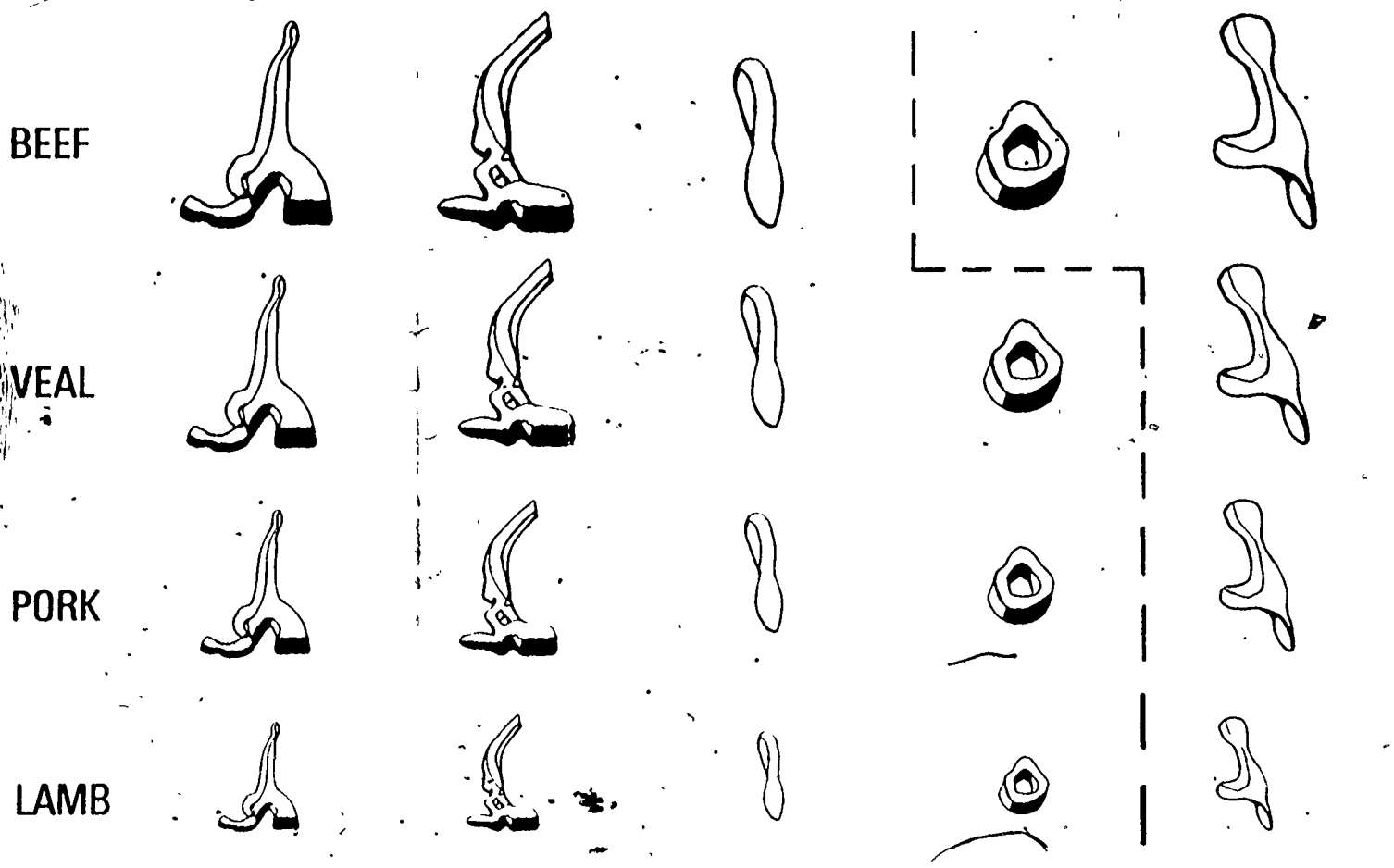

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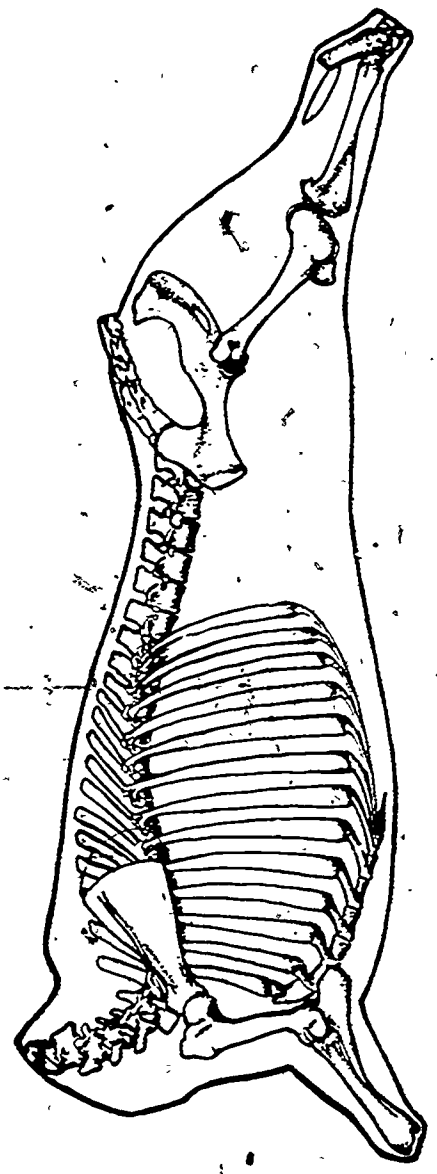
MEATS IDENTIFICATION
UNIT I

ASSIGNMENT SHEET #1--LOCATION AND STRUCTURE OF WHOLESALE CUTS

Locate the eight basic wholesale cuts of meat on the following carcass diagram. Using your pencil, divide the carcass into the wholesale cuts and label.



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MEATS IDENTIFICATION
UNIT I

ASSIGNMENT SHEET #2--SOURCES OF COMMON COMMERCIAL CUTS

Do the following commercial cuts come from beef, pork, or lamb? Indicate your response(s) by placing a "B" for beef, "P" for pork, or "L" for lamb to the left of each cut of meat. Some cuts may apply to more than one kind of meat.

1. _____ Rib steak
2. _____ Ham steak
3. _____ Loin chop
4. _____ Blade pot-roast
5. _____ Sirloin roast
6. _____ Ham roast
7. _____ Club steak
8. _____ Blade chop
9. _____ T-Bone steak
10. _____ Picnic shoulder
11. _____ Rib roast
12. _____ Round steak
13. _____ English chop
14. _____ Boston butt
15. _____ Porterhouse steak
16. _____ Sirloin steak
17. _____ Blade steak
18. _____ Sirloin chop
19. _____ Leg chop
20. _____ Square cut shoulder

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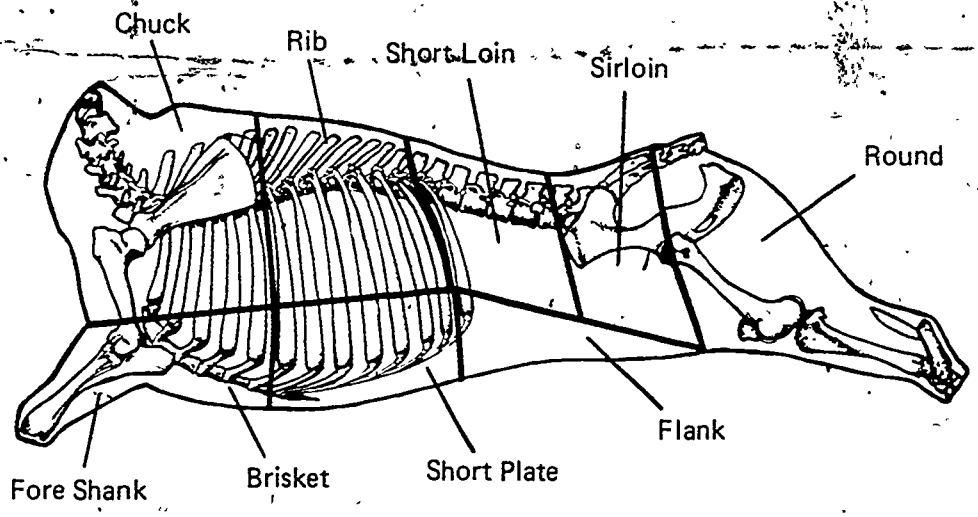
MEATS IDENTIFICATION
UNIT I

ANSWERS TO ASSIGNMENT SHEETS

Assignment Sheet #1



Assignment Sheet #2

1.	B	11.	B, L, P
2.	P	12.	B
3.	P, L	13.	L
4.	B	14.	P
5.	L, P	15.	B
6.	P	16.	B
7.	B	17.	B, P
8.	L	18.	L, P
9.	B	19.	L
10.	P	20.	L

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MEATS IDENTIFICATION
UNIT I

TEST

1. Define the term "meat identification."

2. Match the terms on the right to the correct definition.

_____a.	Edible parts of animals other than skeletal muscles which include various organs and parts such as tongue, feet, liver, kidney, sweetbreads, brains, heart, and jowls	1. Cut
_____b.	Smaller cuts of meats one inch or less in thickness	2. Wholesale cut
_____c.	The part of the meat that is not usually eaten	3. Steak
_____d.	Meat of hogs, usually around seven months of age	4. Lamb
_____e.	A portion of meat specified by the consumer	5. Chop
_____f.	Resembles beef cuts in shape but are only 1/3 to 1/2 the size because it is from small, immature cattle, usually six months of age or less	6. Bone
_____g.	Surrounds the carcass of the animals just beneath the skin	7. Mutton
_____h.	Larger cuts of meat one inch or less in thickness	8. Roast
_____i.	Creamy white, threadlike strands that binds the muscle fibers in little bundles, and the muscle to the bone	9. Fat
_____j.	Muscle fibers which carry the vitamins, minerals, and protein	10. Lean
		11. Retail cuts
		12. Veal
		13. Pork
		14. Variety meats
		15. Tender cuts
		16. Connective tissue
		17. Marbling
		18. Less tender cuts
		19. Beef

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_____k. Meat of young sheep less than a year old; darker red than veal and the cuts are even smaller

_____l. Meat of mature cattle, usually six months of age or more

_____m. Meat of mature sheep over one year old

_____n. Large pieces of meat that are to be divided into smaller retail cuts

_____o. The least exercised portions of the animal usually along the backbone and upper rib

_____p. Cuts of meat usually two inches or more in thickness

_____q. The most exercised portions of the animal depending upon the age and condition of the animal

_____r. Small cuts of meat that are ready for consumption

_____s. Intermingling of fat throughout the lean

3. Discuss in a short paragraph the purposes of knowing how to identify meats.

4. List four types of common meat.

a.

b.

c.

d.

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5. Name the four components of meat.

   a.

   b.

   c.

   d.

6. Describe the color characteristics of:

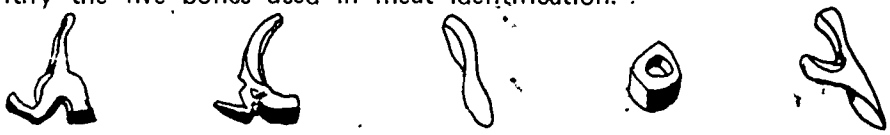
   a. Beef

   b. Veal

   c. Lamb

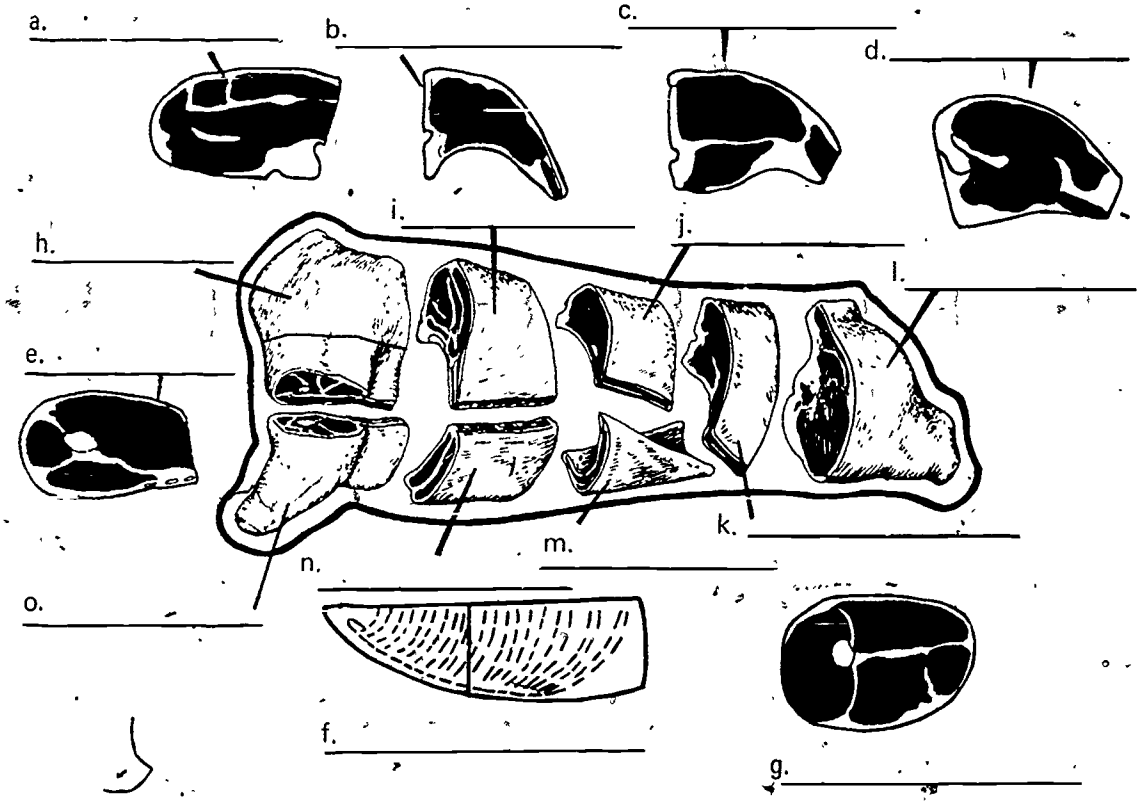
   d. Pork

7. Identify the five bones used in meat identification.



a._____ b._____ c._____ d._____ e._____

8. Identify the wholesale and retail cuts of meat by matching the correct term to the location of the cut.



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WHOLESALE	RETAIL
Shoulder or chuck	Rib
Leg, round or ham	Arm
Loin or short loin	Blade
Shank and brisket	Leg, round or ham
Flank	Loin
Rib or hotel rack	Breast, brisket, and short plate
Short plate	Sirloin
Sirloin or hip	

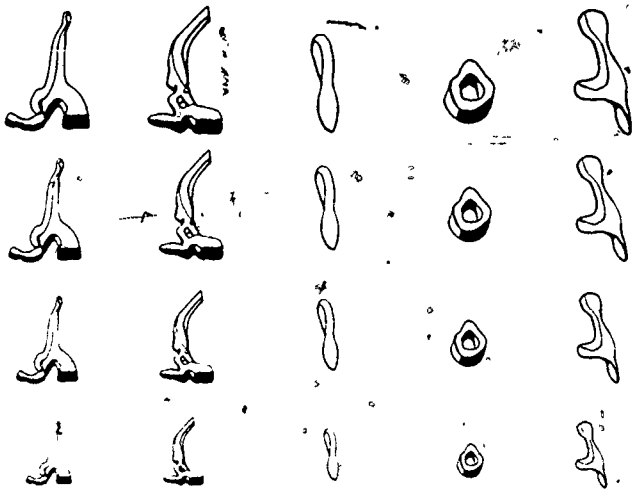
9. Classify the five bones of meat into tender and less tender cuts by circling the less tender cuts.

a. Beef

b. Veal

c. Pork

d. Lamb



10. Match the names of the common commercial cuts of meat on the right to the five bones found in beef, pork, and lamb.

Beef

_____a. T-bone

_____b. Rib bone

_____c. Wedge bone

_____d. Round bone

_____e. Blade bone

Pork

_____f. T-bone

_____g. Rib bone

1. Round steak
2. Sirloin steak
3. Blade steak
4. Porterhouse steak
5. English chop
6. Rib roast
7. Picnic shoulder
8. Flank steak

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_____h. Wedge bone

_____i. Round bone

_____j. Blade bone

Lamb

_____k. T-bone

_____l. Rib bone

_____m. Wedge bone

_____n. Round bone

_____o. Blade bone

9. Rib chop

10. Ham roast

11. Sirloin roast

12. Loin chop

13. Leg chop

14. Rib roast

15. Square cut shoulder

16. Loin chop

17. Porterhouse steak

18. Sirloin chop

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MEATS IDENTIFICATION
UNIT I

ANSWERS TO TEST

1. The identification of cuts of meats by observing the physical characteristics of meats.

2. a. 14
   b. 5
   c. 6
   d. 13
   e. 1
   f. 12
   g. 9
   h. 3
   i. 16
   j. 10
   k. 4
   l. 19
   m. 7
   n. 2
   o. 15
   p. 8
   q. 18
   r. 11
   s. 17

3. Discussion might include:
   a. Meat is the center of the menu
   b. Meat is the food in the diet around which meals are planned, prepared and served
   c. Meat supplies a large proportion of the food nutrients essential to good health

d. Wise buymanship of meats

e. Proper cooking of meats

4. a. Beef

b. Veal

c. Lamb

d. Pork

5. a. Lean

b. Connective tissue

c. Fat

d. Bone

a. Beef--bright, cherry red with firm, creamy white fat

b. Veal--pale rosy beige with pinkish white fat

c. Lamb--dark pink to light red with smooth covering of pinkish white fat

d. Pork--grayish pink with very white fat

7. a. T-bone

b. Rib bone

c. Wedge bone

d. Round bone

e. Blade bone

8. a. Blade

b. Rib

c. Loin

d. Sirloin

e. Arm

f. Breast, brisket, and short plate

g. Leg, round or ham

h. Shoulder or chuck

i. Rib or hotel rack

j. Loin or short loin

k. Sirloin or hip

l. Leg, round or ham

m. Flank

n. Short plate

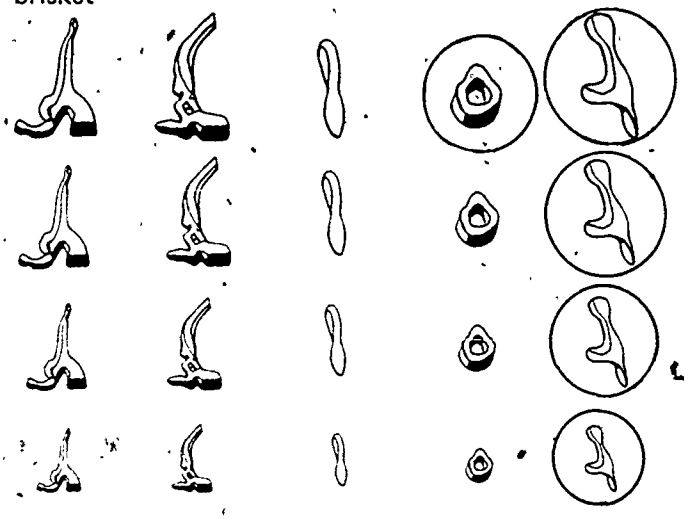
o. Shank and brisket

9. a. Beef

b. Veal

c. Pork

d. Lamb



10. a. 4

b. 6

c. 2

d. 1

e. 3

f. 12

g. 9

h. 11

i. 10

j. 7

k. 16

l. 14

m. 17

n. 13

o. 15

NUTRITION OF MEATS
UNIT II

TERMINAL OBJECTIVE

After completion of this unit, the student should be able to name reasons for studying the nutrition of meats and state advantages and disadvantages of having meats in our diets. The student should be able to name the nutrients and the function of those nutrients found in meats. This knowledge will be evidenced by scoring eighty-five percent on the unit test.

SPECIFIC OBJECTIVES

After completion of this unit, the student should be able to:

1. Match terms associated with nutrition of meats to the correct definition.
2. Name three reasons for studying the nutrition of meats.
3. Discuss reasons for the importance of meats in our diets.
4. List two disadvantages of too much meat in the diet.
5. Name ten nutrients found in meats.
6. Match the ten nutrients found in meats to their function.
7. Select reasons for including liver in the diet.
8. Demonstrate the ability to select one cut of meat and collect as much information as possible concerning the dietary contributions it makes to the body.

NUTRITION OF MEATS
UNIT II

SUGGESTED ACTIVITIES

I. Instructor:

A. Provide students with objective sheet.

B. Provide students with information and assignment sheets.

C. Make transparencies.

D. Discuss terminal and specific objectives.

E. Discuss information and assignment sheets.

F. Use the student's assignment sheets to lead discussion in comparing the quantities and kinds of nutrients found in different cuts of meats. Allow students to draw conclusions on the merits of some meats over other meats for specific nutritional needs.

G. Give test.

II. Students:

A. Read objectives.

B. Study information sheet.

C. Complete assignment sheet.

D. Use the assignment sheet to participate in class discussion where comparisons are made for different cuts and kinds of meat.

E. Take test.

INSTRUCTIONAL MATERIALS

I. Included in this unit:

A. Objectives

B. Information sheet

C. Transparency masters

1. TM 1--Nutrients Found in Meats

2. TM 2--Functions of Nutrients

D. Assignment Sheet #1--Selecting Dietary Information About Meats

E. Test

F. Answers to test

II. References:

A. White, Ruth Bennett. *Food and Your Future*. Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1972.

B. Shank, Dorothy E., Natalie K. Fitch, Pauline A. Chapman, and Mary Suzanne Sickler. *Guide to Modern Meals*. St. Louis, Missouri: Webster Division, McGraw-Hill Book Company, 1970.

C. McDermott, Irene E., Mabel B. Trilling, and Florence Williams Nicholas. *Food for Modern Living*. Philadelphia, Pennsylvania: J. B. Lippincott Company, 1967.

D. National Live Stock and Meat Board. *Lessons on Meat*. 36 South Wabash Avenue, Chicago, Illinois, 60603, 1964.

E. National Live Stock and Meat Board. *Meat Manual, Identification, Buying and Cooking*. 36 South Wabash Avenue, Chicago, Illinois, 60603.

NUTRITION OF MEATS
UNIT II

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INFORMATION SHEET

I. Terms and definitions

A. Nutrients--Substances in food that furnish body fuel, provide materials for the building and/or maintenance of body tissue, and act to regulate body processes

B. Function--What a nutrient does for the body

C. Minerals--Nutrients which build and repair all parts of the body and regulate body processes

D. Vitamins--Nutrients needed for maintaining health, promoting growth and regulating body processes

E. Protein--Nutrient which builds and repairs body tissues

II. Reasons for studying the nutrition of meats

A. Popularity of meats

B. Nutrients found in meats

C. Buying of meats

III. Reasons for the importance of meats in our diets

A. Contains many nutrients

B. Almost completely digested

(NOTE: Approximately 96 to 98 percent of meat is utilized by the body.)

C. Promote growth and give strength

D. Help older people to maintain vigor

(NOTE: Because of its appearance, aroma, and flavor, a properly cooked piece of meat has universal appetite appeal. This is important because palatable food stimulates the flow of the digestive juices and thus aids in digestion. Meals which include meat give a feeling of satisfaction and well-being and put off hunger for a longer period than meals without meat.)

INFORMATION SHEET

IV. Disadvantages of too much meat in the diet

A. Cost

(NOTE: A large portion of the food budget is spent on meat.)

B. Nutritional weakness

(NOTE: Meats are low in calcium and vitamin C, and with the exception of liver, are low in vitamin A.)

C. Contain highly saturated fats

V. Nutrients found in meats (Transparency 1)

A. Protein

B. Fats

C. Iron

D. Iodine

E. Phosphorus

F. Copper

G. Vitamin A

H. Thiamine

(NOTE: Thiamine is also called vitamin B_1 or "pep" vitamin.)

I. Riboflavin

(NOTE: Riboflavin is also called vitamin B_2.)

J. Niacin

(NOTE: Niacin is also called vitamin B_3.)

(NOTE: Items C, D, E, and F are minerals. Items G, H, I, and J are vitamins.)

VI. Functions of nutrients found in meats (Transparency 2)

A. Protein

1. Growth and repair ~~of~~ tissue
2. Resistance to disease and viruses
3. Provides mental alertness and helps personality

(NOTE: Protein constitutes a large part of the blood.)

INFORMATION SHEET

B. Fats

1. Supply warmth
2. Supply energy

(NOTE: Fats are the highest source of calories.)

C. Minerals

1. Iron
   a. Essential for building red blood cells
   b. Combines with protein and vitamins to make hemoglobin
2. Iodine--needed to make a hormone that regulates the cell's use of energy
3. Phosphorus
   a. Works with calcium in proper formation of bones and teeth
   b. Works with calcium for the work of muscles and proper functioning of the nervous system
4. Copper--aids in the utilization of iron

D. Vitamins

1. Vitamin A
   a. Proper growth and general maintenance
   b. Repair of body tissue

   (NOTE: Vitamin A is found mainly in liver.)
2. Thiamine

   (NOTE: Also called vitamin B_1.)
   a. Promotes healthy nervous system
   b. Promotes good appetite
   c. Aids in digestion and assimilation of food
3. Riboflavin

   (NOTE: Also called vitamin B_2.)
   a. Helps maintain good vision and healthy clear eyes
   b. Helps to maintain healthy skin

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INFORMATION SHEET

4. Niacin

(NOTE: Also called vitamin B_3.)

a. Helps build and maintain skin and tongue

b. Helps to promote a healthy nervous system

c. Aids in the digestion and assimilation of food

VII. Reasons for having liver in the diet

A. Contains some quantity of almost every nutrient needed in the body

(NOTE: Calcium is an exception.)

B. Richer than any other food in iron, vitamin A, thiamine, riboflavin, and niacin

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Nutrients Found In Meats

Protein

Fat

MINERALS

- Iron
- Iodine
- Copper
- Phosphorous

VITAMINS

- Vitamin A
- Thiamine
- Riboflavin
- Niacin

Functions of Nutrients

PROTEIN

Growth and Repair of Tissue
Blood
Resistance
Personality
Mental Alertness

FATS

Warmth
Energy

PHOSPHORUS

Bones and Teeth
Muscles
Nervous System

IRON

Blood Cells

IODINE

Cell's Use of Energy

COPPER

Utilization of Iron

VITAMIN A

Growth
Repair Body Tissue
General Maintenance

THIAMINE

Nervous System
Good Appetite
Digestion

RIBOFLAVIN

Good Vision
Healthy Skin

NIACIN

Skin and Tongue
Nervous System
Digestion

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NUTRITION OF MEATS
UNIT II

ASSIGNMENT SHEET #1--SELECTING DIETARY INFORMATION ABOUT MEATS

Using textbooks and other resource materials, select one cut of meat and collect as much information as possible concerning the dietary contributions that one serving makes to the body.

(NOTE: One medium serving of boneless meat is about 3-4 ounces.)

NUTRITION OF MEATS
UNIT II

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TEST

1. Match the terms on the right to the correct definition.

_____a.	Nutrients which build and repair all parts of the body and regulate body processes	1.	Function
		2.	Minerals
		3.	Protein
_____b.	Nutrients needed for maintaining health, promoting growth, and regulating body processes	4.	Nutrients
		5.	Vitamins
_____c.	What a nutrient does for the body		
_____d.	Substances in food that furnish body fuel, provide materials for the building or maintenance of body tissue, and act to regulate body processes		
_____e.	Nutrient which builds and repairs body tissues		

2. Name three reasons for studying the nutrition of meats.

a.

b.

c.

3. Discuss reasons for the importance of meats in our diets.

4. List two disadvantages of too much meat in our diets.

a.

b.

5. Name ten nutrients found in meats.

a.

b.

c.

d.

e.

f.

g.

h.

i.

j.

6. Match the ten nutrient(s) found in question 5 to the function which best describes their use. More than one nutrient may have the same function.

_____a. Growth and repair of tissue

_____b. Supply warmth and energy

_____c. Utilization of iron

_____d. Good vision and healthy clear eyes

_____e. Build red blood cells

_____f. Bones and teeth

_____g. Healthy nervous system

_____h. Regulates cell's use of energy

7. Select the reasons for including liver in the diet by placing an "X" in the space to the left of each correct statement.

_____a. Contains some quantity of almost every nutrient needed in the body

_____b. It contains large quantities of vitamin C and calcium.

_____c. It is richer than any other food in iron, vitamin A, thiamine, riboflavin, and niacin.

_____d. Liver is richer than any other food in the amount of fat and calories it contains.

8. Demonstrate the ability to select one cut of meat and collect as much information as possible concerning the dietary contributions it makes to the body.

(NOTE. If this has not been accomplished prior to the test, ask the instructor when the above activity should be completed.)

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NUTRITION OF MEATS
UNIT II

ANSWERS TO TEST

1. a. 2
   b. 5
   c. 1
   d. 4
   e. 3
2. a. Popularity of meats
   b. Nutrients found in meats
   c. Buying of meats
3. Some items which might be included are:
   a. Contains many nutrients
   b. Almost completely digested
   c. Promote growth and give strength
   d. Help older people to maintain vigor
4. Name any two of the following.
   a. Cost
   b. Nutritional weaknesses
   c. Contain highly saturated fats
5. a. Protein
   b. Fats
   c. Iron
   d. Iodine
   e. Phosphorus
   f. Copper

g. Vitamin A

h. Thiamine

i. Riboflavin

j. Niacin

(NOTE: These may appear in any order.)

6. a. Protein, vitamin A

b. Fats

c. Copper

d. Riboflavin

e. Iron

f. Phosphorus

g. Thiamine, niacin

h. Iodine

7. a

c

8. Performance skills will be evaluated to the satisfaction of the instructor.

CONSUMER BUYING OF MEATS
UNIT III

TERMINAL OBJECTIVE

After completion of this unit, the student should be able to name forms of meats, define characteristics of different kinds of processed meats, and list methods of meat tenderizing. The student should be able to name factors which should be considered in buying and storing meats, identify marks used in federal inspection and compare costs of meats. This knowledge will be evidenced by scoring eighty-five percent on the unit test.

SPECIFIC OBJECTIVES

After completion of this unit, the student should be able to:

1. Match the terms associated with different forms of meats to the correct definition.
2. Name three forms of retail meats.
3. Discuss in three short paragraphs characteristics of the three forms of meat.
4. List five kinds of processed meats.
5. Define each of the five kinds of processed meats by naming one characteristic of each.
6. List three methods of tenderizing fresh meats.
7. Discuss in a short paragraph one commercial method of tenderizing meats.
8. Write five factors to remember when buying meats.
9. Name five factors to remember in storing meats.
10. Identify three marks used in the federal inspection of meats.
11. Demonstrate the ability to compare costs of different forms of meats.

CONSUMER BUYING OF MEATS
UNIT III

SUGGESTED ACTIVITIES

I. Instructor:

A. Provide students with objective sheet.

B. Provide students with information and assignment sheets.

C. Make transparencies.

D. Discuss terminal and specific objectives.

E. Discuss information and assignment sheets.

F. Arrange a field trip to allow students to complete the assignment sheet. If this is not possible, students may complete this activity as an outside class activity.

(NOTE: The instructor is urged to complete the assignment sheet also in order to facilitate discussion.)

G. Lead class discussion on comparing costs of different forms of meats.

H. Give test.

II. Student:

A. Read objectives.

B. Study information sheets.

C. Complete assignment sheet and bring to class for discussion.

D. Participate in field trip.

E. Take test.

INSTRUCTIONAL MATERIALS

I. Included in this unit:

A. Objectives

B. Information sheets

C. Transparency masters

1. TM 1--Forms of Meats
2. TM 2--Processed Meats
3. TM 3--Marks of Federal Inspection

D. Assignment Sheet #1--Selecting Forms of Meat

E. Test

F. Answers to test

II. References:

A. White, Ruth Bennett. *Food and Your Future*. Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1972.

B. Shank, Dorothy E., Natalie K. Fitch, Pauline A. Chapman, and Mary Suzanne Sickler. *Guide to Modern Meals*. St. Louis, Missouri: Webster Division, McGraw-Hill Book Company, 1970.

C. McDermott, Irene E., Mabel B. Trilling, and Florence Williams Nicholas. *Food for Modern Living*. Philadelphia, Pennsylvania: J. B. Lippincott Company, 1967.

D. Medved, Eva. *The World of Food*. Lexington, Massachusetts: Ginn and Company, 1970.

III. Additional teaching aid: Pamphlet

Meat and Poultry, Wholesome for You, Home and Garden Bulletin No. 170. U.S. Department of Agriculture. Order from: Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402

CONSUMER BUYING OF MEATS
UNIT III

INFORMATION SHEET

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I. Terms and definitions

A. Federal inspection--Inspection which controls the sanitary conditions in the meat processing industry and sets up standards of quality for meat

B. Fresh meat--Meat that is sold just as it comes from the animal without any special treatment

C. Cured meat--Meat treated with such materials as sugar, salt, spices, certain chemicals and often wood smoke

D. Processed meat--Meats which are sealed in containers for storage

E. Tenderizing--Method used to improve tenderness

F. Enzymes--Organic substances that accelerate specific changes of material in plants and animals

II. Three forms of retail meats (Transparency 1)

A. Fr[illegible]

B. Cured

C. Processed

III. Characteristics of meats

A. Fresh

1. Aged in cooling rooms for a short time so that it becomes more tender

2. Can be stored at refrigerator temperatures between 35 and 40 degrees for a few days

B. Cured

1. Can be stored in refrigerator longer than fresh meats

2. Some cured meats are completely cooked during curing process

Examples: Ham, bacon, Canadian bacon, corned beef

C. Processed

1. Usually cost more per pound than fresh meats

2. Stored in air tight containers

INFORMATION SHEET

3. Will retain high quality for long periods of time
4. Provide a wide selection of types of meats

IV. Kinds of processed meats (Transparency 2)

A. Frozen
B. Dried
C. Canned
D. Freeze dried
E. Pickled

V. Characteristics of processed meats

A. Frozen

1. May be either cooked or uncooked
2. Require only heat to defrost and then heat to serving temperature
3. All frozen meats are held for purchase in freezing chests in the market
4. Usually reflect the eating preferences of a special region or nationality group

B. Dried

1. Usually a low grade meat or tough cut
2. Usually sold at a high price per pound (compared to fresh and other forms of meat)
3. Cured in brine, dried, and thinly sliced

C. Canned

1. Fully cooked
2. Safe to eat as long as cans are air tight
3. Sealed in container for storage
4. Does not need refrigeration but should be kept in a cool place

Examples: Hams, corned beef, Vienna sausages, luncheon meats, stews, and meatballs

(NOTE: Those marked perishable should be refrigerated.)

INFORMATION SHEET

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D. Freeze dried

1. Meat is frozen and dehydrated under vacuum

(NOTE: This process produces a dry but porous product.)

2. Meat retains shape and may be rehydrated by placing in water

3. Meat is cooked as fresh meat

4. Maintain good quality taste, texture, and color

E. Pickled

1. Soaked in brine with added spices

2. Once opened, should be stored in the refrigerator

Examples: Corned beef and pigs feet

VI. Methods of tenderizing fresh meats

A. Breaking and softening the muscle and connective tissues

1. Machines are used commercially

2. Spiked hammers and hammers are used in homes

B. Tenderizing powder or liquid

C. Enzymes injected into the vascular system of the animal before slaughter

VII. Commercial methods of tenderizing meats

A. Tenderized--cured

1. Soaked in brine

2. Enzymes are injected into the meat, carrying curing agents

3. Enzymes circulate through the tissues, making them tender, moist, and soft

B. Tenderized injected into the vascular system

(NOTE: One example of this method is PRO-TEN beef.)

1. Papain juice, juice of papaya fruit, is injected into the live animal 20-25 minutes before slaughter

2. Blood circulates to carry the papain juice through the body of the animal

INFORMATION SHEET

3. Tenderizing process occurs as meat passes through the 120° to 170°F range when being cooked

VIII. Meat buying practices

A. Select fresh meats just before leaving the store

B. Do not buy torn or damaged packages

C. Meats and other refrigerated products should be sacked together

D. Do not leave meats in a warm car

E. Take meats home quickly

IX. Storing meats

A. Store fresh meat at refrigerator temperature no more than a few days, and use poultry and ground meat within one or two days

B. Wrap fresh meats loosely for best keeping in the refrigerator

C. Before freezing, wrap meat or poultry products tightly in moisture-resistant materials

D. Follow storage instructions given on labels of processed products

E. Store luncheon meats or sausages in their unopened packages until used

F. Store canned products in a cool, dry place

G. Refrigerate canned products that are marked "perishable" or "keep under refrigeration"

H. Defrost products in the refrigerator or, if necessary, under cold water, but not at room temperature

(NOTE: If micro-wave oven is used, follow directions for thawing meat.)

I. Refrigerate leftovers promptly

X. Federal inspection of meats (Transparency 3)

A. Meat carcasses

1. Placed on major cuts of the carcass

2. May not appear on each cut

B. Prepackaged processed meat products

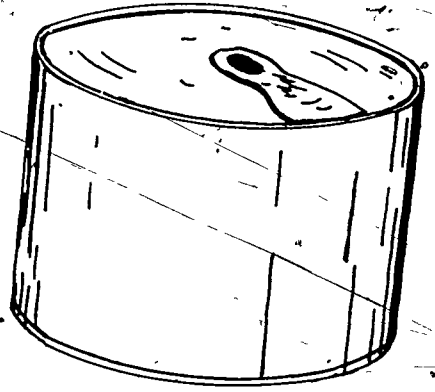
C. Fresh, frozen or processed poultry

ERIC

Forms of Meats

FRESH

CURED



PROCESSED

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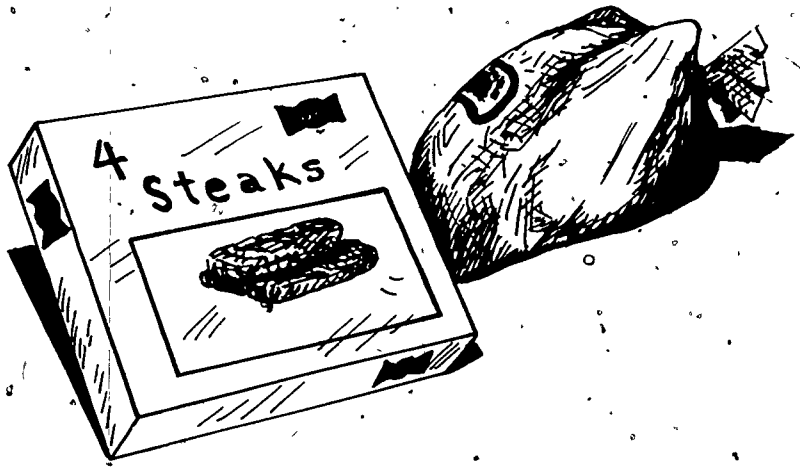
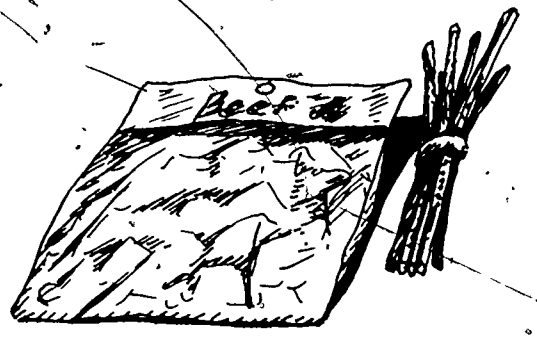
TM 1

H.E. II - 65-E

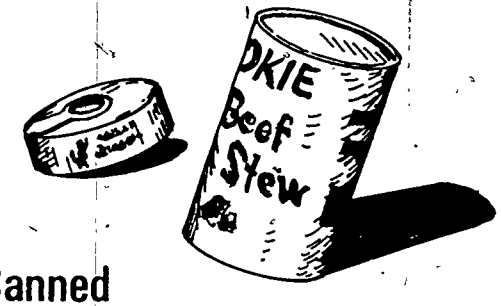
Processed Meats



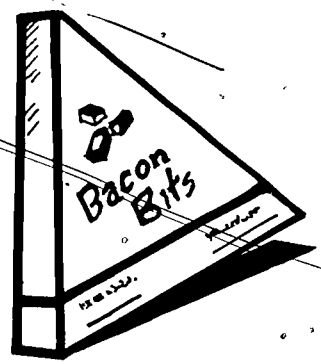
Frozen



Dried



Canned



Freeze Dried

Pickled

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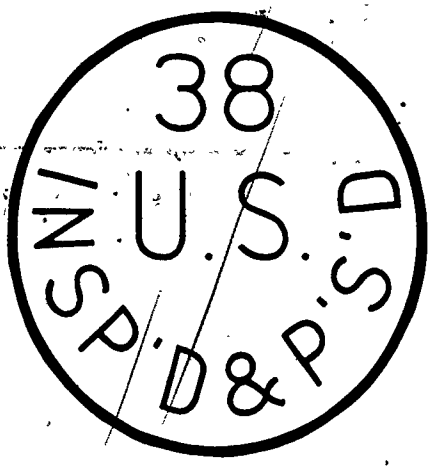
H.E. II - 67-E

TM 2

Marks of Federal Inspection



Meat carcasses. Only stamped on the major cuts of the carcass.

Prepackaged processed meat products -soups to spreads- that have been Federally inspected.

Federally inspected fresh or frozen poultry or processed poultry products.

CONSUMER BUYING OF MEATS
UNIT III

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ASSIGNMENT SHEET #1--SELECTING FORMS OF MEAT

Compare costs of different forms of meats by visiting a local grocery store or meat market. Determine the type of meat, form, size of the container, total price, and the price per pound. Bring to class for evaluation and discussion.

Example:

FOOD	FORM	SIZE	TOTAL PRICE	PRICE PER POUND
Chicken	Fresh	3 lb.	$1.35	$.45
Chicken	Canned	3 lb. 4 oz.	1.09	.34*

*Nearest whole cent

Prices as of March, 1973.

CONSUMER BUYING OF MEATS
UNIT III

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TEST

1. Match the terms on the right to the correct definition.

_____a.	Method used to improve tenderness	1. Fresh meat
_____b.	Inspection which controls the sanitary conditions in the meat processing industry and sets up standards of quality for meat	2. Processed meat
_____c.	Meat treated with such materials as sugar, salt, spices, certain chemicals and often wood smoke	3. Enzymes
_____d.	Organic substances that accelerate specific changes of material in plants and animals	4. Tenderizing
_____e.	Meats which are sealed in containers for storage	5. Cured meat
_____f.	Meat that is sold just as it comes from the animal without any special treatment	6. Federal inspection

2. Name three forms of retail meats.

   a.

   b.

   c.

3. Discuss in three short paragraphs some characteristics of the three forms of meat.

   a.

b.

c.

4. List five kinds of processed meats.

a.

b.

c.

d.

e.

5. Define the five kinds of processed meats by naming one characteristic of each.

a.

b.

c.

d.

e.

6. List three methods of tenderizing fresh meats.

a.

b.

c.

7. Discuss in a short paragraph one commercial method of tenderizing meat.

8. Write five factors to remember when buying meats.

a.

b.

c.

d.

e.

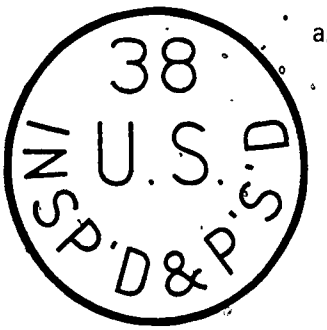
9. Name five factors to remember in storing meats.

c.

d.

e.

10. Identify three marks used in the federal inspection of meats.



a. _____

b. _____

c. _____

11. Demonstrate the ability to compare costs of different forms of meats.

(NOTE: If this has not been accomplished prior to the test, ask the instructor when the above activity should be completed.)

CONSUMER BUYING OF MEATS
UNIT-III

ANSWERS TO TEST

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1. a. 4
   b. 6
   c. 5
   d. 3
   e. 2
   f. 1
2. a. Fresh
   b. Cured
   c. Processed
3. Some of the characteristics which should be mentioned are:
   a. Fresh
      1. Aged in cooling rooms for a short time so that it becomes more tender
      2. Can be stored at refrigerator temperatures between 35 and 40 degrees for a few days
   b. Cured
      1. Can be stored in refrigerator longer than fresh meats
      2. Some cured meats are completely cooked during curing process

      Examples: Ham, bacon, Canadian bacon, corned beef
   c. Processed
      1. Usually costs more per pound than fresh meats
      2. Stored in air tight containers
      3. Will retain high quality for long periods of time
      4. Provide a wide selection of types of meats

4. a. Frozen

   b. Dried

   c. Canned

   d. Freeze dried

   e. Pickled

5. Name one characteristic for each of the five kinds of processed meats from the following list.

   a. Frozen

      1) May be either cooked or uncooked

      2) Require only heat to defrost and then heat to serving temperature

      3) All frozen meats are held for purchase in freezing chests in the market

      4) Usually reflect the eating preferences of a special region or nationality group

   b. Dried

      1) Usually a low grade meat or tough cut

      2) Usually sold at a high price per pound

      3) Cured in brine, dried, and thinly sliced

   c. Canned

      1) Fully cooked

      2) Safe to eat as long as cans are air tight

      3) Sealed in container for storage

      4) Does not need refrigeration but should be kept in a cool place

      Examples: Hams, corned beef, Vienna sausages, luncheon meats, stews, and meatballs

   d. Freeze dried

      1) Meat is frozen and dehydrated under vacuum

      2) Meat retains shape and may be rehydrated by placing in water

      3) Meat is cooked as fresh meat

      4) Maintains good quality taste, texture, and color

e. Pickled

1) Soaked in brine with added spices

2) Once opened, should be stored in the refrigerator

Examples: Corned beef and pigs feet

6. a. Breaking and softening the muscle and connective tissues

b. Tenderizing powder or liquid

c. Enzymes injected into the vascular system of the animal before slaughter

7. Discuss one of the following methods

a. Tenderized--cured

1) Soaked in brine

2) Enzymes are injected into the meat, carrying curing agents

3) Enzymes circulate through the tissues making them tender, moist, and soft

b. Tenderizer injected into the vascular system

1) Papain juice is injected into the live animal 20-25 minutes before slaughter

2) Blood circulates to carry the papain juice through the body of the animal

3) Tenderizing process occurs as meat passes through the 120° to 170° F range when being cooked

8. a. Select fresh meats just before leaving the store

b. Do not buy torn or damaged packages

c. Meats and other refrigerated products should be sacked together

d. Do not leave meats in a warm car

e. Take meats home quickly

9. Name any five of the following factors

a. Store fresh meat at refrigerator temperature no more than a few days, and use poultry and ground meat within one or two days

b. Wrap fresh meats loosely for best keeping in the refrigerator

c. Before freezing, wrap meat or poultry products tightly in moisture-resistant materials

d. Follow storage instructions given on labels of processed products

e. Store luncheon meats or sausages in their unopened packages until used

f. Store canned products in a cool, dry place

g. Refrigerate canned products that are marked "perishable" or "keep under refrigeration"

h. Defrost products in the refrigerator or, if necessary, under cold water, but not at room temperature

i. Refrigerate leftovers promptly

10. a. Meat carcasses

b. Prepackaged processed meat products

c. Fresh, frozen or processed poultry

11. Performance skills will be evaluated to the satisfaction of the instructor.

INSPECTION AND GRADING
UNIT IV

TERMINAL OBJECTIVE

After completion of this unit, the student should be able to list factors which determine meat quality, describe which meats must be inspected and graded, and match characteristics of meat and poultry to grade. The student should be able to identify labels used in inspection and grading and label cuts of meat by grade. This knowledge will be evidenced by scoring eighty-five percent on the unit test.

SPECIFIC OBJECTIVES

After completion of this unit, the student should be able to:

1. Define terms associated with inspection and grading of meats.
2. List six factors which determine meat quality.
3. Describe which meats must be Federally inspected.
4. Discuss purposes of Federal inspection of meats.
5. Describe meat which is Federally graded.
6. List two factors considered in Federal grading.
7. Discuss in a short paragraph reasons for grading meats.
8. Match characteristics to four USDA grades of beef.
9. Discuss characteristics of high quality poultry.
10. List three grades used in poultry.
11. Select two grades of meat most commonly used by consumers.
12. Identify labels used for inspection and grading of meat and poultry.
13. Demonstrate the ability to label four cuts of meat by grade.

INSPECTION AND GRADING
UNIT IV

SUGGESTED ACTIVITIES

I. Instructor:

A. Provide students with objective sheet.

B. Provide students with information and assignment sheets.

C. Make transparencies.

D. Discuss terminal and specific objectives.

E. Discuss information and assignment sheets.

F. Arrange field trip to meat market to observe grades of meat and poultry, or arrange to have examples of several cuts of meat and poultry in the classroom for observation and discussion.

G. Give test.

II. Student:

A. Read objectives.

B. Study information sheet.

C. Complete assignment sheet.

D. Participate in field trip or classroom observation.

E. Take test.

INSTRUCTIONAL MATERIALS

I. Included in this unit:

A. Objectives

B. Information sheet

C. Transparency masters

1. TM 1--USDA Grades of Meat in Order of Quality

2. TM 2--Grading and Inspection Labels

D. Assignment Sheet #1--Label Cuts of Meat by Grade

E. Answers to assignment sheet

F. Test

G. Answers to test

II. References:

A. Shank, Dorothy E., Natalie K. Fitch, Pauline A. Chapman and Mary Suzanne Sickler. *Guide to Modern Meals.* St. Louis, Missouri: Webster Division, McGraw-Hill Book Company, 1970.

B. Medved, Eva. *The World of Food.* Lexington, Massachusetts: Ginn and Company, 1970.

C. McDermott, Irene E., Mabel B. Trilling and Florence Williams Nicholas. *Foods for Modern Living.* Philadelphia, Pennsylvania: J. B. Lippincott Company, 1967.

D. Barclay, Marion S., Frances Champion, Jeanne Hayden Brinkley and Kathleen W. Funderburk. *Teen Guide to Homemaking.* New York: Webster Division, McGraw-Hill Book Company, 1972.

E. White, Ruth Bennett. *Food and Your Future.* Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1972.

F. Cronan, Marion L. and June C. Atwood. *Foods in Homemaking.* Peoria, Illinois: Charles A. Bennett Company, Inc., 1965.

INSPECTION AND GRADING
UNIT IV

INFORMATION SHEET

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I. Terms and definitions

A. Marbling--Fat distributed in small deposits throughout the muscle

(NOTE: The fat contributes to tenderness.)

B. Quality--Proportion of meat to bone, degree of marbling in the lean, firmness in texture, and normal color

C. Grade of meat--Quality of the whole carcass, the tenderness of the lean and the connective tissues and the amount of marbling

D. Meat--From cattle, sheep, and hogs often referred to as red meat to distinguish it from poultry and fish

E. Cutability--Proportion of edible meat; a greater amount of muscle in relation to a smaller layer of external fat

II. Factors which determine meat quality

A. Grade

B. Cut

C. Age of the animal

D. Nutrition of the animal

E. Methods of processing

(NOTE: Before and after slaughter)

F. Cleanliness and wholesomeness

III. Meats which must be Federally inspected--all meats which are shipped from a packing house located in one state to another state for sale

IV. Purposes of Federal inspection of meats

A. To protect the consumer

B. To assure that animals are healthy

C. To determine if conditions of the packing house are sanitary

D. To determine if health of the operators is satisfactory

(NOTE: Operators must have a food handlers permit.)

INFORMATION SHEET

V. Meat which is Federally graded

A. Not required by law

B. Meat packers who want to help consumers in selection of meats

(NOTE: Fee is paid by packers to Federal government.)

VI. Factors considered in Federal grading

A. Quality

B. Cutability

VII. Reasons for grading meats

A. Identifies tenderness

B. Regulates price.

(NOTE: The higher grades are more expensive.)

C. To determine cooking method

(Example: A U.S. Choice rump roast may be tender enough for oven roasting, a U.S. Good may not be.)

VIII. Characteristics of USDA grades of beef (Transparency 1)

A. U.S. Prime

1. Fine-grained
2. Firm, lean, with white connective tissue
3. Much marbling of fat in lean portion

B. U.S. Choice

1. Firm-grained
2. Firm, lean, with white connective tissue
3. Less marbling of fat

C. U.S. Good

1. Coarser-grained
2. Lean, with creamy-white connective tissue
3. Less fat in lean and around it

INFORMATION SHEET

D. U.S. Standard or U.S. Commercial

1. Darker red color
2. Coarser lean, with darker connective tissue
3. Less fat in lean and around it

(NOTE: Lower grades U.S. Utility and Canner and Cutter are not usually seen on meat counters and are used for processed meat products.)

IX. Characteristics of high quality poultry

A. Firm, thick flesh of a yellow tinge with a layer of yellowish fat beneath the skin

B. No pinfeathers

C. No bruises or blemishes

D. Clean and wholesome

X. Three grades of poultry

(NOTE: These are listed high to low.)

A. Grade A

B. Grade B

C. Grade C

(NOTE: The official grade mark is the consumers assurance of quality. Grade A poultry is the finest poultry available, but all inspected poultry is nutritious, wholesome food.)

XI. Two grades of meat most commonly used or purchased

A. Choice

B. Good

(NOTE: Choice and good are high quality but have less fat than meat of prime grade. However, regardless of grade all beef has same nutritional value.)

XII. Labels used for inspection and grading of meat and poultry (Transparency 2)

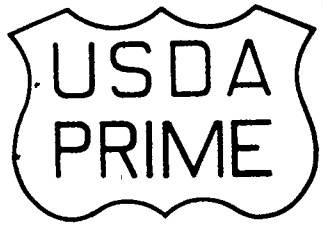
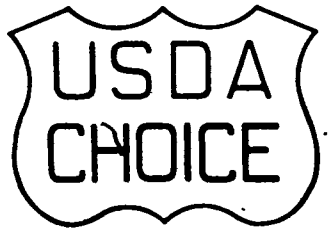
A. Meat inspection

B. Meat grading

C. Poultry inspection

D. Poultry grading

USDA Grades of Meat in Order of Quality

	BEEF GRADE	CHARACTERISTICS
	U.S. PRIME	Fine-grained; firm; lean, with white connective tissue, much marbling of fat in lean portion.
	U.S. CHOICE	Firm-grained; firm; lean, with white connective tissue, less marbling of fat.
	U.S. GOOD	Coarser-grained; firm lean, with creamy-white connective tissue, less fat in lean and around it.
	U.S. STANDARD or U.S. COMMERCIAL	Darker red color; coarser lean, with darker connective tissue, less fat.

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Grading and Inspection Labels

MEAT GRADING

POULTRY GRADING

MEAT INSPECTION

POULTRY INSPECTION

TM 2

INSPECTION AND GRADING
UNIT IV

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ASSIGNMENT SHEET #1--LABEL CUTS OF MEAT BY GRADE

1. Study these pictures of four beef rib roasts. Label the cuts by determining which cuts are USDA Prime, Choice, Good, and Standard grades. State factors used in making your selections.

a.

b.

c.

ASSIGNMENT SHEET #1

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d.

2. Assume you are a young homemaker who is trying to save money yet wanting the most for your money. Under these circumstances, which of the four cuts of meat would you buy? Why?

INSPECTION AND GRADING
UNIT IV

ANSWERS TO ASSIGNMENT SHEET #1

1. a. Standard

   b. Choice

   c. Prime

   d. Good

   (NOTE: Individual responses to factors may vary.)

2. To the satisfaction of the instructor

INSPECTION AND GRADING
UNIT IV

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TEST

1. Define the following terms associated with inspection and grading of meats.
   a. Marbling--
   b. Grade of meat--
   c. Meat--
   d. Quality--
   e. Cutability--
2. List six factors which determine meat quality.
   a.
   b.
   c.
   d.
   e.
   f.
3. Describe which meats must be Federally inspected.
4. Discuss purposes of Federal inspection of meats.
5. Describe meat which is Federally graded.

6. List two factors considered in Federal grading.

a.

b.

7. Discuss in a short paragraph reasons for grading meats.

8. Match the characteristics on the right to the USDA grades of beef on the left.

_____a. U.S. Grade	1. Darker red color; coarser lean, with darker connective tissue, less fat in lean and around it
_____b. U.S. Prime	2. Coarser-grained; lean, with creamy-white connective tissue, less fat in lean and around it
_____c. U.S. Standard	3. Firm-grained; firm, lean, with white connective tissue, less marbling of fat
_____d. U.S. Choice	4. Fine-grained; firm, lean, with white connective tissue; much marbling of fat in lean portion

9. Discuss characteristics of high quality poultry.

10. List three grades used in poultry.

a.

b.

c.

11. Place an "X" in the space to the left of the two grades of meat most commonly preferred by consumers.

_____a. Prime

_____b. Choice

_____c. Good

_____d. Standard

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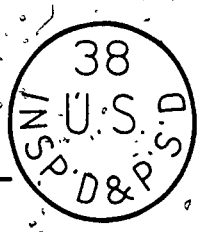
12. Identify these labels used for inspection and grading of meat and poultry.

a. _____

b. _____

c. _____



d. _____

13. Demonstrate the ability to label four cuts of meat by grade.

(NOTE: If this has not been accomplished prior to the test, ask the instructor when the above activity should be completed.)

INSPECTION AND GRADING
UNIT IV

ANSWERS TO TEST

1. a. Fat distributed in small deposits throughout the muscle

   b. Quality of the whole carcass, the tenderness of the lean and the connective tissues and the amount of marbling

   c. From cattle, sheep, and hogs often referred to as red meat to distinguish it from poultry and fish

   d. Proportion of meat to bone, degree of marbling in the lean, firmness in texture, and normal color

   e. Proportion of edible meat; a greater amount of muscle in relation to a smaller layer of external fat

2. a. Grade

   b. Cut

   c. Age of the animal

   d. Nutrition of the animal

   e. Methods of processing

   f. Cleanliness and wholesomeness

3. All meats which are shipped from a packing house located in one state to another state for sale

4. Some items which should be included are:

   a. To protect the consumer

   b. To assure that animals are healthy

   c. To determine if conditions of the packing house are sanitary

   d. To determine if health of the operators is satisfactory

5. a. Not required by law

   b. Meat packers who want to help consumers in selection of meats

6. a. Quality

   b. Cutability

7. Some items which should be included are:

   a. Identifies tenderness

   b. Regulates price

   c. To determine cooking method

8. a. 2

   b. 4

   c. 1

   d. 3

9. Some items which should be included are:

   a. Firm, thick flesh of a yellow tinge with a layer of yellowish fat beneath the skin

   b. No pinfeathers

   c. No bruises or blemishes

   d. Clean and wholesome

10. a. Grade A

    b. Grade B

    c. Grade C

11. b

    c

12. a. Poultry inspection

    b. Meat grading

    c. Poultry grading

    d. Meat inspection

13. Performance skills will be evaluated to the satisfaction of the instructor.

MEAT PURCHASING
UNIT V

TERMINAL OBJECTIVE

After completion of this unit, the student should be able to name factors which determine the costs of meats, discuss factors to remember when purchasing meats, and name reasons for varying costs of meats. The student should be able to list rules to remember in keeping meats wholesome, identify necessary information on meat labels, and calculate costs of meats. This knowledge will be evidenced by scoring eighty-five percent on the unit test.

SPECIFIC OBJECTIVES

After completion of this unit, the student should be able to:

1. Match the amount of meat to purchase per serving according to cut.
2. Name seven factors which determine the cost of meat.
3. List six hidden costs of meats.
4. Discuss factors to remember when shopping for meats.
5. Select the percentage of the total food budget which is usually allocated for meat.
6. Name five reasons why the cost of meats vary.
7. Select factors which usually mean lower cost of meats.
8. List six factors which determine the consumer's selection of meat.
9. Discuss precautions to remember when purchasing fish and poultry.
10. List four rules to follow in keeping meat products wholesome.
11. Discuss in writing correct methods of caring for meats after purchase.
12. Identify information which meat and poultry labels must have.
13. Demonstrate the ability to compare the cost of meat on the basis of cost per serving and nutrients provided.

MEAT PURCHASING
UNIT V

SUGGESTED ACTIVITIES

I. Instructor:

A. Provide students with objective sheet.

B. Provide students with information and assignment sheets.

C. Make transparencies.

D. Discuss terminal and specific objectives.

E. Discuss information and assignment sheets.

F. Provide opportunity to visit grocery store or to see newspaper grocery advertisements.

G. Direct discussion of student's responses on Assignment Sheet #2.

H. Give test.

II. Student:

A. Read objectives.

B. Study information sheet.

C. Complete assignment sheets.

D. Take test.

INSTRUCTIONAL MATERIALS

I. Included in this unit:

A. Objectives

B. Information sheet

C. Transparency masters

1. TM 1--How to Read a Label

2. TM 2--Parts of Label

D. Assignment sheets

1. Assignment Sheet #1--Expensive and Less Expensive Cuts

2. Assignment Sheet #2--Meats for Women with Dual Roles

E. Test

F. Answers to test

II. References:

A. Cronan, Marion L. and June C. Atwood. *Foods in Homemaking.* Peoria, Illinois: Charles A. Bennett Company, Inc., 1965.

B. Medved, Eva. *The World of Food.* Lexington, Massachusetts: Ginn and Company, 1970.

C. McDermott, Irene E., Mabel B. Trilling, and Florence Williams Nicholas. *Food for Modern Living.* Philadelphia: J. G. Lippincott Company, 1967.

D. Barclay, Marion S., Frances Champion, Jeanne Hayden Brinkley, and Kathleen W. Funderburk. *Teen Guide to Homemaking.* New York: Webster Division, McGraw-Hill Book Company, 1972.

E. White, Ruth Bennett. *Food and Your Future.* Englewood Cliffs, New Jersey: Prentice Hall, Inc., 1972.

F. U.S. Department of Agriculture. *Meat and Poultry, Labeled For You*, Home and Garden Bulletin No. 172. For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington, D.C. 20402. Price ten cents.

MEAT PURCHASING
UNIT V

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INFORMATION SHEET

I. Amount of meat to purchase per serving

A. 3-4 ounces of boneless meat (ground meat)

B. 6-8 ounces of meat with medium amounts of bone (chicken)

C. 8-16 ounces of meat with much bone or gristle (spare ribs)

(NOTE: Examples of each of these types are in parenthesis.)

II. Factors which determine costs of meats

A. Grade

B. Cut

C. Age

D. Method of processing

(NOTE: Processed meats cost more than many fresh meats.)

E. Amount of fat and bone

F. Kind of meat, fish, or poultry

G. Supply and demand (personal preference)

III. Hidden costs of meats

A. Fuel

B. Preparation time

C. Cooking method

D. Serving method

E. Transportation

(NOTE: Distance from market.)

F. Packaging

INFORMATION SHEET

IV. Factors to remember when shopping for meats

A. Consider cuts and grades of meat

B. Study advertisements before doing weekly shopping

C. Make a systematic shopping list

D. Make purchase at the best prices

E. Home storage facilities

F. Time available for cooking

G. Family preference

V. Percentage of total food budget allocated for meat--at least 25 percent

(NOTE: This is a national average varying with locale and socio-economic level.)

VI. Reasons for varying costs of meats

A. Economic condition of our country

B. Locality

C. Season

D. Store in which meat is purchased

E. Supply and demand

VII. Lower cost of meats

A. Lower grade

B. Less tender cuts

(NOTE: Usually red meats and shellfish cost more per pound than other kinds of meats. Variety meats such as liver, heart, and kidney are usually lower in price than other meats.)

VIII. Factors which determine the consumer's selection of meat

A. Quality

B. Intended use

C. Time available for preparation

INFORMATION SHEET

D. Cost

E. Personal preference

F. Availability

IX. Precautions in buying fish and poultry

A. Whole fryers may be less expensive per pound than the cut up sections

B. When buying fish, buy from a reliable source

C. Be sure the fish has been kept under refrigeration or on ice

D. Buy poultry which has been properly refrigerated

E. Select fish and poultry according to purpose for use

F. Buy according to the number of people to be served

X. Rules to follow in keeping meat products wholesome

A. Do not buy broken packages or dented cans

B. Select frozen items just before leaving the store and get them home quickly

C. Carefully follow storage and cooking instructions

D. Make sure products to be served warm are thoroughly heated before serving

XI. Caring for meats after purchase

A. Fresh meat

1. Cover lightly with waxed paper or aluminum foil

2. Store in very cold part of refrigerator

B. Cured meats require refrigeration

C. Canned meats

1. Less than 1 1/2 pound canned hams need a cool, dry storage place

2. Over 1 1/2 pound canned hams have not been completely sterilized and require refrigeration

INFORMATION SHEET

D. Frozen meats are stored at freezing temperatures to keep solidly frozen

(NOTE: Do not refreeze thawed meat and consult labels on all meats.)

XII. Necessary information on meat and poultry product labels (Transparency 1 and 2)

A. An accurate name and description of the product

(NOTE: If there is an ingredient which traditionally is not expected to be found in the product, it must be shown as part of the product name.)

B. A picture which accurately represents the product, if one is used

C. A list of ingredients beginning with the item weighing the most, and continuing to the item weighing the least

D. The net weight of the contents, not including the packaging

E. Storage or cooking instructions when necessary

F. The packer's or distributor's name and address, and whether the company named is the packer or the distributor

G. The round mark of inspection

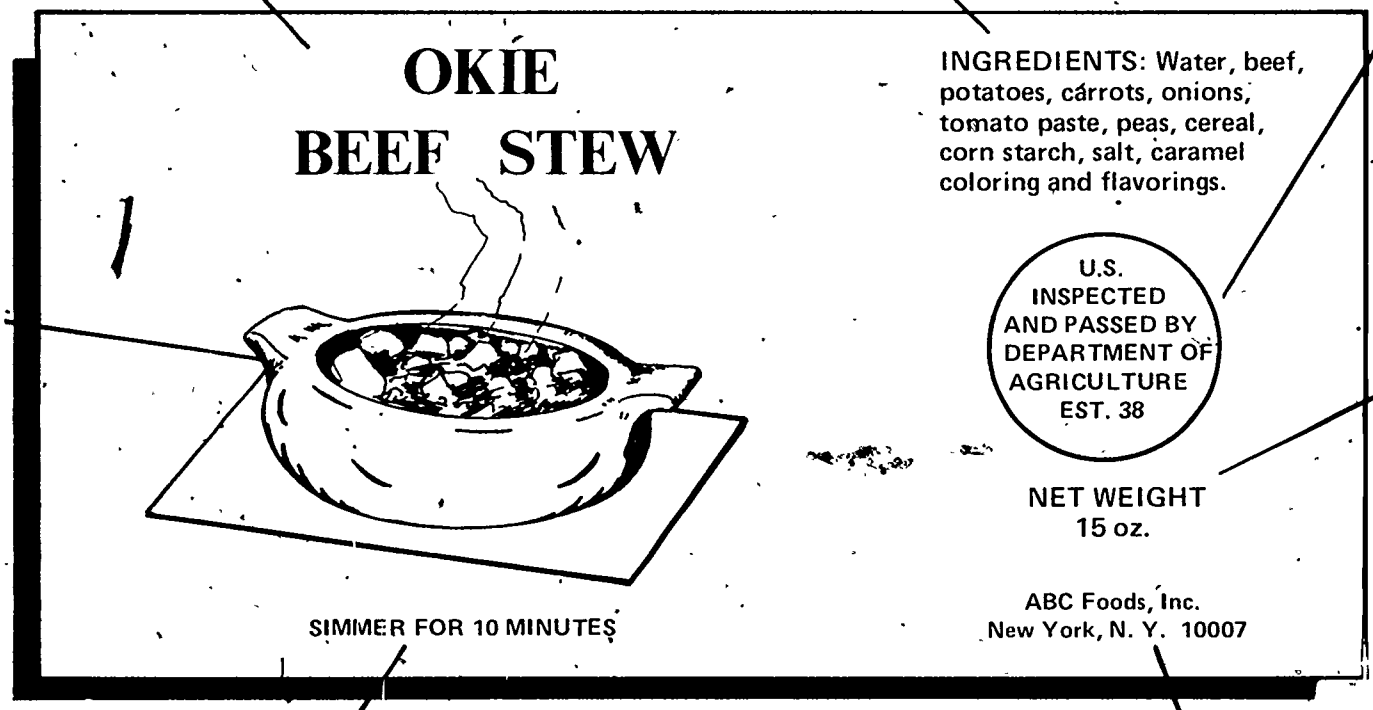
(NOTE: If the product is imported, the name of the country of origin must be on the label. All imported products must be inspected for wholesomeness.)

How to Read a Label

The label of every Federally inspected meat or poultry product must have . . .

- An accurate name and description of the product. If there is an ingredient which traditionally is not expected to be found in the product, it must be shown as part of the product name.
- A picture which accurately represents the product, if one is used.
- A list of ingredients beginning with the item weighing the most, and continuing to the item weighing the least.
- The net weight of the contents, not including the packaging.
- Storage or cooking instructions when necessary.
- The packer's or distributor's name and address, and whether the company named is the packer or the distributor.
- The round mark of inspection. If the product in imported, the name of the country of origin must be on the label. All imported products must be inspected for wholesomeness.

Parts of Label



Name and Description of the Product

List of Ingredients

Round Mark of Inspection

Product Picture

Net Weight

Storage or Cooking Instructions

Packer's or Distributor's Name and Address

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MEAT PURCHASING
UNIT V

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ASSIGNMENT SHEET #1--EXPENSIVE AND LESS EXPENSIVE CUTS

1. By visiting a local grocery store or by comparing prices listed in the newspaper advertisements, determine the prices of the following meats per pound or per unit.

	*PRICE PER POUND	OUNCES NEEDED PER SERVING	COST PER SERVING
a. Sirloin steak			
b. Spare ribs			
c. Pork loin chops			
d. Ground beef			
e. Bacon			
f. Chicken			
g. Fish sticks			
h. Liver			
i. Round steak			
j. Shrimp			
k. Tuna			
l. Turkey			

*(NOTE: Answers will depend upon current prices.)

2. How many ounces of each of these meats should you buy per serving? Calculate the cost per serving of each of the above meats by dividing the price per pound by the number of servings you can get from one pound.

Example: Sausage is boneless meat; therefore, you need about four ounces per serving. There are 16 ounces in one pound, so you can get four servings from one pound of sausage. If sausage costs 89 cents per pound:

$$4\overline{)89} = .22 \text{ per serving}$$

8
9
8
1

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ASSIGNMENT SHEET #1

3. Write a short paragraph comparing the costs of meats with the nutrients which are provided in the meat. Use previous information learned and available textbooks to determine the nutrients provided. Response to this question will be evaluated to the satisfaction of the instructor.

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MEAT PURCHASING
UNIT V

ASSIGNMENT SHEET #2--MEATS FOR WOMEN WITH DUAL ROLES

Considering the hidden costs of meats, which meats would you, in a dual role of homemaker and career woman, be most likely to prepare for the following meals. Use prices from Assignment Sheet #1, and/or compare prices of meats at a grocery store or in newspaper advertisements. Be prepared to state reasons for your selection in class.

1. Week-day lunch
2. Sunday dinner
3. Week-day evening meal
4. Sack lunch
5. Unexpected company

MEAT PURCHASING
UNIT V

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TEST

1. Match the amount of meat to purchase per serving on the right to the cut on the left.

_____	a. Medium amount of bone	1.	3-4 ounces
_____	b. Much bone or gristle	2.	6-8 ounces
_____	c. Boneless meat	3.	8-16 ounces

2. Name seven factors which determine the cost of meat.

   a.

   b.

   c.

   d.

   e.

   f.

   g.

3. List six hidden costs of meats.

   a.

   b.

   c.

   d.

   e.

   f.

4. Discuss in a short paragraph some factors to remember when shopping for meats.

5. Place an "X" in the space to the left of the percentage of the total food budget which is usually allocated for meat.

_____a. 10 percent

_____b. 15 percent

_____c. 25 percent

_____d. 50 percent

6. Name five reasons why the cost of meats vary.

a.

b.

c.

d.

e.

7. Place an "X" in the space to the left of the factors which usually mean lower costs of meats.

_____a. Less tender cuts

_____b. More tender cuts

_____c. Lower grade

_____d. Higher grade

8. List six factors which determine the consumer's selection of meat.

a.

b.

c.

d.

e.

f.

9. Discuss in a short paragraph some of the precautions to remember when purchasing fish and poultry.

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10. List four rules to follow in keeping meat products wholesome.

a.

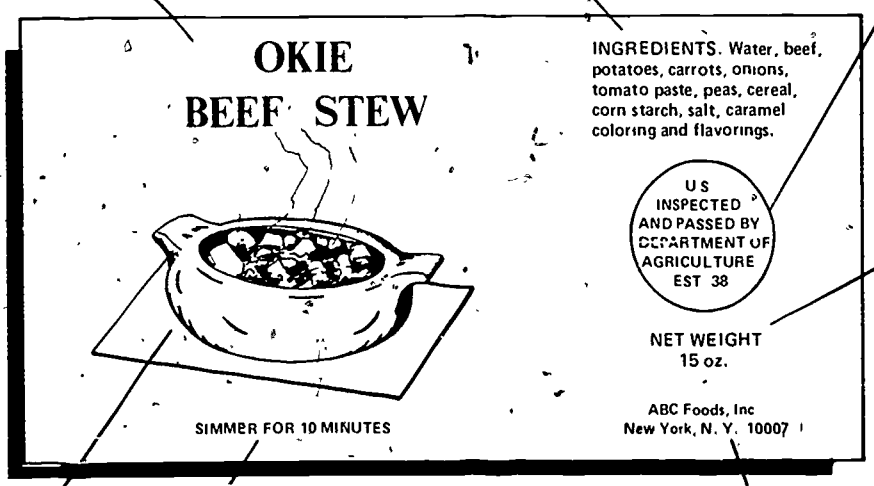
b.

c.

d.

11. Discuss in a short paragraph some of the correct methods of caring for meats after purchase.

12. Identify information which meat and poultry labels must have.



a. _____ d. _____ e. _____ f. _____ g. _____ c. _____ b. _____

13. Demonstrate the ability to compare the cost of meat on the basis of cost per serving and nutrients provided.

(NOTE: If this has not been accomplished prior to the test, ask the instructor when the above activity should be completed.)

MEAT PURCHASING
UNIT V

ANSWERS TO TEST

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1. a. 2
   b. 3
   c. 1
2. a. Grade
   b. Cut
   c. Age
   d. Method of processing
   e. Amount of fat and bone
   f. Kind of meat, fish, or poultry
   g. Supply and demand
3. a. Fuel
   b. Preparation time
   c. Cooking method
   d. Serving method
   e. Transportation
   f. Packaging
4. Some items which should be included are:
   a. Consider cuts and grades of meat
   b. Study advertisements before doing weekly shopping
   c. Make a systematic shopping list
   d. Make purchase at the best prices
   e. Home storage facilities
   f. Time available for cooking
   g. Family preference

5. c

6. a. Economic condition of our country

   b. Locality

   c. Season

   d. Store in which meat is purchased

   e. Supply and demand

7. a

   c

8. a. Quality

   b. Intended use

   c. Time available for preparation

   d. Cost

   e. Personal preference

   f. Availability

9. Some items which should be included are:

   a. Whole fryers may be less expensive per pound than the cut up sections

   b. When buying fish, buy from a reliable source

   c. Be sure fish have been kept under refrigeration or on ice

   d. Buy poultry which has been properly refrigerated

   e. Select fish and poultry according to purpose for use

   f. Buy according to the number of people to be served

10. a. Do not buy broken packages or dented cans

    b. Select frozen items just before leaving the store and get them home quickly

    c. Carefully follow storage and cooking instructions

    d. Make sure products to be served warm are thoroughly heated before serving

11. Some items which should be included are:

    a. Fresh meat

        1) Cover lightly with wax paper or aluminum foil

        2) Store in very cold part of refrigerator

    b. Cured meats require refrigeration

    c. Canned meats

        1) Less than 1 1/2 pound canned hams need a cool, dry storage place

        2) Over 1 1/2 pound canned hams have not been completely sterilized and require refrigeration

    d. Frozen meats are stored at freezing temperatures to keep solidly frozed

12. a. Accurate name and description of the product

    b. Picture which accurately represents the product, if one is used

    c. A list of ingredients beginning with the item weighing the most, and continuing to the item weighing the least

    d. Net weight of the contents, not including the packaging

    e. Storage or cooking instructions when necessary

    f. Packer's or distributor's name and address, and whether the company named is the packer or distributor

    g. Round mark of inspection

13. Performance skills will be evaluated to the satisfaction of the instructor.

MEAT PREPARATION
UNIT VI

TERMINAL OBJECTIVE

After completion of this unit, the student should be able to describe changes which occur during cooking of meat, write rules to remember in cooking meats and list basic methods of meat cookery. The student should be able to prepare meats, test meats for doneness, and draw conclusions by comparing results of preparing different varieties of meats and meats prepared by different methods. This knowledge will be evidenced by scoring eighty-five percent on the unit test.

SPECIFIC OBJECTIVES

After completion of this unit, the student should be able to:

1. Match terms associated with meat preparation to the correct definition.
2. Discuss the purposes of cooking meat.
3. Describe changes which occur during proper cooking of meat.
4. Discuss the reasons for using low temperatures in meat cookery.
5. Name types of cuts which are prepared by dry and moist heat cookery.
6. List factors which determine cooking method to be used.
7. Write four rules to remember in cooking meats.
8. List six basic methods of meat cookery.
9. Select factors which determine cooking time.
10. Name three methods for testing doneness of meat.
11. Match cuts of meats to methods of cookery.
12. Draw conclusions by comparing results of preparing two or more differently priced varieties of ground beef.
13. Formulate reasons for using low temperatures rather than high temperatures in preparing meats.
14. Draw conclusions by comparing meat patties which have been prepared by different methods for flavor, appearance and size.

MEAT PREPARATION
UNIT VI

SUGGESTED ACTIVITIES

I. Instructor:

A. Provide students with objective sheet.

B. Provide students with information sheet.

C. Provide students with assignment and job sheets.

D. Make transparencies.

E. Discuss terminal and specific objectives.

F. Discuss information sheet.

G. Discuss assignment and job sheets.

H. Divide the class into six groups and allow each group to prepare meats using one of the six basic methods of meat cookery.

I. Complete the tasks shown on the job sheets as demonstrations and allow the students to complete the evaluations.

J. Lead discussion of completed assignment sheets.

K. Give test.

II. Student:

A. Read objectives.

B. Study information sheet.

C. Complete assignment sheet.

D. Complete evaluation of job sheets after demonstration.

E. Prepare meat by using one of the six basic methods of meat cookery.

F. Take test.

INSTRUCTIONAL MATERIALS

I. Included in this unit:

A. Objectives

B. Information sheet

C. Transparency masters

1. TM 1--Changes Which Occur During Cooking
2. TM 2--Rules to Remember in Cooking Meats
3. TM 3--Basic Methods of Meat Cookery

D. Assignment Sheet #1--Cuts Suitable for Cooking Methods

E. Job Sheets

1. Job Sheet #1--Compare Grades of Meat
2. Job Sheet #2--Comparison of Cooking Methods
3. Job Sheet #3--Comparison of Cooking Temperatures

F. Test

G. Answers to test

II. References

A. McDermott, Irene E., Mabel B. Trilling, and Florence Williams Nicholas. *Food for Modern Living*. Philadelphia: J. B. Lippincott Company, 1967.

B. Barclay, Marion S., Frances Champion, Jeanne Hayden Brinkley, and Kathleen W. Funderburk. *Teen Guide to Homemaking*. New York: Webster Division, McGraw-Hill Book Company, 1972.

C. White, Ruth Bennett. *Food and Your Future*. Englewood Cliffs, New Jersey: Prentice Hall, Inc., 1972.

D. Medved, Eva. *The World of Food*. Lexington, Massachusetts: Ginn and Company, 1970.

E. Shank, Dorothy E., Natalie K. Fitch, Pauline A. Chapman, and Mary Suzanne Sickler. *Guide to Modern Meals*. St. Louis, Missouri: Webster Division, McGraw-Hill Book Company, 1970.

MEAT PREPARATION
UNIT VI

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INFORMATION SHEET

I. Terms and definitions

A. Roasting--Cooking food uncovered by dry heat, usually in an oven

B. Broiling--Cooking by direct heat over coals or under an open flame or electric unit

C. Panbroiling--Cooking uncovered in a fry pan, the fat is poured off as it accumulates

D. Frying--Cooking meat in a small amount of fat in an uncovered skillet

E. Braising--Browning meat in a small amount of fat, then cooking slowly in a covered utensil

F. Cooking in liquid--Covering with water and cooking at a simmering temperature in a covered pan

II. Purposes of cooking meat

A. To produce the most delectable dish possible from the kind of meat chosen

B. To produce meat which is tender in texture, juicy, of fine aroma, of good color, and best of all, flavorsome when ready to eat

III. Changes which occur during proper cooking of meat (Transparency 1)

A. Loss of moisture

B. Change in color

C. Fat melts

D. Protein coagulates

E. Meat becomes more tender

(NOTE: These changes improve flavor of meat and also make it more digestible. Cooking also destroys harmful bacteria.)

IV. Reasons for using low temperatures in meat cookery

A. Meat yields more servings per pound, thus costing less

B. Meat is juicier, more tender and more flavorsome

INFORMATION SHEET

C. Fewer nutrients lost in drippings

D. Less spatter resulting in easier clean-up

(NOTE: Low temperature cooking requires a longer period of time.)

V. Types of cuts and method of cooking used

A. Dry heat

1. Higher grade meat and tender cut
2. Tenderized lower grades and tougher cuts
3. Young poultry
4. Fish

B. Moist heat

1. Lower grade meats
2. Less tender cuts

(NOTE: Purpose of cooking meat with moist heat is to soften the connective tissue and release the collagen from the gristle.)

VI. Factors which determine cooking method to be used

A. Kind of meat

B. Cut and its size

C. Tenderness of meat

D. Time available for cooking

E. Degree of doneness preferred

F. Cooking facilities

VII. Rules to remember in cooking meats (Transparency 2)

A. Use low temperatures

B. Regardless of method, cook meat with great care, for it is an expensive food.

C. Make use of the bones by simmering them for soup; save fat drippings to use in gravies and sauces and as seasonings

D. Use seasonings and herbs to add interest, but cautiously, so as not to smother the meat flavor

INFORMATION SHEET

VIII. Basic methods of meat cookery (Transparency 3)

A. Dry heat

1. Roasting
2. Broiling
3. Panbroiling
4. Frying

B. Moist heat

1. Braising
2. Cooking in liquid

IX. Factors which determine cooking time

A. Cooking temperature

B. Size and shape of cut

C. Quality and grade

D. Degree of doneness desired

(NOTE: Meat is usually prepared to the stage of being rare, medium or well done. Time is approximate when given in minutes per pound. A meat thermometer is a sure way of knowing that you allow the right amount of time. Place thermometer in the thickest part of roast, away from bone or fat.)

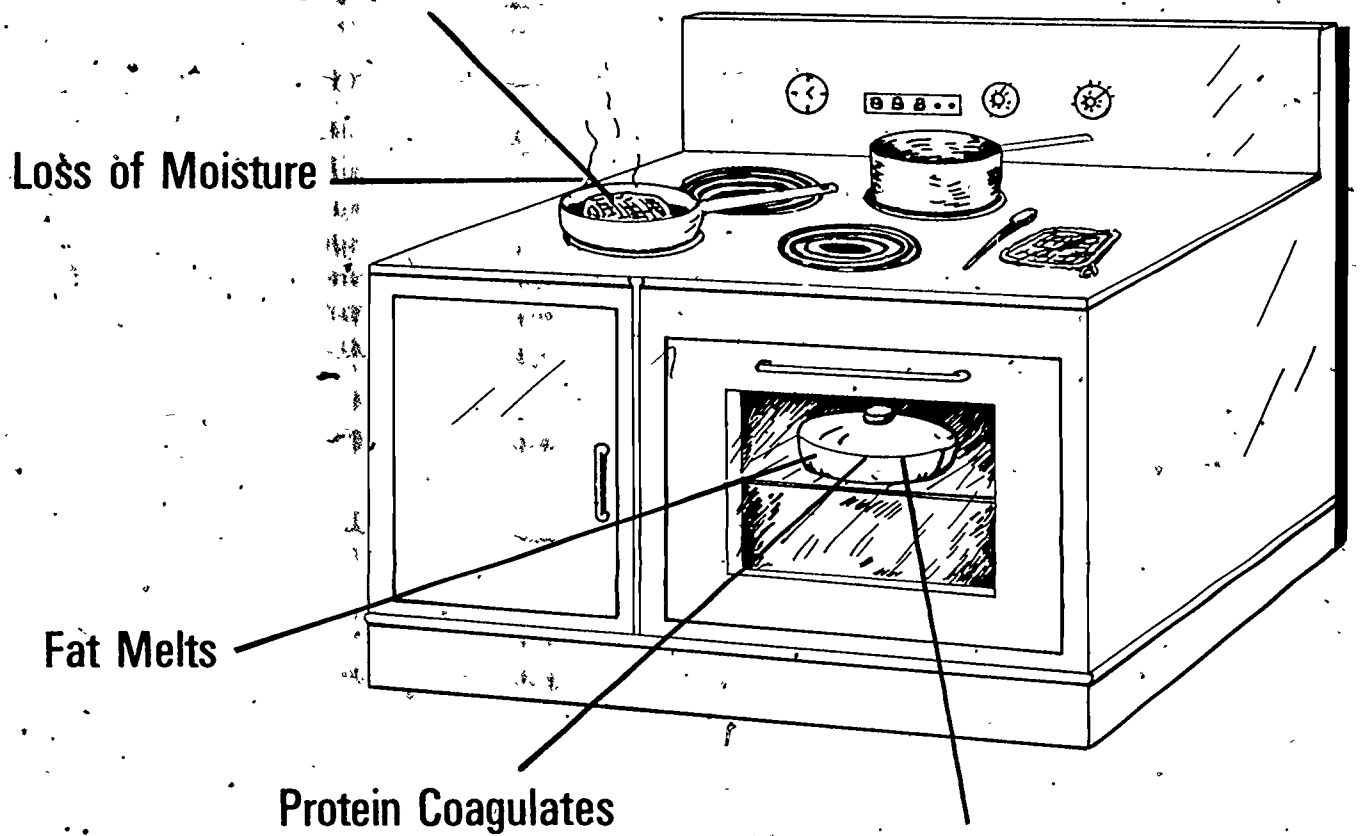
X. Tests for doneness of meat

A. Roast meats--use a roast meat thermometer

B. Broiled meats--cut a small slit in the meat and note the color and degree of doneness inside

C. Braised and water cooked meats--pierce the meat with a sharp-tined fork

Changes Which Occur During Cooking



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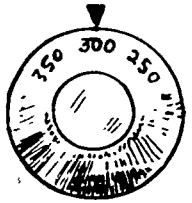
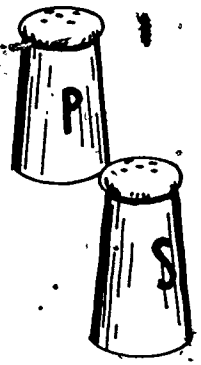
Rules to Remember in Cooking Meats

1. Use Low Temperatures



2. Cook Meat with Great Care

3. Make Use of Bones and Drippings



4. Use Seasonings to Add Interest - Do Not Smother Meat Flavor

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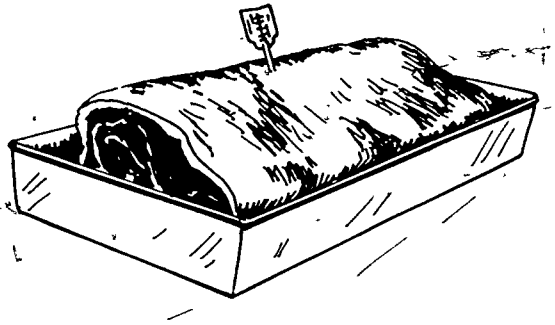
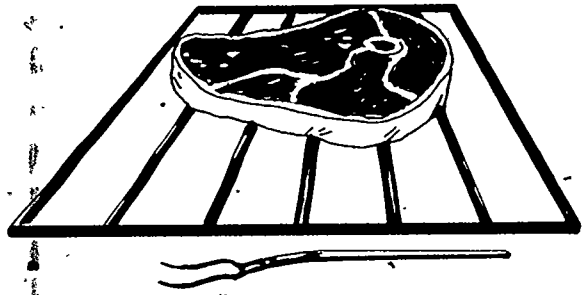
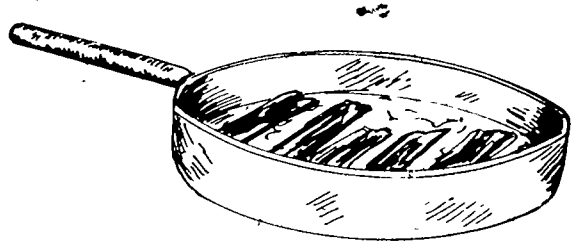
Basic Methods of Meat Cookery



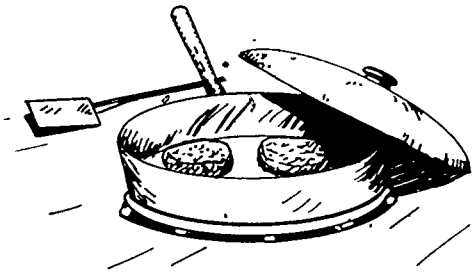
Roasting

Broiling



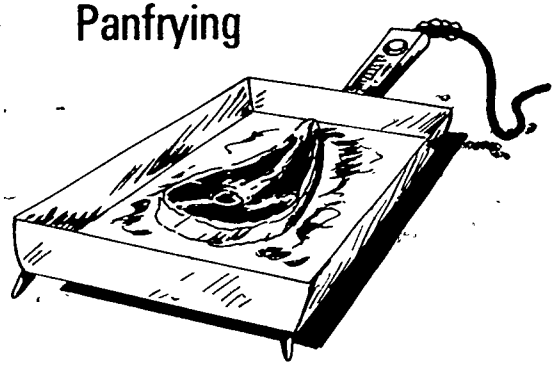


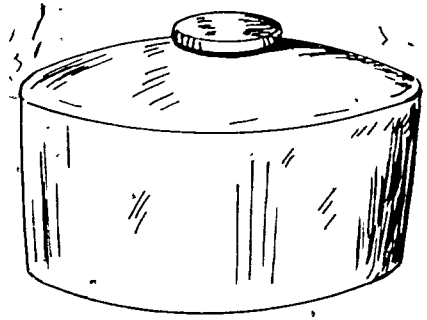
Panbroiling



Braising

Panfrying





Cooking in Liquid

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TM 3

H.E. II - 139-E

MEAT PREPARATION
UNIT VI

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ASSIGNMENT SHEET #1--CUTS SUITABLE FOR COOKING METHODS

*Using text books and available resource materials, suggest at least four retail cuts of meat which are suitable for each of the following cooking methods.

I. Broil
A.
B.
C.
D.

II. Panbroil
E.
F.
G.
H.

III. Roast
I.
J.
K.
L.

IV. Frying
M.
N.
O.
P.

V. Braising
Q.
R.
S.
T.

VI. Cooking in liquid
U.
V.
W.
X.

VII. How can the family have nutritious meals while using low grades and less expensive cuts of meats?

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ASSIGNMENT SHEET #1

VIII. How can the meat be cooked to make it tasty and appetizing?

*(NOTE: This assignment sheet is to be evaluated to the satisfaction of the instructor.)

MEAT PREPARATION
UNIT VI

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JOB SHEET #1--COMPARE GRADES OF MEAT

I. Equipment and supplies needed

A. Two skillets which are same type and size

B. Two glass measuring cups

C. Kitchen scales

(NOTE: Scales located in the science department may be used.)

D. Range

E. Spatula

F. Two plates

G. Ground beef--four ounces

H. Ground chuck--four ounces

(NOTE: If more than two grades of ground beef are available, they may be used with the same instructions.)

II. Procedure

A. Make one patty from each of the two grades of ground beef

B. Using the scales, weigh each patty to be sure they are the same weight

C. Preheat two skillets to the same temperature or range setting

D. Place one patty in each skillet

E. Cook until done, turning with spatula as needed

(NOTE: Both patties should be cooked the same amount of time.)

F. Pour fat and drippings from each skillet into measuring cups

G. Weigh each meat patty

H. Place each meat patty with its drippings and weight results on plate

JOB SHEET #1

III. Evaluation

A. What differences did you observe between the meat patties?

B. What conclusions can you draw from this experiment?

MEAT PREPARATION
UNIT VI

JOB SHEET #2--COMPARISON OF COOKING METHODS

I. Equipment and supplies needed

A. Two skillets

B. Range

C. Broiler pan for range

D. Spatula

E. Three plates

F. Twelve ounces of ground beef

G. Small amount of fat

II. Procedure

A. Make three four-ounce patties from the ground beef

B. Preheat skillets and broiler to desired temperatures

C. Place small amount of fat in one skillet

D. Place one patty in skillet with fat

E. Place one patty in empty skillet

F. Place one patty on broiler pan

G. Cook until done, turning with spatula as needed

H. Place one patty on each of three plates

I. Label each patty according to cooking method used

1. Frying

2. Broiling

3. Panbroiling

JOB SHEET #2

III. Evaluation

A. Compare the meat patties for

1. Flavor
2. Appearance
3. Size

B. Contrast the meat patties for

1. Flavor
2. Appearance
3. Size

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MEAT PREPARATION
UNIT VI

JOB SHEET #3--COMPARISON OF COOKING TEMPERATURES

I. Equipment and supplies needed

A. Two skillets which are same type and size

B. Two glass measuring cups

C. Kitchen scales

D Range

E Spatula

F. Two plates

G. Eight ounces of ground beef

II. Procedure

A. Make two patties from the ground beef

B. Weigh each patty to be sure they are the same weight

C. Preheat one skillet to a low to moderate temperature or range setting

D. Preheat other skillet to a high temperature or range setting

(NOTE: Be careful not to scorch skillet.)

E. Place one patty in each skillet

F. Cook until done, turning with spatula as needed

(NOTE: Patty cooked at high temperature should be done earlier than other patty.)

G. Pour fat and drippings from each skillet into measuring cups

H. Weigh each meat patty

I. Place each meat patty with its drippings and weight results on plate

JOB SHEET #3

III. Evaluation

A. Compare the two meat patties for

1. Weight
2. Size
3. Tenderness
4. Moisture

B. Which method do you recommend? Why?

MEAT PREPARATION
UNIT VI

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TEST

1. Match the terms on the right to the correct definition.

_____a. Cooking by direct heat over coals or under an open flame or electric unit	1.	Braising
_____b. Cooking meat in a small amount of fat in an uncovered skillet	2.	Panbroiling
_____c. Browning meat in a small amount of fat, then cooking slowly in a covered utensil	3.	Roasting
_____d. Covering with water and cooking at a simmering temperature in a covered pan	4.	Broiling
_____e. Cooking food uncovered by dry heat, usually in an oven	5.	Cooking in liquid
_____f. Cooking uncovered in a fry pan, the fat is poured off as it accumulates	6.	Frying

2. Discuss in a short paragraph the purposes of cooking meat.

3. Describe in a short paragraph the changes which occur during proper cooking of meat.

4. Discuss the reasons of using low temperatures in meat cookery.

5. Name types of cuts which are prepared by dry and moist heat cookery.

   a. Moist heat--

   b. Dry heat--

6. List at least four factors which determine the cooking method to be used when preparing meat.

   a.

   b.

   c.

   d.

7. Write four rules to remember in cooking meats.

   a.

   b.

   c.

   d.

8. List six basic methods of meat cookery

   a.

   b.

   c.

   d.

   e.

   f.

9. Place an "X" in the space to the left of each factor which determines cooking time of meats.

   _____a. Degree of doneness desired

   _____b. Size and shape of cut

   _____c. Nutrient content

   _____d. Cooking temperature

   _____e. Spices added

_____f. Quality and grade

_____g. Type of heat applied

10. Name three methods for testing doneness of meats.

a.

b.

c.

11. Match cuts of meat to methods of cookery.

12. Draw conclusions by comparing results of preparing two or more differently priced varieties of ground beef.

13. Formulate reasons for using low temperatures rather than high temperatures in preparing meats.

14. Draw conclusions by comparing meat patties which have been prepared by different methods for flavor, appearance, and size.

(NOTE: If this has not been accomplished prior to the test, ask the instructor when the above activities (11 through 14) should be completed.)

MEAT PREPARATION
UNIT VI

ANSWERS TO TEST

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1. a. 4
   b. 6
   c. 1
   d. 5
   e. 3
   f. 2

2. Some items which should be included are:
   a. To produce the most delectable dish possible from the kind of meat chosen
   b. To produce meat which is tender in texture, juicy, of fine aroma, of good color, and best of all, flavorsome when ready to eat

3. Some items which should be included are:
   a. Loss of moisture
   b. Change in color
   c. Fat melts
   d. Protein coagulates
   e. Meat becomes more tender

4. Some items which should be included are:
   a. Meat yields more servings per pound, thus costing less
   b. Meat is juicier, more tender and more flavorsome
   c. Fewer nutrients lost in drippings
   d. Less spatter resulting in easier clean-up

5. a. Lower grade and less tender cuts
   b. Higher grade and tender cuts, and tenderized lower grades and tougher cuts as will a young poultry and fish

6. Any four of the following:

   a. Kind of meat

   b. Cut and its size

   c. Tenderness of meat

   d. Time available for cooking

   e. Degree of doneness preferred

   f. Cooking facilities

7. a. Use low temperatures

   b. Regardless of method, cook meat with great care, for it is an expensive food

   c. Make use of the bones by simmering them for soup; save fat drippings to use in gravies and sauces and as seasonings

   d. Use seasonings and herbs to add interest, but cautiously, so as not to smother the meat flavor

8. a. Roasting

   b. Broiling

   c. Panbroiling

   d. Frying

   e. Braising

   f. Cooking in liquid

9. a

   b

   d

   f

10. a. Roast meats--use a roast meat thermometer

    b. Broiled meats-cut a small slit in the meat and note the color of doneness inside

    c. Braised and water cooked meats-pierce the meat with a sharp- tined fork

11. Evaluated to the satisfaction of the instructor.

12. Evaluated to the satisfaction of the instructor.

13. Evaluated to the satisfaction of the instructor.

14. Evaluated to the satisfaction of the instructor.

YEAST BREADS
UNIT VII

TERMINAL OBJECTIVE

After completion of this unit, the student should be able to discuss characteristics of flour, food value of yeast breads, and purposes of kneading yeast bread. The student should be able to describe the functions of the ingredients, list steps in breadmaking and keys to success in making yeast bread, and demonstrate the ability to make bread. This knowledge will be evidenced by demonstration and by scoring eighty-five percent on the unit test.

SPECIFIC OBJECTIVES

After completion of this unit, the student should be able to:

1. Match terms associated with yeast breads to the correct definition.
2. Describe characteristics of four types of flour.
3. List the function(s) of the basic ingredients in yeast breads.
4. Select from a list keys to success in making yeast breads.
5. Name the nutrients found in yeast breads.
6. List six basic breadmaking steps.
7. Discuss the purposes of kneading yeast breads.
8. Demonstrate the ability to:
   a. Make yeast bread.
   b. Evaluate yeast bread.

YEAST BREADS
UNIT VII

SUGGESTED ACTIVITIES

I. Instructor:

A. Provide students with objective sheet.

B. Provide students with information sheet.

C. Provide students with assignment and job sheets.

D. Make transparencies.

E. Discuss terminal and specific objectives.

F. Discuss information sheet.

G. Discuss assignment and job sheets.

H. Demonstrate flour making by grinding clean wheat in a blender. Substitute one cup of this flour for one cup of all purpose flour in yeast bread recipe to demonstrate making yeast bread.

I. Demonstrate kneading and shaping the loaf of bread.

J. Divide class into pairs of students for using job sheet.

K. Assist students with evaluation of finished loaf of bread.

L. Give test.

II. Student:

A. Read objectives.

B. Study information sheet.

C. Complete assignment and job sheets.

D. Take test.

INSTRUCTIONAL MATERIALS

I. Provided in this unit:

A. Objectives

B. Information sheet

C. Transparency masters

1. TM 1--Basic Ingredients
2. TM 2--Keys to Success
3. TM 3--Basic Breadmaking Steps

D. Assignment Sheet #1--Rate Your Bread or Rolls

E. Job Sheet #1--Prepare Rolls or Loaf of White Bread Using Coolrise Method

F. Test

G. Answers to test

II. References:

A. McDermott, Irene E., Mabel B. Trilling, and Florence Williams Nicholas. *Food for Modern Living*. Philadelphia: J. B. Lippincott, Company, 1967.

B. Shank, Dorothy E., Natalie K. Fitch, Pauline A. Chapman, and Mary Suzanne Sickler. *Guide to Modern Meals*. St. Louis, Missouri: Webster Division: McGraw-Hill Book Company, 1970.

C. White, Ruth Bennett. *Food and Your Future*. Englewood Cliffs, New Jersey: Prentice Hall, Inc., 1972.

D. Robin Hood Flour and Fleischman's Yeast. *Coolrise Yeast Baking, The Rapid Mix Way*. International Milling, 1968.

E. McDermott, Irene E. and Florence Williams Nicholas. *Homemaking for Teenagers*. Peoria, Illinois: Charles A. Bennett Company, Inc., 1962.

YEAST BREADS
UNIT VII

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INFORMATION SHEET

I. Terms and definitions

A. Gluten--An elastic protein substance in flour which gives the dough body

B. Yeast--A tiny plant, when placed in warm surroundings with suitable food, carries on its life processes

C. Kneading--Process of working dough with the hands on a board until it looks smooth and satiny and has little bubbles of carbon dioxide showing under the surface

D. Fermentation--Process of placing dough in a warm place for a while until it increases in size

(NOTE: Dough may almost double in size.)

II. Characteristics of different flours

A. Whole wheat

1. Retains all the nutrients of whole grain wheat
2. Nutty flavor
3. Coarse texture
4. Dark color
5. High in gluten
6. Used primarily for breads

B. All-purpose

1. A blend of hard and soft wheat white flours
2. Used for any purpose
3. High in gluten

C. Cake

1. Made from soft wheat
2. Low in gluten

INFORMATION SHEET

3. Very fine texture

4. Less nourishing than other flours

5. Usually more expensive than other flours

6. Used in pastry

D. Self-rising

1. All purpose flour

2. Salt and baking powder are added

3. May require specific recipes

4. Used for all purposes where indicated on recipe

III. Functions of basic ingredients (Transparency 1)

A. Flour

1. Provides gluten

2. Provides starch

(NOTE: Gluten and starch swell in the presence of liquid to give structure and volume to bread.)

B. Liquid

1. Essential for starch to swell

2. Essential for gluten to develop

(NOTE: Depending upon liquid used, nutrient value and flavor may be changed.)

C. Salt

1. Enhances flavor

2. Delays the growth of yeast plants in yeast breads

D. Yeast--Produces carbon dioxide gas which is held in the meshlike structure developed by the gluten

(NOTE: Bread dough needs a warm place in which to rise, so that the yeast may grow and leaven.)

INFORMATION SHEET

E. Fat

1. Gives tenderness.
2. Improves the flavor
3. Improves browning

(NOTE: Fat shortens the strands of gluten in the flour, coats the gluten strands, and prevents their holding together. Hence, the name shortening is appropriate.)

F. Egg

1. Improves flavor
2. Improves interior color
3. Develops tender texture and lightness
4. Improves browning
5. Supplements protein

G. Sugar

1. Provides food for the yeast
2. Retards the development of gluten
3. Improves browning
4. Improves flavor.

IV. Keys to success in making yeast breads (Transparency 2)

A. Understand the basic ingredients

(NOTE: This enables you to work with confidence.)

B. Use high quality ingredients suited to the purpose, but not necessarily the most expensive

C. Use only a tested recipe and follow it exactly in all basic ingredients, varying the flavoring to suit your individual taste

D. Measure each ingredient accurately and combine ingredients according to directions

INFORMATION SHEET

E. Use the correct equipment for making and baking the product

F. Preheat the oven and be sure that the temperature is accurate

G. Bake the bread only until it is done

V. Food value of yeast breads--Provides nutrients and energy

A. Protein

B. Carbohydrates

C. Vitamins

1. Thiamine

2. Riboflavin

3. Niacin

D. Iron

VI. Basic breadmaking steps (Transparency 3)

A. Mixing

B. Kneading

C. Fermenting (rising)

D. Shaping

E. Baking

F. Cooling

VII. Purposes of kneading

A. Gives the yeast a better opportunity to start growing and making carbon dioxide than does the mixing process

B. Makes the gluten become firmer and more elastic so the dough will withstand the considerable stretching it must undergo and still hold the gas that it formed slowly

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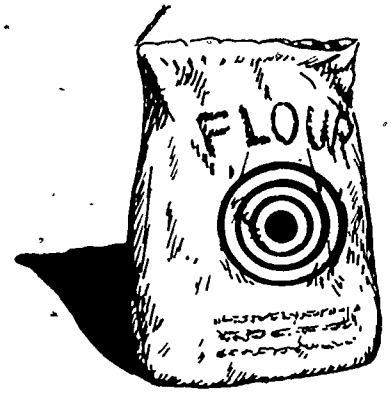
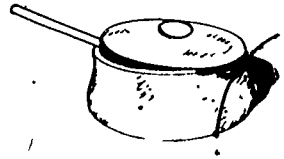
Basic Ingredients



Flour



Sugar

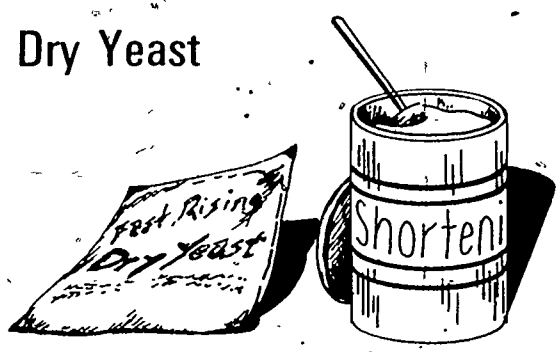
Salt

Fat

Milk

Egg

Active
Dry Yeast



TM 1

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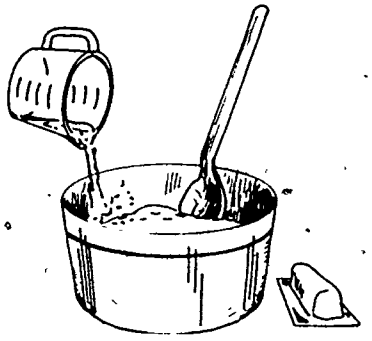
Keys to Success

- Understanding Ingredients
- Use Quality Ingredients
- Use Tested Recipe
- Measure Accurately

- Use Correct Equipment
- Preheat Oven
- Bake Until Done
- Serve Hot

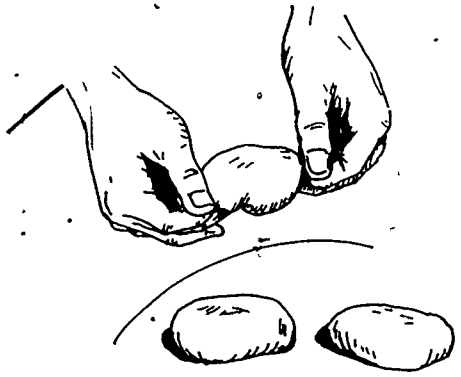
Basic Breadmaking Steps



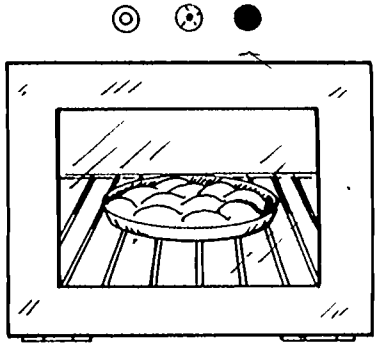
Mixing

Kneading

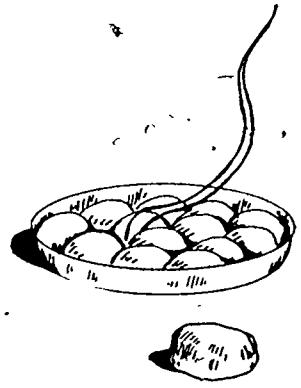
Fermenting



Shaping



Baking



Cooling

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H.E. II - 169-E

TM 3

YEAST BREADS
UNIT VII

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ASSIGNMENT SHEET #1--RATE YOUR BREAD OR ROLLS

Rate the characteristics of your rolls or loaf of white bread as follows:

Excellent 5 points

Good 3 points

Fair 1 point

Volume	Compare size to weight; bread should be light but not airy for its size	____
Shape	Well-rounded and symmetrical, an even, well-defined division between top and side	____
Crust	Smooth, even golden-brown; side crust slightly lighter than top	____
Crumb color	Uniform creamy-white, no dark or light streaks	____
Texture	Tender and soft, not crumbly or doughy	____
Grain	Uniform fine to medium-size cells, no large air bubbles	____
Flavor	Mild yeast flavor, delicate, pleasing	____
	My score	____
	Best possible score	35

YEAST BREADS
UNIT VII

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JOB SHEET #1--PREPARE ROLLS OR LOAF OF WHITE BREAD USING COOLRISE METHOD

I. Supplies

A. 5 1/2 - 6 1/2 cups flour

B. 2 packages dry yeast

C. 2 tablespoons sugar

D. 1 tablespoon salt*

E. 1/4 cup (1/2 stick) soft margarine

F. 2 1/4 cups very hot tap water

G. Cooking oil

II. Equipment

A. Measuring cups and spoons

B. Knife

C. Wax paper

D. Large bowl

E. Wooden spoon

F. Liquid measuring cup

G. Electric mixer

H. Rubber spatula

I. Floured board

J. Plastic wrap

K. Towel

L. Bread pan for loaf (8 1/2 x 4 1/2 x 2 5/8 inch for best results) or 8 or 9 inch square pan for rolls

*If self-rising flour is used, omit salt

JOB SHEET #1

M. Pastry brush

N. Oiled toothpick

O. Cooling rack

III. Procedure

A. Spoon flour into dry measuring cup

B. Level off with knife and pour measured flour onto wax paper

C. Combine two cups flour, undissolved yeast, sugar, and salt in large bowl; stir well to blend

D. Add soft margarine

E. Add hot tap water to ingredients in bowl all at once

F. Beat with electric mixer at medium speed for two minutes

G. Scrape sides of bowl occasionally

H. Add one cup flour

I. Beat with electric mixer at high speed for one minute or until thick and elastic; scrape sides of bowl occasionally

J. Stir in remaining flour gradually with wooden spoon; use just enough flour to make a soft dough which leaves sides of bowl

K. Turn out onto floured board

L. Round up into a ball

M. Divide dough into two equal portions (one portion per student)

N. Knead five to ten minutes or until dough is smooth and elastic

O. Cover with plastic wrap then a towel

P. Let rest for 15 to 20 minutes on board

Q. Punch down

R. Shape each portion into loaf or rolls

S. Place in greased pan

T. Brush surface of dough with oil

JOB SHEET #1

U. Cover pan loosely with oiled wax paper then plastic wrap

V. Refrigerate two to 48 hours at moderately cold setting

W. When ready to bake, remove from refrigerator

X. Uncover

Y. Let stand for ten minutes

Z. Preheat oven to 400 degrees

AA. Puncture any surface bubbles with oiled toothpick just before baking

BB. Bake for 35-40 minutes or until done

(NOTE: Bake on a lower oven rack position for best results.)

CC. Remove from pan immediately

DD. Brush top crust with margarine if desired

EE. Cool on rack

YEAST BREADS
UNIT VII

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TEST

1. Match the terms on the right to the correct definition.

_____a.	Process of working dough with the hands on a board until it looks smooth and satiny and has little bubbles of carbon dioxide showing under the surface	1. Fermentation 2. Yeast 3. Gluten 4. Kneading
_____b.	Process of placing dough in a warm place for a while until it increases in size	
_____c.	An elastic protein substance in flour which gives the dough body	
_____d.	A tiny plant, when placed in warm surroundings with suitable food, carries on its life processes	

2. Describe the characteristics of four types of flour.

   a. Whole wheat

   b. All-purpose

   c. Cake

   d. Self-rising

3. List the functions of the basic ingredients in yeast breads.

   a. Flour

   b. Liquid

   c. Salt

   d. Yeast

   e. Fat

   f. Egg

   g. Sugar

4. Select and place an "X" to the left of keys to success in making yeast breads.

_____a. Understand the basic ingredients

_____b. Use high quality ingredients suited to the purpose, but not necessarily the most expensive

_____c. Use only a tested recipe and follow it exactly in all basic ingredients, varying the flavoring to suit your individual taste

_____d. Measure each ingredient accurately and combine ingredients according to directions

_____e. Use the correct equipment for making and baking the product

_____f. Bake the bread only until it is done

_____g. Preheat the oven and be sure that the temperature is accurate

5. Name five nutrients found in yeast breads.

6. List six basic breadmaking steps.

a.

b.

c.

d.

e.

f.

7. Discuss the purposes of kneading yeast breads.

8. Demonstrate the ability to:

a. Make yeast bread.

b. Evaluate yeast bread.

(NOTE: If this has not been accomplished prior to the test, ask your instructor when the above activities should be completed.)

YEAST BREADS
UNIT VII

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ANSWERS TO TEST

1. a. 4
   b. 1
   c. 3
   d. 2

2. a. Whole wheat
      1) Retains all the nutrients of whole grain wheat
      2) Nutty flavor
      3) Coarse texture
      4) Dark color
      5) High in gluten
      6) Used primarily for breads

   b. All-purpose
      1) A blend of hard and soft wheat white flours
      2) Used for any purpose
      3) High in gluten

   c. Cake
      1) Made from soft wheat
      2) Low in gluten
      3) Very fine texture
      4) Less nourishing than other flours
      5) Usually more expensive than other flours
      6) Used in pastry

   d. Self-rising
      1) All purpose flour
      2) Salt and baking powder are added

3) May require specific recipes

4) Used for all purposes where indicated on recipe

3. a. Flour

1) Provides gluten

2) Provides starch

b. Liquid

1) Essential for starch to swell

2) Essential for gluten to develop

c. Salt

1) Enhances flavor

2) Delays the growth of yeast plants in yeast breads

d. Yeast--Produces carbon dioxide gas which is held in the meshlike structure developed by the gluten

e. Fat

1) Gives tenderness

2) Improves the flavor

3) Improves browning

f. Egg

1) Improves flavor

2) Improves interior color

3) Develops tender texture and lightness

4) Improves browning

5) Supplements protein

g. Sugar

1) Provides food for the yeast

2) Retards the development of gluten

3) Improves browning

4) Improves flavor

4. a

   b

   c

   d

   e

   f

   g

5. a. Protein

   b. Carbohydrates

   c. Vitamins

      1) Thiamine

      2) Riboflavin

      3) Niacin

   d. Iron

6. a. Mixing

   b. Kneading

   c. Fermenting (rising)

   d. Shaping

   e. Baking

   f. Cooling

7. a. Gives the yeast a better opportunity to start growing and making carbon dioxide than does the mixing process

   b. Makes the gluten become firmer and more elastic so the dough will withstand the considerable stretching it must undergo and still hold the gas that it formed slowly

8. Evaluated to the satisfaction of the instructor.

PASTRY
UNIT VIII

TERMINAL OBJECTIVE

After completion of this unit, the student should be able to select basic ingredients used in pastries, an appropriate temperature for baking pastry, and the type of flour most commonly used. The student should be able to list kinds of pastry and types of pie pans to use, discuss desirable characteristics, and prepare and evaluate pastry. This knowledge will be evidenced through demonstration and by scoring eighty-five percent on the unit test.

SPECIFIC OBJECTIVES

After completion of this unit, the student should be able to:

1. Match terms associated with pastries to the correct definition.
2. Select four basic ingredients used in plain pastry dough.
3. Write one general rule for making basic pastry.
4. Name three methods of cutting shortening into flour.
5. Select an appropriate temperature for baking pastry and describe two reasons for selection of this temperature.
6. List three types of pastry products.
7. Select the type of flour most commonly used in making pastry.
8. List appropriate types of pie pans to use when baking pastry.
9. Discuss desirable characteristics of pastry.
10. Match poor characteristics of pastry to their causes.
11. Compare the cost of purchasing and preparing an apple pie.
12. Demonstrate the ability to:
    a. Prepare pastry.
    b. Evaluate pastry.

PASTRY
UNIT VIII

SUGGESTED ACTIVITIES

I. Instructor:

A. Provide students with objective sheet.

B. Provide students with information sheet.

C. Provide students with assignment and job sheets.

D. Make transparencies.

E. Discuss terminal and specific objectives.

F. Discuss information sheet.

G. Discuss assignment and job sheets.

H. Give demonstration on making pastry.

I. Buy supplies necessary for pastry preparation.

J. Divide students into groups if preparation is to be done in groups.

(NOTE: This depends upon the teacher and each school's individual situation.)

K. Assist students with evaluation of finished product.

L. Make arrangements for field trip to grocery store to compare prices.

M. Give test.

II. Student:

A. Read objectives.

B. Study information sheet.

C. Complete assignment and job sheets.

D. Take test.

INSTRUCTIONAL MATERIALS

I. Included in this unit:

A. Objectives

B. Information sheet

C. Transparency masters

1. TM 1--Basic Ingredients

2. TM 2--Kinds of Pastry

D. Assignment sheets

1. Assignment Sheet #1--Compare Purchasing and Baking of Apple Pie

2. Assignment Sheet #2--Rate Your Pastry

E. Job Sheet #1--Prepare Apple Pie

F. Test

G. Answers to test

II. References:

A. McDermott, Irene E., Mabel B. Trilling, and Florence Williams Nicholas. *Food for Modern Living.* Philadelphia, Pennsylvania: J. B. Lippincott Company, 1967.

B. Shank, Dorothy E., Natalie K. Fitch, Pauline A. Chapman, and Mary Suzanne Sickler. *Guide to Modern Meals.* St. Louis, Missouri: Webster Division, McGraw-Hill Book Company, 1970.

C. General Mills. *"Easy As Pie" Pastry.*

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PASTRY
UNIT VIII

INFORMATION SHEET

I. Terms and definitions

A. Pastry--Another term for pie crust

B. Tarts--One or two crust pies which are individual servings

C. Turnovers--A filled pastry made by turning half of the crust over the other half

D. Flute--A standing rim around the edge of pie which provides attractiveness and prevents spillage

II. Basic ingredients (Transparency 1)

A. Flour

B. Fat

C. Salt

D. Water

III. General rule for making pastry--Use 1/3 cup of cold shortening per cup of flour

IV. Methods of cutting in shortening

A. Pastry blender

B. Two knives

C. Fork

V. Appropriate temperature for baking pastry

A. 400-425° F

B. Reasons

1. When baked at too low a temperature, the crust may shrink and lose shape

2. When baked at too high a temperature, the edges burn before the center of the shell is baked

INFORMATION SHEET

VI. Types of pastry (Transparency 2)

A. Pies

1. One crust

2. Two crust

B. Tarts

C. Turnovers

VII. Flour most commonly used in making pastry--All purpose flour

VIII. Appropriate pie pans to use

A. Glass

(NOTE: Use with low temperature.)

B. Enamel ware

C. Darkened

D. Aluminum with dull finish

(NOTE: Never use shiny pans, because they reflect the heat resulting in soggy, soaked undercrusts.)

IX. Desirable characteristics of pastry

A. Appearance

1. Golden brown color

2. Blistery surface

3. Uniform attractive edges

B. Tenderness

1. Cuts easily

2. Holds shape when served

C. Texture

1. Flakes layered throughout crust

2. Crisp eating

D. Flavor--Pleasant, bland flavor to enhance filling

INFORMATION SHEET

X. Poor characteristics and their causes

Poor Characteristics	Causes
A. Burned	1. Overbaked
B. Pale, dull color	2. Underbaked Wrong pan
C. Smooth, not blistery surface	3. Overhandled Too much flour when rolled
D. Uneven edge	4. Crust not rolled in even circle Not carefully shaped
E. Shrunken	5. Crust stretched when placed in pan
F. Large air bubbles	6. Not pricked well enough
G. Tough, rubbery	7. Too much liquid Overhandled
H. Too tender, falls apart	8. Undermixed Not enough liquid Too much shortening
I. Compact, doughy	9. Underbaked Too much liquid
J. Dry, mealy	10. Shortening cut in too finely Not enough liquid
K. Rancid	11. Poor quality shortening Overbaked
L. Raw	12. Underbaked

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Basic Ingredients

Fat

Water

Flour

Salt

TM 1

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Kinds of Pastry

Turnovers

Pies

Tarts

PASTRY
UNIT VIII

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ASSIGNMENT SHEET #1--COMPARE PURCHASING AND BAKING OF APPLE PIE

Determine the feasibility of purchasing pastries as compared to baking them by answering the following questions after visiting a grocery store for observation.

1. In how many different forms can apples be purchased? List.

2. What is the cost of each? (Give costs of amounts needed to prepare an apple pie.)

3. What is the approximate cost of the apple pie prepared in Job Sheet #1? (Costs of ingredients will need to be determined.)

4. What is the cost of a frozen apple pie? A bakery apple pie?

5. How do these prices compare to the cost of making your own pie?

6. What other comparisons can you make? (Examples are taste, appearance, size, etc.) Explain.

PASTRY
UNIT VIII

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ASSIGNMENT SHEET #2--RATE YOUR PASTRY

Rate the characteristics of your pastry as follows:

Excellent	5 points	
Good	3 points	
Fair	1 point	
Appearance	Golden brown color; blistery surface; uniform, attractive edges; fits pan well	____
Tenderness	Cuts easily with table knife or fork but holds shape when served	____
Texture	Flakes layered throughout crust; crisp eating	____
Flavor	Pleasant, bland flavor to enhance the filling	____
	My score	____
	Best possible score	20

PASTRY
UNIT VIII

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JOB SHEET #1--PREPARE APPLE PIE

I. Supplies

A. 1 1/2 cups flour

B. 3/4 teaspoon salt

C. 1/2 cup plus 2 tablespoons shortening

D. 3 tablespoons water

E. 4 to 5 cups sliced apples

F. 1/2 to 3/4 cup sugar

G. 3/4 teaspoon cinnamon

H. 1 tablespoon butter

II. Equipment

A. Eight inch pie pan

B. Mixing bowl

C. Pastry blender

D. Tablespoon

E. Measuring cups

F. Measuring spoons

G. Liquid measuring cup

H. Fork

I. Floured board

J. Rolling pin

III. Procedure

A. Stir 1 1/2 cups flour and 3/4 teaspoon salt together in mixing bowl

B. With pastry blender, cut in 1/2 cup plus 2 tablespoons shortening thoroughly

(NOTE: Particles should be size of tiny peas.)

C. Sprinkle 3 tablespoons water into flour, a tablespoon at a time

JOB SHEET #1

D. Mix lightly with a fork after each tablespoon of water until all flour is moistened

E. Mix dough thoroughly until it cleans the sides of the bowl

F. Gather the dough together with your hands and press firmly into a ball

(NOTE: If dough does not hold together, 1 to 2 teaspoons water may be added one at a time.)

G. Divide dough in half

H. Place half of dough on floured board

I. With rolling pin, roll from center edges in all directions

(NOTE: If edges begin to break, pinch together.)

J. Roll pastry until it is about 1 1/2 inch larger all around than inverted pie pan

K. Fold pastry in half

L. Transfer to pie pan

M. Unfold

N. To prevent stretching, ease pastry gently into pan and press toward center of pan with fingertips

(NOTE: Stretching causes shrinkage during baking.)

O. Combine sugar and cinnamon

P. Mix lightly with apples

Q. Pour into pastry lined pie pan

R. Dot with butter

S. Roll out top crust

T. Cut slits in top crust

U. Cover apples with top crust

V. Seal

W. Flute edge of pie

X. Bake 50 to 60 minutes at 425°

(NOTE: When done, crust should be nicely browned, apples cooked through.)

PASTRY
UNIT VIII

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TEST

1. Match the terms on the right to the correct definition.

_____a. One or two crust pies which are individual servings	1. Flute
_____b. A standing rim around the edge of pie which provides attractiveness and prevents spillage	2. Turnovers
_____c. Another term for pie crust	3. Tarts
_____d. A filled pastry made by turning half of the crust over the other half	4. Pastry

2. Select four basic ingredients used in plain pastry dough by placing an "X" to the left of the correct ingredient.

_____a. Baking powder

_____b. Salt

_____c. Milk

_____d. Fat

_____e. Sugar

_____f. Flour

_____g. Water

_____h. Vanilla

3. Write one general rule for making basic pastry.

4. Name three methods of cutting shortening into flour.

a.

b.

c.

5. In (a) select and place an "X" in front of the appropriate temperature for baking pastry from the list below and (b) describe two reasons for selection of this temperature.

a. _____1) 325-350° F

_____2) 375-400° F

_____3) 400-425° F

_____4) 450-500° F

b. 1)

2)

6. List three types of pastry.

a.

b.

c.

7. Select and place an "X" in front of the type of flour most commonly used in making pastry.

_____a. Whole wheat

_____b. Self-rising

_____c. All-purpose

8. List four appropriate types of pie pans to use when baking pastry.

a.

b.

c.

d.

9. Discuss desirable characteristics of pastry.

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10. Match the poor characteristics of pastry on the right to their causes on the left. The characteristics may be used more than once.

_____a. Too much shortening	1. Pale, dull color
_____b. Too much flour when rolled	2. Rancid
_____c. Underbaked	3. Compact, doughy
_____d. Poor quality shortening	4. Tough, rubbery
_____e. Not carefully shaped	5. Raw
_____f. Overbaked	6. Burned
_____g. Wrong pan	7. Too tender, falls apart
_____h. Crust stretched when placed in pan	8. Uneven edge
_____i. Too much liquid	9. Smooth, not blistery surface
_____j. Overhandled	10. Shrunken

11. Compare the cost of purchasing and preparing an apple pie.

12. Demonstrate the ability to:

a. Prepare pastry.

b. Evaluate pastry.

(NOTE: If this has not been accomplished prior to the test, ask your instructor when the above activities should be completed.)

PASTRY
UNIT VIII

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ANSWERS TO TEST

1. a. 3
   b. 1
   c. 4
   d. 2

2. b
   d
   f
   g

3. Use 1/3 cup of cold shortening per cup of flour

4. a. Pastry blender
   b. Two knives
   c. Fork

5. a. 3)
   b. 1) When baked at too low a temperature, the crust may shrink and lose shape
      2) When baked at too high a temperature, the edges burn before the center of the shell is baked

6. a. Pies
   b. Tarts
   c. Turnovers

7. c

8. a. Glass
   b. Enamel ware
   c. Darkened
   d. Aluminum with dull finish

9. Discussion should include:

   a. Appearance

      1) Golden brown color

      2) Blistery surface

      3) Uniform attractive edges

   b. Tenderness

      1) Cuts easily

      2) Holds shape when served

   c. Texture

      1) Flakes layered throughout crust

      2) Crisp eating

   d. Flavor--Pleasant, bland flavor to enhance filling

10. a. 7

    b. 9

    c. 1, 3, 5

    d. 2

    e. 8

    f. 2, 6

    g. 1

    h. 10

    i. 3, 4

    j. 4, 9

11. and 12. Evaluated to the satisfaction of the instructor.

SELECTION OF HOUSING AND HOME FURNISHINGS
UNIT I

TERMINAL OBJECTIVE

After completion of this unit, the student should be able to match stages of the family life cycle to their values, name factors to consider in planning a home, and name the advantages and disadvantages of leasing and owning a home. The student should be able to distinguish between flexible and fixed expenses, name basic pieces of furniture and their uses, and determine the feasibility of leasing or purchasing a home when given a family situation. This knowledge will be evidenced by scoring eighty-five percent on the unit test.

SPECIFIC OBJECTIVES

After completion of this unit, the student should be able to:

1. Match terms associated with selection of housing and home furnishings to the correct definition.
2. Match stages of the family life cycle to the values which are important to each.
3. Name six factors to consider in planning a home.
4. Name two advantages and disadvantages of leasing a home.
5. Name two advantages and disadvantages of owning a home.
6. Name two sources to use in locating a home for purchase.
7. Name three questions to ask prior to purchasing a home.
8. Distinguish between flexible and fixed expenses.
9. Name the four basic pieces of furniture needed by man.
10. Select three basic uses of home furnishings from a list of alternatives.
11. Collect information concerning leasing and purchasing of a home from various media and from this information determine the feasibility of leasing versus purchasing when given a family situation.

SELECTION OF HOUSING AND HOME FURNISHINGS
UNIT I

SUGGESTED ACTIVITIES

I. Instructor:

A. Provide students with objective sheet.

B. Provide students with information and assignment sheets.

C. Make transparencies.

D. Discuss terminal and specific objectives.

E. Discuss information and assignment sheets.

F. Assist students in collecting information about leasing and purchasing a home in the community.

G. Give test.

II. Student:

A. Read objectives.

B. Study information sheet.

C. Complete assignment sheet.

D. Take test.

INSTRUCTIONAL MATERIALS

I. Included in this unit:

A. Objectives

B. Information sheet

C. Transparency masters

1. TM 1--Stages of the Family Life Cycle
2. TM 2--Factors to Consider in Planning a Home
3. TM 3--Basic Pieces of Furniture

D. Assignment Sheet #1--Collect Information Concerning Leasing and Purchasing

E. Test

F. Answers to test

II. References:

A. Craig, Hazel Thompson. *Homes with Character*. Lexington, Massachusetts: D. C. Heath and Company, 1970.

B. Morton, Ruth. *The Home: Its Furnishings and Equipment*. New York: Webster Division, McGraw-Hill Book Company, 1970.

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SELECTION OF HOUSING AND HOME FURNISHINGS
UNIT I

INFORMATION SHEET

I. Terms and definitions

A. Value--A combination of an individual's ideals, attitudes, goals, and tastes

B. Physical mobility--Moving from one place to another

C. Social mobility--Striving to improve social status

(NOTE: Physical mobility frequently accompanies social mobility.)

D. Fixed expenses--Expenditures that vary little from month to month or year to year

E. Flexible expenses--Expenditures that vary greatly over a period of time

F. Equity--The money value of a property or of an interest in a property in excess of claims against it

II. Stages of the family life cycle and the values which are important to each (Transparency 1)

A. Newlyweds--Economy

B. Beginning family

1. Health
2. Safety
3. Comfort

(NOTE: This is a period when friendships and personal interests are also important, although there may be very little time left for these values.)

C. Expanding family

1. Health of children
2. Safety
3. Friendships
4. Beauty
5. Privacy
6. Location

INFORMATION SHEET

D. Launching family

1. Privacy
2. Personal interests
3. Friendships
4. Beauty
5. Location

E. Later years

1. Health
2. Economy
3. Comfort
4. Friendships
5. Personal interests

III. Factors to consider in planning a home (Transparency 2)

A. Finance

B. Environment

C. Family size

D. Personal preference

(NOTE: Personal preferences may change as maturation takes place.)

E. Family mobility

F. Handicaps

IV. Advantages and disadvantages of leasing a home

A. Advantages

1. No down payment needed
2. Temporary location (Greater mobility)
3. Do not have to pay property tax or insurance on home
4. Free of many responsibilities in maintaining the house

INFORMATION SHEET

B. Disadvantages

1. Not accumulating an equity in the home
2. Major alterations cannot be made to the home
3. Renters may not have feeling of independence in regard to housing

V. Advantages and disadvantages of owning a home

A. Advantages

1. Gives feeling of security
2. Gives feeling of independence
3. Equity in the home is accumulated
4. Regular payments sometimes lower than rent costs
5. May have more available space (inside and outside)
6. May be altered to fit personal desires

B. Disadvantages

1. Have responsibility for maintaining the home
2. Less free to move
3. Will have to pay extra costs such as insurance and property taxes

VI. Sources to use in locating a home for purchase

A. Realtors

B. Newspaper advertising

C. Word of mouth

VII. Questions to ask prior to purchasing a home

A. What is the cost of the home?

B. How large is the down payment?

C. What is the total cost of insurance and taxes?

D. How large are the monthly payments?

INFORMATION SHEET

E. What percent of interest will have to be paid?

F. What is the age of the house and appliances?

G. What is the zoning code of the area?

H. What are legal aspects of the contracts?

VIII. Flexible and fixed expenses

A. Flexible

1. Food
2. Clothing
3. New furnishings
4. Health expenses
5. Education
6. Car expenses
7. Recreation
8. Charitable gifts
9. Personal expenses
10. House maintenance and miscellaneous expenses

B. Fixed

1. Housing
   a. Rent
   b. Home--Mortgage payments
   c. Taxes
   d. Insurance
2. Car payments
3. Interest on borrowed money
4. Public utility bills
5. Transportation related to employment
6. Church and club contributions

INFORMATION SHEET

IX. Basic pieces of furniture needed by man (Transparency 3)

- A. Place to lie down--A bed
- B. Place to sit down--A chair
- C. Place in which to store belongings--A chest
- D. Surface on which to eat or work--A table

X. Basic uses of home furnishings

- A. To provide security
- B. To provide comfort
- C. To encourage personal growth
  1. Stimulate study
  2. Encourage creativity
  3. Perpetuate cultural interests
- D. To provide esthetic value
- E. To provide personal satisfaction

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Stages of the Family Life Cycle

TM 1

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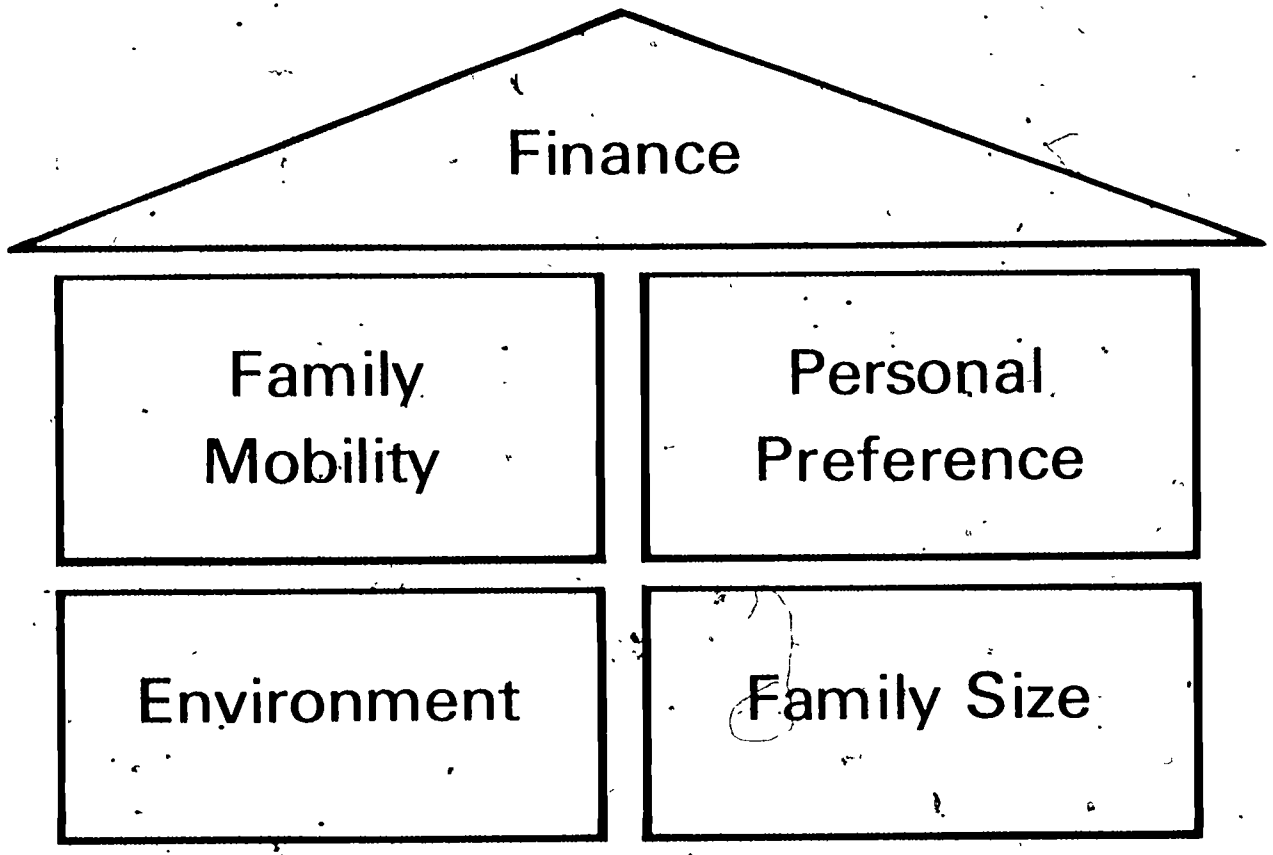
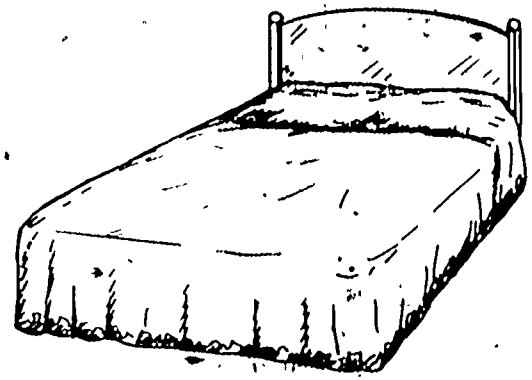
Factors to Consider in Planning a Home



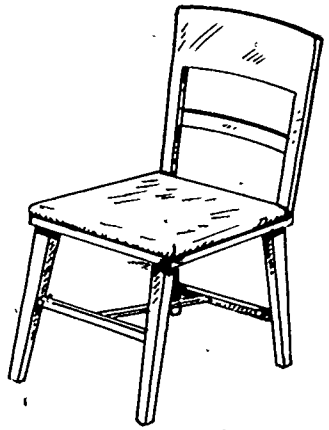
ERIC

Basic Pieces of Furniture

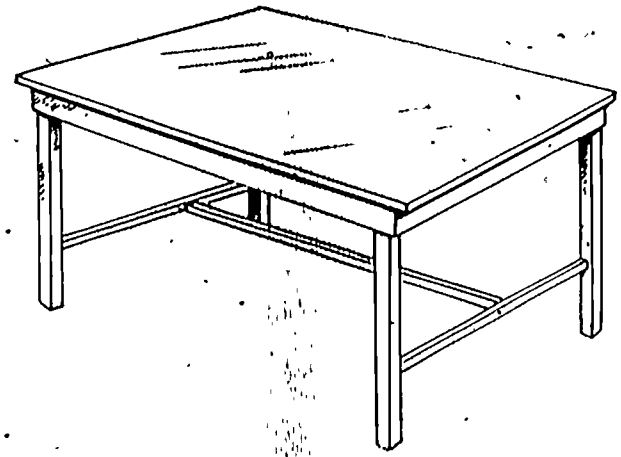


Bed

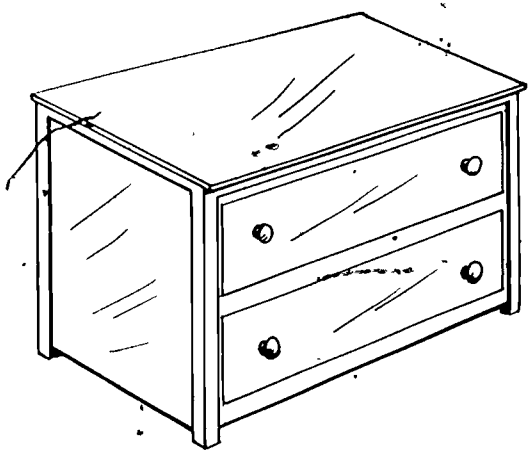
Chair



Table



Chest



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TM 3

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SELECTION OF HOUSING AND HOME FURNISHINGS
UNIT I

ASSIGNMENT SHEET #1--COLLECT INFORMATION CONCERNING LEASING AND PURCHASING

Collect information concerning leasing and purchasing of a home from various media such as newspaper advertising and realtors. Assume that you and your spouse must find a new place of residence and have an annual income of $8,000. Would it be more feasible at this time and in your community for you to lease or purchase a home? Why?

SELECTION OF HOUSING AND HOME FURNISHINGS
UNIT I

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TEST

1. Match the following terms to the correct definitions.

_____a.	A combination of an individuals's ideals, attitudes, goals, and tastes	1.	Fixed expenses.
_____b.	Expenditures that vary greatly over a period of time	2.	Physical mobility
_____c.	Expenditures that vary little from month to month or year to year	3.	Value
_____d.	Moving from one place to another	4.	Social mobility
_____e.	The money value of a property or of an interest in a property in excess of claims against it	5.	Equity
_____f.	Striving to improve social status	6.	Flexible expenses

2. Match the stages of the family life cycle to the values which are important to each. More than one stage may be used for each answer.

_____a.	Privacy	1.	Newlyweds
_____b.	Economy	2.	Beginning family
_____c.	Friendships	3.	Expanding family
_____d.	Comfort	4.	Launching family
_____e.	Beauty	5.	Later years

3. Name six factors to consider in planning a home.

a.

b.

c.

d.

e.

f.

4. Name two advantages and two disadvantages of leasing a home

   a. Advantages

      1.

      2.

   b. Disadvantages

      1.

      2.

5. Name two advantages and two disadvantages of owning a home.

   a. Advantages

      1.

      2.

   b. Disadvantages

      1.

      2.

6. Name two sources to use in locating a home for purchase.

   a.

   b.

7. Name three questions to ask prior to purchasing a home.

   a.

   b.

   c.

8. Distinguish between the following flexible expenses and fixed expenses by placing an "X" to the left of the flexible and an "O" to the left of the fixed.

   _____a. Recreation

   _____b. Clothing

   _____c. Rent

   _____d. Education

   _____e. Taxes

   _____f. Car payments

_____g. Public utility bills

_____h. Food

_____i. New furnishings

_____j. Church and club contributions

9. Name the four basic pieces of furniture needed by man.

a.

b.

c.

d.

10. Select and place an "X" to the left of three basic uses of home furnishings.

_____a. To provide comfort

_____b. To encourage personal growth

_____c. To indicate success

_____d. To present a favorable impression

_____e. To provide security

_____f. To indicate value

11. Collect information concerning leasing and purchasing of a home from various media and from this information determine the feasibility of leasing versus purchasing when given a family situation.

(NOTE: If this has not been accomplished prior to the test, ask your instructor when the above activity should be completed.)

SELECTION OF HOUSING AND HOME FURNISHINGS
UNIT I

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ANSWERS TO TEST

1. a. 3
   b. 6
   c. 1
   d. 2
   e. 5
   f. 4
2. a. 3, 4
   b. 1, 5
   c. 3, 4, 5
   d. 2, 5
   e. 3, 4
3. a. Finance
   b. Environment
   c. Family size
   d. Personal preference
   e. Family mobility
   f. Handicaps
4. a. Any two of the following:
      1. No down payment needed
      2. Temporary location (Greater mobility)
      3. Do not have to pay property tax or insurance on home
      4. Free of many responsibilities in maintaining the house

b. Any two of the following:

1. Not accumulating an equity in the home
2. Major alterations cannot be made to the home
3. Renters may not have feeling of independence in regard to housing

5. a. Any two of the following:

1. Gives feeling of security
2. Gives feeling of independence
3. Equity in the home is accumulated
4. Regular payments sometimes lower than rent costs
5. May have more available space (inside and outside)
6. May be altered to fit personal desires

b. Any two of the following:

1. Have responsibility for maintaining the home
2. Less free to move
3. Will have to pay extra costs such as insurance and property taxes

6. Any two of the following:

a. Realtors
b. Newspaper advertising
c. Word of mouth

7. Any three of the following:

a. What is the cost of the home?
b. How large is the down payment?
c. What is the total cost of insurance and taxes?
d. How large are the monthly payments?
e. What percent of interest will have to be paid?
f. What is the age of the house and appliances?
g. What is the zoning code of the area?
h. What are legal aspects of the contracts?

8. a. X
   b. X
   c. O
   d. X
   e. O
   f. O
   g. O
   h. X
   i. X
   j. O

9. a. Bed
   b. Chair
   c. Chest
   d. Table

10. a
    b
    e

11. Evaluated to the satisfaction of the instructor.

ROOM ARRANGEMENT
UNIT II

TERMINAL OBJECTIVE

After completion of this unit, the student should be able to name elements and principles of design, list guidelines in furniture arrangement, and identify basic arrangements of kitchens. The student should be able to identify kinds of lighting, discuss lighting needs and draw a simple house plan including furniture. This knowledge will be evidenced by scoring eighty-five percent on the unit test.

SPECIFIC OBJECTIVES

After completion of this unit, the student should be able to:

1. Match terms associated with room arrangement to the correct definition.
2. Name the elements of design.
3. Name five principles of design.
4. Discuss line in relation to the elements and principles of design.
5. List guidelines which can be used in arrangement of furniture.
6. Name the three kitchen appliances which form the work triangle.
7. Identify four basic arrangements of kitchens used to accommodate the work triangle.
8. Name three main areas of kitchens.
9. Identify five kinds of lighting.
10. Name three basic functions of artificial lighting.
11. Discuss lighting needs for various parts of the home.
12. Draw to scale a simple floor plan of a house including arrangement of furniture.

ROOM ARRANGEMENT
UNIT II

SUGGESTED ACTIVITIES

I. Instructor:

A. Provide students with objective sheet.

B. Provide students with information and assignment sheets.

C. Make transparencies.

D. Discuss terminal and specific objectives.

E. Discuss information and assignment sheets.

F. Assist students in drawing to scale a houseplan including furniture.

G. Give test.

II. Student:

A. Read objectives.

B. Study information sheet.

C. Complete each assignment sheet.

D. Take test.

INSTRUCTIONAL MATERIALS

I. Included in this unit:

A. Objectives

B. Information sheet

C. Transparency masters

1. TM 1--Balance
2. TM 2--Proportion
3. TM 3--Rhythm
4. TM 4--Emphasis

5. TM 5--Harmony
6. TM 6--Use of Vertical, Horizontal and Curved Lines
7. TM 7--Work Triangle
8. TM 8--Four Basic Kitchen Layouts
9. TM 9--Main Areas of Kitchens
10. TM 10--Types of Distribution of Light

D. Assignment sheets

1. Assignment Sheet #1--Determine Utensils in Kitchen Areas
2. Assignment Sheet #2--Draw a Houseplan with Furniture

E. Answers to assignment sheets

F. Test

G. Answers to test

II. References:

A. Craig, Hazel Thompson. *Homes With Character*. Lexington, Massachusetts: D.C. Heath and Company, 1970.

B. Morton, Ruth. *The Home: Its Furnishings and Equipment*. New York: Webster Division, McGraw-Hill Book Company, 1970.

C. Alexander, Mary Jean. *Designing Interior Environment*. New York: Harcourt Brace Jovanovich, Inc., 1972.

ROOM ARRANGEMENT
UNIT II

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INFORMATION SHEET

I. Terms and definitions

A. Line--Establishes direction and is symbolic of mood and important in conveying illusions of height or breadth

B. Form--The shape that objects take

C. Texture--Smooth or rough, shiny or dull, soft or hard

D. Structural line--Actual lines that result from the construction or building of something

E. Decorative line--Applied or superimposed lines that result from the placement of trim and ornamentation

F. Design principles--Time tested laws that help us to achieve pleasing effects in home furnishings, landscaping, or selecting clothes

G. Elements of design--Components an artist or a decorator uses to create something interesting or attractive

H. Balance--Equal distribution of weight on each side of a center point

I. Proportion--Pleasing space relationships

J. Rhythm--The art principle which is used to carry the eye from one area to another without abrupt interruptions

K. Emphasis--The principle which creates a center of interest

L. Harmony--Colors, lines, and shapes are related so that a feeling of unity prevails

M. Work triangle--Triangle connecting range, refrigerator, and sink which is used for determining maximum efficiency in kitchen planning

II. Elements of design

A. Line

B. Form

C. Texture

D. Color

INFORMATION SHEET

III. Principles of design (Transparencies 1, 2, 3, 4, and 5)

A. Balance

1. Even

2. Uneven

B. Proportion

C. Rhythm

D. Emphasis

E. Harmony

IV. Line in relation to elements and principles of design (Transparency 6)

A. Vertical

1. Points toward the sky

2. Seems to convey an impression of dignity, discipline, and strength

B. Horizontal

1. Down to earth

2. Suggests serenity, repose, and relaxation

C. Diagonal

1. Seems to disturb the dignity of vertical lines and the tranquility of horizontal lines

2. Breaks the monotony of vertical and horizontal lines

D. Curved

1. Graceful

2. Suggests youth, gaiety, and subtle motion

V. Guidelines for the arrangement of furniture

A. Study the room to be decorated from all angles

(NOTE: Try to visualize its strong points and its weak points.)

B. Buy furniture that will be in scale with the room

(NOTE: Measuring the room and the furniture will help.)

INFORMATION SHEET

C. Place large pieces first

(NOTE: Such pieces are sofas, beds, and chests. Chairs may be placed diagonally; however, large items are seldom placed diagonally.)

D. Balance large pieces on walls facing structural features such as windows, a fireplace, or on a wall opposite other large pieces

E. Use area rugs in a large room or a dining area for a furniture grouping

F. Use room dividers to separate areas in a large room

(NOTE: Such pieces are shelves, cabinets, or planters.)

G. Arrange chairs and sofas for conversation groups so that chairs must not always be moved

H. Plan traffic lanes that are necessary for movement from room to room and area to area

I. Avoid overcrowding

VI. Kitchen appliances which form the work triangle (Transparency 7)

A. Range

B. Sink

C. Refrigerator

VII. Basic arrangements of kitchens (Transparency 8)

A. One wall

(NOTE: Sometimes called panel type)

B. Two wall

(NOTE: Sometimes called corridor type)

C. U-shaped

(NOTE: Sometimes called three wall type)

D. L-shaped

(NOTE: Sometimes called corner type)

(NOTE These four basic arrangements or layouts may be used to accommodate the work triangle. There are further modifications and variations of these basic arrangements.)

INFORMATION SHEET

VIII. Three main areas of kitchens (Transparency 9)

A. Sink and mixing area

(NOTE: This is where most food preparation and dishwashing take place.)

B. Range and cooking area

C. Serving area

(NOTE: This is the area from which food is placed in dishes and carried to the table.)

IX. Kinds of lighting (Transparency 10)

A. Direct

B. Semi-direct

C. General diffuse

(NOTE: Sometimes called direct-indirect)

D. Semi-indirect

E. Indirect

X. Basic functions of artificial lighting

A. General illumination

(NOTE: This provides a uniform level of illumination in an area.)

B. Task lighting

(NOTE: Task lighting illuminates relatively small areas.)

C. Accent lighting

(NOTE: Accent lighting focuses interest in a space by directing illumination onto it.)

XI. Lighting needs for various parts of the home

A. Entrance area--Well lighted

(NOTE. Entrance areas should always be well lighted to avoid accidents and as a security measure. Small exterior fixtures can give a feeling of welcome to guests, but they are not adequate for safety.)

INFORMATION SHEET

B. Hall

1. General lighting that is adequate for comfortable viewing
2. Special lighting for any mirrors

C. Stairway--Direct, glare-free light

(NOTE: This type of lighting is needed so that the steps can be readily distinguished.)

D. Living room and family room--General lighting

E. Bedroom--Different lighting requirements are needed for different members of the family

F. Kitchen--General lighting

(NOTE: General lighting should provide diffuse overall illumination to reduce the contrast between task lighting and background.)

G. Bathroom

1. General lighting
2. Task lighting

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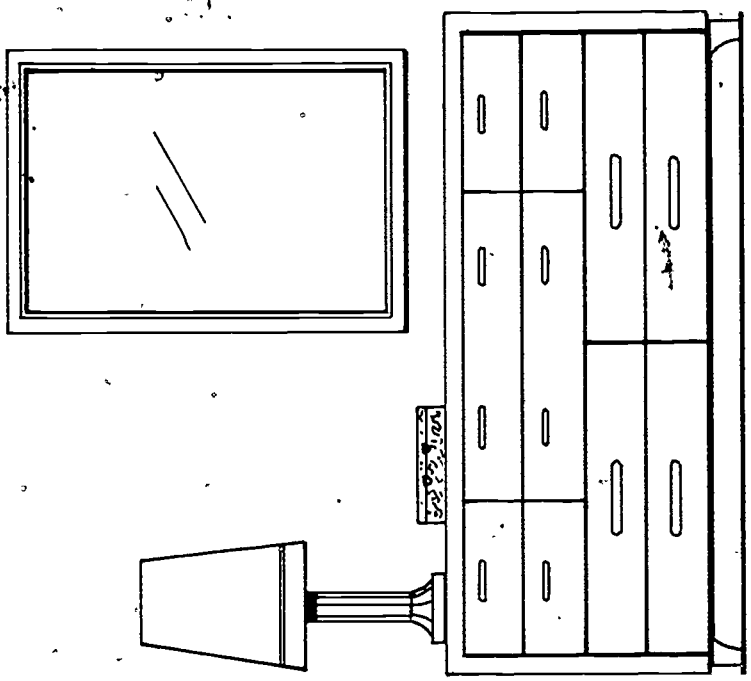
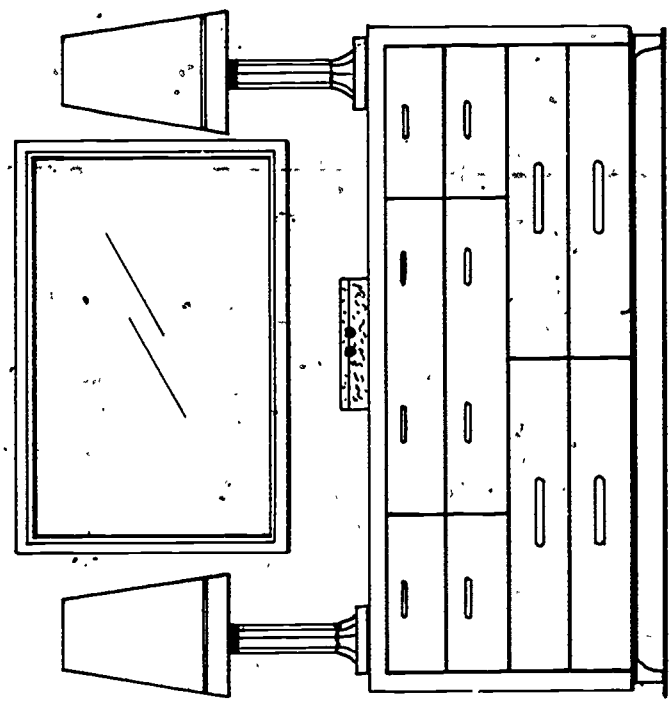
Balance



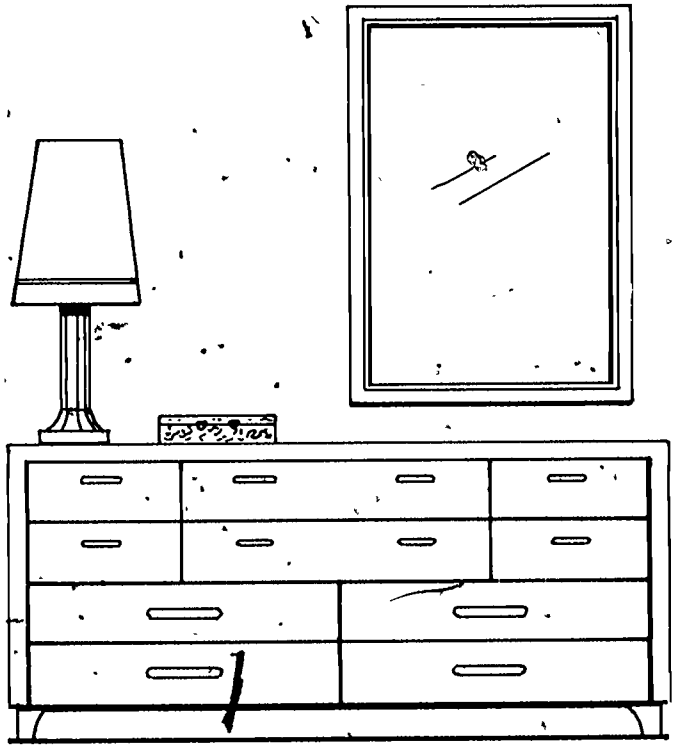
Uneven



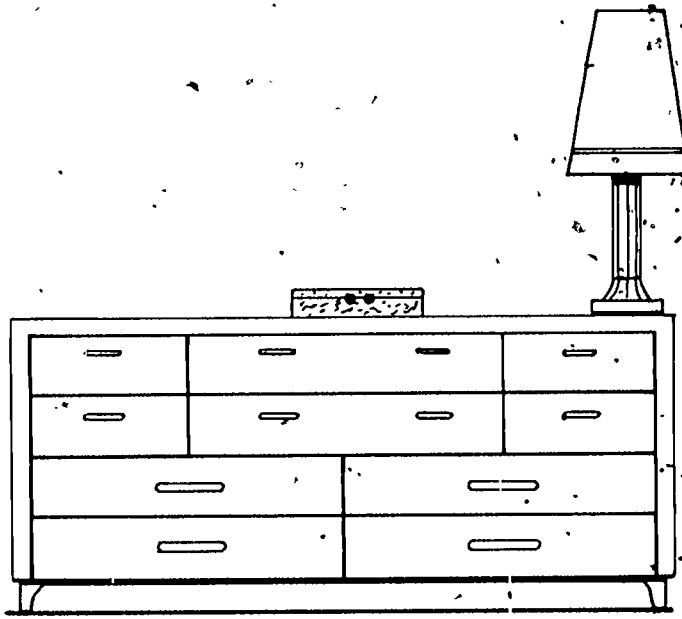
Even

TM 1

Proportion



Desirable



Less Desirable

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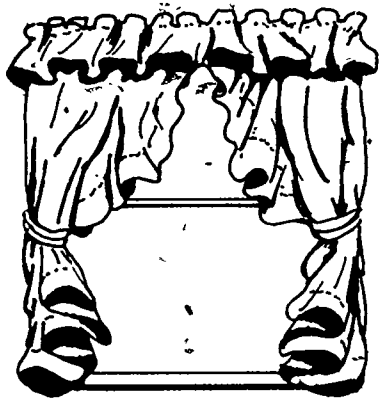
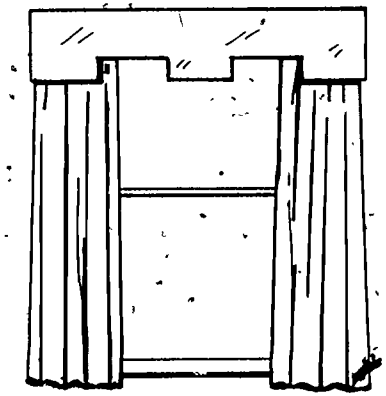
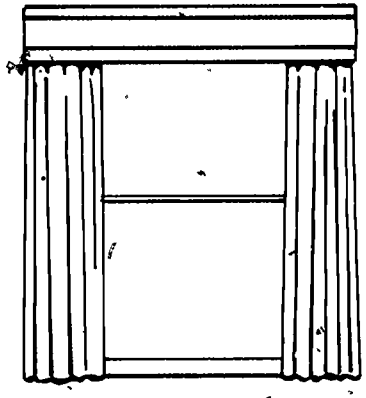
Rhythm



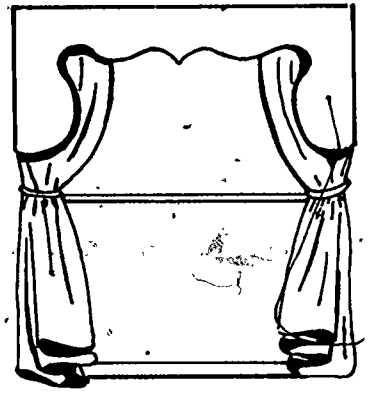
Radiation

Repetition

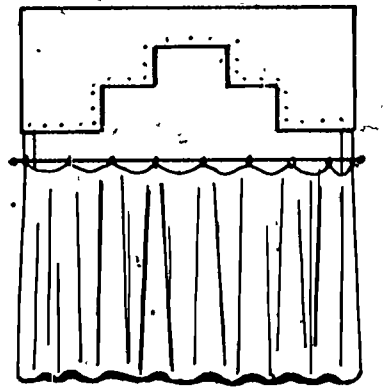




Opposition



Transition



Gradation

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Emphasis

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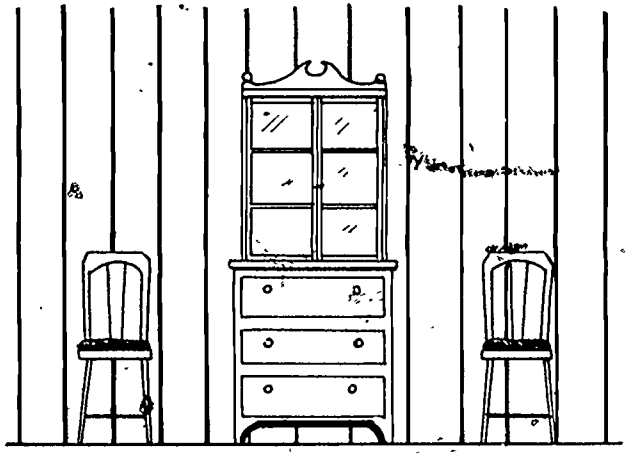
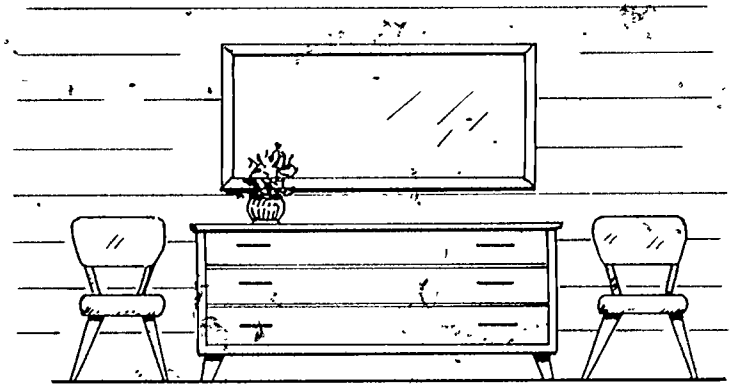
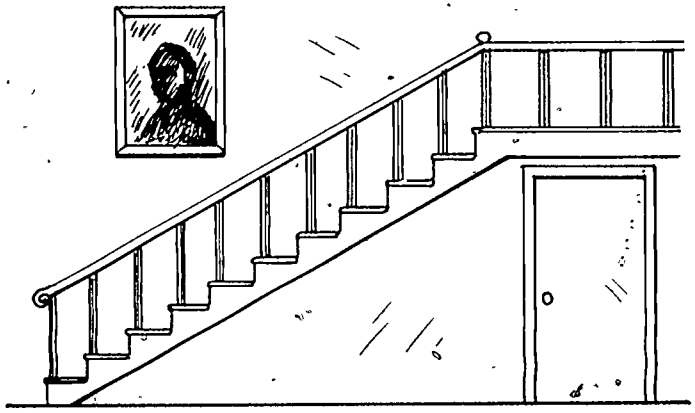
Harmony

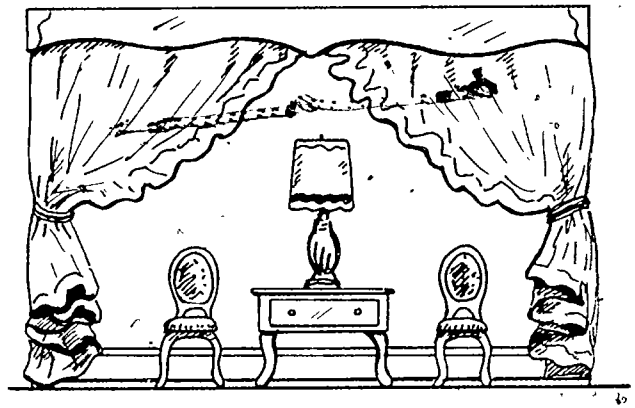
TM 5

Use of Vertical, Horizontal, Diagonal, and Curved Lines









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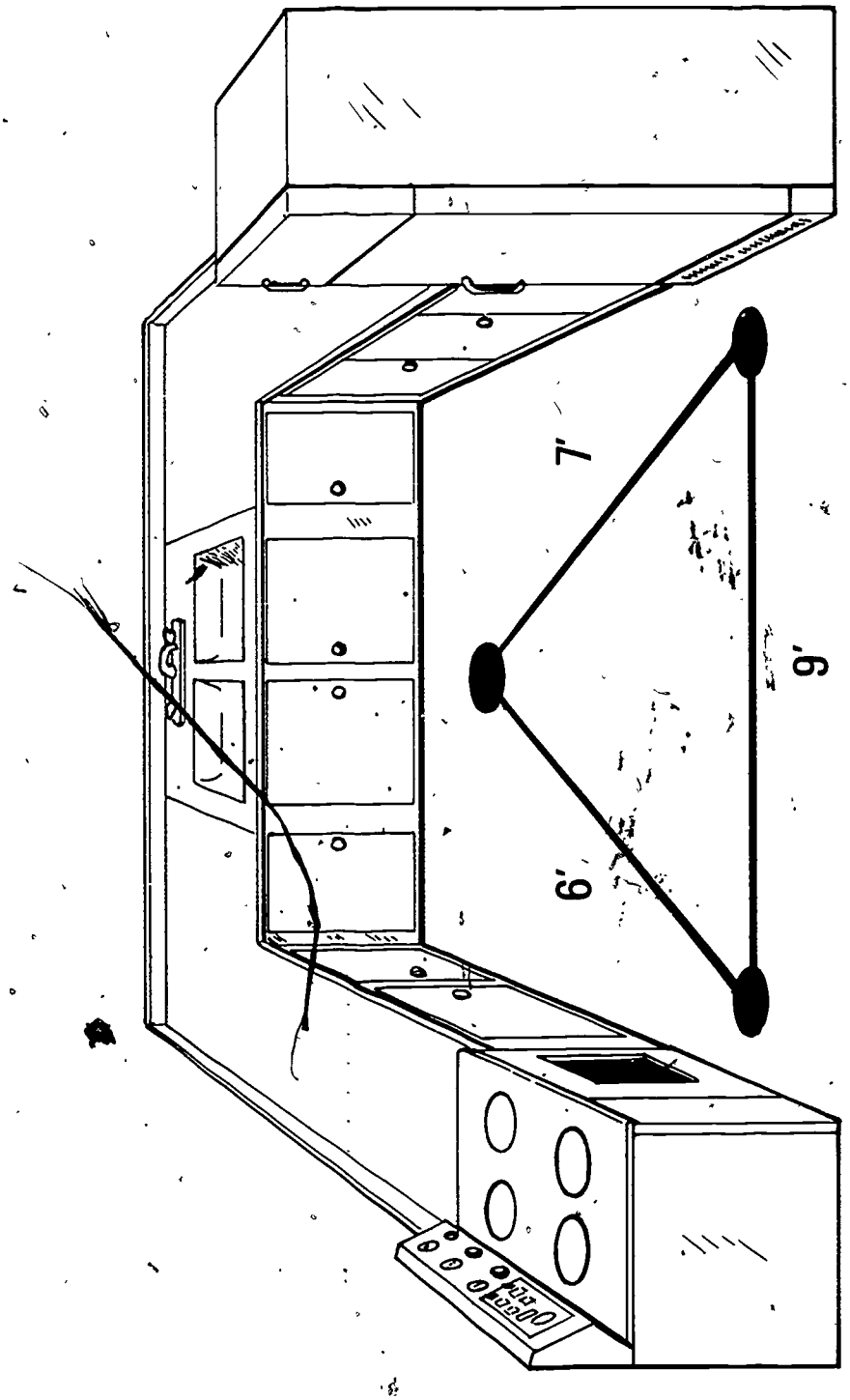
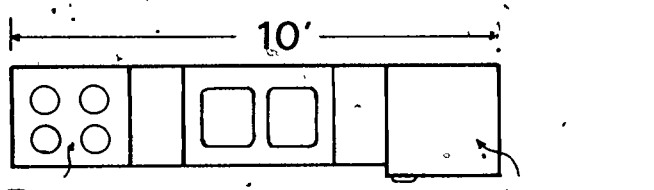
Work Triangle

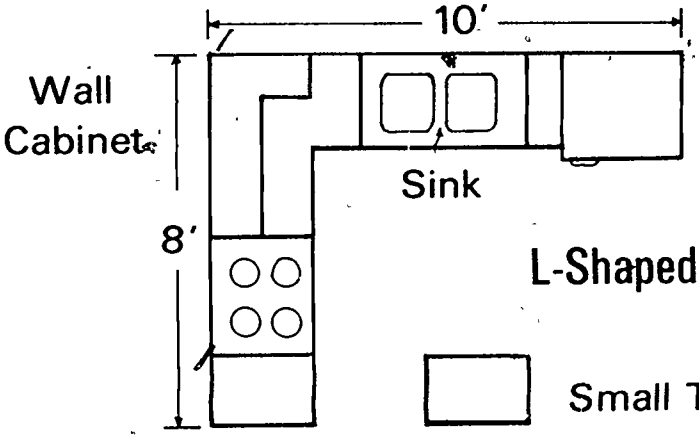


TM 7

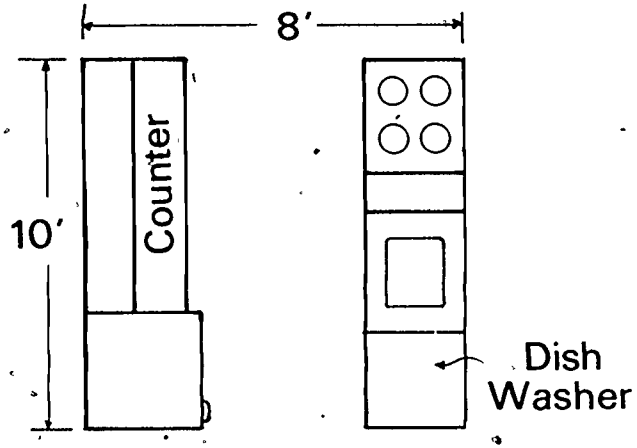
Four Basic Kitchen Layouts



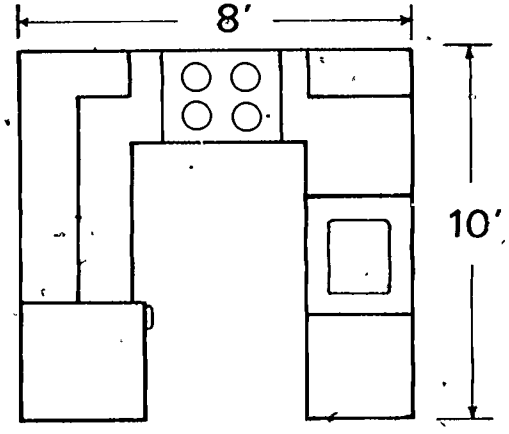
One-Wall



L-Shaped



Two-Wall



U-Shaped

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TM 8

Main Areas of Kitchens

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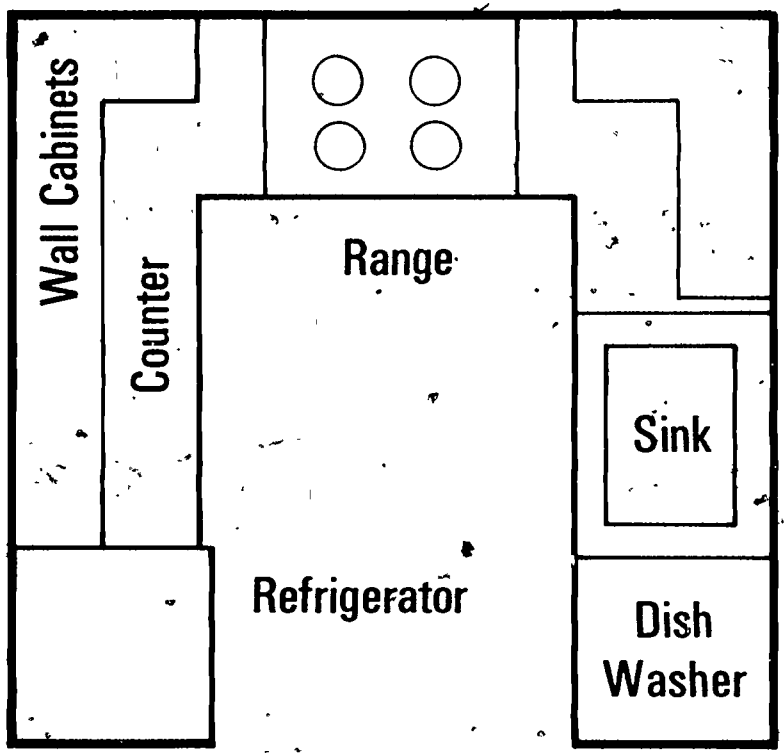
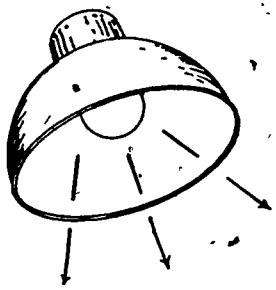
Range and Cooking



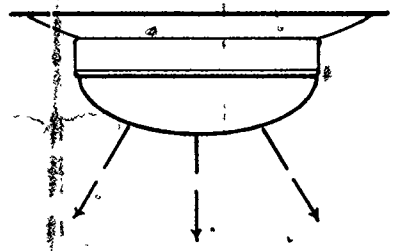
Serving

Sink and Mixing

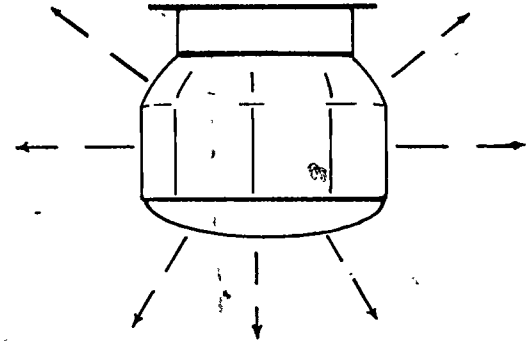
Types of Distribution of Light



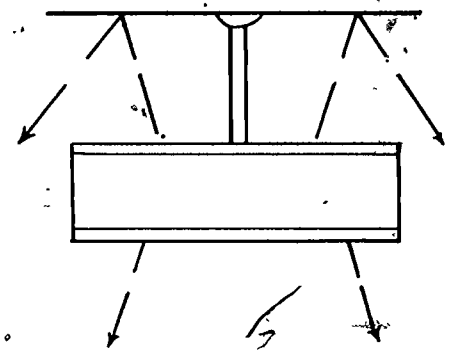
Direct



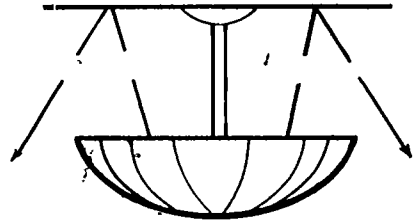
Semi-Direct



General Diffuse



Semi-Indirect



Indirect

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ROOM ARRANGEMENT
UNIT II

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ASSIGNMENT SHEET #1--DETERMINE UTENSILS IN KITCHEN AREAS

Using home economics texts and other available resources, determine what articles and utensils should be located in each of the three main areas of the kitchen.

Area I: Sink and mixing area

Area II: Range and cooking area

Area III: Serving area

(NOTE: Teachers may use this assignment sheet as an opportunity to study in depth cabinet planning and storage for the home.)

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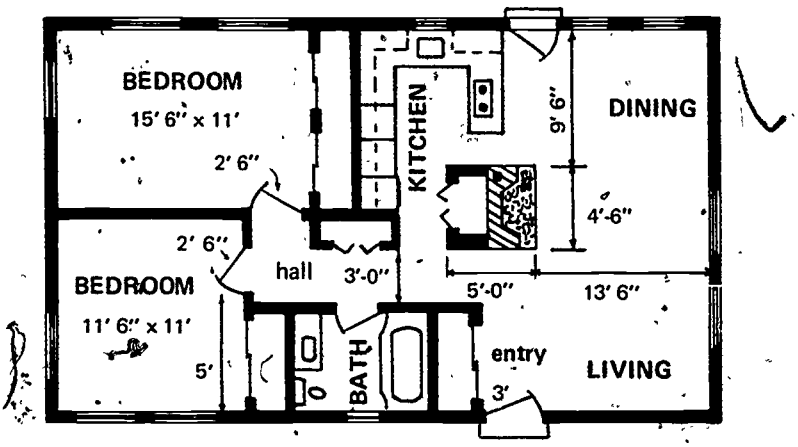
ROOM ARRANGEMENT
UNIT II

ASSIGNMENT SHEET #2--DRAW A HOUSEPLAN WITH FURNITURE

Using a scale of one-fourth inch equals one foot, draw this houseplan on the graph paper provided in the unit.



(NOTE: Another houseplan or room plan may be substituted for this activity This activity may be used as an optional activity or as a home experience.)

Use the following symbols to assist in drawing the plan:

Door opening

Door (swinging)

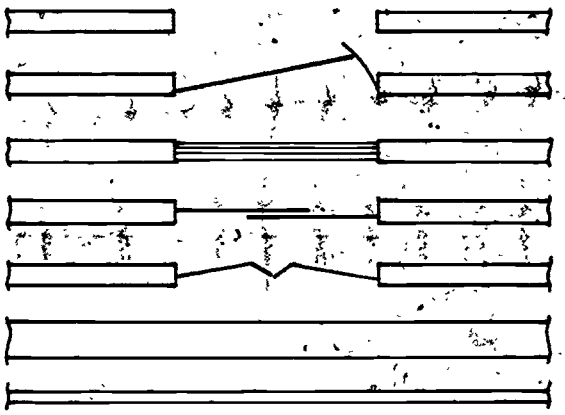
Window

Door (sliding)

Door (bi-fold)

Outside wall

Inside wall



(NOTE: The walls have been rounded to the nearest one-half foot for ease in drawing.)

Place furniture in the house using the scaled furniture on the following page.

ASSIGNMENT SHEET # 2

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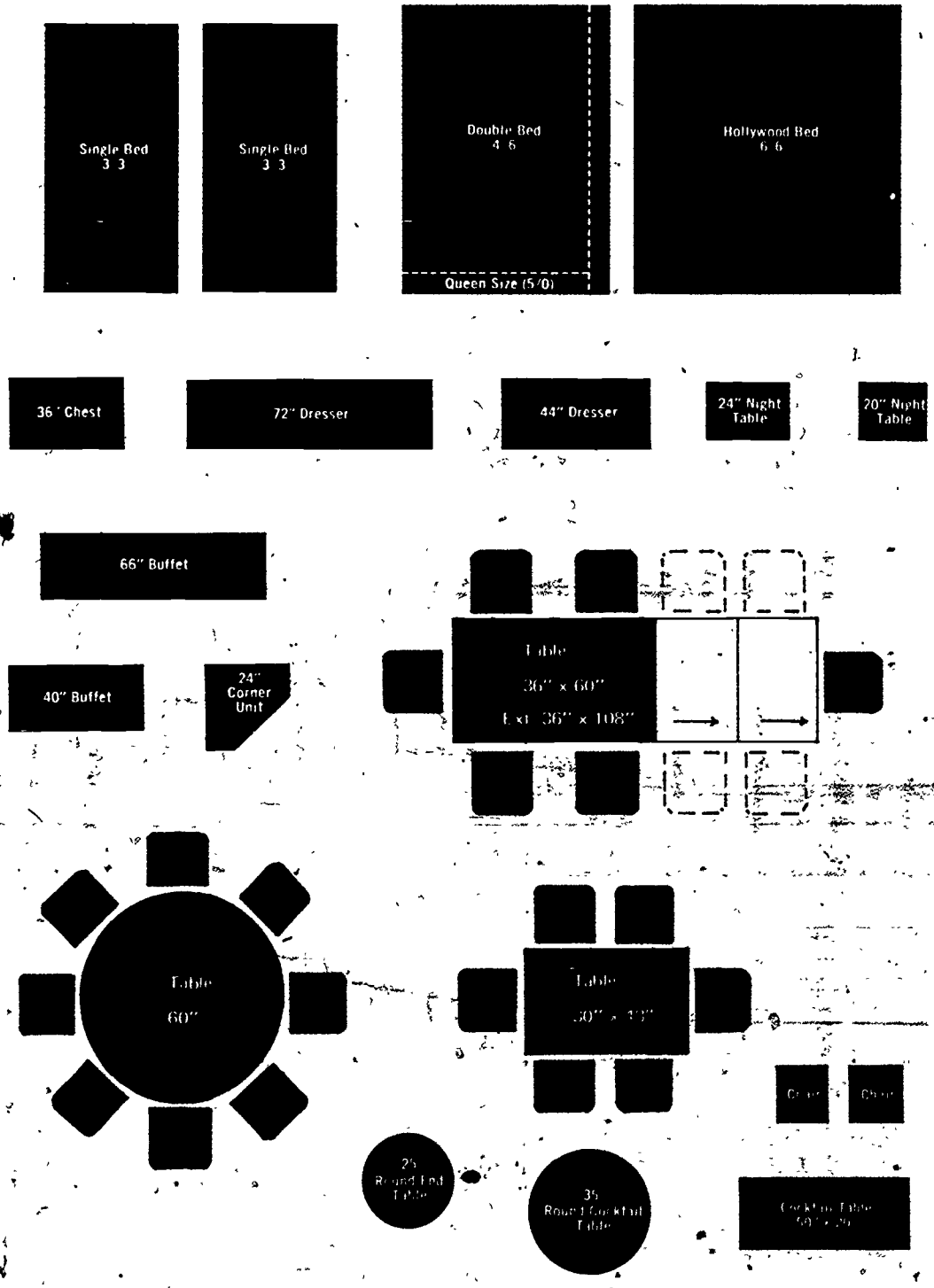
Furniture & Equipment Cut-Outs For Scale 1/4" = 1' - 0"



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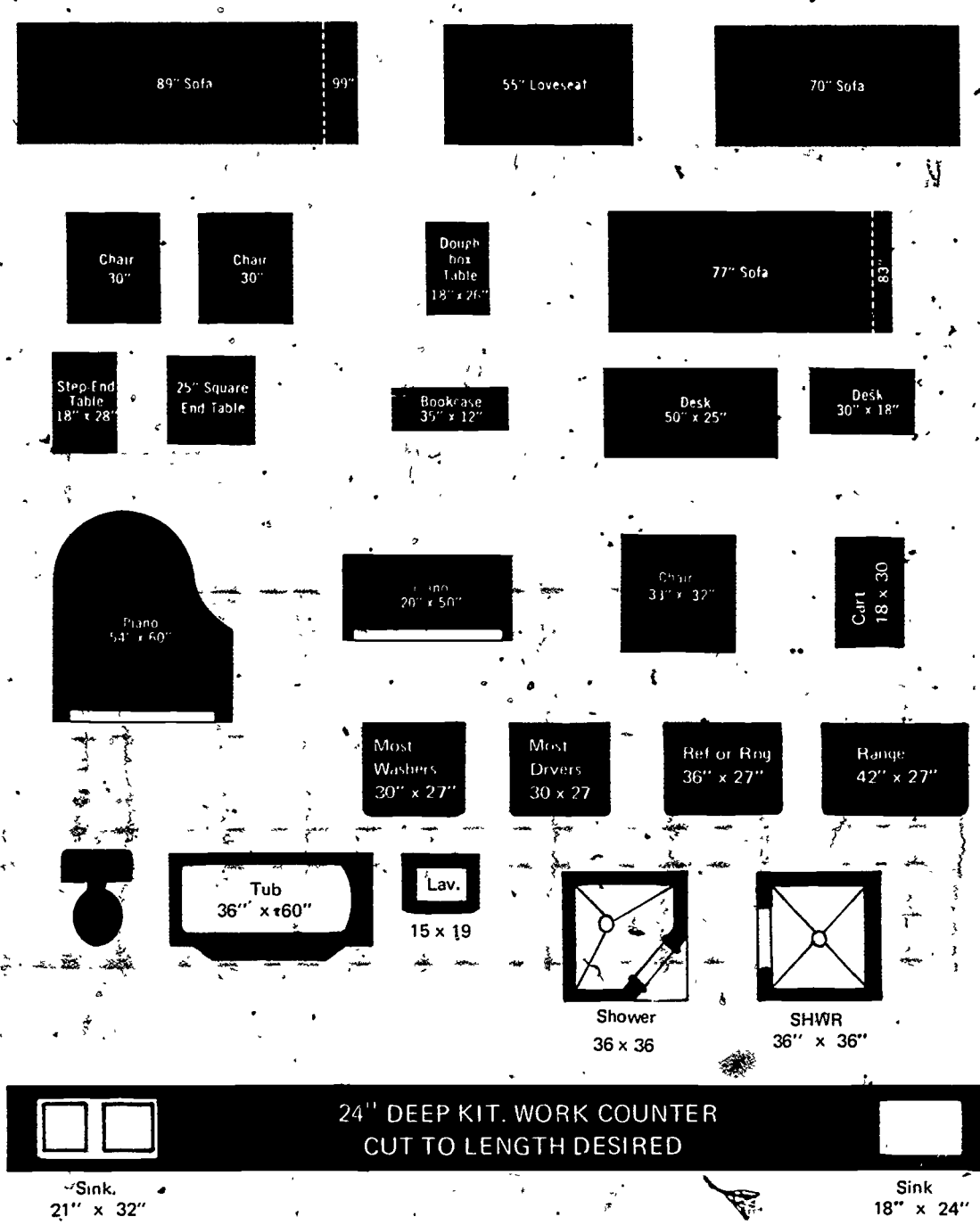
ASSIGNMENT SHEET #2



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ROOM ARRANGEMENT
UNIT II

ANSWERS TO ASSIGNMENT SHEET #1

Suggested items to be stored in each area are:

Area I: Sink and mixing area

Mixer and blender
Clean towels and dishcloths
Knives, forks, large spoons, kitchen shears
Garbage pail and garbage bags
Measuring cups and spoons, biscuit and cookie cutters
Strainers, colander, and lemon squeezer
Mixing bowls, molds, egg beater
Paper towels, wax paper, metal foil, plastic wrap
Fruits and vegetables not needing refrigeration
Seasonings, spices, flavorings, sugar, flour, shortening, coffee, tea, and similar items

Area II: Range and cooking area

Saucepans, double boiler, lids
Cake pans, pie pans, muffin tins, and cookie sheets
Cake turner, ladle, spatula
Frying pans, roasters, coffeepot

Area III: Serving area

Trays of various sizes
Toaster, waffle iron, and similar appliances
Serving bowls, platters, and gravy bowl
Frequently used table linens
Bread box, cookie and cake containers

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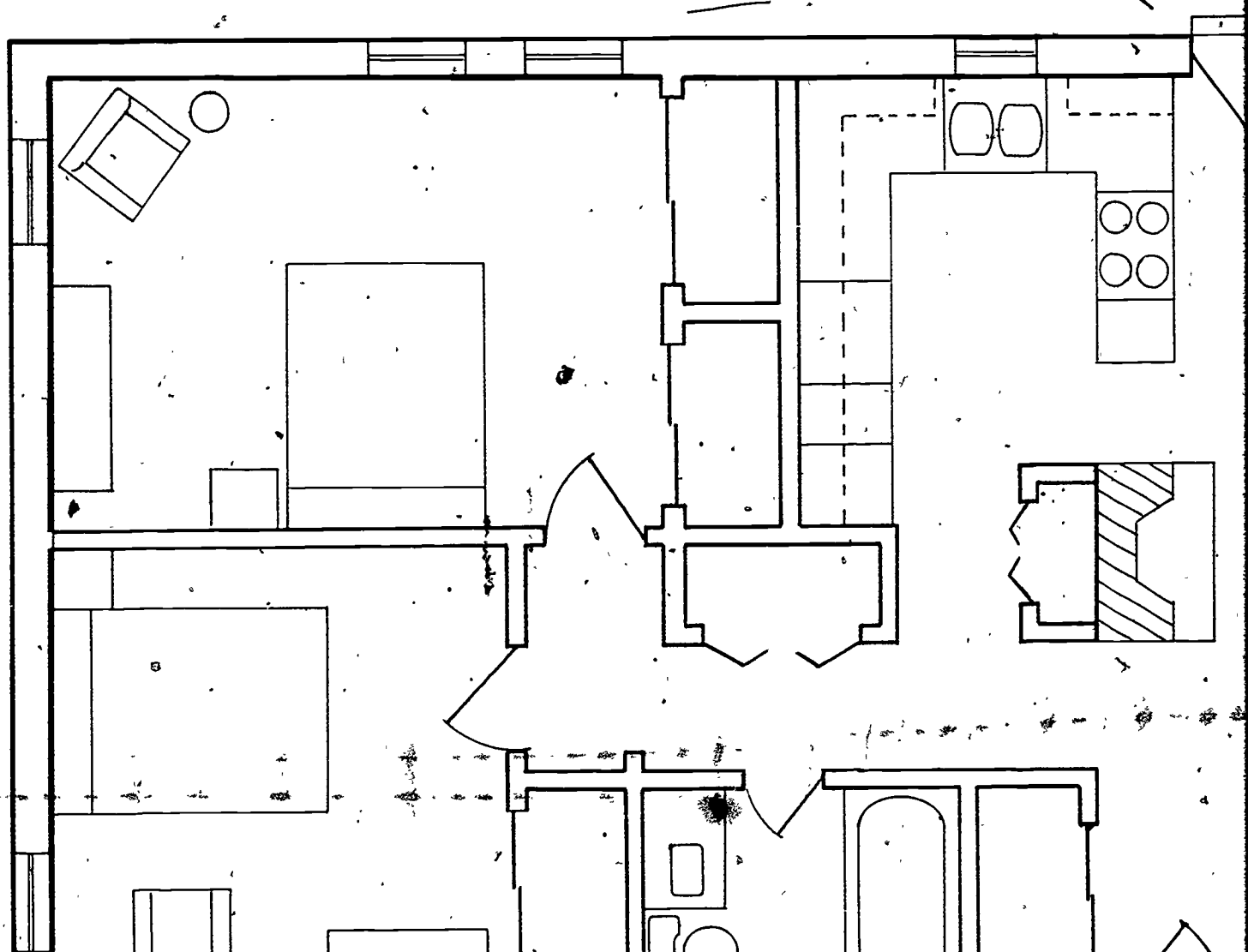

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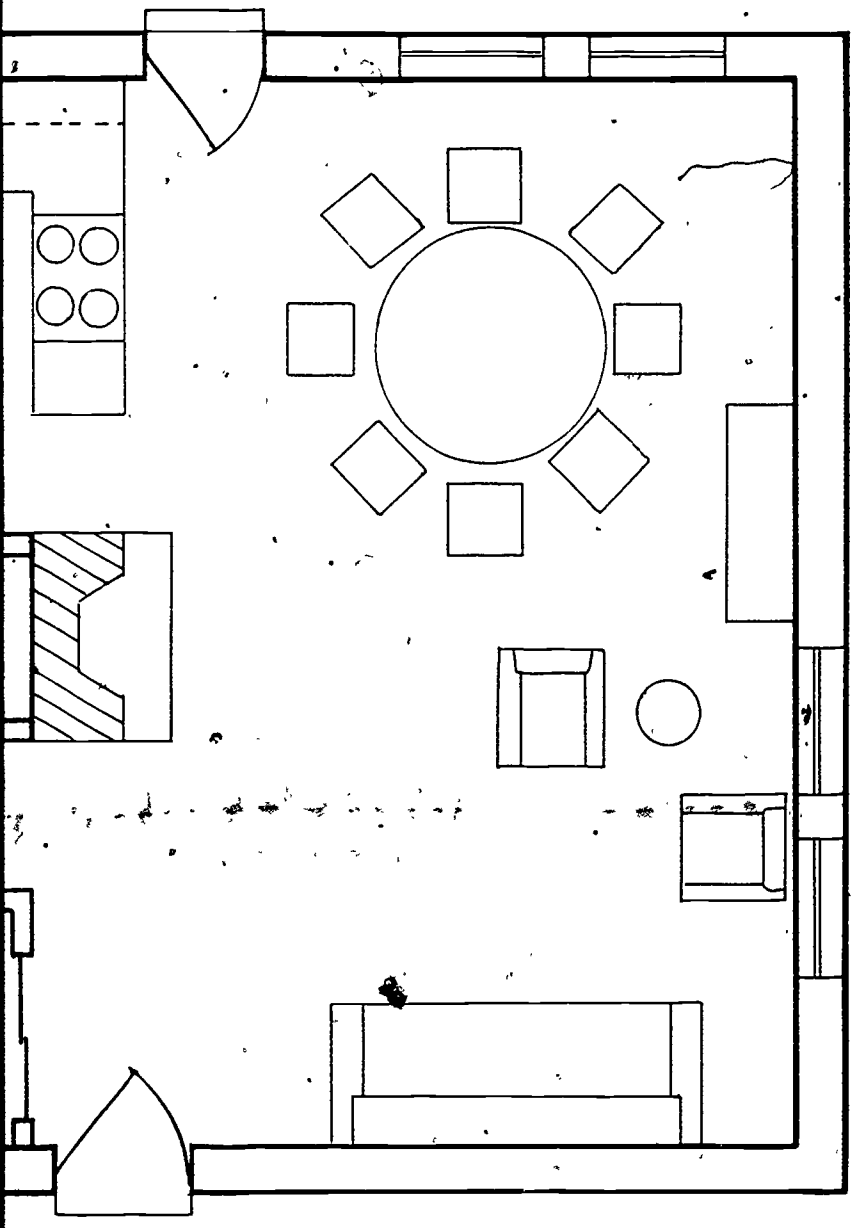
ROOM ARRANGEMENT
UNIT II

ANSWER TO ASSIGNMENT SHEET #2

NOTE: The drawing below is only an example.



ROOM ARRANGEMENT
UNIT II

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TEST

1. Match the following terms to the correct definition.

_____a. Equal distribution of weight on each side of a center point

_____b. The principle which creates a center of interest

_____c. Components an artist or a decorator uses to create something interesting or attractive

_____d. The shape that objects take

_____e. Establishes direction and is symbolic of mood and important in conveying illusions of height or breadth

_____f. Applied or superimposed lines that result from the placement of trim and ornamentation

_____g. Pleasing space relationships

_____h. The art principle which is used to carry the eye from one area to another without abrupt interruptions

_____i. Colors, lines, and shapes are related so that a feeling of unity prevails

_____j. Smooth or rough; shiny or dull, soft or hard

_____k. Time tested laws that help us to achieve pleasing effects in home furnishings, landscaping, or selecting clothes

_____l. Triangle connecting range, refrigerator, and sink which is used for determining maximum efficiency in kitchen planning

_____m. Actual lines that result from the construction or building of something

1. Harmony
2. Design principles
3. Form
4. Balance
5. Rhythm
6. Work triangle
7. Proportion
8. Line
9. Texture
10. Structural line
11. Elements of design
12. Decorative line
13. Emphasis

2. Name four elements of design.

   a.

   b.

   c.

   d.

3. Name five principles of design.

   a.

   b.

   c.

   d.

   e.

4. Discuss briefly line in relation to the elements and principles of design.

5. List five guidelines which can be used in arrangement of furniture.

   a.

   b.

   c.

   d.

   e.

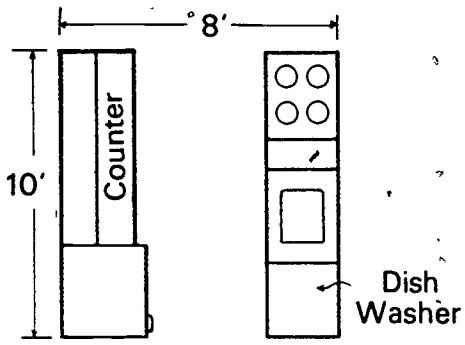
6. Name the three kitchen appliances which form the work triangle.

   a.

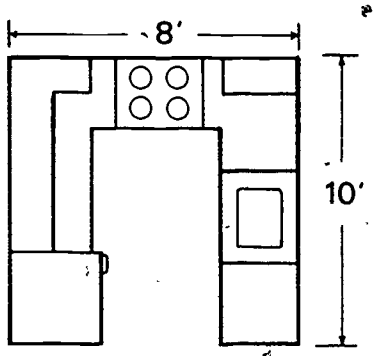
   b.

   c.

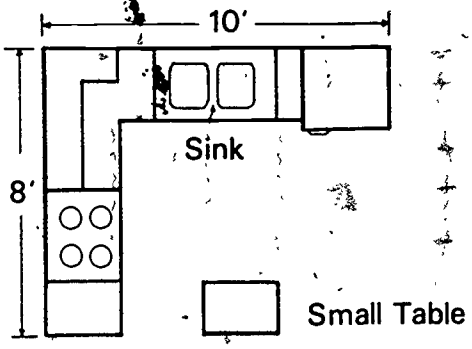
7. Identify the four basic arrangements of kitchens used to accomodate the work triangle.



a. _____



b. _____



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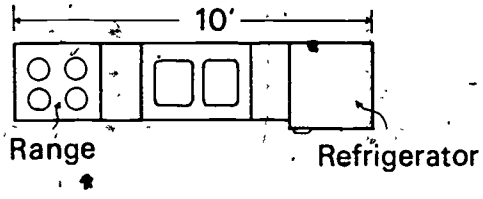


d. _____

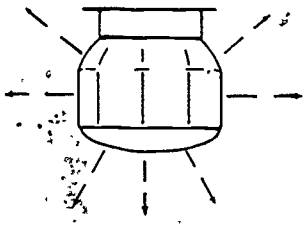
8. Name three main areas of kitchens.

a.

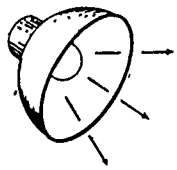
b.

c.

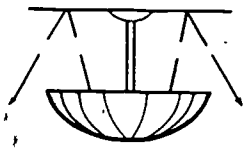
9. Identify these five kinds of lighting.

a. 

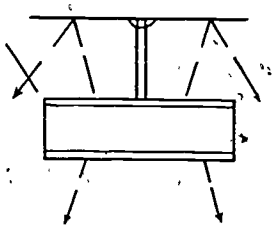
a. _____

b. 

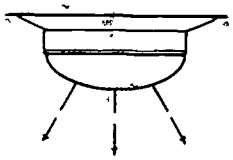
b. _____

c. 

c. _____

d. 

d. _____

e. 

e. _____

10. Name three basic functions of artificial lighting.

a.

b.

c.

11. Discuss lighting needs for various parts of the home.

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12. Draw to scale a simple floor plan of a house including arrangement of furniture.

(NOTE: If this has not been accomplished prior to the test, ask your instructor when the above activity should be completed.)

ROOM ARRANGEMENT
UNIT II

ANSWERS TO TEST

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1. a. 4
   b. 13
   c. 11
   d. 3
   e. 8
   f. 12
   g. 7
   h. 5
   i. 1
   j. 9
   k. 2
   l. 6
   m. 10
2. a. Line
   b. Form
   c. Texture
   d. Color
3. a. Balance
   b. Proportion
   c. Rhythm
   d. Emphasis
   e. Harmony

4. Discussion should include:

   a. Vertical

      1. Points toward the sky

      2. Seems to convey an impression of dignity, discipline, and strength

   b. Hortizontal

      1. Down to earth

      2. Suggests serenity, repose, and relaxation

   c. Diagonal

      1. Seems to disturb the dignity of vertical lines and the tranquility of horizontal lines

      2. Breaks the monotony of vertical and horizontal lines

   d. Curved

      1. Graceful

      2. Suggests youth, gaiety, and subtle motion

5. Any five of the following:

   a. Study the room to be decorated from all angles

   b. Buy furniture that will be in scale with the room

   c. Place large pieces first

   d. Balance large pieces on walls facing structural features such as windows, a fireplace, or on a wall opposite other large pieces

   e. Use area rugs in a large room or a dining area for a furniture grouping

   f. Use room dividers to separate areas in a large room

   g. Arrange chairs and sofas for conversation groups so that chairs must not always be moved

   h. Plan traffic lanes that are necessary for movement from room to room and area to area

   i. Avoid overcrowding

6. a. Range
   b. Sink
   c. Refrigerator
7. a. Two wall
   b. U-shaped
   c. L-shaped
   d. One wall
8. a. Sink and mixing area
   b. Range and cooking area
   c. Serving area
9. a. General diffuse
   b. Direct
   c. Indirect
   d. Semi-indirect
   e. Semi-direct
10. a. General illumination
    b. Task lighting
    c. Accent lighting
11. Discussion should include:
    a. Entrance area--Well lighted
    b. Hall
       1. General lighting that is adequate for comfortable viewing
       2. Special lighting for any mirrors
    c. Stairway--Direct, glare-free light
    d. Living room and family room--General lighting
    e. Bedroom--Different lighting requirements are needed for different members of the family

f. Kitchen--General lighting

g. Bathroom

1. General lighting

2. Task lighting

12. Evaluated to the satisfaction of the instructor.

INTRODUCTION TO ADOLESCENCE
UNIT I

TERMINAL OBJECTIVE

After completion of this unit, the student should be able to discuss basic needs and different personalities, distinguish between kinds of personality habits, and describe pointers which help boys and girls. The student should be able to list components of love, adolescent goals, and steps in meeting problems. This knowledge will be evidenced by scoring eighty-five percent on the unit test.

SPECIFIC OBJECTIVES

After completion of this unit, the student should be able to:

1. Match terms associated with adolescence to the correct definition.
2. Discuss basic personality needs.
3. Describe characteristics of introvert, extrovert, and ambivert personalities.
4. List factors which influence happiness and unhappiness.
5. Distinguish between personality habits that hinder and those habits worth cultivating.
6. List steps involved in meeting problems constructively.
7. List components of love.
8. List goals of the adolescent period.
9. List qualities that help in making friends.
10. Describe pointers which help boys and girls in understanding the opposite sex.

INTRODUCTION TO ADOLESCENCE
UNIT I

SUGGESTED ACTIVITIES

I. Instructor:

A. Provide students with objective sheet.

B. Provide students with information and assignment sheets.

C. Make transparencies.

D. Discuss terminal and specific objectives.

E. Discuss information and assignment sheets.

F. Assist students in identifying problems for solving in Assignment Sheet #2.

G. Give test.

II. Students:

A. Read objectives.

B. Study information sheet.

C. Complete each assignment sheet and discuss in class.

D. Take test.

INSTRUCTIONAL MATERIALS

I. Included in this unit:

A. Objectives

B. Information sheet

C. Transparency masters

1. TM 1--Basic Universal Needs
2. TM 2--Steps in Meeting Problems
3. TM 3--Components of Love

D. Assignment sheets

1. Assignment Sheet #1--Describe Personal Characteristics

2. Assignment Sheet #2--Meet a Problem Constructively

E. Test

F. Answers to test

II. References:

A. Textbooks:

1. Westlake, Helen Gum. *Relationships: A Study in Human Behavior.* Lexington, Massachusetts: Ginn and Company, 1972.

2. Landis, Judson T. and Mary G. Landis. *Personal Adjustment, Marriage, and Family Living.* Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1970.

3. Landis, Paul H. *Your Marriage and Family Living.* St. Louis, Missouri: Webster Division, McGraw-Hill Book Company, 1969.

B. Additional References:

1. Kirkendall, Lester A. and William C. Tumbleson. *Understanding the Other Sex.* Chicago, Illinois: Science Research Associates, Inc., 1973.

2. Kirkendall, Lester A. and Mary E. Heltsley. *Understanding Dating Relationships.* Chicago, Illinois: Science Research Associates, Inc., 1973.

INTRODUCTION TO ADOLESCENCE
UNIT I

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INFORMATION SHEET

I. Terms and definitions

A. Adolescence--Time of social transition from childhood to adulthood

B. Character--What we are in terms of morality

C. Reputation--What others believe us to be

D. Conscience--Inner monitor of character

E. Personality--Sum of all inherited and acquired characteristics

F. Ego--Component of personality which involves I, me, myself

G. Social self--That part of personality which is aware of having status in the group

H. Social growth--Growth in the area of human relationships

I. Moral standards--Related to patterns of conduct established as acceptable in a particular society

II. Basic personality needs (Transparency 1)

A. Love

1. As important as food
2. Necessary for normal development of emotional and social life
3. Needed from birth to death

B. Security

1. Needed to feel safe
2. More than a feeling of physical safety
3. Dependent on a feeling of certainty that parents and others are loyal and will lend support when there is need

C. Acceptance

1. Status in a group
2. How one rates

INFORMATION SHEET

3. Amount appreciated

4. How significant the group makes him feel

5. Achievement gains recognition

D. New experience

1. To avoid monotony

2. Satisfies need to venture, learn, experiment, explore, to sense new things

III. Characteristics of introvert, extrovert, and ambivert personalities

A. Introvert

1. Shy, sensitive, meditative type

2. Reserved in expression and covers feelings

3. Range of friends is narrow

4. Finds new situations difficult

5. Feels ill at ease among strangers and in large groups

6. Easily hurt

7. Dreams more than he talks

B. Extrovert

1. Outgoing

2. Expressive

3. Tends to be jovial, outspoken, and insistent

4. Adjusts to new situations readily

5. Expresses feelings readily

C. Ambivert

1. Average temperament

2. In some instances, leans toward extroversion; in others, leans toward introversion

INFORMATION SHEET

IV. Factors which influence happiness and unhappiness

A. Experiences with people

B. Experiences with things

C. Activities in competition with others

D. Praise or blame by others

E. Knowing one has done the right or wrong thing

F. Having to be alone and needing to be alone

(NOTE: You may not find the above the most meaningful factors for your particular situation. If not, make your own list.)

V. Personality habits

A. Habits that hinder

1. Holding grudges
2. Gossiping
3. Jealousy
4. Laughing at or making fun of others
5. Boasting and bragging
6. Arguing and contradicting
7. Sarcasm and cutting remarks

B. Habits worth cultivating

1. Dependability
   a. By being punctual
   b. By borrowing only when necessary and being careful to return what is borrowed
   c. By keeping one's word
2. Cheerfulness
3. Giving honest compliments

INFORMATION SHEET

4. Good sportsmanship

5. Consideration for the rights of others

6. Being prepared

VI. Steps involved in meeting problems constructively (Transparency 2)

A. Identify the problem

B. Recognize whether or not a real problem exists

C. Face the problem

D. Seek the cause

E. Decide upon a goal or course of action

F. Begin working in a positive way to carry out the plan for solving the problem

VII. Components of love (Transparency 3)

A. Emotion

B. Mutuality

C. Giving and receiving

D. Satisfying personality needs of both who love each other

E. Physical attraction

F. Unselfish sharing

G. Sacrifice of personal preferences or wishes

H. Cooperation instead of competition

VIII. Goals of the adolescent period

A. Achieving physical competency

B. Getting along with one's family

C. Getting along with age-mates of both sexes

D. Achieving scholastic success

E. Making sound educational plans

INFORMATION SHEET

F. Developing a workable set of values, moral standards, and religious beliefs

G. Developing socially responsible behavior

H. Achieving identity

I. Preparing for marriage and family life

J. Being economically independent

IX. Qualities that help in making friends.

A. Having some goals and knowing where you are going

B. Interested in life

C. Friendly and appreciates others good qualities

D. Willing to direct own behavior

E. Able to plan ahead realistically and sacrifice to achieve long-term goals

F. Eager to broaden range of friendships

G. Able to distinguish between the important and the unimportant

H. Understanding of own sexuality and the part it plays in dating relationship

I. Reasonable understanding of emotions

J. Willing to take steps to improve poor relationships

K. Interested in people

X. Pointers which help in understanding the opposite sex

A. Think of him or her as an individual

B. Recognize that similarities are even more important than differences

C. Beware of basing beliefs about the opposite sex on the actions of a single person

D. Study your own behavior and attitudes to see what effect these may have on others

E. Imagine being a member of the other sex

F. Look for a variety of experiences in talking, working, and playing with members of the other sex

INFORMATION SHEET

G. Forget the old argument over which sex is superior

H. Develop a sense of humor

I. Learn to talk with others about problems that arise in relationships with them

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Basic Universal Needs

- Love
- Security
- Acceptance
- New Experience

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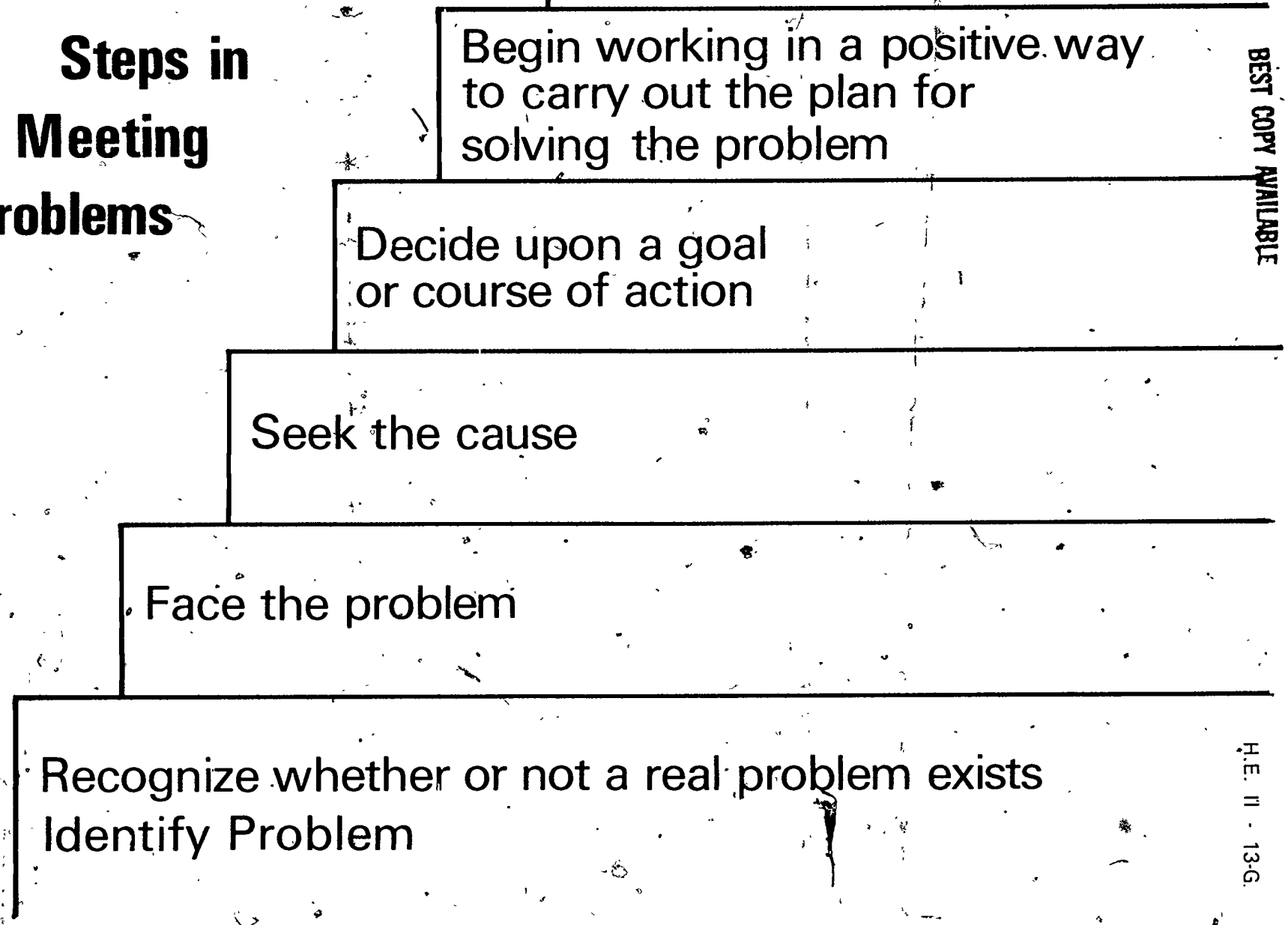
Steps in Meeting Problems



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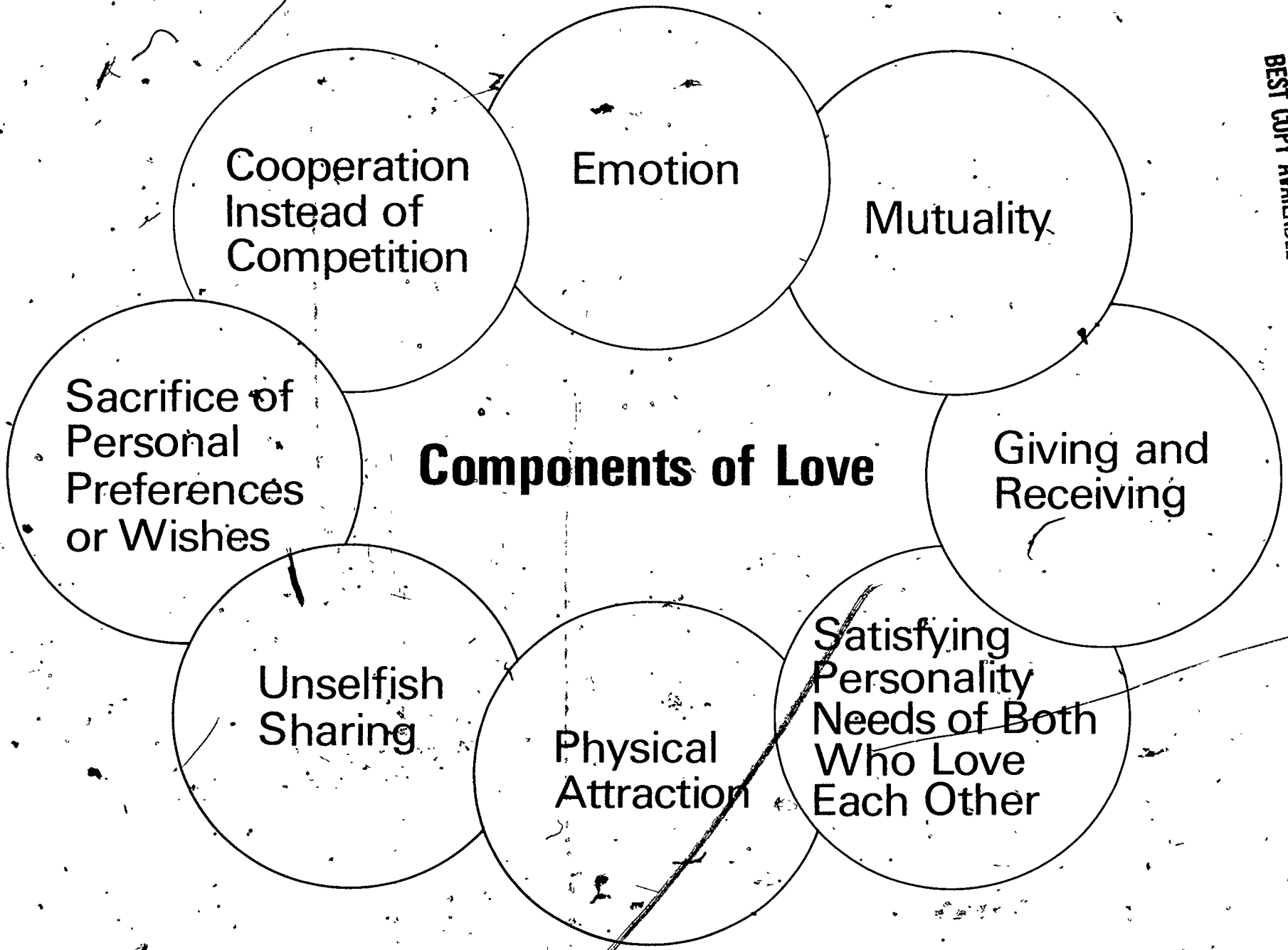

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INTRODUCTION TO ADOLESCENCE
UNIT I

ASSIGNMENT SHEET #1--DESCRIBE PERSONAL CHARACTERISTICS

Study the characteristics of introvert, extrovert, and ambivert personalities in the information sheet. List your own personal characteristics below. In which category do you belong? Why?

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INTRODUCTION TO ADOLESCENCE
UNIT I

ASSIGNMENT SHEET #2--MEET A PROBLEM CONSTRUCTIVELY

List below one problem in which you have been recently confronted. Examples could be the lack of a new dress for a party, lack of parent approval for a particular date, or failure to make a good grade on a test. Using the steps for meeting problems constructively given in the information sheet, attempt to solve your problem. State your plan of action below.

INTRODUCTION TO ADOLESCENCE
UNIT I

TEST

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1. Match the following terms to the correct definition.

_____	a. Time of social transition from childhood to adulthood	1.	Ego
_____	b. What we are in terms of morality	2.	Social self
_____	c. What others believe us to be	3.	Personality
_____	d. Inner monitor of character	4.	Conscience
_____	e. Sum of all inherited and acquired characteristics	5.	Character
_____	f. Component of personality which involves I, me, myself	6.	Reputation
_____	g. That part of personality which is aware of having status in the group	7.	Social growth
_____	h. Growth in the area of human relationships	8.	Adolescence
_____	i. Related to patterns of conduct established as acceptable in a particular society	9.	Moral standards

2. Discuss four basic personality needs.

a.

b.

c.

d.

3. Describe characteristics of introvert, extrovert, and ambivert personalities.

a. Introvert

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b. Extrovert

c. Ambivert

4. List four factors which influence happiness and unhappiness.

a.

b.

c.

d.

5. Distinguish between those personality habits that hinder and those habits worth cultivating by placing an "H" in front of those that hinder, a "C" in front of those worth cultivating.

_____a. Good sportsmanship

_____b. Being prepared

_____c. Jealousy

_____d. Gossiping

_____e. Arguing and contradicting

_____f. Cheerfulness

_____g. Sarcasm and cutting remarks

_____h. Giving honest compliments

_____i. Consideration for the rights of others

_____j. Boasting and bragging

6. List five steps involved in meeting problems constructively.

a.

b.

c.

d.

e.

7. List six components of love.

a.

b.

c.

d.

e.

f.

8. List six goals of the adolescent period.

a.

b.

c.

d.

e.

f.

9. List six qualities that help in making friends.

a.

b.

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c.

d.

e.

f.

10. Describe five pointers which help boys and girls in understanding the opposite sex.

a.

b.

c.

d.

e.

INTRODUCTION TO ADOLESCENCE
UNIT I

ANSWERS TO TEST

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1. a. 8
   b. 5
   c. 6
   d. 4
   e. 3
   f. 1
   g. 2
   h. 7
   i. 9

2. Discussion should include:
   a. Love
      1) As important as food
      2) Necessary for normal development of emotional and social life
      3) Needed from birth to death
   b. Security
      1) Needed to feel safe
      2) More than a feeling of physical safety
      3) Dependent on a feeling of certainty that parents and others are loyal and will lend support when there is need
   c. Acceptance
      1) Status in a group
      2) How one rates
      3) Amount appreciated
      4) How significant the group makes him feel
      5) Achievement gains recognition

d. New experience

1) To avoid monotony

2) Satisfies need to venture, learn, experiment, explore, to sense new things

3. a. 1) Shy, sensitive, meditative type

2) Reserved in expression and covers feelings

3) Range of friends is narrow

4) Finds new situations difficult

5) Feels ill at ease among strangers and in large groups

6) Easily hurt

7) Dreams more than he talks

b. 1) Outgoing

2) Expressive

3) Tends to be jovial, outspoken and insistent

4) Adjusts to new situations readily

5) Expresses feelings readily

c. 1) Average temperament

2) In some instances, leans toward extroversion; in others, leans toward introversion

4. Any four of the following:

a. Experiences with people

b. Experiences with things

c. Activities in competition with others

d. Praise or blame by others

e. Knowing one has done the right or wrong thing

f. Having to be alone and needing to be alone

5. a. C

b. C

c: H

d. H

e. H

f. C

g. H

h. C

i. C

j. H

6. a. Identify the problem

b. Recognize whether or not a real problem exists

c. Face the problem

d. Seek the cause

e. Decide upon a goal or course of action

f. Begin working in a positive way to carry out the plan for solving the problem

7. Any six of the following:

a. Emotion

b. Mutuality

c. Giving and receiving

d. Satisfying personality needs of both who love each other

e. Physical attraction

f. Unselfish sharing

g. Sacrifice of personal preferences or wishes

h. Cooperation instead of competition

8. Any six of the following:

a. Achieving physical competency

b. Getting along with one's family

c. Getting along with age-mates of both sexes

d. Achieving scholastic success

e. Making sound educational plans

f. Developing a workable set of values, moral standards, and religious beliefs

g. Developing socially responsible behavior

h. Achieving identity

i. Preparing for marriage and family life

j. Being economically independent

9. Any six of the following:

a. Having some goals and knowing where you are going

b. Interested in life

c. Friendly and appreciates others good qualities

d. Willing to direct own behavior

e. Able to plan ahead realistically and sacrifice to achieve long-term goals

f. Eager to broaden range of friendships

g. Able to distinguish between the important and the unimportant

h. Understanding of own sexuality and the part it plays in dating relationship

i. Reasonable understanding of emotions

j. Willing to take steps to improve poor relationships

k. Interested in people

10. Any five of the following:

a. Think of him or her as an individual

b. Recognize that similarities are even more important than differences

c. Beware of basing beliefs about the opposite sex on the actions of a single person

d. Study your own behavior and attitudes to see what effect these may have on others

e. Imagine being a member of the other sex

f. Look for a variety of experiences in talking, working, and playing with members of the other sex

g. Forget the old argument over which sex is superior

h. Develop a sense of humor

i. Learn to talk with others about problems that arise in relationships with them

DATING AND MATE SELECTION
UNIT II

TERMINAL OBJECTIVE

After completion of this unit, the student should be able to list functions of dating, reasons for and against going steady, and steps in making oneself datable. The student should be able to distinguish characteristics of a desirable date and mate, discuss drinking and drugs, and list negative aspects of premarital sex and the cause of venereal disease. This knowledge will be evidenced by scoring eighty-five percent on the unit test.

SPECIFIC OBJECTIVES

After completion of this unit, the student should be able to:

1. Match terms associated with dating and mate selection to the correct definition.
2. List functions of dating in our culture.
3. Select from a list factors which influence personal standards in dating behavior.
4. Arrange in order the steps in dating.
5. Distinguish between desirable and undesirable characteristics of a dating partner.
6. Select from a list important dating issues between parents and children.
7. List reasons for and against going steady.
8. List steps which help in making oneself more datable.
9. Select from a list rules that help in dating for boys and/or girls.
10. Select from a list problems of dating relationships.
11. Select from a list reasons teenagers drink and/or use drugs.
12. List danger signs of excessive drinking.
13. List danger signs of excessive use of drugs.
14. List negative aspects of premarital sex.
15. State the cause of venereal disease.

16. Discuss two types of venereal disease and their symptoms.

17. State the basis for mate selection.

18. Select from a list desirable characteristics of a mate.

DATING AND MATE SELECTION
UNIT II

SUGGESTED ACTIVITIES

I. Instructor:

A. Provide students with objective sheet.

B. Provide students with information and assignment sheets.

C. Make transparencies.

D. Discuss terminal and specific objectives.

E. Discuss information sheet.

F. Explain and suggest topics for the assignment sheets.

G. Discuss assignment sheets after students complete them.

H. Give test.

II. Students:

A. Read objectives.

B. Study information sheet.

C. Do research for each assignment sheet.

D. Participate in discussion of assignment sheets.

E. Take test.

INSTRUCTIONAL MATERIALS

I. Included in this unit:

A. Objectives

B. Information sheet

C. Transparency masters

1. TM 1--Factors Which Influence Personal Standards in Dating Behavior

2. TM 2--Steps in Dating

3. TM 8--Steps Which Help in Making Oneself More Datable

D. Assignment sheets

1. Assignment Sheet #1--In-Depth Study of Drugs

2. Assignment Sheet #2--Research Venereal Disease

E. Test

F. Answers to test

II. References:

A. *Human Development and the Family.* Stillwater, Oklahoma: State Department of Vocational and Technical Education, 1969.

B. Westlake, Helen Gum. *Relationships: A Study in Human Behavior.* Lexington, Massachusetts: Ginn and Company, 1972.

C. Riker, Audrey Palm and Holly E. Brisbane. *Married Life.* Peoria, Illinois: Charles A. Bennett Company, Inc., 1970.

D. Landis, Judson T. and Mary G. Landis. *Personal Adjustment, Marriage and Family Living.* Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1970.

E. Landis, Paul H. *Your Marriage and Family Living.* St. Louis, Missouri: Webster Division, McGraw-Hill Book Company, 1969.

F. *What Everyone Should Know About V. D.* Greenfield, Massachusetts: Channing L. Bete, Company, Inc., 1971.

DATING AND MATE SELECTION
UNIT II

INFORMATION SHEET

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I. Terms and definitions:

A. Going steady--Practice of regularly dating one person exclusively for a period of time

B. Infatuation--First stage of romantic love

C. Physical attraction--Force that impels men and women, boys and girls toward an interest in each other

II. Functions of dating in our culture

A. Reinforces growth in personal attractiveness

B. Provides opportunity for the development of social competence

C. Provides experience for the development of poise

D. Facilitates understanding of members of opposite sex

E. Encourages the development of new friendships

F. Provides a framework for learning to live with differences

G. Provides opportunity for learning to plan and share

H. Encourages the development of a sense of humor

I. Provides opportunity to apply and test ethical standards

J. Provides experience applicable to mate selection

III. Factors which influence personal standards in dating behavior (Transparency 1)

A. Parents

B. Religion

C. Personality

D. Traits

E. Friends

F. Lifetime goals

INFORMATION SHEET

IV. Steps in dating (Transparency 2)

A. Mixed groups

B. Double dating

C. Pair dating--Casual

D. Pair dating--Going steady

(NOTE: Going steady varies in stages. Examples are dropped, pinned, and promised.)

E. Engagement

V. Desirable characteristics of a dating partner

A. Physically and mentally fit

B. Dependable or can be trusted

C. Takes pride in personal appearance and manners

D. Clean in speech and action

E. Pleasant disposition and sense of humor

F. Considerate of self and others

G. Acts according to age, not childish

VI. Dating issues between parents and children

A. Permission for the first date

B. Time limit (curfew)

C. Number of nights out per week

D. Control over the selection of a date

E. Restriction of young people to double dating

F. Restriction on kinds of activities planned on dates

G. Discussion of activities on dates

(NOTE: There may be a double standard between boys and girls.)

INFORMATION SHEET

VII. Reasons for and against going steady

A. For

1. Security of having a date
2. One feels more comfortable
3. Gets to know the opposite sex
4. Builds affection
5. Social acceptance among peer group

B. Against

1. One can cheat himself
2. Affection gets out of hand
3. May be the only way to always have a date
4. Cuts down the number of dating partners
5. Deprives of the wider experience of casual and closer friendships sometimes considered important for wise mate selection
6. Habit forming
7. Breaking up may be painful

VIII. Steps which help in making oneself more datable (Transparency 3)

A. Be yourself

B. Accept yourself for what you are

C. Be friendly

D. Accept others as they are

E. Have an interest in things outside yourself

F. Cultivate cheerfulness and optimism as a habit of life

IX. Rules that help in dating

A. Boys

1. Be definite when asking for a date
2. Be courteous to her parents

INFORMATION SHEET

3. Call for her courteously at the door

4. Know her curfew and take date home at an acceptable hour

5. Be prompt

B. Girls

1. Be gracious in accepting or refusing a date

2. Give the boy a definite answer when asked for a date

3. Show appreciation for his invitation

4. Once the date is accepted, keep it

5. Be prompt

6. Introduce date to parents

X. Problems of dating relationship

A. Quarreling

B. Lack of communication

C. Dislike for the other person's family

D. Less responsible or dependable in other parts of life than before dating this person

XI. Reasons teenagers drink and/or use drugs

A. To feel like an adult

B. To be one of the crowd

C. As a poor substitute for real fun

D. To get false feeling of confidence

E. To escape reality

XII. Danger signs of excessive drinking

A. An increase in drinking; more frequent drinking or drinking larger amounts than before

B. Drinking because of a "need" for a drink or as an escape or relief from emotional problems

INFORMATION SHEET

C. Drinking alone or in the morning

D. Drinking on the sly because friends or relatives are worried about one's drinking

E. A "blackout" from drinking

XIII. Danger signs of excessive use of drugs

A. An increase in use of drugs

B. Use of drugs because of need

C. Use of drugs while alone or to get started in morning

D. Use of drugs on the sly

E. Medical problems caused by drugs

XIV. Negative aspects of premarital sex

A. Damaging to reputation

B. Differences in the meaning of a sexual relationship

C. Venereal disease

D. Guilt feelings

E. Premarital pregnancy

F. Forced marriage

XV. Cause of venereal disease--Almost exclusively caused by sexual intercourse

XVI. Types of venereal disease and their symptoms

A. Syphilis

1. Cancer-like sores appear at the point of infection

2. Later signs are body rash, sore throat, headache, sores, low fever, falling hair

B. Gonorrhea

1. May have pus-like discharge

2. Burning feeling during urination

(NOTE: Person may have any or none of the above symptoms. Immediate treatment from a physician is necessary.)

INFORMATION SHEET

XVII. Basis for mate selection--One's appraisal of his own personality and that of a member of the opposite sex

XVIII. Desirable characteristics of a mate

A. Dependable, can be trusted

B. Considerate of self and others

C. Takes pride in personal appearance and manners

D. Shows affection

E. Acts own age, is not childish

F. Desires normal family life

G. Has pleasant disposition and sense of humor

H. Is clean in speech and action

I. Knows how to manage resources

Examples: Time, money, and energy

J. Approved of by parents

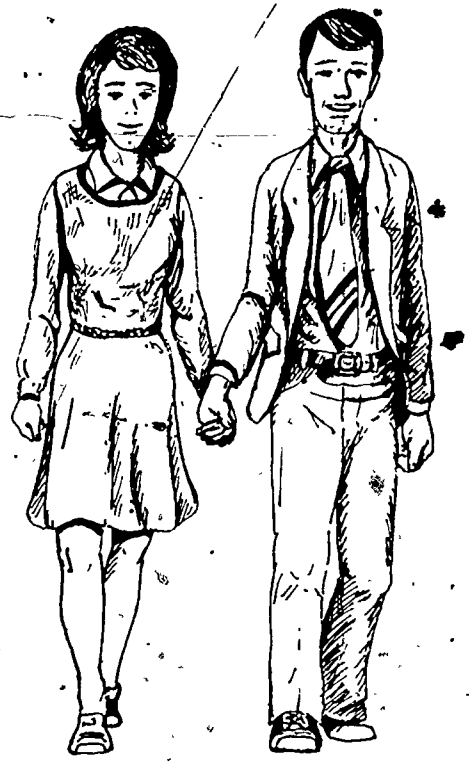
(NOTE: All of the characteristics of a good dating partner are included in this list.)

Factors Which Influence Personal Standards in Dating Behavior

Parents

Personality

Friends



Religion

Lifetime Goals

Traits

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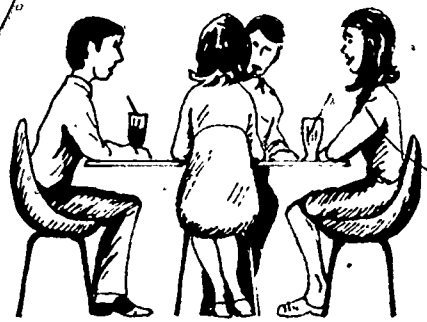
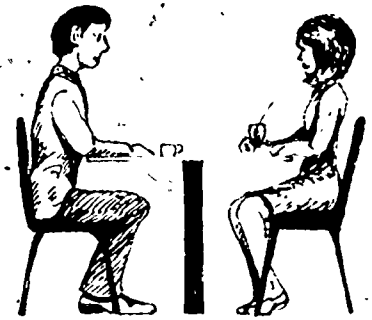
Steps in Dating

Mixed Groups

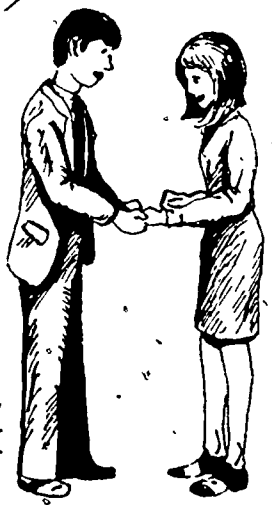


Double Dating

Casual Pair Dating



Going Steady



Engagement

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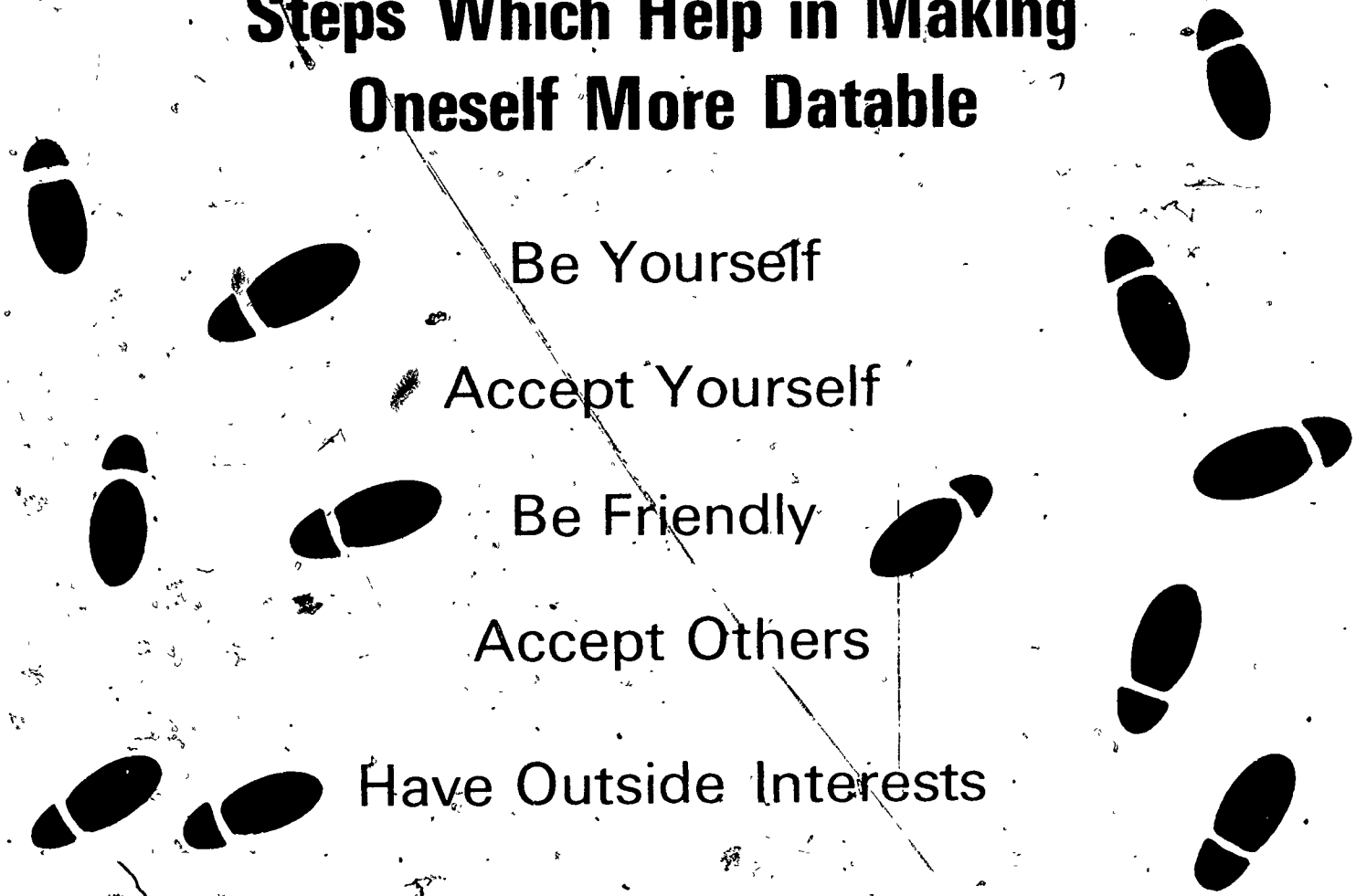
Steps Which Help in Making Oneself More Datable



Be Yourself

Accept Yourself

Be Friendly

Accept Others

Have Outside Interests

Cultivate Cheerfulness and Optimism

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DATING AND MATE SELECTION
UNIT II

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ASSIGNMENT SHEET #1--IN-DEPTH STUDY OF DRUGS

Collect and assemble information about a specific drug in which you are interested or one that has been assigned by your teacher. Bring this information to class for group discussion.

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DATING AND MATE SELECTION
UNIT II

ASSIGNMENT SHEET #2--RESEARCH VENEREAL DISEASE

According to various sources, venereal diseases could be eliminated as America's number one communicable disease. Research to determine how this could be done.

DATING AND MATE SELECTION
UNIT II

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TEST

1. Match the following terms to the correct definition.

_____a. Force that impels men and women, boys and girls toward an interest in each other	1. Infatuation
_____b. Practice of regularly dating one person exclusively for a period of time	2. Physical attraction
_____c. First stage of romantic love	3. Going steady

2. List six functions of dating in our culture.

a.

b.

c.

d.

e.

f.

3. Select and place an "X" to the left of those factors which influence personal standards in dating behavior.

_____a. Friends

_____b. Money

_____c. Personality

_____d. Religion

_____e. Age of car

_____f. Parents

_____g. Clothes

4. Arrange in order from one to five the following steps in dating.

_____a. Pair dating--Casual

_____b. Double dating

_____c. Pair dating--Going steady

_____d. Engagement

_____e. Mixed groups

5. Distinguish between desirable and undesirable characteristics of a dating partner by placing an "X" to the left of those which are desirable.

_____a. Considerate of self and others

_____b. Acts according to age, not childish

_____c. Clean in speech and action

_____d. Takes unnecessary risks

_____e. Boasts of achievements

_____f. Pleasant disposition and sense of humor

_____g. Physically and mentally fit

_____h. Talks excessively

6. Select and place an "X" to the left of important dating issues between parents and children.

_____a. Time limit (curfew)

_____b. Color of eyes

_____c. Control over the selection of a date

_____d. Conversation

_____e. Restriction on kinds of activities planned on dates

_____f. Permission for the first date

7. List three reasons for and three reasons against going steady.

a. For

1)

2)

3)

b. Against

1)

2)

3)

8. List five steps which help in making oneself more datable.

a.

b.

c.

d.

e.

9. Select and place an "X" to the left of rules that help in dating for girls.

_____a. Give boys a definite answer when asked for a date

_____b. Show appreciation for his invitation

_____c. Once date is accepted, keep it

_____d. Avoid direct answers to his questions

_____e. Be gracious in accepting or refusing a date

10. Select and place an "X" to the left of problems of dating relationships.

_____a. Quarreling

_____b. Lack of funds

_____c. Lack of communication

_____d. Dislike for the other person's family

_____e. Occasional differences of opinion

11. Select and place an "X" to the left of reasons teenagers drink and/or use drugs.

_____a. To be one of the crowd

_____b. For added nutrition

_____c. To escape reality

_____d. To feel like an adult

_____e. For parent approval

_____f. To get false feeling of confidence

12. List three danger signs of excessive drinking.

a.

b.

c.

13. List three danger signs of excessive use of drugs.

a.

b.

c.

14. List six negative aspects of premarital sex.

a.

b.

c.

d.

e.

f.

15. State the cause of veneral disease.

16. Discuss two types of veneral disease and their symptoms.

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17. State the basis for mate selection.

18. Select and place an "X" to the left of desirable characteristics of a mate.

_____a. Considerate of self and others

_____b. Takes pride in personal appearance and manners

_____c. Shows affection

_____d. Acts own age, is not childish

_____e. Desires normal family life

_____f. Has pleasant disposition and sense of humor

DATING AND MATE SELECTION
UNIT II

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ANSWERS TO TEST

1. a. 2
   b. 3
   c. 1
2. Any six of the following:
   a. Reinforces growth in personal attractiveness
   b. Provides opportunity for the development of social competence
   c. Provides experience for the development of poise
   d. Facilitates understanding of members of opposite sex
   e. Encourages the development of new friendships
   f. Provides a framework for learning to live with differences
   g. Provides opportunity for learning to plan and share
   h. Encourages the development of a sense of humor
   i. Provides opportunity to apply and test ethical standards
   j. Provides experience applicable to mate selection
3. a
   c
   d
   f
4. a. 3
   b. 2
   c. 4
   d. 5
   e. 1

5. a
   b
   c
   f
   g

6. a
   c
   e
   f

7. Any three of each of the following:

   a. 1) Security of having a date
      2) One feels more comfortable
      3) Gets to know the opposite sex
      4) Builds affection
      5) Social acceptance among peer group

   b. 1) One can cheat himself
      2) Affection gets out of hand
      3) May be the only way to always have a date
      4) Cuts down the number of dating partners
      5) Deprives of the wider experience of casual and closer friendships sometimes considered important for wise mate selection
      6) Habit forming
      7) Breaking up may be painful

8. Any five of the following:

   a. Be yourself
   b. Accept yourself for what you are
   c. Be friendly

d. Accept others as they are

e. Have an interest in things outside yourself

f. Cultivate cheerfulness and optimism as a habit of life

9. a

b

c

e.

10. a

c

d

11. a

c

d

f

12. Any three of the following:

a. An increase in drinking; more frequent drinking or drinking larger amounts than before

b. Drinking because of a "need" for a drink or as an escape or relief from emotional problems

c. Drinking alone or in the morning

d. Drinking on the sly because friends or relatives are worried about one's drinking

e. A "blackout" from drinking

13. Any three of the following:

a. An increase in use of drugs

b. Use of drugs because of need

c. Use of drugs while alone or to get started in morning

d. Use of drugs on the sly

e. Medical problems caused by drugs

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14. a. Damaging to reputation

    b. Differences in the meaning of a sexual relationship

    c. Venereal disease

    d. Guilt feelings

    e. Premarital pregnancy

    f. Forced marriage

15. Almost exclusively caused by sexual intercourse

16. Discussion should include:

    a. Syphilis

        1) Cancer-like sores appear at the point of infection

        2) Later signs are body rash, sore throat, headache, sores, low fever, falling hair

    b. Gonorrhea

        1) May have puslike discharge

        2) Burning feeling during urination

17. One's appraisal of his own personality and that of a member of the opposite sex

18. a

    b

    c

    d

    e

    f

ACCESSION NUMBER: VT101461

TITLE: TENTATIVE RESOURCE GUIDE FOR OCCUPATIONAL AWARENESS IN CAREER EDUCATION, KINDERGARTEN THROUGH GRADE SIX. (TEXT AND EVALUATION)

PERSONAL AUTHOR: LINDSEY, MARGARET B.; CONNOR, MARILYN S.

DESCRIPTOR: *RESOURCE GUIDES; *ELEMENTARY GRADES; *PROGRAM EVALUATION; *OCCUPATIONS; PERCEPTION; WORK ENVIRONMENT; *RESOURCE MATERIALS.

IDENTIFIER: BRYAN INDEPENDENT SCHOOL DISTRICT.

EDRS PRICE: MF AVAILABLE IN VT-ERIC SET.

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ABSTRACT: THIS RESOURCE GUIDE PROVIDES ELEMENTARY TEACHERS WITH IDEAS AND SUGGESTIONS FOR CREATING OCCUPATIONAL AWARENESS AMONG THEIR STUDENTS. BY USING THE "INTERDISCIPLINARY" APPROACH TO TEACHING, OCCUPATIONAL AWARENESS CAN BE ACHIEVED WITHOUT GREATLY ALTERING THE PRESENT CURRICULUM STRUCTURE OF THE ELEMENTARY SCHOOLS. THE GUIDE LISTS BY GRADE LEVEL: (1) GENERAL OBJECTIVES OF THE AWARENESS PROGRAM, (2) INSTRUCTIONAL OBJECTIVES OF EACH INSTRUCTIONAL TOPIC, (3) SUGGESTIONS FOR TEACHERS AND/OR STUDENT ACTIVITIES, AND (4) SUGGESTED MATERIALS AND RESOURCES TO BE USED FOR EACH LEARNING ACTIVITY. LESSON PLANS SHOULD BE DEVELOPED BY THE INDIVIDUAL INSTRUCTOR TO SUIT THE NEEDS OF HIS/HER STUDENTS. A LIST OF OCCUPATIONAL AWARENESS RESOURCE MATERIALS IS PRESENTED ALONG WITH AN APPENDIX CONTAINING VARIOUS SUGGESTED ACTIVITIES. THE PROGRAM EVALUATION REPORT CONTAINS A SUMMARY OF INSTRUCTIONAL STAFF AND STUDENT REACTIONS TO THE PROGRAM. (AUTHOR/KB)

INSTITUTION NAME: BRYAN INDEPENDENT SCHOOL DISTRICT, TEX.

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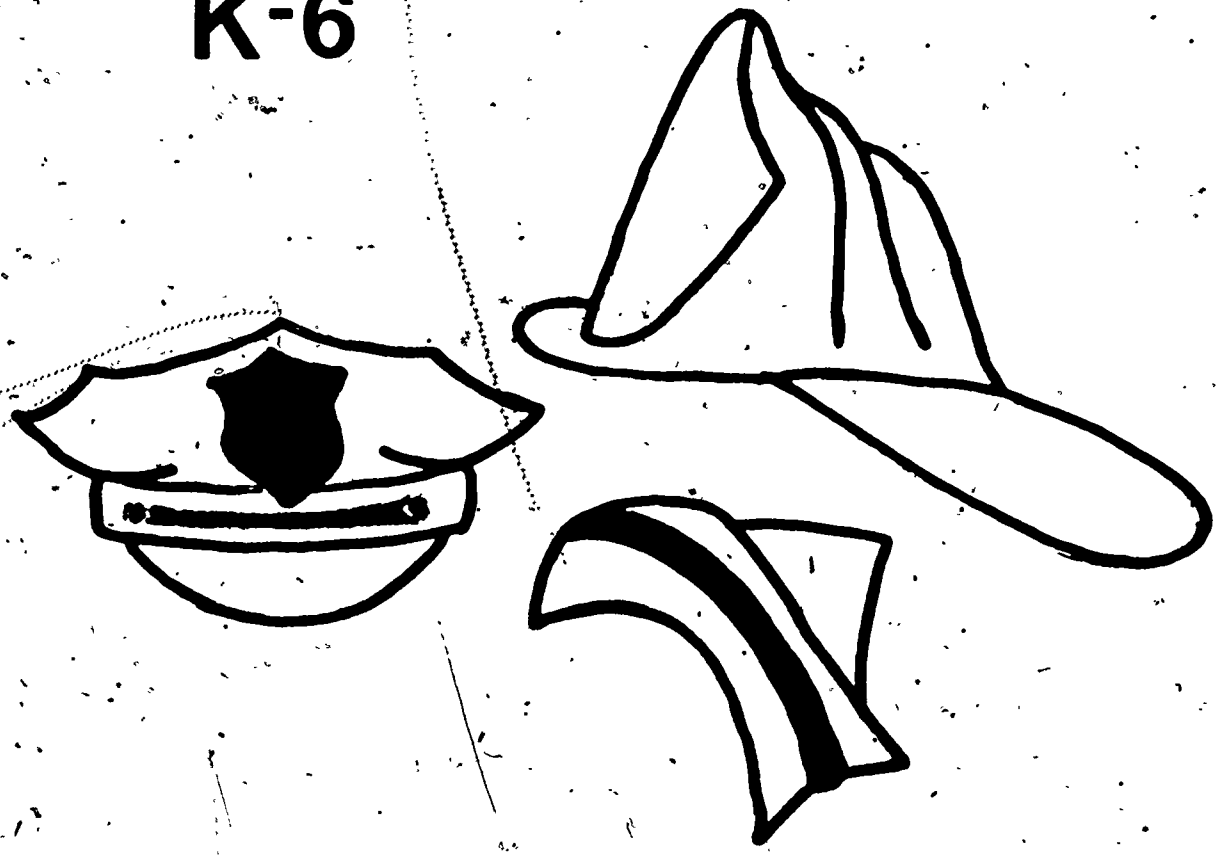
OCCUPATIONAL AWARENESS

K-6



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BRYAN INDEPENDENT SCHOOL DISTRICT

TENTATIVE RESOURCE GUIDE FOR

OCCUPATIONAL AWARENESS

IN

CAREER EDUCATION

Bryan Independent School District

1972 - 73

Prepared and Compiled
by
Margaret B. Lindsey and Marilyn S. Connor
Consultant-Coordinators

Developed in conjunction with Occupational Research and Development.
Texas Education Agency
Austin, Texas

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INTRODUCTION

This resource guide hopefully will provide elementary teachers within the Bryan Independent School District with ideas and suggestions for creating occupational awareness among their students. All teachers from kindergarten through the sixth grade may use it to incorporate career education into their regular teaching. By using an "interdisciplinary" approach to teaching, occupational awareness can be achieved without greatly altering the present curriculum structure of the elementary schools.

The guide lists by grade level (1) general objectives of the Awareness Program, (2) instructional objectives of each instructional topic, (3) suggestions for teachers and/or student activities, and (4) suggested materials and resources to be used for each learning activity.

Lesson plans should be developed by the individual instructor to suit the needs and level of his/her students. Notes should also be kept on the various approaches used to incorporate each learning activity. Teacher comments and suggestions will also be helpful to persons responsible for revising and updating this guide.

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The Challenge Is Yours!

"A boy does not merely grow up into a man: he imagines himself into manhood -- into the man he wants to be . . . A child becomes an adult in society thus, not as a kitten becomes a cat, by necessity, but by aspirations of his imagination. They uncover for him, and in turn he discovers the self that he wants to be." (Bronowski, 1969)

The successful implementation of this program depends in large measure on your leadership. One purpose of this guide is to provide you with information that will contribute to this leadership role. The major goal of this guide, however, is to provide some specific sequential steps for involving personnel from the entire school system and community who can be used in teaching concepts that are absolutely vital to our future well being.

The challenge is yours!

Charles B. Jones
Vocational Director

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Mrs. Aline Scasta, Librarian, Ben Milam
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OVERALL OBJECTIVES

The Occupational Awareness Program, Grades K through 6, will be developed around a series of concepts which appear as "Unit Headings" in this guide with activities and resources that will:

1. Make students more aware of the world of work
2. Create in students a wholesome respect for the dignity of work
3. Help students to develop worthwhile attitudes toward those who work
4. Enhance the value of work
5. Promote the students' understanding of a wide variety of career opportunities.

KINDERGARTEN

General Objectives

1. To help students realize that there are many kinds of work
2. To make students aware of the work activities of their mothers, their fathers and other members of their households
3. To emphasize the differences in work and play
4. To provide experiences for students to work with each other
5. To encourage students to be responsible in work and play

Instructional Objectives	Information to Be Presented	Suggestions for Teachers and/or Student Activities	Names and Sources of Material and Media
Inform students about the significance of work	.Definition of work .Reasons for working .Animals .People .Identification of different kinds of work	Teacher might initiate discussion about the meaning of work through the use of a bulletin board entitled "This Is Work . . ." Discuss bulletin board pictures by letting children tell about each worker. They may supply answers to these questions: 1. What is the worker doing? 2. Does the worker have a name? 3. Why does the worker do what he does? 4. Where does he work? 5. When does he work Class might make up lyrics to the tune, "The Mulberry Bush." Students may sing song and enact a variety of jobs.	For bulletin board, use pictures of people and animals at work --- Examples: Bird building nest Father at work Boy raking leaves Racoon washing food Mother doing household chores Girl washing dishes Mother hen guarding baby chicks The Fireside Book of Children's Songs
Expose students to work that children can do	.Skills needed by children to do simple work .Jobs that children can do at home and at school .Importance of jobs that children do at home and at school	Class might view and discuss filmstrip, "Wally, the Worker Watcher." Students might draw pictures of themselves doing some kind of work either at home or at school. Teacher may display art work around the room and ask students to	Number ECF-101, The Wonderful World of Work Series, Edu.Craft, Inc. Art paper, crayons, etc.

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Instructional Objectives	Information to Be Presented	Suggestions for Teachers and/or Student Activities	Names and Sources of Material and Media
		tell why their jobs are important. Class might play charades game and pantomine a job they do --- others may guess what it is.	

Instructional Objectives	Information to Be Presented	Suggestions for Teachers and/or Student Activities	Names and Sources of Material and Media
Provide pupils with an opportunity to see people who enjoy work	.The need for work and play .Differentiation of work and play	Students might locate some pictures of people at work and at play. They may be mounted and placed in a class scrapbook about the world of work.	Teacher-made scrapbook, old magazines, glue, construction paper, etc.
	.Duties of selected workers --- Examples: .Cowboy .Farmer .Fireman .Milkman .Painter .Pilot .Postman	Pupils might learn some simple songs about people at work --- Examples: "I Wish I Were a Farmer" "The Farmer and His Animals" "The People in Your Neighborhood" "When I Grow Up" Teacher may ask them to name the song they like best and tell why.	This Is Music, Book I The Sesame Street Song Book When I Grow Up
		Class might learn some simple fingerplays about a variety of workers. These might also be adapted for dramatizations.	See Appendix (for fingerplay and dramatization directions).
		Students might make clay models of themselves doing work they like to do best at home. They may explain their model to the class.	See Appendix (for directions for making modeling compound).
	.Examples of people who like their work.	Teacher might invite several fathers of students to come to class and show and tell about their jobs. They may	Resource speakers --- Examples: Baker Barber

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UNIT HEADING Work can be fun (enjoyable).

Instructional Objectives	Information to Be Presented	Suggestions for Teachers and/or Student Activities	Names and Sources of Material and Media
		emphasize the factors which cause them to like and enjoy their work. Teacher might read short stories to pupils about various workers. The class may then describe the reasons why each worker enjoys his job.	Grocer Nurse Homemaker Sesame Street People in Your Neighborhood When I Grow Up

UNIT HEADING Some work is easy and some work is hard. Page 12

Instructional Objectives	Information to Be Presented	Suggestions for Teachers and/or Student Activities	Names and Sources of Material and Media
Make students more aware of the work activities of their parents and siblings	.Jobs of family members: .Mothers .Fathers .Brothers .Sisters .Importance of family members' work	Teacher might request that pupils bring to class available pictures of their families or paint them. The children may show them and tell what work various family members do in and out of the home. Students might place pictures in a class scrapbook about the world of work or in a bulletin board display of "Families At Work."	Art paper, paints and brushes Teacher-made scrapbook For bulletin board, cut-outs of tools symbollic of each worker's job might be placed beside each picture
Help pupils to understand that work which is hard for one person may be easy for another	.Natures of work: .Mental .Physical	Teacher might involve the class in some games. One may be of low activity and be described to the students as involving mostly "head" work --- Example: "I Spy." The other game may be of high physical activity and be described to the students as involving mostly "body" work --- Example: "Drop the Handkerchief." At the close of the game period, students may tell which type work was the hardest for them --- "head" work or "body" work. Physical exercises might be substituted for an outdoor	

Instructional Objectives	Information to Be Presented	Suggestions for Teachers and/or Student Activities	Names and Sources of Material and Media
	.Jobs that require mental ability .Jobs that require physical ability	game on a bad-weather day. Teacher might arrange for students to take a "Walk Down Main Street." Pupils may be on the look-out for workers whose jobs look easy and those whose jobs look hard. Upon return to the classroom, the students might discuss some of the jobs they saw on their walk. They may also determine whether the jobs require mostly "head" work or "body" work.	Bulletin board display with city map of Bryan-College Station showing route to be taken (marked in red)

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UNIT HEADING: People work together.

Instructional Objective	Information to Be Presented	Suggestions for Teachers and/or Student Activities	Names and Sources of Media and Materials
Help students understand that sharing is a part of working together.	.Ways of sharing .Importance of sharing	Class might view and discuss filmstrips "How the Lollipop Dragon Got His Name" and "Working Together."	Numbers L-106-1 and L-106-2, Society for Visual Education
		Pupils might demonstrate ways they share in work at home by pantomining a job they help someone do. Others may try to guess what the job is.	Student demonstrations --- Examples: Making bed Picking up toys Emptying trash Dusting furniture
		Children might cut pictures of people working together from magazines and use in making a class mobile. Original art work may be substituted.	Coat hangers, string, clear tape, old magazines, scissors or art paper, crayons, etc.
Provide pupils with opportunities to work together	.Ways of working together .Benefits of working together	Students might make up an experience story about a family who works together. Teacher may want to start story and each child might contribute to it as it comes his turn. The story may be taped.	Experience story --- Example: Work can be fun when everyone helps. Many families work together. Keeping a house clean is important work. I help my family keep our house clean by ...
		Teacher might replay tape for students. She may ask them to listen and see if they worked together in preparing the experience story.	Tape recorder
		Teacher might assign each	

UNIT HEADING: People work together.

Instructional Objective	Information to Be Presented	Suggestions for Teachers and/or Student Activities	Names and Sources of Media and Materials
		pupil a specific clean-up task for the day. Minutes before students leave school, they may work together in straightening the room.	
		As an alternate activity, teacher might divide class into five or six work groups. She may give each group a sack in which to collect trash and waste paper. Students might spend a few minutes one afternoon a week cleaning a section of the campus or an area near the campus. A prize may be given the group whose sack is the fullest.	Paper bags Sample prizes: Bubble gum Cornsuckers Balloons
		Working in pairs, pupils might help each other put puzzles together.	Playskool Puzzles, "Community Workers" Series

(This page to be used for suggested revision and evaluation.)

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GRADE 1

General Objectives

1. To provide students with an understanding of the importance of jobs performed by parents and workers in the school
2. To stimulate students' thinking about occupations and about the world of work
3. To acquaint students with a variety of occupations in and around the neighborhood
4. To develop within pupils the recognition that work is honorable
5. To emphasize the values of work to students

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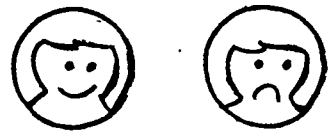
UNIT HEADING: Work should have dignity.

Instructional Objective	Information to Be Presented	Suggestions for Teachers and/or Student Activities	Aides and Sources of Media and Materials
Increase students' understanding of pride	.Differentiation of doing one's best and doing only what one has to do .Importance of doing one's best	Class might listen to and discuss story about "Good Guy and Old Lazy." Teacher may pose these questions: 1. Why is Good Guy called "Good Guy?" 2. Why is Old Lazy called "Old Lazy?" 3. What choice did Barney have to make? 4. Did you ever have to choose between doing only what you had to and doing your best? When? 5. Have you ever felt good when you have done your best? When?	DUSO Kit D-1: Record 9, Side Story Book 1 (IV-F) Poster (IV-F)
	.Definition of pride .Significance of pride	Pupils might view and discuss transparency relating to people who do their best and people who do only what they have to. Teacher may pose these questions: 1. Who do you see when you look at this picture? 2. What kind of people are they? 3. What is the bum saying to the worker? 4. What might the worker say back to the bum? 5. Which man is doing his best? 6. Which man is doing only	Number 2, Career Transparency Series

Instructional Objective	Information to Be Presented	Suggestions for Teachers and/or Student Activities	Names and Sources of Media and Materials
		what he has to do? 7. Which man is probably proud of himself? Why? 8. Which man do you want to be like? Why? 9. What is pride?	
		Students might make an "I'm Proud I'm Me" bulletin board. Instructor may assign each child a section of bulletin board space on which to display a picture of himself. Around their pictures, children might place some objects which represent individual sources of pride.	"I'm Proud I'm Me" display items --- Examples: Perfect spelling paper Brownie cap Ballet shoes Baseball bat Special art work Neat math paper
		Pupils might find magazine pictures of people who look proud and tell why they think the people are proud.	Old magazines which can be clipped
		Class might play the "How Do You Feel?" game. Children may make a smile-frown face from two small paper plates. Each child might paste the plates together back-to-back with a tongue depressant, lollipop fashion. Teacher may read statements similar to the following: 1. How do you feel when your teacher gives you back a perfect test paper?	Small paper plates, colored marking pens, tongue depressants, glue or cellophane tape 

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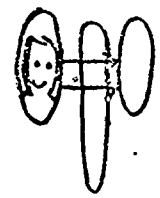
Instructional Objective	Information to Be Presented	Suggestions for Teachers and/or Student Activities	Names and Sources of Media and Materials
Provide students with an opportunity to develop a sense of pride in work	.Definition of responsibility .Doing one's best and being responsible results in pride in work .Characteristics of responsible workers	2. How do you feel when your mother fusses at you for not putting your clothes away? 3. How do you feel when your father tells you, "You did a good job of raking the leaves?" Pupils might reveal their pride-shame feelings about each question by showing either the smile or frown face. Teacher might ask each child to volunteer something he can do in keeping his classroom a happy, pleasant place. (This could include such things as helping serve and prepare for milk-time, making a beauty spot in the classroom, dusting, taking care of the coatroom, mixing paints, etc.) If each child succeeds at his job, teacher might give him a special "Pride" badge to wear at school. When asked about the badge, the child may explain that it is a reward for a job well done.	 Construction paper, felt-tip markers and colored ribbon

Instructional Objective	Information to Be Presented	Suggestions for Teachers and/or Student Activities	Names and Sources of Media and Materials
Help pupils understand the differences in wants and needs	.Definition of wants .Definition of needs .Differentiation of wants and needs	Teacher might read or tell stories about children with special wants and needs to class. She may then initiate a discussion about wants and needs by posing these questions: 1. What is a "want?" 2. What are some of your wants? 3. What is a "need?" 4. What are some of your needs?	Library books ---. Examples: The Biggest Bear The Smallest Boy in the Class
		Teacher might bring several items to class for students to differentiate according to whether they want or need them. As items are shown, pupils may indicate whether they consider them to be a want by standing or a need by raising both arms while sitting.	Sample items: Sweater Candy bar Picture of a house Tricycle Glass of water Shoes Baseball bat Bar of soap Cookies
Show students how work fulfills the needs of parents and school workers	.Identification of some personal reasons for working .Identification of some social reasons for working .Ways jobs of parents or school workers might bring personal or social	Class might take a "Watch for Workers" field trip. Pupils may stop and interview some of the workers they see to find out why they need or want to work. Upon returning to the classroom, students might compile and record a list of reasons why interviewees	School plant facilities Chalkboard

Instructional Objective	Information to Be Presented	Suggestions for Teachers and/or Student Activities	Names and Sources of Media and Materials
	fulfillment	may need or want to work. As an alternate activity, students might interview their parents to learn why they need or want to work. A similar list of reasons may be compiled and recorded. Students might then determine if their work best helps parents to fulfill personal or social needs. Another variation of this activity might allow students to create some stick-puppets representing the jobs of parents and school workers. By means of a stick-puppet show, students may reveal reasons why each worker needs or wants to work. Class might view and discuss filmstrips, "Our School Workers" or "The Principal," "The Librarian," "The School Nurse," and "The Custodian and Bus Driver." Students may ascertain ways these workers' jobs bring them personal or social fulfillment.	Chalkboard Tongue depressants, stiff paper, crayons, scissors, tape, etc. Numbers 641251, 641257, 641255, 641256, and 641258, McGraw-Hill Book Company School Workers Series

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UNIT HEADING: People work to meet personal and social needs.

Instructional Objective	Information to Be Presented	Suggestions for Teachers and/or Student Activities	Names and Sources of Media and Materials
		Teacher might invite a school worker to show and tell the class about his work. He may also tell students why his work is important to him. Teacher might record some of the sounds associated with the jobs of various school workers. She may play tape for children and let them guess who the workers are and try to determine ways in which their work is self-fulfilling. Teacher might arrange for class to visit the principal's office. He may demonstrate how he operates bells, intercom, etc., and explain what his job means to him.	Resource speakers --- Examples: Secretary Nurse Bus driver Custodian Librarian Sounds of school workers---- Examples: Secretary - typewriter Cook - pots and pans Custodian - vacuum cleaner Resource speaker --- School Principal

Instructional Objective	Information to Be Presented	Suggestions for Teachers and/or Student Activities	Names and Sources of Media and Materials
Help pupils to identify rewards and satisfactions	.Definition of reward --- something one gets for doing a good job Definition of satisfaction --- a feeling one has for doing a good job	Class might relate stories to one another about the rewards and satisfactions received at school and at home for work well done. Examples --- a "star" on paper, a smile from principal, a dime for emptying garbage cans at home, or a pat on the back for having the cleanest desk in the room. Throughout one school day, teacher might encourage students to stay busy. As a "reward" incentive, she might promise to let students have a sing-song at the end of the day. Pupils may sing songs about people and their jobs. They might also tell how the songs made them feel toward work. As an alternate "reward" incentive for work, teacher might give students colored slips of paper for performing different clean-up jobs within the room. Examples --- dusting book shelves and erasers, cleaning blackboard, or straightening desks. If enough colored slips are earned during the week, stu-	Sing a Song of People --- Examples: "Singing Postman" "The Milkman" "Our Helpers" "Let's Build a House" "A Policeman" LP Record, "Sing A Song of People" Colored slips of paper and assorted hard candies

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Instructional Objective	Information to Be Presented	Suggestions for Teachers and/or Student Activities	Names and Sources of Media and Materials
		dents may purchase pieces of hard candy before leaving school for the weekend. Teacher might invite a resource speaker who plays a musical instrument to come to class and perform for students. Pupils may then interview the person to find out why he feels good about being a musician. Teacher might read stories to class about people who work. Pupils may discuss reasons why story characters feel good about their work.	Resource speaker --- Examples: Local piano teacher School music teacher Guitarist Member of high school band I Want to Be ... Book Series --- Examples: ... A Librarian ... A Musician ... A Secretary ... A Teacher
Provide students with opportunities to examine various rewards and satisfactions for performing work	Reasons people work: .Some have to .Some want to	Class might view and discuss transparency relating to the reasons people work. Teacher may pose these questions: 1. What does each worker do? 2. How do you know? 3. Why might each worker need a job? 4. What is "prestige?" 5. What are some of the things people earn money for? 6. If you want some of the same things, how could you get them?	Number 1, Career Transparency Series

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Instructional Objective	Information to Be Presented	Suggestions for Teachers and/or Student Activities	Names and Sources of Media and Materials
	.Kinds of rewards and satisfactions received through work --- Examples: .Financial (money) .Social (prestige) .Self-fulfillment (being happy)	Pupils might view and discuss filmstrips, "The Newspaper Boy" and "The Junior Home-Maker." Teacher may pose these questions: 1. What are some of the jobs each of these workers perform? 2. What are their reasons for working? 3. What special rewards and satisfactions might they find in their work?	Numbers ECF-102 and ECF-103, The Wonderful World of Work Series, Edu.Craft, Inc.
		Teacher might tell class an imaginary story about a boy or girl getting paid for his/her very first job. Pupils may illustrate the work role of that individual and show how they would spend the money if they had earned it. This might be accomplished by gluing cut-outs or drawing pictures of the items to be purchased around the worker. (Instructor may limit to five items.)	Manila art paper, crayons, scissors, toy catalogues or children's magazines, glue, etc.
		A good follow-up activity might be for students to illustrate the job they would most like to have if working mainly for prestige. They may explain the special	Manila art paper and crayons

Instructional Objective	Information to Be Presented	Suggestions for Teachers and/or Student Activities	Names and Sources of Media and Materials
		rewards and satisfactions offered them by the job.	
		Still another follow-up activity might give pupils an opportunity to illustrate the job they would most like to have if working mainly for self-fulfillment. They may tell the class what special rewards and satisfactions they receive from the selected occupation.	Manila art paper and crayons
	Ways that values affect the kinds of work people do	Of these drawings, students might select one to use in a bulletin board display entitled, "People Work for Various Rewards and Satisfactions." Pictures may be grouped according to "Money," "Prestige," and "Self-Fulfillment."	Colored corrugated paper, pin-back letters, straight pins, etc.

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Instructional Objective	Information to Be Presented	Suggestions for Teachers and/or Student Activities	Names and Sources of Media and Materials
Help pupils to understand that being students is their present career	.Typical work day of students	Class might make up lyrics to the tune, "The Mulberry Bush." Pupils may sing song and enact a student going through a typical school day. Examples --- This is the way we ... dress for school; catch the bus; greet our teacher; read our books; check our spelling, etc.	The Fireside Book of Children's Songs
	.Typical work day of parents	Teacher might invite several parents to come and tell the class about a working day. They may stress skills they learned at school. Pupils might prepare a panorama comparing a parent's work day with a student's. It caption may be "Keeping Busy in Our Careers..." Instructor might prepare two spirit masters with different captions at the bottom. Examples --- "My father's or mother's occupation is _____" and "My occupation is being a student." Children may illustrate each and fill in the name of the parent's occupation. The pictures might be mounted on brightly colored papers	Resource speakers --- Examples: Homemaker Grocery checker Carpenter Automechanic Butcher paper, crayons, poster paints, brushes, etc. Spirit masters, brightly colored construction paper, glue and masking tape

Instructional Objective	Information to Be Presented	Suggestions for Teachers and/or Student Activities	Names and Sources of Media and Materials
		and placed in a hall display for others to see.	
	Importance of skills learned at school	Teacher might read stories to students about other careers. Pupils may discuss how some of the skills learned at school are used by the workers.	Come to Work With Us ... Book Series --- Examples: ... in a Toy Factory ... in a Hospital ... in a T.V. Station ... in House Construction
		Class might put on a mock television interview and call it "An Interview With Ms. _____'s Students." Teacher may play the role of the interviewer and students may dress up as if they were going on live T.V. Interviewer may pose these questions: 1. Have you ever wished you didn't have to come to school? 2. What would you do if you didn't come to school? 3. What kind of work are you qualified to do? 4. What skills might you need for that job? 5. How will schools help to prepare you for that job? Teacher may replay video-tape to reinforce the idea that school is a part of the preparation for a career.	Video-tape recorder

Instructional Objective	Information to Be Presented	Suggestions for Teachers and/or Student Activities	Names and Sources of Media and Materials
		A variation of this activity might be for students to use hand puppets and tape-record a mock radio interview. Children may answer the same interview questions but project their feelings through other mediums.	DUSO Kit D-1 hand puppets and tape recorder
Emphasize some of the ways schools helps prepare one for a career	.Skills developed at school make a person a more desirable employee. Examples: .Good manners .Ability to get along with others. .Competencies in reading, writing and arithmetic	Class might listen to and discuss story about "The Traffic Light Song." Teacher may pose these questions: 1. What does the word "important" mean? 2. What does the word "remember" mean? 3. What important lesson did Nina and Marty learn at school? 4. Did Marty think the lesson was important? 5. How do you know? 6. When should you remember what you learn at school? 7. Can you think of something important you have learned at school?	DUSO Kit D-1: Record 13, Side 3 Story Book II (V-D) Poster (V-D)
		Pupils might view filmstrip(s) "Home Manners," "School Manners," or "Community Manners." In a follow-up discussion, they may point out	Series 395, Troll Associates

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Instructional Objective	Information to Be Presented	Suggestions for Teachers and/or Student Activities	Names and Sources of Media and Materials
		reasons why good manners are important to people who work. As a role play activity, students might play "The Nice Way To Do It Game.". Working in pairs, they may identify some manners learned at school. One child may show the "not so nice" way to treat someone and the other may display the "nice way" to treat someone. Examples --- getting in line at the water fountain, contributing to a class discussion, answering the telephone, saying "please" when asking someone to help you, etc. Students might play some basic skill development games. Examples --- flash card math match, spelling bee, or count-your-change match Pupils might select a worker from the community workers poster file and discuss how any two basic school skills such as reading, writing, and arithmetic are used by this worker on his job.	Numerical flash cards, spelling books and coins (pennies, nickels, and quarters) Milton Bradley "Community Workers and Helpers" poster cards

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UNIT READING: People need special training for most careers.

Instructional Objective	Information to Be Presented	Suggestions for Teachers and/or Student Activities	Items and Sources of Media and Materials
Emphasize that different jobs require different skills and knowledge	.Identification of basic classroom skills --- .Reading .Writing .Arithmetic .Importance of basic school skills	Class might view pictures of people in their jobs to determine what basic skills are used by most of the workers. Teacher might design a special chart on which to record individual student progress in basic subject areas. Each child's name should be listed on the chart. When selected skills are mastered, students may add a gold star by their name. (Teacher might explain that skills developed at school are used in many different occupations.)	Cook "Home and Community Helpers" Teaching Pictures Poster board, felt-tip marking pen, and gummed gold stars
	.Ways that people use basic skills and knowledge in their work	Class might view filmstrip(s) "Gas and Oil Service Workers" and "Telephone Workers Who Make the Phone Ring." In a follow up discussion, teacher may point out some of the special skills needed by these workers. Teacher might read rhymes to pupils which stress various skills and knowledge needed by different workers. Students may play guessing game to determine who each worker is.	Number ECF-105 and ECF-106, The Wonderful World of Work Series, Edu.Craft, Inc. Guess Who? Come to Work With Us ... Book Series -- Examples: ... in a Hotel ... in an Airport ... in a Newspaper

Instructional Objective	Information to Be Presented	Suggestions for Teachers and/or Student Activities	Names and Sources of Media and Materials
			... in a Dairy
		Pupils might prepare individual booklets about the workers they hope to become. They may illustrate or use magazine clippings to depict as many duties of the selected worker as possible. Example --- Nurse: 1. Nurse weighing child 2. Nurse giving a sick child a pill 3. Nurse bandaging a hurt child's finger Teacher might put the "I Want to Be ..." booklets on display around the room. As time permits, pupils may look at the booklets to discover what special knowledge and skills are required in different occupations.	Brightly colored construction paper, crayons, hole puncher, scissors, brads or ring binders, glue, etc.
Investigate how, when and where people learn special job skills	.Identification of special job skills .Importance of knowing about special job skills .Ways of learning job skills: .Seeing	Teacher might provide pupils with a list of familiar occupations and let them choose two or three they want to investigate in depth as a class. Teacher might invite a re-	Familiar occupations --- Examples: Grocer Postman Beauty operator School cook Baker Carpenter Resource speakers --- Exam-

Instructional Objective	Information to Be Presented	Suggestions for Teachers and/or Student Activities	Names and Sources of Media and Materials
	.Hearing .Touching .Tasting .Smelling .Writing .Moving .Talking .Doing .Tools and materials used by selected workers	source speaker from one of the high school vocational programs to come and tell the pupils about the special job skills they are learning. Class might set up displays of model businesses. Pupils may take turns at being the workers and train others in the class to do their jobs. Teacher might arrange for class to take a field trip to see how, when and where people learn special job skills. Teacher might create some "Occupacs" or job-training kits to show students how, when and where people learn special job skills.	ples: ICT - leatherworker DE - grocery store sacker HECE - floral designer Cosmetology - beautician Health Occupations - nurse's aide VOE - receptionist Model businesses --- Examples: Post office Grocery store Beauty shop Bakery Service station Field trip suggestions: Fire station Post office City library Bakery See Appendix (for description of an "Occupac.")

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HEADING: Careers are of wide variety.

Instructional Objective	Information to Be Presented	Suggestions for Teachers and/or Student Activities	Names and Sources of Media and Materials
Acquaint pupils with a variety of workers	.Identification of selected neighborhood workers --- Examples: .Mailman .Fireman .Policeman .Grocer .Teacher .Doctor .Nurse .Dentist .Baker .Libnarian .Bus driver .Taxi driver .Work roles of selected neighborhood workers	Class might view and discuss the wide variety of careers displayed on the hat rack. Teacher might prepare dot-to-dot pictures of different kinds of hats and reproduce on spirit masters. Pupils may complete to discover what hats are worn by different neighborhood workers. Students might make paper-bag puppets of several neighborhood workers. Teacher may initiate a discussion about the work role of each worker. Class might put on a puppet show that depicts the work roles of several neighborhood workers using paper-bag puppets Teacher might place paper-bag puppets on display with a caption of "Mirror, Mirror on the Wall, Whose Work Do I Do Best of All?" (She may place a small mirror on the bulletin board so that the children can see their own reflection when they look at the display.)	Number 21, Career Transparency Series See Appendix (for sample picture). Spirit masters More Paper-Bag Puppets --- Sample: See Appendix (for adapted script to "You're a Blockhead, Charlie Bronson!") Small mirror, plastic pin-back letters, colored corrugated paper and paper-bag puppets

Instructional Objective	Information to Be Presented	Suggestions for Teachers' and/or Student Activities	Names and Sources of Media and Materials
Stress the importance of various workers	Need for neighborhood workers	Pupils might present a parade of workers and invite parents and friends to attend. Children may introduce themselves by saying, "I am a _____; I am important because ..." (and relate some important facts about each worker's job).	Props and clothing associated with different neighborhood workers.
		A variation of this activity might allow pupils to pantomime the work role of a variety of workers. Other students may guess who they are.	Suitable props and clothing
		Teacher might read stories to class about different neighborhood workers. In a follow-up discussion, pupils may point out ways these workers are important to members of the community.	I Want to Be ... Book Series --- Examples: ... a Policeman ... a Fireman ... a Nurse ... a Doctor
		After students are familiar with the basic story lines, teacher might tape record them. Using life-size puppet characters, children may "play out" the stories to demonstrate the important jobs of these workers.	Cassette tape recorder "Community Helpers" Series, Instructo Puppet Playmates

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EVALUATION

GRADE 1

1. THE SCHOOL JANITOR HAS AN IMPORTANT JOB. BELOW, THERE IS A CHECK MARK BESIDE THE SCHOOL JANITOR. (PUT CHECKS IN THE BLANKS BY THE OTHER WORKERS LISTED IF THEIR JOBS ARE NEEDED IN THE WORLD OF WORK.)

✓ SCHOOL JANITOR	____ SCHOOL COUNSELOR	____ DOCTOR
____ CAR MECHANIC	____ HOMEMAKER	____ SCHOOL SECRETARY
____ SCHOOL COOK	____ SOLDIER	____ GAS STATION WORKER

2. THIS YEAR AT SCHOOL, YOU TALKED ABOUT PEOPLE AND THEIR WORK. SINCE WORK IS GOOD FOR PEOPLE, IT HAS "YES" WRITTEN BY IT. READ EACH SENTENCE BELOW. IF YOU THINK THE SENTENCE IS RIGHT, PUT "YES" IN THE BLANK. IF YOU THINK THE SENTENCE IS WRONG, PUT "NO" IN THE BLANK.

YES 1. WORK IS GOOD FOR PEOPLE.

____ 2. THERE ARE MANY KINDS OF WORK.

____ 3. PEOPLE WORK FOR MANY REASONS.

____ 4. WE EARN MONEY THROUGH WORK.

____ 5. JOBS MAKE SCHOOL IMPORTANT.

____ 6. PEOPLE LEARN TO DO (SPECIAL) JOBS.

3. AN OCCUPATION IS A JOB. WHICH OF THE FOLLOWING ALSO MEANS OCCUPATION? (CHECK ONLY ONE.)

_____ THE WORLD OF WORK

_____ A TYPE OF WORK

_____ LOTS OF WORKERS

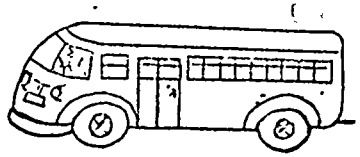
4. DO YOU THINK IT IS GOOD TO WORK? (CIRCLE ONE.) YES NO

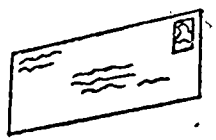
DRAW A LINE TO THE TOOL OR SYMBOL WHICH BEST MATCHES EACH WORKER BELOW:

SCHOOL JANITOR

POLICEMAN

TAXI DRIVER





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FIREMAN

SCHOOL BUS DRIVER

POSTMAN

SCHOOL SECRETARY

MILKMAN

5. A MILKMAN'S JOB IS TO DELIVER MILK TO HOMES. DECIDE THAT STATEMENT BELOW IS A CHECK MARK. (TELL WHAT THE OTHER WORKERS DO BY COMPLETING EACH STATEMENT WITH A CHECK MARK.)

A MILKMAN'S JOB IS TO . . . . . ____ FIX FLATS.

____ DELIVER MAIL.

✓ DELIVER MILK TO HOMES.

A TAXI DRIVER'S JOB IS TO . . . . . ____ MAKE PEOPLE WELL.

____ CARRY PEOPLE ACROSS TOWN.

____ TEACH CHILDREN.

A POLICEMAN'S JOB IS TO . . . . . ____ TRAIN ANIMALS.

____ BAKE BREAD.

____ DIRECT TRAFFIC.

A POSTMAN'S JOB IS TO . . . . . ____ CLEAN HOUSE.

____ DELIVER MAIL.

____ HELP SICK PEOPLE.

A FIREMAN'S JOB IS TO . . . . . ____ PUT OUT FIRES.

____ FIX CARS.

____ BUILD HOUSES.

(This page to be used for suggested revision and evaluation.)

GRADE 2

General Objectives

1. To provide students with experiences in group cooperation
2. To explore a wide variety of occupations in and around the neighborhood and community
3. To create a sense of interdependence among pupils through activities involving teamwork or assembly-line techniques
4. To acquaint students with job families
5. To develop the students' ability to distinguish between workers who produce goods and those who produce services

UNIT HEADING: In many careers, cooperation among workers is essential.

Instructional Objective	Information to Be Presented	Suggestions for Teachers and/or Student Activities	Names and Sources of Media and Materials
Emphasize the importance of being able to work with others	.Definition of cooperation .Disadvantages of people working alone .Advantages of people working together	Class might listen to and discuss story about Captain Blooper's birthday cake. Teacher may pose these questions: 1. Could one of the pirates have lifted the cook over the cake? 2. How many did it take? 3. What happened when some of the pirates did not do their part? 4. What did the cook depend on the pirates to do? 5. Can you think of people you depend on? 6. What do people depend on you to do? 7. Why do they depend on you? As an alternate activity, teacher might read story of the little red hen and the grain of wheat to students. She may then pose these questions: 1. What did the little red hen want to do? 2. Did she manage to do it? 3. Why was it so hard for her? 4. Why is it important for everyone to do their part? 5. What is "cooperation?"	DUSO Kit D-1: Record 7, Side A Story Book I (III-A) Poster (III-A) The Little Red Hen and The Grain of Wheat

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Instructional Objective	Information to Be Presented	Suggestions for Teachers and/or Student Activities	Names and Sources of Media and Materials
	.Examples of people working together cooperatively	6. Why is cooperation important to people who work? 7. Why is being able to work together important? Students might view and discuss filmstrip, "Sharing With Others." Instructor may point out ways that sharing helps people to work and play together. Teacher might read stories to pupils about a variety of careers in which people must work cooperatively. Students may then point out ways each worker cooperated with another worker in order to do his job. Instructor might arrange for class to take a field trip to a business where people on-the-job work cooperatively with each other. As an alternate activity, class might view and discuss filmstrip(s) "Electrical Servicers," "Service Station Workers," or "Drug Store Workers" to discover how people on-the-job work cooperatively with each other.	No. 9491 S.V.E. Guidance Stories Series, Encyclopedia Britannica Films, Inc. I Want To Be ... Book Series --- Examples: ... a Weatherman ... a Football Player ... a Fisherman ... a Roadbuilder Field trip suggestions: Soft drink bottling company Local supermarket Bank Drug store No. ECF-104, ECF-111, and ECF-109, The Wonderful World of Work Series, Edu. Craft, Inc.

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UNIT HEADING: In many careers, cooperation among workers is essential.

Instructional Objective	Information to be Presented	Suggestions for Teachers and/or Student Activities	Notes and Sources of Media and Materials
Provide students with experiences in group cooperation.	.Ways that people work together cooperatively .Factors that affect group cooperation --- Examples: ...Getting along with others .Sharing .Dependability	Children might work together in painting a mural of the story of "Captain Blooper's Cake." Teacher may divide class into groups and make each group responsible for a part of the story. Each section might be separately constructed and attached when finished to make a large mural. As an alternate activity, teacher might divide the class into small groups with each one representing a family. Pupils may role play a home activity in which they work cooperatively with other members of the family. Example --- one group might act out how they would get dinner ready, served, and the kitchen cleaned. Following the above role play activity, pupils might discuss how each member of the group cooperated with another.	Butcher paper, tempera paints, brushes, etc. Few pieces of kitchen equipment, table cloth, dishes, sponge, dishpan or other suitable items

Instructional Objectives	Information to Be Presented	Suggestions for Teachers and/or Student Activities	Names and Sources of Material and Media
Help students to differentiate goods and services	.Definition of goods .Definition of services .Importance of workers who produce goods and services .Identification of some workers who produce goods and services --- Examples: .Airplane pilot .Baker .Cowboy .Doctor .Engineer (train) .Farmer .Grocer .Homemaker .Ice cream maker .Judge .Kennel owner .Librarian .Milkman .Nurse .Office worker .Policeman .Quarterback .Rocket builder .Soldier .Teacher .U.S. Congressman .Violinist .Weatherman .X-Ray man	Class might view and discuss transparency relating to differences in goods and services. Teacher might ask students to bring some items from home that can be set up in a class display as examples of "goods" that have been produced by a variety of workers. Examples --- toys, foodstuffs, art objects, apparel, etc. Pupils might collect pictures of people providing services for other people. They may mount them and use in a bulletin board display with the caption, "Workers Who Provide Services for You and Me." Teacher might read poems about different types of workers to students. She may ask pupils to decide whether the worker is a producer of goods or services. (Students may respond by clapping their hands if the worker is a producer of goods. They may raise their hands if	Number 4, Career Transparency Series Students may bring from home Old magazines, construction paper, glue, etc. What Will I Be From A To Z?

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Instructional Objectives	Information to Be Presented	Suggestions for Teachers and/or Student Activities	Names and Sources of Material and Media
	.Youth leader .Zoo keeper	the worker is a producer of services).	
Provide students with opportunities to be producers of goods and services	.Assembly-line method	Students might prepare an uncooked candy using the assembly-line technique in the classroom. They may want to package, label and taste the candy, too. Teacher might explain that the students are producers of goods.	See Appendix (for directions for making uncooked candy).
	.Nature of service jobs --- Examples: .Beautician .Seamstress .Carpet cleaner .Spotter	Students might participate in some activities common to the service occupations. Girls may practice combing hair or sewing on buttons (services provided by beauticians and seamstresses) and boys may practice cleaning carpet squares and spot-cleaning apparel (services provided by carpet cleaners and spotters).	Combs, brushes, mirrors; needles, thread, buttons, scissors, garments with lost buttons; carpet squares, stiff brushes, rug shampoo; fabric swatches, cleaning solvent or other suitable materials
	.Nature of goods-producing jobs --- Examples: .Candy maker .Baker .Furniture maker		
Expose students to workers who are producers of goods and services	.Working conditions of selected service and goods-producing occupations	Teacher might arrange for students to take a field trip to a business where goods are produced locally. As an alternate activity, students might take a mock field trip through a factory to see how candy is produced.	Field trip suggestions: Tortilla factory Bakery Costume factory Furniture factory Taxidermy shop "Let's Visit A Candy Factory" Slide Series

UNIT HEADING: Some workers produce goods; others services.

Instructional Objective	Information to Be Presented	Suggestions for Teachers and/or Student Activities	Names and Sources of Media and Materials
	.Duties performed by selected workers in goods and service occupations	Teacher might arrange for class to take a field trip to a business where services are provided. Class might view and discuss filmstrip, "Mail Delivery."	Field trip suggestions: Laundry Beauty salon Barber shop Number ECF-107, Eye Wonderful World of Work Series, Ed.Craft, Inc.

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Instructional Objective	Information to Be Presented	Suggestions for Teachers and/or Student Activities	Names and Sources of Media and Materials
Help students to understand how one man's job depends on another's	.Examples of specialized jobs: .Teacher .Librarian .Groceryman .Fireman .Policeman .Farmer .Doctor .Dentist .Nurse .Bus driver .Baker .Factory assembler .Parts deliveryman .Dependency among workers	Class might view and discuss transparency relating to specialization and interdependency among workers. Teacher may pose these questions: 1. What is a "nut?" 2. What is a "bolt?" 3. What is a "screw?" 4. What are nuts, bolts and screws used for? 5. Can you find examples of nuts, bolts and screws in your classroom? 6. The worker in the gray suit is a factory assembler; what does he do? 7. The worker in the blue suit is a parts deliveryman; what does he do? 8. Why is the man in the gray suit happy to see the man in the blue suit? 9. Why is each man's job dependent on the other? As an alternate activity, class might view and discuss slide series, "What Do You Like To Do?" Teacher may pose these questions: 1. What do each of these workers have in common? 2. Why are they interested in health occupations?	Number 6, Career Transparency Series Dictionary of Occupational Titles Health Careers Slide Series

UNIT HEADING: Specialization leads to interdependency.

Instructional Objective	Information to Be Presented	Suggestions for Teachers and/or Student Activities	Names and Sources of Media and Materials
		3. Could one worker do his job without the help of another? 4. What does it mean "to depend" on someone? 5. How do each of these workers depend on each other? 6. If you were in a car wreck and broke your leg, how many of these workers might you depend on to help you get well?	
		Class might learn some simple songs relating to the world of work --- teacher may add other workers to the lyrics of the songs. As a follow-up activity, students might talk about how the various workers in the songs help someone else to do their job.	LP Record, "Sing A Song of People" Sing A Song of People --- Examples: "Let's Build a House" "Airplane Song"
	Specialization of job duties	Teacher might arrange for students to take a field trip to a factory or business where assembly-line techniques are employed. Pupils may observe the special job duty of each worker on the line.	Field trip suggestions: Local candy factory Custom shoe shop Furniture factory

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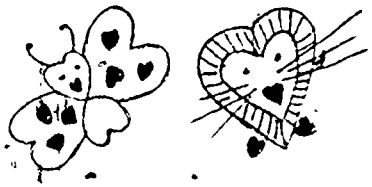
UNIT HEADING: Specialization leads to interdependency.

Instructional Objective	Information to Be Presented	Suggestions for Teachers and/or Student Activities	Names and Sources of Media and Materials
Use specialization to create a sense of interdependency among students	.Effects of job specialization	As an alternate activity, teacher might read stories to pupils about a variety of careers wherein people have special job duties. Students may then point out ways that specialization leads to interdependency of workers. Career notebooks might be constructed on an assembly-line basis. Class may be divided into several work groups with each child specializing in some phase of notebook construction. Teacher might reproduce pictures on spirit masters suitable for coloring and distribute to each group. Pupils may color and compile pictures to produce finished group notebooks. For another production project, students might create a "Valentine Zoo" on an assembly-line basis. Using scraps of construction paper, pupils may cut all sizes and colors of hearts. Students might be grouped and allowed to choose several animals they wish to design. Teacher may provide students with an	I Want To Be ... Book Series --- Examples: ... a Carpenter ... a Restaurant Owner ... a Train Engineer ... a Waitress ... a Basketball Player The 'Color Me a Health Career' Coloring Book Spirit masters Scraps of construction paper, scissors, paste or glue, cellophane tape, etc.

Instructional Objective	Information to Be Presented	Suggestions for Teachers and/or Student Activities	Names and Sources of Media and Materials
		"idea" sheet illustrating a variety of animals created from heart shapes. She might assign members of each group a definite job ranging from collecting the materials to assembling the body parts. (Some children may put the heads together, while others attach the feet and tails and make the faces on the animals). Class might display the valentine zoo on a hall bulletin board using the caption, "Many Parts Make a Whole." Other production projects suited to holidays and seasons might be subsituted in place of the above activities.	Valentine Zoo Animals --- Examples:  See Appendix (for additional Valentine Zoo ideas). Other production projects --- Examples: Christmas tree decorations Paper chains Spring flowers Wooden wagons Model airplanes

UNIT HEADING: Careers are grouped by job families.

Instructional Objective	Information to Be Presented	Suggestions for Teachers and/or Student Activities	Names and Sources of Media and Materials
Show pupils how jobs can be grouped into families	.Definition of a job .Ways jobs are like people --- Examples: .Name .Address .Personality .Characteristics .Importance .Classifications of jobs --- Examples: .People, thing, or idea oriented .Location: Indoor or outdoor .Mental or physical .Male or female .Characteristics of jobs --- Examples: .Amount of money paid (salary) .Ways other people respect you	Class might view and discuss filmstrip, "What Is a Job?" Teacher might pose these questions: 1. What is a job? 2. How are jobs like people? 3. What are "people" jobs? 4. What are "thing" jobs? 5. What are "idea" jobs? 6. What are characteristics of jobs? 7. Why are jobs important? Students might clip as many pictures as possible of people at work and mount on brightly colored construction paper. Teacher may then divide class into smaller groups and let students group the pictures in different ways. After each group completes the organization of their pictures, they might be displayed on different bulletin board areas of the room. A spokesman may be appointed for each group to tell why they grouped the pictures as they did. As a follow-up activity, teacher might ask the following questions:	Number 4778-3 SI.C, "Foundations for Occupational Planning," Society for Visual Education, Inc. Old magazines that can be clipped, scissors, brightly colored construction paper, rubber cement, etc.

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Instructional Objective	Information to Be Presented	Suggestions for Teachers and/or Student Activities	Names and Sources of Media and Materials
	.Number of people you boss .Way you help other people .Number of people who want your services .Definition of a family .Identification of family members and relatives	1. What is a group? 2. What other ways can jobs be grouped? 3. How is a group like a family? Pupils might learn song, "Five People in My Family." Teacher may want to tape record their singing and replay from time to time. Teacher might involve students in a class discussion about families as groups by posing these questions: 1. What is a family? 2. Is the person sitting in front of you in your family? 3. What is your family like --- who are its members? 4. How are the members of your family alike? 5. How are the members of your family different? 6. Who are "relatives?" Students might illustrate the different members of their families, including relatives. The pictures may be displayed within the classroom for pupils to view some of the similarities and differences in family groups.	The Sesame Street Song Book Tape recorder Manila art paper, crayons, etc.

UNIT HEADING: Careers are grouped by job families.

Instructional Objective	Information to Be Presented	Suggestions for Teachers and/or Student Activities	Names and Sources of Media and Materials
	:Comparison of "people families" and "job families" --- Examples: .Similarities .Differences	Instructor might prepare and reproduce a family tree picture-questionnaire for students to complete. They may do this by writing in the names of different family members and relatives on the apples on the tree. After questionnaires are completed, teacher might ask the following questions: 1. Did you ever stop to think about how many relatives you have? 2. When people marry, do their families usually get larger or smaller? 3. When more people move into a town, does it usually create more or fewer jobs? Class might view and discuss frames 1 through 4 in filmstrip, "What Are Job Families?" Pupils may answer these questions: 1. Are you a part of a family? 2. Do jobs belong to families? 3. Why do jobs form families? 4. What is your job? 5. To what family does your job belong?	Spirit master See Appendix (for family tree picture-questionnaire, "You Are Part of a Family --- Who Belongs on Your Family Tree?"). Number A778-4 S1-C, "Foundations for Occupational Planning," Society for Visual Education, Inc.

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UNIT HEADING: Careers are grouped by job families.

Instructional Objective	Information to Be Presented	Suggestions for Teachers and/or Student Activities	Names and Sources of Media and Materials
Familiarize students with a variety of job families	.Jobs form families .Examples of job families	Class might create a classroom bulletin board display based on the family tree picture-questionnaire idea. It may show all the workers found within the school job family. Teacher might read stories to pupils about other job families. Instructor might arrange for students to take a field trip to a local business where the jobs of many workers can be observed. As a follow-up activity, students might work together in small groups to classify other job families. Each group may produce a job family poster and display in the classroom.	Heavy brown paper, green and red construction paper, black felt-tip marking pens, scissors, etc. See Appendix (for suggested bulletin board display of the school job family). Come To Work With Us ... Book Series --- Examples: ... in a Department Store ... in a Hospital ... in a T.V. Station Suggested field trips: Local department store Supermarket Post office Brightly colored poster boards bearing tree cut-lines and black felt-tip marking pens

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UNIT HEADING: .Positions are related within job families.

Instructional Objective	Information to be Presented	Suggestions for Teachers and/or Student Activities	Names and Sources of Media and Materials
Help students to understand how workers in specific job families are related.	.Review of definition of a job family .Ways jobs form families --- Examples: .Are in the same industry .Demand similar training .Involve similar work activities .Satisfy similar interests .Are in the same location .Require same skills .Examples of workers in the same job family	Class might view and discuss frames 1 through 12 of filmstrip, "What Are Job Families?" Teacher might pose these questions: 1. What is a job family? 2. Are there many kinds of job families? 3. What is "industry?" 4. What is "training?" 5. What is "activity?" 6. What is "interest?" 7. What is "location?" 8. What is "skill?" 9. How are job families formed? 10. What is the nature of the school job family based upon? Students might view and discuss underlay on transparency relating to grouping careers by job families. They may think on these questions: 1. What is the occupation of each worker shown? 2. Why are they grouped together? 3. In what ways do these workers help others? 4. What are "services?" 5. Are their jobs related? 6. To what job family do	Number A776-4 S1.C, "Foundations for Occupational Planning," Society for Visual Education, Inc. Number 39, Career Transparency Series

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UNIT HEADING: Positions are related within job families.

Instructional Objective	Information to Be Presented	Suggestions for Teachers and/or Student Activities	Names and Sources of Media and Materials
		they belong?	
	.Examples of workers in different job families	Teacher might then use overlay to transparency relating to grouping careers by job families. She may ask pupils these questions: 1. What occupations do each of these new workers represent? 2. Why are they grouped together? 3. What jobs do they do? 4. What are "goods?" 5. Are their jobs related? 6. Are their jobs in the same family as the workers who provide services? 7. Why not?	Number 10, Career Transparency Series
	.Factors that relate workers to specific job families	Students might learn some simple songs about a variety of workers. After singing the songs, teacher may make a list of workers mentioned in the songs on the chalkboard. Teacher might read stories to students about a variety of different job families. Working in groups, pupils might create some models of the businesses represented in the stories. These may	LP Record, "Sing A Song of People" Sing A Song Of People --- Examples: "A Policeman" "The Milkman" "Let's Build a House" "Airplane Song" Come to Work With Us Book Series --- Examples: ... in a Toy Factory ... in House Construction ... in a Bank

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Instructional Objective	Information to Be Presented	Suggestions for Teachers and/or Student Activities	Names and Sources of Media and Materials
		be complete with all the workers who belong to that same job family. Each worker might be identified by means of a tag telling what job he does.	Large flat cardboard boxes, sand, light weight cardboard or construction paper, glue, clear tape, pipe cleaners, etc.
Show children that workers can belong to more than one job family at the same time	.Jobs can be in several families at the same time.	Teacher might ask each child to suggest the name of a worker to list on the chalkboard. From this list, children may select a worker they wish to illustrate or find a picture of in a magazine.	Manila art paper, crayons or old magazines that can be clipped, scissors, etc.
	.Examples of jobs that can be in several families at the same time	As a follow-up activity, pupils might play a game similar to "Fruit Basket Turn Over." Teacher may call out the following factors that sometimes relate jobs and as she does, students might move to form lines on either side of the classroom: 1. Worker who works indoors or outdoors 2. Worker who works with his hands or machines 3. Worker who is male or female 4. Worker who provides goods or services 5. Worker who works standing or sitting 6. Worker who works with	

Instructional Objective	Information to Be Presented	Suggestions for Teachers and/or Student Activities	Names and Sources of Media and Materials
		books or tools (Teacher may want to add other factors to extend the length of the game).	
		Using posters of a variety of workers, class might prepare a display of workers from A to Z. Teacher may review the ways of relating jobs to one another by the preceding criteria. Posters might be grouped on different days in some of the different ways to show the many families to which a single job can belong.	"Alphabet of Workers" posters
	.Duties and responsibilities of selected workers --- Examples: .Airplane pilot .Baker .Cowboy .Doctor .Engineer (train) .Farmer .Grocer .Homemaker .Ice cream maker .Judge .Kennel owner .Librarian .Milkman .Nurse .Office worker .Policeman	As an alternate activity, teacher might read a poem about a different worker to the students each day. She may also write the poem on the chalkboard for the students to copy. Pupils might illustrate the job of the selected worker for the day at the top of their sheets. When finished, teacher may select the best paper (neatest and best illustrated) for a classroom display entitled, "Workers from A to Z." Upon completion of the study of workers from A to Z, students might classify the	What Will I Be From A to Z?

UNIT HEADING: Positions are related within job families.

Instructional Objective	Information to Be Presented	Suggestions for Teachers and/or Student Activities	Names and Sources of Media and Materials
	.Quarterback .Pocket Lutlcer .Soldier .Teacher .United States Congressman .Violinist .Weatherman .X-Ray man .Youth leader .Zoo keeper	workers as in the preceding activity. She may explain that jobs can be related in a variety of ways: by industry, training, activity, interest, location and skill.	

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EVALUATION

GRADE 2

1. COOPERATION IS THE SAME AS TEAMWORK. WHICH OF THE FOLLOWING ALSO MEANS COOPERATION? (CHECK ONLY ONE.)

   _____ WORKING ALONE

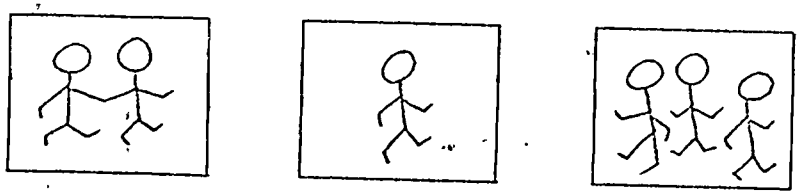
   _____ WORKING TOGETHER

   _____ WORKING FOR SOMEONE

2. A MILKMAN SOMETIMES WORKS IN THE AREA AROUND YOUR SCHOOL. BELOW, THERE IS A CHECK MARK BESIDE THE MILKMAN. (USE CHECKS TO SHOW WHAT OTHER WORKERS YOU COULD FIND WORKING NEAR YOUR SCHOOL.)

_____ POSTMAN	_____ FIREMAN	_____ FARMER
_____ ASTRONAUT	✓ MILKMAN	✓ GARBAGE COLLECTOR
_____ POLICEMAN	_____ SOLDIER	_____ AIRPLANE PILOT
_____ JUDGE	_____ WEATHERMAN	_____ TAXI DRIVER

3. WHICH PICTURE BELOW IS A TEAM? (CIRCLE ONLY ONE.)



WHEN MAKING PAPER CHAINS IN CLASS, YOU MUST DO YOUR WORK IN PROPER ORDER. NOW, WHAT IS THAT ORDER? (SINCE COLLECTING SUPPLIES IS THE FIRST THING YOU DO, IT HAS A "1" BY IT. PUT A "2" BY THE BLANK THAT IS THE SECOND THING YOU DO AND SO ON.)

____ GLUING STRIPS TOGETHER

1 COLLECTING SUPPLIES

____ PUTTING SUPPLIES AWAY

____ CLEANING UP MESS

____ CUTTING PAPER STRIPS

____ HANGING PAPER CHAINS

4. A CARPENTER BELONGS TO A FAMILY OF WORKERS. BELOW, THERE IS A CHECK MARK BESIDE THE CARPENTER. WHAT OTHER WORKERS LISTED BELOW BELONG TO THE "CONSTRUCTION TRADES" FAMILY? (USE CHECK MARKS.)

____ DOCTOR	____ MILKMAN	____ NEWSPAPER REPORTER
____ AIRPLANE PILOT	____ PLUMBER	____ ACTOR
✓ CARPENTER	____ JUDGE	____ ELECTRICIAN

5. A FARMER GROWS FOODS. BELOW, THERE IS A CHECK MARK BESIDE THE FARMER. WHAT OTHER WORKERS LISTED BELOW ALSO MAKE OR PRODUCE THINGS? (USE CHECK MARKS.)

____ POSTMAN	✓ FARMER	____ ASTRONAUT
____ BAKER	____ WEATHERMAN	____ FACTORY WORKER
____ FIREMAN	____ POLICEMAN	____ MECHANIC

A TAXI DRIVER HELPS PEOPLE. BELOW, THERE IS A CHECK MARK BESIDE THE TAXI DRIVER. WHAT OTHER WORKERS LISTED BELOW ALSO HELP PEOPLE BUT DO NOT MAKE OR PRODUCE THINGS? (USE CHECK MARKS.)

____ FACTORY WORKER	____ FARMER
____ WAITRESS	____ TELEPHONE REPAIRMAN
____ TELEPHONE OPERATOR	____ CABINETMAKER
✓ TAXI DRIVER	____ JANITOR

(This page to be used for suggested revision and evaluation.)

GRADE 3

General Objectives

1. To make students aware of and encourage them to develop personal qualities needed for job success
2. To develop within students a positive attitude toward work as a part of life and a desirable segment of education
3. To develop an increased awareness of the various occupations related to community life --- transportation, recreation, communication, manufacturing, public service, and the like
4. To help students acquire basic knowledge about a few selected occupations including physical and mental requirements, duties and working conditions
5. To develop within students a desire to obtain a job

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UNIT HEADING: Supply and demand help determine career choice.

Instructional Objective	Information to Be Presented	Suggestions for Teachers and/or Student Activities	Notes and Sources of Media and Materials
Help students understand what is meant by supply and demand	.Identification of goods and services which people want and use .Definition of supply .Definition of demand	Teacher might bring several items to class for students to purchase. Bottle caps may be used as the medium of exchange. She might give each pupil a selected number of bottle caps and price all items to be sold. (Some items should have a great deal of appeal to students and others, none). Teacher may explain that she holds the supply and that demand is what the customer wants. As the demand becomes apparent, she might raise and lower prices accordingly. At the close of the sale, she may pose these questions to pupils: 1. What supplies were most in demand? 2. What supplies were least in demand? 3. What caused the price of certain items to go up? 4. What caused the price of certain items to go down? Class might view and discuss transparency relating to supply and demand. Teacher might use the urban panorama scene in a bulletin board display with the can-	• Sale items --- Examples: Cookies Balloons Buttons Nuts in shells Bubble gum Raisins Cotton balls Erasers Number 7, Career Transparency Series Urban Panorama Kit

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UNIT HEADING: Supply and demand help determine career choice.

Instructional Objective	Information to Be Presented	Suggestions for Teachers and/or Student Activities	Names and Sources of Media and Materials
		tion, "What Would Happen If This Town Had ...?" Each day for a week, teacher may add a different ending to the question. Students might write responses in paragraph form to the questions relating to supply and demand. These may be read aloud to the class.	Caption endings --- Examples: ... too many service station attendants? ... an over-supply of milk? ... only two doctors? ... all firemen as workers?
		Teacher might assist students in making butter. She may also furnish a carton of soft-spread oleo margarine. When made, students may choose to eat either butter or oleo on their crackers. Someone might keep a tally of the two dairy products to see which is most in demand by pupils.	See Appendix (for directions for making butter in the classroom). "Student Leaflet - Let's Make Butter," National Dairy Council
Make pupils aware of the effects of supply and demand on careers	Jobs created by supply in local community Ways that demand for goods and services affects the numbers and kinds of workers there are	Teacher might use urban panorama scene in a bulletin board display to initiate a discussion about some of the local production plants. Class might view filmstrips "Life on a Dairy Farm" or "Meet the Milkman" and discuss the wide variety of jobs resulting from meeting the consumer demand for milk.	Urban Panorama Kit National Dairy Council Number ECF-108, the Wonderful World of Work Series, Edu.Craft, Inc.

Instructional Objective	Information to Be Presented	Suggestions for Teachers and/or Student Activities	Names and Sources of Media and Materials
		Teacher might arrange for class to take a field trip to a local plant to see a product being made from raw materials. On the way to the plant, students may make a list of all the workers seen whose jobs are related to supply.	Field trip suggestions: Local dairy production plant Texas A&M University Dairy "My Visit to the Dairy," National Dairy Council
		As a follow-up activity, pupils might construct a model plant using nine cleaner people-figures to depict a variety of jobs they observed while visiting the local plant.	Cardboard box, sand, construction paper, pipe cleaners, etc.
		Teacher might invite a resource speaker to come and tell the pupils about his work and how he got started in his career field.	Resource speakers --- Examples: Dairy plant manager Candy factory owner Coca-Cola plant manager

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Instructional Objectives	Information to Be Presented	Suggestions for Teachers and/or Student Activities	Names and Sources of Material and Media
Make students aware of the factors that influence a career choice	.Steps involved in choosing a career .Definition of interests .Definition of abilities .Special interests and abilities of selected workers	Teacher might construct a large silhouette of a human figure and put it on the bulletin board. She may print "Interests?" "Abilities?" and "Possible Occupations?" on three cards and put them on the bulletin board as illustrated. Teacher might set up a display of posters showing different people at work. Class may discuss the importance of each worker's job. Teacher might read poems to students about a variety of workers. Pupils may discuss the special interests and abilities of the workers covered. Pupils might write original poems about the workers pictured on the posters and tell about the special interests and abilities of each worker. They may read them aloud to the class.	See Appendix (for steps to selecting a career). Bulletin board illustration: INTERESTS? ABILITIES? What Can I Be? POSSIBLE OCCUPATIONS? "Alphabet of Workers" posters What Will I Be From A to Z?
Provide students with an opportunity for self-appraisal	.Special interests and abilities of students	Teacher might prepare a personal inventory checklist on a spirit master and give	Checklist items --- Examples: I LIKE TO . . .

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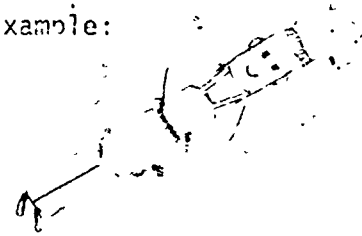
Instructional Objectives	Information to Be Presented	Suggestions for Teachers and/or Student Activities	Names and Sources of Material and Media
Provide pupil's understanding of how occupations can best be chosen	.Occupations that grow from student interest	Pupils might compare the results of their checklists with one another. Teacher might supply students with a spirit master copy of the "What Can I Be?" illustration. They may fill in with their interests and abilities. Teacher may assist them in determining possible occupations. Pupils might create an occupational cylinder doll representing one of the possible occupations which suits their individual interests and abilities. Students may show their worker doll to the class and explain why they chose that occupation to depict. Students may pantomime one of the selected workers by dressing as that worker and tell a few facts about that occupation.	____ Be indoors ____ Be outdoors ____ Be by myself ____ Help people ____ Build things ____ Collect things ____ Draw pictures ____ Work with my hands ____ Talk to people ____ Try new things Limit matches Empty paper-towel rollers, construction paper, scraps of fabric, glue, etc. Example:  Occupational Outlook Handbook Students may design their own costumes
Show students how people's lives are sometimes affected by their career choice	.Ways that people's lives are affected by career choices	Teacher might invite several resource speakers to come tell the students about their jobs and ways of life.	Resource speakers --- Examples: Locksmith Mechanic

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Instructional Objectives	Information to Be Presented	Suggestions for Teachers and/or Student Activities	Names and Sources of Material and Media
			Taxidermist Waitress Secretary
		Teacher might prepare some tape recordings about different types of workers. Students may listen and complete a worksheet about each worker.	"Locating the Answers," (stories and reading [illegible] trace sheets)
		Class may view and discuss filmstrip, "Super-Market Helpers."	Number ECF-110, The Wonderful World of Work Series, Ecu-Craft, Inc.

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ERIC

EVALUATION

GRADE 3

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1. EVERYONE HAS SOME GOOD QUALITIES. WORKERS MUST HAVE MANY GOOD QUALITIES. IN EACH STORY BELOW, A CERTAIN "WORKER QUALITY" IS DISPLAYED. THERE IS A QUESTION AT THE END OF EACH STORY. READ EACH STORY AND PUT A CHECK MARK UNDER "YES" OR "NO." THIS WILL TELL YOUR TEACHER IF YOU UNDERSTAND EACH WORKER QUALITY.

YES	NO	
___	___	MARY'S TEACHER GIVES SPELLING HOMEWORK. MARY COMES TO SCHOOL THE NEXT DAY AND TELLS THE TEACHER, "I FORGOT TO DO MY HOMEWORK." IS MARY ACCEPTING HER PART IN SCHOOL?
___	___	TOM YOU FOUND 40¢ ON THE PLAYGROUND. HIS BEST FRIEND TELLS HIM TO KEEP IT. SHOULD TOM WU TRY TO FIND THE PERSON WHO LOST THE MONEY AND GIVE IT BACK?
___	___	JUDY SAW JOE HIT ANOTHER BOY IN FUN. SHE RAN TO THE TEACHER AND TOLD HER. SHOULD SHE HAVE GONE TO THE TEACHER?
___	___	THE TEACHER JUST FINISHED GIVING DIRECTIONS FOR THE MATH PAPER. SHE ASKED, "ARE THERE ANY QUESTIONS?" NO HANDS RAISED. TEN MINUTES LATER, MANUEL ASKED, "WHAT DO I DO?" DID MANUEL FOLLOW DIRECTIONS?
___	___	ESTHER IS A HELPER FOR THE DAY. SHE FORGOT THAT SHE CLEANS THE TABLES AT LUNCH AND WENT OUT TO PLAY INSTEAD OF DOING HER JOB. WAS SHE DEPENDABLE?
___	___	LUCY'S BEST FRIEND ASKED TO USE HER HAIRBRUSH. LUCY SAID, "NO, MY MOTHER SAID I SHOULDN'T LET OTHER PEOPLE USE MY BRUSH." WAS LUCY RIGHT NOT TO SHARE HER BRUSH WITH HER BEST FRIEND?

2. DO YOU THINK IT IS GOOD TO WORK? (CIRCLE ONE.) YES NO

WORK CAN BE FUN OR SOMETIMES IT IS SOMETHING WE HAVE TO DO. DOING MATH PROBLEMS IS A FORM OF WORK. BELOW, DOING MATH PROBLEMS HAS A CHECK BESIDE IT. PUT A CHECK BESIDE ANYTHING ELSE LISTED THAT IS A FORM OF WORK.

✓ DOING MATH PROBLEMS

____ DUSTING THE CLASSROOM

____ RIDING YOUR BICYCLE

____ STRAIGHTENING THE BOOKS

____ JUMPING THE "JUMP" ROPE

____ TAP-DANCING

____ CLEANING THE BLACKBOARD

____ DUSTING THE ERASERS

3. THE TELEPHONE OPERATOR HELPS PEOPLE GET THEIR CALLS THROUGH. BELOW, THERE IS A CHECK MARK BESIDE THE TELEPHONE OPERATOR HELPS PEOPLE GET THEIR CALLS THROUGH. THE TELEPHONE OPERATOR DOES NOT MAKE CHANGE OR PUT IN TELEPHONES. ALL THE OTHER WORKERS LISTED BELOW DO CERTAIN JOBS. PUT A CHECK MARK BESIDE EACH JOB THAT EACH WORKER DOES.

THE TELEPHONE OPERATOR:

____ MAKES CHANGE.

✓ HELPS PEOPLE GET THEIR CALLS THROUGH.

____ PUTS IN TELEPHONES.

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THE P.E. TEACHER:

____ HELPS CHILDREN WITH SPELLING.

____ DIRECTS TRAFFIC.

____ HELPS CHILDREN BUILD STRONG BODIES.

THE NEWSPAPER BOY:

____ COLLECTS OLD NEWSPAPERS.

____ THROWS AWAY GARBAGE.

____ THROWS NEWSPAPERS.

THE BUS DRIVER:

____ MAKES ICE CREAM.

____ EMPTIES THE GARBAGE.

____ OBEYS TRAFFIC RULES.

THE TELEPHONE REPAIRMAN:

____ WORKS ON WIRES.

____ PLANTS FLOWERS.

____ WAITS ON TABLES.

THE FACTORY WORKER:

____ CUTS AWAY BRANCHES.

____ WORKS ON AN ASSEMBLY-LINE.

____ DRIVES PEOPLE ACROSS TOWN.

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4. SOME WORKERS HAVE SKILLS AND KNOW-HOW THAT MAKE A CERTAIN JOB RIGHT FOR THEM. SINCE THE SERVICE STATION WORKER SELLS GAS AND OIL, WORKS IN ALL WEATHER, WEARS A UNIFORM, AND CLEANS WINDSHIELDS, THESE STATEMENTS BELOW HAVE CHECK MARKS BESIDE THEM. THE SERVICE STATION WORKER DOES NOT GO TO SCHOOL TO LEARN HIS JOB AND HE DOES NOT PUT IN TELEPHONES. PUT A CHECK BESIDE THE FOUR STATEMENTS BELOW THAT APPLY TO EACH OF THE OTHER WORKERS' JOBS.

THE SERVICE STATION WORKER . . . .

___ GOES TO SCHOOL TO LEARN HIS JOB.

✓ SELLS GAS AND OIL.

✓ WORKS IN ALL WEATHER.

___ PUTS IN TELEPHONES.

✓ WEARS A UNIFORM.

✓ CLEANS WINDSHIELDS.

THE BUS DRIVER . . . . . .

___ KNOWS HOW TO READ STREET SIGNS IN TOWN.

___ HELPS PEOPLE GET ACROSS TOWN.

___ NEEDS NO SPECIAL DRIVER'S LICENSE.

___ SELLS TICKETS OR TOKENS.

___ DRIVES ONLY CARS.

___ CAN MAKE CHANGE.

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THE LIFEGUARD . . . . . ____ MUST HAVE GOOD EYESIGHT.

____ READS MAGAZINES WHILE ON DUTY.

____ GOES TO SCHOOL TO LEARN TO SWIM.

____ SITS ON TOP OF A TOWER.

____ MUST BE STRONG AND NOT GET TIRED EASILY.

____ MUST BE ABLE TO SWIM.

THE CONSTRUCTION WORKER . . . . . ____ USES SPECIAL TOOLS AND EQUIPMENT IN HIS WORK.

____ ALWAYS WEARS A UNIFORM WHEN HE WORKS.

____ CAN MEASURE LARGE AND SMALL BOARDS.

____ IS STRONG AND ABLE TO LIFT HEAVY OBJECTS.

____ MAY BELONG TO A "UNION."

____ BUILDS ONLY HOUSES.

THE NEWSPAPER BOY . . . . . _____ COLLECTS MONEY.

_____ WRITES AND PRINTS THE NEWSPAPERS HE SELLS.

_____ DELIVERS NEWSPAPERS.

_____ ROLLS PAPERS FOR DELIVERY.

_____ PAYS FOR THE NEWSPAPERS HE SELLS.

_____ ALWAYS DRIVES A TRUCK.

THE GARBAGE COLLECTOR . . . . . _____ GOES TO WORK EARLY IN THE MORNING.

_____ WORKS IN RAIN OR SNOW, HOT OR COLD.

_____ DRIVES A CAR IN HIS JOB.

_____ LIFTS MANY GARBAGE CANS.

_____ HELPS PEOPLE GET RID OF TRASH.

_____ GOES TO SCHOOL TO LEARN HOW TO COLLECT TRASH.

THE SUPERMARKET HELPER . . . . . .

_____ BAKES BREAD TO SELL.

_____ PLACES CANS AND BOTTLES ON THE EMPTY SHELVES.

_____ PUTS THE FOOD IN BAGS.

_____ DUSTS AND CLEANS THE DISPLAY SHELVES.

_____ DELIVERS EGGS TO THE STORE.

_____ CARRIES GROCERIES TO THE CUSTOMERS' CARS.

5. DO YOU WANT A JOB WHEN YOU FINISH SCHOOL? (CIRCLE ONE.) YES NO

WHAT DO YOU WANT TO BE? _____

(This page to be used for suggested revision and evaluation.)

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GRADE 4

92

General Objectives

1. To help students identify and understand individual differences in people
2. To provide opportunities for students to investigate a variety of occupations outside the community in business, industry and government
3. To increase students' awareness of the interrelation of jobs and interdependence of workers
4. To show students ways in which knowledge and skills acquired in school are used on the job
5. To promote and encourage an understanding of some of the factors involved in making a career choice

Instructional Objective	Information to Be Presented	Suggestions for Teachers and/or Student Activities	Names and Sources of Media and Materials
Encourage students to better know and understand themselves	.Definition of: .Interests .Hobbies .Abilities .Skills .Attitudes .Personality .Values .Ways personality can affect people's work	Teacher might devise a self-appraisal inventory and reproduce on a spirit master for students to complete. Pupils might write simple self-analysis papers describing their personalities. They might include something about the type of work for which their personalities are best suited. Students might develop a "Book About Me ..." by either illustrating or finding pictures which reveal their interests, abilities, attitudes, personalities and values. Pupils might present a mock television show about themselves called "This Is My Life."	Inventory items --- Examples: My height My weight My best friend The thing I worry about most The thing I like to do best The latest thing I learned to do in math The subject I like best What I want to be when I grow up Spirit masters Empty cardboard boxes, dowel rollers, butcher paper, crayons or paints, etc.
Help pupils to know and better understand others	.Identification of individual student's abilities, interests, attitudes, personality traits and values .Importance of differences in people	Teacher might show pictures of several children who are about the age of her pupils. She may describe each child as the pictures are shown. A discussion might follow to give students ideas about the kind of work for which each person might be well suited.	Sample descriptions: 1. Mary is great in English and brings home A's on her report cards nearly every nine weeks. 2. Suzie is a real artist! She can sketch almost anything without looking at it. She is always creating interesting de-

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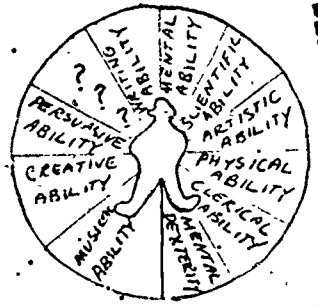
Instructional Objective	Information to Be Presented	Suggestions for Teachers and/or Student Activities	Names and Sources of Media and Materials
	.Ways in which people are alike .Ways in which individuals differ	Class might develop a bulletin board around the interests, abilities, attitudes, personality traits or values of the students. It may be captioned, "What Are Your Abilities?"	signs for others to look at. Sample bulletin board: WHAT ARE YOUR ABILITIES?  BEST COPY AVAILABLE
Show students how differences in people affect their choice of work.	.Personal interest levels: .People .Thing .Idea	.Class might view and discuss transparencies relating to interests, abilities, attitudes and values.	Numbers 31, 32, 33 and 34, Career Transparency Series
Allow pupils to exercise their knowledge of self and others as it affects a career choice.	.Finding satisfaction with career choices .Reasons for choosing careers	Students might complete the "What Will I Be From A to Z?" self-analysis leaflet. A class discussion may follow so that students might compare differences in their interests. As an additional self-analysis experience, teacher might prepare an "If This	What Will I Be From A to Z? See Appendix (for sample of "If This Were You" sheet).

UNIT HEADING: People differ in their abilities, interests, attitudes and values.

Instructional Objective	Information to Be Presented	Suggestions for Teachers and/or Student Activities	Names and Sources of Media, and Materials
		"Here You" sheet and reproduce on a spirit master for students to complete. Teacher might invite some resource speakers to come and tell the class about their work, their reasons for choosing their careers and the satisfactions they derive from their work.	Spirit masters Resource speakers --- Examples: Occupational therapist Newspaper reporter Car salesman

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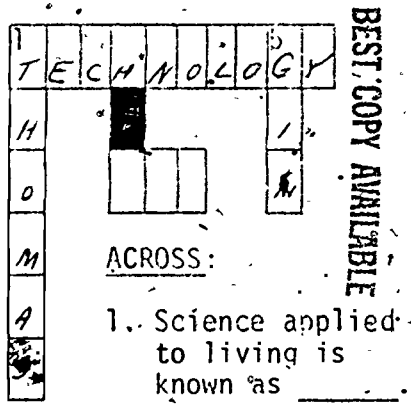
Instructional Objectives	Information to Be Presented	Suggestions for Teachers and/or Student Activities	Names and Sources of Material and Media
Help students to understand that scientific invention has changed the way we live	.Definition of technology .Early inventions and processes --- Examples: .Pasteurization .Electric light bulb .Cotton gin .Sewing machine .Steam engine .Automobile .Factors that brought about technological advances. .Ways in which life has changed as a result of technology	Teacher might devise a crossword puzzle about famous inventors, inventions and processes. It may be reproduced on a spirit master for pupils to complete. Students might read about and report on the work of a famous inventor. An illustrated report using posters may be given by each student to show how each invention or process has made life easier today. Working in groups, pupils might construct a wall freize depicting some of the changes in transportation, architecture, home life, farming procedures, etc. as a result of technology. "The Past ... The Present" may be used as a caption.	Sample puzzle:  ACROSS: 1. Science applied to living is known as _____. DOWN: 1. First name of inventor of electric light bulb is _____. 5. Eli Whitney invented the first cotton ____. Butcher paper, crayons, construction papers, paints, glue, scissors, etc.
Make students aware of how technology has changed jobs	.New vocabulary words --- Examples: .Mass production .Factory .Automation .Manufacturing .Advantages of automation	Class might view and discuss transparency relating to the elimination and creation of jobs. Class might view and discuss filmstrip, "Just What Do Mothers Do?"	Number 20, Career Transparency Series Number ECF-202, The Wonderful World of Work Series, Edu.Craft, Inc.

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Instructional Objectives	Information to Be Presented	Suggestions for Teachers and/or Student Activities	Names and Sources of Material and Media
	.Disadvantages of automation .Identification of some out-moded occupations: .Elevator operator .Blacksmith .Carriage maker .Pony express carrier	Teacher might give a class demonstration on how some machine saves her time in her work. Students may bring a simple machine to class and give a similar demonstration showing how work is made easier in the home. Teacher might arrange for class to take a field trip to a business firm where automated equipment is used. Pupils may interview some of the workers to find out how automation has changed their jobs. Pupils might write and produce skits depicting occupations that are no longer as popular as they once were.	Teacher demonstration --- Examples: Duplicator Thermofax copier Field trip suggestions: Office supply store Doughnut shop Bank
Help students to realize that technology has also created jobs	.Identification of jobs resulting from automation	Students might select several objects in classroom. Working in groups, they may outline the steps involved in making the object. (Each step represents a job for someone). Teacher might arrange for students to take a mock field trip through a fac-	Selected objects --- Examples: Chair Record Player Purse Dress Suggested films showing automation:

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UNIT HEADING: Technological and sociological changes eliminate and create jobs

Instructional Objective	Information to be Presented	Suggestions for Teachers and/or Student Activities	Names and Sources of Media and Materials
		tory where they can see automation.	"As American As Apple Pie" "Candy Country - U.S.A." "Chocolate Crossroads of the World"

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Instructional Objectives	Information to Be Presented	Suggestions for Teachers and/or Student Activities	Names and Sources of Material and Media
Familiarize students with the fifteen career fields	.Definition of career clusters .U.S.O.E. Career Fields: .Business and Office Occupations .Marketing and Distribution Occupations .Communications and Media Occupations .Construction Occupations .Manufacturing Occupations .Transportation Occupations .Agri-business and Natural Resources Occupations .Marine Science Occupations .Environmental Control Occupations .Public Service Occupations .Health Occupations .Hospitality Occupations .Personal Services Occupations .Fine Arts and Humanities Occupations .Consumer and Homemaking-Related Occupations .Definition of labor market .Workers most in demand locally	Students might collect pictures of all kinds of workers and use them in making a bulletin board display entitled, "What Will You Choose As Your Career?" Class might discuss some of the jobs that are represented in each cluster. Pupils might organize an occupational picture file for the classroom based on the fifteen career fields. Teacher might invite a resource person to speak to the class about local labor needs. Students might take a city map of Bryan and pin-point the business addresses where their parents are employed. Teacher might prepare a chart for classifying workers using the fifteen career clusters as headings. Each student may classify the jobs of their parents and/or friends.	Magazines and newspapers that can be clipped Permanent file box with manila folders Resource speaker -- Examples: Representative of the Texas Employment Commission Representative of the local Chamber of Commerce City map of Bryan-College Station See Appendix (for sample chart for classifying jobs).

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Instructional Objectives	Information to be Presented	Suggestions for Teachers and/or Student Activities	Names and Sources of Material and Media
	.Contribution of parents' work to local labor market		
Examine work qualifications that are common to a variety of jobs	.Definition of work qualifications .Work qualifications necessary for specific jobs	Class might view and discuss transparency relating to the many jobs for which a worker is qualified. Pupils might interview someone they admire to find out what jobs they have held and what qualifications they needed for these jobs. Students may share the information obtained in their interview with the class. Students might select one of the fifteen occupational clusters most interesting to them and report on five jobs within that cluster. A comparison of the qualifications needed for each job may be made among pupils.	Number 26, Career Transparency Series Dictionary of Occupational Titles Occupational Outlook Handbook
Help students to understand how different people can be qualified for several kinds of work	.Identification of skill-related occupations	Pupils might individually "Show and Tell" about something they do best. The class may suggest some occupations into which the students' skills or abilities might develop.	Suggested "Show and Tell" activities: Crocheting Knitting Putting model airplane together Repairing small appliances

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Instructional Objectives	Information to Be Presented	Suggestions for Teachers and/or Student Activities	Names and Sources of Material and Media
			Making brownies
		Class might view and discuss filmstrip, "It's In Your Hands."	Number ECF-203, The Wonderful World of Work Series, Edu.Craft, Inc.

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Instructional Objectives	Information to Be Presented	Suggestions for Teachers and/or Student Activities	Names and Sources of Material and Media
Help students to understand that certain jobs exist in certain areas	Factors that influence jobs within a geographical area	Class might view and discuss transparency relating to effects of environmental factors on jobs.	Number 8, Career Transparency Series
	Geographical features of the local area	Teacher might arrange for students to take a "Close-Look" walk or bus ride around the community. Upon return to the classroom, they might make a list of the geographical features they observed while walking or riding.	
	Early economic history of the local community	Teacher might invite a resource speaker to come and tell the class about the livelihoods of the community's early settlers.	Resource speakers ---. Examples: Member of local historical survey committee Member of local chapter of Daughters of the Republic of Texas Member of local chapter of Sons of the Republic of Texas
Explain to students that people frequently live where a particular kind of work is found	Effects of job changes on families	Teacher might initiate a discussion about the different locales where students may have formerly lived. They may pin and stretch colored yarn on a map from Bryan to some of the towns where students lived before moving here.	Texas highway map, map pins and colored yarn

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Instructional Objectives	Information to Be Presented	Suggestions for Teachers and/or Student Activities	Names and Sources of Material and Media
		Teacher might ask students to make a list of all the moves made by their families. Students may determine the number of moves which were made due to job changes. Responses may be tabulated and developed into bar graphs either individually or as a class.	Graph paper or poster board
		Students might write experience stories about moving to a new community.	Experience story --- Example: "When I was five years old, my family moved to Bryan. My father got a new job. He works in the shoe factory. At first, ..."
	.Special jobs found within the local area: .Importance of .Reasons they are unique to local area	Teacher might invite parents of several students to come and tell the class about their special jobs. Speakers may want to emphasize the importance of their work to the local community and point out reasons why their jobs are found within this geographical area.	Resource speakers --- Examples: Crop duster (cotton) County agent Road crew supervisor
Contrast the industries found in the local area with other geographical areas of Texas	.Geographical features of other areas of the state .Economic features of other areas of the State: .Minerals .Recreational facilities	Students might write letters to the Chambers of Commerce in other Texas communities requesting information about the industry found in each locales. Individual reports may be given to the class. Pupils might cut five want-ad listings from out-of-	The Texas Almanac, 1972-73 Out-of-town newspapers Examples:

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Instructional Objectives	Information to Be Presented	Suggestions for Teachers and/or Student Activities	Names and Sources of Material and Media
	.Agriculture .Unusual jobs found in other areas of the State	town newspapers and present them to the class. In each instance, the pupils might determine if each type of worker might be found in Bryan. Working in groups, students might prepare freizes depicting the industries found in several areas of the state including Bryan-College Station. They may illustrate some of the factors which help create and influence jobs relating to these industries. The freizes might be displayed within the classroom or around the school. Pupils might prepare a simple outline map of Texas on the bulletin board. They may mount newsprint dolls to depict special jobs found in selected areas of the state and characterize the geographic settings where certain jobs are performed.	The Houston Post The Houston Chronicle The Dallas Morning News The Texas Almanac, 1972-73 Old newspapers, scissors, construction paper, etc.

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EVALUATION
GRADE 4

1. PEOPLE ARE DIFFERENT. SOMETIMES IT IS HARD FOR PEOPLE WHO WORK TO GET ALONG WITH EACH OTHER. MAYBE THEY DO NOT UNDERSTAND THE DIFFERENCES IN PEOPLE. DO YOU? IN EACH STORY BELOW, THERE IS A QUESTION ABOUT THE PEOPLE IN IT. ANSWER THE QUESTIONS BY CIRCLING THE NAME OF ONE PERSON IN EACH STORY.

(CIRCLE ONE.)

JANE
MARY
SUSAN

MARY, A NEW STUDENT AT SCHOOL, ENTERED THE ROOM FOR THE FIRST TIME. SHE WORE A BRACE ON HER LEG AND LIMPED AS SHE WENT TO HER SEAT. JANE WHISPERED TO SUSAN, "LOOK AT THAT FUNNY GIRL! LET'S NOT PLAY WITH HER. SUSAN REPLIED, "DON'T BE LIKE THAT, JANE." WHICH GIRL BEST ACCEPTS THE DIFFERENCES IN PEOPLE?

DAVID
JACK
KIM

KIM MOVED TO BRYAN FROM KOREA. HE WALKED INTO THE CLASSROOM AND SAID, "GOOD MORNING MOST KIND TEACHER, I HOPE YOU RESTED WELL." JACK THOUGHT THIS WAS FUNNY AND LAUGHED OUT LOUD AT KIM. AFTER THIS, KIM WAS VERY QUIET. DURING RECESS, DAVID ASKED KIM IF HE WOULD LIKE TO LEARN TO PLAY KICKBALL. WHICH STUDENT BEST ACCEPTS THE DIFFERENCES IN PEOPLE?

JAN
JOHN
MARY

THE TEACHER ASKED THREE STUDENTS TO GO TO THE BOARD TO WORK MULTIPLICATION PROBLEMS. MARY AND JOHN WORKED THEIR PROBLEM QUICKLY. JAN COULD NOT WORK HER PROBLEM AND JOHN AND THE OTHER BOYS GIGGLED. MARY WENT OVER AND EXPLAINED HOW JAN SHOULD WORK THE PROBLEM. WHICH STUDENT BEST ACCEPTS THE DIFFERENCES IN PEOPLE?

PAM
SALLY
SUSIE

SINCE SCHOOL BEGAN THIS YEAR, SALLY HAD WANTED TO BE FRIENDS WITH SUSIE. BECAUSE SALLY'S SKIN WAS A DIFFERENT COLOR, SUSIE DID NOT LIKE HER. SALLY'S FEELINGS WERE HURT. PAM ENJOYED THE SAME GAMES AS SALLY AND THE COLOR OF SALLY'S SKIN DID NOT MAKE ANY DIFFERENCE TO PAM. PAM INVITED SALLY TO PLAY WITH HER AT RECESS. WHICH GIRL BEST ACCEPTS THE DIFFERENCES IN PEOPLE?

BOB
RANDY
SAM

RANDY HAD ALWAYS BEEN BEST FRIENDS WITH SAM AND BOB. IN THE MIDDLE OF THE YEAR, RANDY'S FATHER BECAME ILL AND HAD TO QUIT WORK. HIS FAMILY WAS FORCED TO SELL THEIR HOUSE AND MOVE TO A SECTION OF TOWN WHERE THE RENT WAS VERY CHEAP. NOW, EVERY TIME RANDY INVITES SAM TO COME OVER, HE FINDS AN EXCUSE NOT TO GO. BOB STILL ENJOYS GOING TO RANDY'S HOUSE. WHICH BOY BEST ACCEPTS THE DIFFERENCES IN PEOPLE?

2. SINCE THE POSTMAN HELPS PEOPLE GET THEIR MAIL BY DELIVERING LETTERS AND PACKAGES AND PICKING UP OUT-GOING MAIL, THESE STATEMENTS BELOW HAVE CHECK MARKS BESIDE THEM. THE POSTMAN DOES NOT PUT STAMPS ON THE MAIL AND HE DOES NOT SEAL THE ENVELOPES. EACH OF THE OTHER WORKERS LISTED BELOW DOES CERTAIN JOBS. PUT A CHECK BESIDE EACH JOB EACH OF THE OTHER WORKERS DO.

THE POSTMAN . . . . . .

✓ DELIVERS LETTERS AND PACKAGES.

___ SEALS THE ENVELOPES.

✓ PICKS UP OUT-GOING MAIL.

___ PUTS STAMPS ON THE MAIL.

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THE SHERIFF . . . . . _____ DRIVES A CAR.

_____ PROTECTS THE PEOPLE.

_____ SEES THAT LAWS ARE OBEYED.

_____ WEARS A BADGE.

THE FACTORY ASSEMBLER . . . . . _____ WORKS ON AN ASSEMBLY-LINE.

_____ WORKS IN A COAT AND TIE.

_____ MAY BELONG TO A UNION.

_____ WORKS ON A SHIFT.

THE FISHERMAN . . . . . _____ MENDS HIS NETS.

_____ BEGINS HIS DAY EARLY.

_____ CLEANS HIS BOAT.

_____ KEEPS ALL THE FISH HE CATCHES.

THE GROCERYMAN . . . . . _____ PUTS FOOD IN BAGS.

_____ KEEPS GROCERIES ON THE SHELVES.

_____ ORDERS THE STOCK.

_____ SELLS CARS.

THE RANCHER . . . . . ____ FEEDS COWS.

____ BRANDS CATTLE.

____ RAISES COTTON.

____ FIXES FENCES.

3. A WAITRESS WORKS IN A RESTAURANT. SINCE A COOK, A DISHWASHER, AND A WAITER ALSO WORK IN A RESTAURANT, THEY HAVE CHECK MARKS BESIDE THEM BELOW. (A DENTIST DOES NOT WORK IN A RESTAURANT AND NEITHER DOES AN ELECTRICIAN.) UNDER EACH OF THE OTHER STATEMENTS BELOW, PUT A CHECK IN THE SPACE BESIDE THE WORKERS WHOSE JOBS ARE RELATED TO THE ONE IN EACH SENTENCE.

A WAITRESS WORKS IN A RESTAURANT.

- ✓ COOK
- ✓ DISHWASHER
- ____ DENTIST
- ____ ELECTRICIAN
- ✓ WAITER

A CARPENTER HELPS BUILD HOUSES.

- ____ HOUSE PAINTER
- ____ DOCTOR
- ____ PLUMBER
- ____ AIRPLANE PILOT
- ____ SECRETARY

A BANKER DEALS WITH MONEY.

- ____ CASHIER AT THE MOVIE
- ____ LIFEGUARD
- ____ GROCERY STORE CHECKER
- ____ TAX COLLECTOR
- ____ FIREMAN

A TEACHER WORKS AT SCHOOL.

- ____ FARMER
- ____ JANITOR
- ____ LIBRARIAN
- ____ CAFETERIA EMPLOYEE
- ____ TRUCK DRIVER

A LONG DISTANCE TRUCK DRIVER TRAVELS FROM ONE PLACE TO ANOTHER.

_____ BUS DRIVER
_____ DELIVERY MAN
_____ TAXI DRIVER
_____ AIRPLANE PILOT
_____ TRAIN ENGINEER

A GARBAGE COLLECTOR WORKS FOR THE CITY.

_____ BANKER
_____ MAYOR
_____ BARBER
_____ WATER METER READER
_____ HOUSE PAINTER

4. SINCE THE MOVING MAN PROBABLY LEARNED TO READ A MAP AND TO READ ROAD SIGNS AT SCHOOL, THIS STATEMENT HAS A CHECK MARK BESIDE IT. (HE PROBABLY DID NOT LEARN TO LIFT HEAVY OBJECTS OR TO USE CARE IN PACKING FURNITURE AT SCHOOL. NEITHER DID HE LEARN AT SCHOOL TO HELP PEOPLE MOVE THE THINGS THEY OWN OR TO COVER FURNITURE WITH THICK PADS.) THERE ARE SEVERAL OTHER WORKERS LISTED BELOW. UNDER EACH ARE SOME FACTS ABOUT THEIR WORK. PLACE A CHECK BESIDE THE SKILLS EACH WORKER PROBABLY LEARNED AT SCHOOL.

THE MOVING MAN:

_____ LIFTS HEAVY OBJECTS
_✓_ READS A MAP AND ROAD SIGNS
_____ USES CARE IN PACKING FURNITURE
_____ HELPS PEOPLE MOVE THE THINGS THEY OWN
_____ COVERS FURNITURE WITH THICK PADS

THE SECRETARY:

_____ TELLS HER BOSS WHAT TO DO
_____ USES GOOD MANNERS WHEN ANSWERING THE TELEPHONE
_____ USES A CASH REGISTER
_____ PUNCTUATES LETTERS FOR HER BOSS
_____ SPELLS WORDS CORRECTLY WHEN TYPING LETTERS

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THE GAS STATION WORKER:

_____ MAKES CHANGE

_____ FILLS OUT TICKETS FOR CUSTOMERS

_____ TAKES PICTURES OF CUSTOMERS

_____ READS THE NUMBERS ON THE GASOLINE PUMP

_____ HELPS PEOPLE GET RID OF TRASH

THE BAKER:

_____ USES FRACTIONS IN MAKING RECIPES SMALLER OR LARGER

_____ USES A MAP TO TELL HIM WHAT INGREDIENTS TO USE

_____ USES LOTS OF FLOUR AND SUGAR

_____ STARTS HIS JOB VERY EARLY IN THE DAY

_____ USES TIME AND TEMPERATURE WHEN BAKING HIS PRODUCTS

THE CONSTRUCTION WORKER:

_____ MEASURES SMALL BOARDS AND LARGE BOARDS

_____ BAKES BREAD

_____ CUTS PIECES OF LUMBER AT DIFFERENT ANGLES

_____ GIVES FIRST-AID

_____ FIGURES THE COST OF HIS MATERIALS

THE TELEPHONE OPERATOR:

_____ USES GOOD MANNERS IN HANDLING CALLS

_____ CAN REMEMBER NUMBERS EASILY

_____ MAKES TELEPHONES RING

_____ SAYS HER WORDS SLOWLY AND CLEARLY

_____ SPEAKS IN A FRIENDLY AND PRETTY TONE

5. PEOPLE SHOULD CHOOSE AND PREPARE FOR THEIR LIFE'S WORK. CHOOSING THE OCCUPATION THAT IS RIGHT FOR YOU MEANS FOLLOWING A PLAN. FROM THE LIST OF IDEAS BELOW, CHECK THE FIVE WHICH ARE MOST IMPORTANT IN SELECTING A CAREER.

____ LEARN ABOUT MANY KINDS OF WORK.

____ TAKE ONLY THE ADVICE OF YOUR FRIENDS.

____ FOLLOW IN YOUR FATHER'S OR MOTHER'S FOOTSTEPS.

____ SET SOME CAREER GOALS FOR YOURSELF.

____ GET TO KNOW YOURSELF AND FIND OUT WHAT YOU DO BEST.

____ LET YOUR PARENTS CHOOSE A CAREER FOR YOU.

____ IF SEVERAL OCCUPATIONS INTEREST YOU, FIND OUT AS MUCH AS YOU CAN ABOUT EACH ONE.

____ DEPEND ON SOMEONE ELSE TO OFFER YOU A CAREER.

____ ASSUME YOU WILL FIND A JOB LATER IN LIFE.

____ DEVELOP SOME HOBBIES AND FIND OUT WHAT INTERESTS YOU HAVE AND WHAT YOU ENJOY.

(This page to be used for suggested revision and evaluation.)

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GRADE 5

General Objectives

1. To help students grow in their ability to understand their feelings and capabilities

2. To provide students with opportunities to explore special interests and develop and exercise talents with occupational potential

3. To acquaint students with factors involved in making wise decisions and choices

4. To promote and encourage students to develop some special skills

5. To investigate occupational areas related to the special interests, talents and skills of students

Instructional Objectives	Information to Be Presented	Suggestions for Teachers and/or Student Activities	Names and Sources of Material and Media
Encourage students to become skilled observers of people at work	.Importance of observation of people at work .Techniques used in observing people at work .Looking: Nature of work Duties performed Working conditions Tools used Skills employed .Thinking: Be interested Pay attention Stand or sit where clear observation is possible Make notes .Definition of job title	Class might view and discuss transparencies relating to observing people at work. Students may write a description of the kind of work they think is being done behind the fence. Students might write a paragraph describing the work role of some television character and read it aloud to the class. Teacher may then read a job description for that worker to the class. Class might determine if their observations were accurate or not. Class might view and discuss filmstrip, "The Telephone Workers." Students may list the job titles of all the telephone workers observed.	Numbers 23 and 24, Career Transparency Series Television character roles --- Examples: Lawyer - Owen Marshall Doctor - Marcus Welby Detective - Mannix Secretary - Lucy Housekeeper - Hazel Teacher - Pete Dixon Sports Announcer - Bud Wilkerson Singers - Partridge Family Commercial Artist - Darrin Stephens Dictionary of Occupational Titles
Help students to realize that viewing television is one way of observing people at work	.Identification of some occupations shown in television programs .Workers involved in television productions --- Examples: Program director Traffic manager Continuity director	Pupils might play the "T.V. Character Game." Teacher may give the class the names of some television characters seen daily or weekly on the local television channel. Students might guess the occupations of the characters. (Class may be divided into teams	Number ECF-206, The Wonderful World of Work Series Edu-Craft, Inc.

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Instructional Objectives	Information to Be Presented	Suggestions for Teachers and/or Student Activities	Names and Sources of Material and Media
	Producer Associate director Education and public affairs directors Announcers Music librarian Musical director Newscaster Newswriter Studio supervisor Floor or stage manager Floorman Make-up artist Scenic designer Sound effects technician	to increase competition). Teacher might invite a resource speaker to show and tell the class about the many workers involved in a television production. As a follow-up activity, teacher might assign students to make a list of credits given at the end of several television shows.	Resource speakers --- Examples: Manager, KBTX Television Studios Elementary building counselors (to show "Hawaii Five-O-Slides)
	.Interaction of workers	Pupils might produce a simple television production by adapting from a radio-play. Pupils might present a weekly or daily radio broadcast on careers over the school intercom system.	See Appendix (for "The Peterkins - A Radio Play").
		Teacher might arrange a field trip to a television station.	Field trip suggestions: KBTX Studios KAMU Studios
Ma[illegible]tudents aware that n[illegible]ines and newspapers p[illegible]de many pictures of p[illegible]e at work	.Occupations popularized through advertising .Identification of skills needed by selected workers .Tools and equipment used in selected occupations	Students might play the "Comic Strip Character Game." Teacher may give the class the names of some comic strip characters commonly seen in the local newspaper. Pupils may guess the occupations of the characters.	Bryan Daily Eagle Pictorial Press

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Instructional Objectives	Information to Be Presented	Suggestions for Teachers and/or Student Activities	Names and Sources of Material and Media
		(Class might be divided into teams to increase competition). Teacher might assign students to groups identified by years such as 1965, 1969, 1971, etc. Pictures of people at work may be clipped and used in a bulletin board display entitled, "Jobs --- The People We See At Work." A comparison of jobs popularized in each assigned year may be made. Students might clip five pictures from a magazine or newspaper that show people at work. Jobs may be analyzed using a rating sheet. (Teacher might visit local newspaper offices and borrow pictures of people at work from their picture files).	Magazines published in the years assigned to groups Job Analysis Items --- Examples: Worker Uses: _____ Hands _____ Eyes Worker Works With: _____ People _____ Things _____ Ideas He Does His Work: _____ Inside _____ Outside Kinds of Tools or Equipment He Uses: _____ _____ _____ Other Information:

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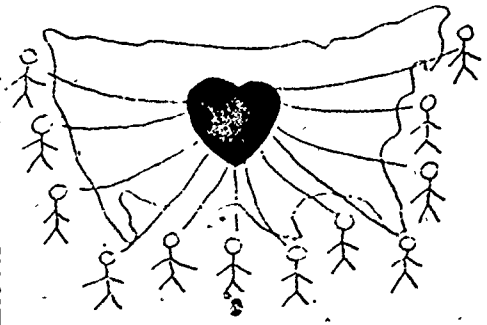
Instructional Objectives	Information to Be Presented	Suggestions for Teachers and/or Student Activities	Names and Sources of Material and Media
Help students to understand that some jobs can be done anywhere	.Identification of workers whose jobs are of a general nature --- Examples: .Teachers .Gas station attendants .T.V. repairmen .Grocery store checkers .Nature of work found in common jobs .Importance of workers whose jobs can be found everywhere	Working in groups, students might compile lists of workers commonly found in all parts of the United States. Each list may be recorded on the chalkboard for students to compare. Students might discuss the importance of jobs found everywhere. Teacher might construct an outline map of the United States out of newsprint. Students may create construction paper people-figures representing each occupation listed on the chalkboard. These might be pinned on the outside of the map. Colored yarn may be stretched from the workers to the map center or a red paper heart. The display may be entitled "...Heart of the Nation's Work Force."	 BEST COPY AVAILABLE Newspaper want-ads, construction paper, straight pins, colored pens and yarns 
Make students aware that some jobs are unique to certain areas	.Ways geographical features influence the work found within a region	Class might view and discuss transparency relating to jobs that are unique to certain geographic locations. Teacher might read story of	Number 9, Career Transparency Series See Appendix (for "Putting

Instructional Objectives	Information to Be Presented	Suggestions for Teachers and/or Student Activities	Names and Sources of Material and Media
		a migrant family to pupils; class may discuss the family's moving as it relates to their livelihood.	"Into").
		Pupils might illustrate and display some of the different geographic settings the family lived in.	Art paper and crayons
	.Industrial patterns of different sections of the United States	Students might individually investigate a state --- its main industries and products. They may write letters to the Chamber of Commerce in each state's capital city requesting resource information about the state.	Library reference books
	.Occupations that are unique to certain parts of the United States --- Examples: .Lumberjack .Wheat farmer .Fisherman .Cattle rancher .Sheep rancher .Meat packer .Aircraft designer .Coal miner .Fruit packer .Shipyard worker	Pupils might construct a large salt map of the United States. Each student may make a flag for three occupations unique to his state and place them on the map. Oral or written reports about the state may also be given.	See Appendix (for directions for making a salt map).
		Class might play game called "Where Could I Work?" Teacher may list jobs unique to certain parts of the country on construction	Map of the United States, construction paper people-figures, straight pins

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UNIT HEADING Individuals live in a particular geographical location due to the nature of their work.

Instructional Objectives	Information to Be Presented	Suggestions for Teachers and/or Student Activities	Names and Sources of Material and Media
		paper people-figures. Students might divide into teams and draw people-figures from a hat. They may be pinned to the appropriate parts of the nation.	

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UNIT HEADING Information about careers is needed by all individuals.

Instructional Objectives	Information to Be Presented	Suggestions for Teachers and/or Student Activities	Names and Sources of Material and Media
Enable students to get a more realistic picture of the world of work	.Ways jobs are like people .Characteristics of jobs	Class might view and discuss filmstrip, "What Is A Job?" Students might play the game, "Who Has the Key?"	Number A7/8-3 S1.C, Society for Visual Education, Inc. See Appendix (for directions for game).
Help pupils realize that gathering information about many jobs is part of the process of choosing a career	.Importance of learning about jobs and careers	Class might view and discuss transparency relating to improving knowledge about careers. Pupils may write a caption for the picture and share with the class.	Number 25, Career Transparency Series
	.Steps to selecting a career	Working in groups, students might compile lists of steps involved in choosing a career. Lists may then be recorded on the chalkboard so that comparisons can be made.	See Appendix (for steps to selecting a career).
	.Advantages of knowing about a variety of careers .Disadvantages of knowing about a variety of careers	Teacher might initiate a discussion on the advantages and disadvantages of learning about careers by using transparency relating to improving knowledge about careers. Students may supply answers to these questions: 1. How does learning about jobs help a person to choose a career? 2. Does learning about jobs and work help one to	Number 25, Career Transparency Series

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UNIT HEADING: Information about careers is needed by all individuals.

Instructional Objectives	Information to Be Presented	Suggestions for Teachers and/or Student Activities	Names and Sources of Material and Media
		understand various careers? How? 3. Should an individual be interested in only one career? Why or why not? 4. Why does an individual need to know about more than one career? Pupils might write a paragraph on the topic, "People Need Information About Careers Because ..." These may be shared with the class or placed in a career notebook..	Individual career notebooks

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EVALUATION

GRADE 5

1. EVERYBODY HAS FEELINGS ABOUT WORK. IF YOU AGREE WITH THESE STATEMENTS ABOUT WORK, PUT A CHECK IN THE SPACE UNDER THE "YES" COLUMN. IF YOU DO NOT AGREE WITH SOME OF THE STATEMENTS, PUT A CHECK IN THE SPACE UNDER THE "NO" COLUMN.

YES	NO	
___	___	EVERYONE SHOULD BE INTERESTED IN SOME TYPE OF WORK.
___	___	CHOOSING A CAREER ALWAYS CAUSES PEOPLE TO BE UNHAPPY.
___	___	CERTAIN JOBS CAN BE DONE ONLY IN CERTAIN PLACES.
___	___	THERE ARE MANY KINDS OF WORK.
___	___	CERTAIN JOBS MUST BE DONE BY PEOPLE WITH CERTAIN SKILLS AND KNOW-HOW.
___	___	LACK OF KNOWLEDGE ABOUT MANY KINDS OF WORK HELPS PEOPLE TO CHOOSE THE ONE JOB THEY WANT.

2. JOBS ARE FILLED BY PEOPLE WITH CERTAIN SKILLS, KNOWLEDGE, AND ATTITUDES. PRETEND YOU ARE THE PERSON IN EACH STORY BELOW. A QUESTION FOLLOWS EACH STORY. ANSWER THE QUESTION BY CIRCLING THE ONE JOB LISTED UNDER THE STORY WHICH BEST SUITS THAT PERSON.

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YOU ARE SUSIE STRONG. YOU ARE A GOOD STUDENT IN SCHOOL AND MAKE GOOD GRADES IN SCIENCE. YOU THINK HEALTH EDUCATION IS IMPORTANT. YOU HOPE SOMEDAY TO GET A JOB WHERE YOU CAN USE YOUR KNOWLEDGE OF SCIENCE AND HEALTH EDUCATION. YOU LIKE THE IDEA OF WEARING A UNIFORM TO WORK. YOU ALSO PLAN TO GO TO COLLEGE FOR AT LEAST 2 YEARS. FOR WHICH JOB ARE YOU BEST SUITED? (CIRCLE ONLY ONE.)

BEAUTICIAN COOK DENTAL HYGIENIST NEWSPAPER AD SALESMAN MECHANIC SECRETARY

YOU ARE CHARLES STOVER. YOU ARE A HIGH SCHOOL SENIOR AND ARE ON THE YEARBOOK STAFF. YOU ENJOY JOURNALISM AND MAKE "A'S" IN IT. YOU HAVE A LOT OF CONTACT WITH BUSINESS PEOPLE. YOU ARE NOT REALLY INTERESTED IN GOING TO COLLEGE AND THINK YOU CAN PROBABLY GET A SALES TYPE JOB IF YOU TRY. FOR WHICH JOB ARE YOU BEST SUITED? (CIRCLE ONLY ONE.)

BEAUTICIAN COOK DENTAL HYGIENIST NEWSPAPER AD SALESMAN MECHANIC SECRETARY

YOU ARE PETE ROGERS. YOU LIKE TO DO THINGS WITH YOUR HANDS. YOU HAVE TAKEN SEVERAL COURSES IN HIGH SCHOOL WHERE YOU HAVE LEARNED SOME HAND SKILLS. YOUR FATHER OWNS A RESTAURANT AND SOMETIMES YOU HELP HIM IN THE KITCHEN. YOU LIKE TO WORK WITH THE CHEF AND ARE THINKING OF TAKING SOME SPECIAL TRAINING IN FOOD SERVICE. FOR WHICH JOB ARE YOU BEST SUITED? (CIRCLE ONLY ONE.)

BEAUTICIAN COOK DENTAL HYGIENIST NEWSPAPER AD SALESMAN MECHANIC SECRETARY

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YOU ARE MARIA RIOS. YOU ARE VERY POPULAR AT SCHOOL AND WHEN THERE IS A SCHOOL DANCE, ALL THE GIRLS ASK YOU TO HELP THEM WITH THEIR MAKE-UP AND HAIR-DOS. YOU WANT TO START TO BEAUTY COLLEGE AFTER HIGH SCHOOL GRADUATION. YOUR MOTHER THINKS YOU GET ALONG WELL WITH PEOPLE. FOR WHICH JOB ARE YOU BEST SUITED? (CIRCLE ONLY ONE.)

BEAUTICIAN COOK DENTAL HYGIENIST NEWSPAPER AD SALESMAN MECHANIC SECRETARY

YOU ARE JOE CARTER. YOU HAVE FINISHED HIGH SCHOOL AND PLAN TO GO TO A 2-YEAR TECHNICAL SCHOOL. THERE, YOU CAN BECOME A SKILLED TRADESMAN. YOU LIKE TO TAKE THINGS APART AND PUT THEM BACK TOGETHER. AS A YOUNG BOY, YOU FIXED ALL THE BICYCLES IN YOUR NEIGHBORHOOD. FOR WHICH JOB ARE YOU BEST SUITED? (CIRCLE ONLY ONE.)

BEAUTICIAN COOK DENTAL HYGIENIST NEWSPAPER AD SALESMAN MECHANIC SECRETARY

YOU ARE KATHY SMITH. YOU HOPE TO GO TO WORK IN AN OFFICE AFTER HIGH SCHOOL GRADUATION. YOU ARE NEAT, ATTRACTIVE, AND LIKE TO BE AROUND PEOPLE. YOU LIKE TYPING AND FILING AND YOUR TEACHERS THINK YOU ARE A POLITE AND ORDERLY-TYPE PERSON. YOU ARE PLANNING TO GO TO A BUSINESS SCHOOL FOR A YEAR. FOR WHICH JOB ARE YOU BEST SUITED? (CIRCLE ONLY ONE.)

BEAUTICIAN COOK DENTAL HYGIENIST NEWSPAPER AD SALESMAN MECHANIC SECRETARY

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3. WE MUST ALL LEARN TO MAKE WISE DECISIONS AND CHOICES. IF YOU DECIDE TO GO TO THE MOVIE ON FRIDAY NIGHT INSTEAD OF SATURDAY NIGHT, YOU HAVE MADE A CHOICE. EACH TIME YOU MAKE THIS KIND OF DECISION, YOU FOLLOW A MENTAL PLAN. IN MAKING WISE CHOICES, YOU FIRST STUDY THE PROBLEM TO SEE WHAT MAKES IT A PROBLEM. (THE STATEMENT AT THE TOP OF THE NEXT PAGE HAS A "1" BY IT BECAUSE IT IS THE FIRST STEP OF THAT MENTAL PLAN. PUT A "2" BY THE BLANK THAT IS THE SECOND THING YOU DO AND SO ON WHEN MAKING A WISE DECISION.).

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____ ACCEPT WHAT HAPPENS BECAUSE OF YOUR CHOICE.

____ ASK YOURSELF, "WHAT CHOICES DO I HAVE?"

1 STUDY THE PROBLEM TO SEE WHAT MAKES IT A PROBLEM.

____ MAKE A DECISION.

____ ASK YOURSELF, "WHAT WILL HAPPEN IF I MAKE THE WRONG CHOICE?"

4. MOST BOYS AND GIRLS LIKE TO DO CERTAIN THINGS IN THEIR SPARE TIME. THIS IS CALLED A HOBBY. HOBBIES CAN HELP YOU DEVELOP SKILLS AND INTERESTS THAT LEAD TO JOBS LATER IN LIFE. (HAVING A SKILL MEANS THAT YOU CAN DO SOMETHING WITH YOUR HANDS OR BODY. HAVING AN INTEREST MEANS THAT YOU LIKE OR ENJOY SOMETHING.) FROM THE LIST BELOW, SEE IF YOU CAN TELL THE DIFFERENCE IN A SKILL AND AN INTEREST. BESIDE EACH STATEMENT, PUT AN "S" IF IT IS A SKILL AND PUT AN "I" IF IT IS AN INTEREST.

____ YOU PLAY BASEBALL WELL.

____ YOU CAN REPAIR BICYCLES.

____ YOU ENJOY RIDING HORSES.

____ YOU CAN QUICKLY THREAD YOUR MOTHER'S SEWING MACHINE.

____ YOU LIKE TO COLLECT STAMPS.

____ YOU MAKE DELICIOUS BROWNIES.

____ YOU ENJOY READING STORIES ABOUT ANIMALS.

____ YOU ENJOY WATCHING FOOTBALL GAMES ON TELEVISION.

____ YOU CAN TAP-DANCE TO MUSIC.

____ YOU ARE ABLE TO STYLE HAIR.

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5. MANY HOBBIES CAN LEAD TO CAREERS LATER IN LIFE. WHAT KIND OF WORKER MIGHT HAVE MADE EACH STATEMENT BELOW? MATCH EACH WORKER FROM THE LIST BELOW WITH THE STATEMENTS BY WRITING THE OCCUPATION OF THE WORKER IN THE SPACE PROVIDED BESIDE EACH STATEMENT.

POSTAL CLERK	SPORTS WRITER	BEAUTICIAN
DISC JOCKEY	ENTERTAINER	LIBRARIAN

_____ "WHEN I WAS YOUNG, MY HOBBY WAS READING."

_____ "WHEN I WAS YOUNG, MY HOBBY WAS COLLECTING STAMPS."

_____ "WHEN I WAS YOUNG, MY HOBBY WAS COLLECTING PICTURES OF BEAUTIFUL HAIR STYLES."

_____ "WHEN I WAS YOUNG, MY HOBBY WAS COLLECTING RECORDS."

_____ "WHEN I WAS YOUNG, MY HOBBY WAS TAP-DANCING AND SINGING."

_____ "WHEN I WAS YOUNG, MY HOBBY WAS PLAYING BASEBALL AND FOOTBALL."

6. HAVE YOU DEVELOPED ANY SPECIAL SKILLS AND INTERESTS AT SCHOOL THIS YEAR? (CIRCLE ONE.)

YES NO

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THESE ARE MY SPECIAL SKILLS AND INTERESTS:	MY SPECIAL SKILLS AND INTERESTS COULD LEAD TO THESE OCCUPATIONS LATER IN LIFE:	I AM INTERESTED IN KNOWING MORE ABOUT THESE OCCUPATIONS:
1. _____	1. _____	1. _____
2. _____	2. _____	2. _____
	1. _____	3. _____
	2. _____	4. _____

(This page to be used for suggested revision and evaluation.)

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/31/

ERIC

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General Objectives

1. To examine background qualifications needed by a wide variety of workers in industrial and service occupations as well as the professions
2. To relate the value of personality traits to doing a job
3. To emphasize the fact that occupations have vocabularies unique to them
4. To investigate the tools and equipment needed in various occupations
5. To emphasize that career selection may be based on a hobby

Instructional Objective	Information to Be Presented	Suggestions for Teachers and/or Student Activities	Names and Sources of Media and Materials
Help students to become familiar with some unusual names for occupations	.Names of unusual occupations --- Examples: .Hatter .Gandydancer .Toothpicker .Knock down man .Skin man .Ring sticker .Jet man	Teacher might record list of unusual occupations on the chalkboard. Students may then either guess or illustrate what they think each worker does. Various work roles might also be discussed.	Dictionary of Occupational Titles Art paper, charcoal, etc.
	.Selected work roles	Teacher might invite some resource speakers whose jobs have unusual nicknames to come and tell the students about their jobs. Pupils may listen for trade jargon unique to each worker's occupation.	Resource speakers --- Examples: Mechanic Policeman Dishwasher Singer Narcotics agent
	.Occupations with unusual nicknames --- Examples: .Grease monkey .NARC .Cop .Pearl diver .Crooner .Sandhog	Teacher might make up some vocational word jumbles to spell out some unusual occupations. These may be reproduced on spirit masters for students to complete. As a variation, pupils might make up their own vocational word jumbles. These may also be reproduced on spirit masters for students to complete.	See Appendix (for sample vocational word jumble). Spirit masters
Assist pupils in becoming acquainted with terms that are unique to selected occupations	.Special trade jargon --- Examples: .Newspaper worker: .Dinky .Ding bat .Cropping	Teacher might supply students with a list of words which are unique to certain occupations. She may tell the students from which trade the words come. Pupils may learn	Automobile Body Repair and Paint Guide

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Instructional Objective	Information to Be Presented	Suggestions for Teachers and/or Student Activities	Names and Sources of Media and Materials
	.Dummy .Copy .Automobile body trade: .Burn gun .Dinging .Dolly .Dumdum .Hognails .Food service trade: .Dumbwaiter .Baste .Garnish .Scallon .Dredge .Seamstress: .Pressing ham .Beater .Findings .Warp .Bobbin .Cosmetology trade: .Matting .Crop-off .Cork screw curl .Hot boxes .Goop .Importance of knowing one's trade jargon	the meaning of one of the words by interviewing a person employed in that occupation. They might also share the information with the class. Teacher might invite some resource speakers from several skilled trades to show and tell the class about their jobs. Pupils may listen for words that are unique to their occupations and use them in writing a summary of each talk. Students might read and report on selected occupations. They may look for 5 terms that are unique to their selected occupation and use in a paragraph with the title "The Importance of Words to a . . ." Teacher might arrange for a field trip to a business where skilled workers are employed. Students may make a list of words with unusual meanings as they relate to the specific occupation observed. Students might construct a	Resource speakers --- Examples: Cake decorator Newspaper worker Commercial cook Dry cleaning specialist Autobody repairman Library books Suggested field trips: Drapery shop Bakery Hatter Picture framing shop Autobody repair shop Construction site

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UNIT HEADING: Most occupations have vocabularies that are unique to them.

Instructional Objective	Information to Be Presented	Suggestions for Teachers and/or Student Activities	Names and Sources of Media and Materials
		bulletin board depicting workers who use words with special meanings. It may be captioned "A Jargon All Its Own ..."	
		As an alternate activity, pupils might make posters about the unique terms used by selected workers.	
		Students might devise some crossword puzzles using these unique terms. Teacher might reproduce on spirit masters for pupils to complete and distribute to class from time to time.	Spirit masters

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UNIT HEADING: Certain personal and background qualifications are needed by different types of workers.

Instructional Objective	Information to Be Presented	Suggestions for Teachers and/or Student Activities	Names and Sources of Media and Materials
Assist students in identifying personal qualities needed for job success	.Definition of personality .Identification of selected personality traits--- Examples: .Attitude .Courtesy .Honesty .Friendliness .Loyalty .Neatness .Punctuality .Tact .Sense of humor .Self-control .Qualities that employers look for in employees	Teacher might ask pupils to write down the names of their three closest friends. Then she may ask them to list some of the qualities or factors which make them like these three people better than anyone else. Teacher might relate the personality traits students admire most in friends to those employers look for in employees. Class might view and discuss transparency relating to punctuality on the job. As a follow-up activity, students might write a "What Just Have Happened" paragraph describing the events that followed this incident. Stories may be read aloud or individually taped and replayed to the class. Class might view and discuss transparency relating to the way in which attitudes affect a person's success in his work. Pupils might recite poem, "Be the Best of Whatever You Are" in choral speaking.	Number 31, Career Transparency Series Tape recorder Number 33, Career Transparency Series See Appendix (for poem).

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Instructional Objective	Information to Be Presented	Suggestions for Teachers and/or Student Activities	Names and Sources of Media and Materials
Make pupils aware of the background qualifications needed for some jobs	.Background qualifications that affect an individual's employability --- Examples: .Education .Special training .Experience .Licenses needed in some occupations	Discuss the importance of doing one's best as it applies to working at home, at school and on the job. Teacher might show the filmstrip, "What Good Is School?" and then may ask the students to pose these questions to a parent, relative or friend: 1. How often do you use the things you learned in school in your work? 2. What subjects you took in school help you the most? 3. What other jobs could you do as a result of studying these subjects? Oral reports of survey results might be made to the class. Teacher might ask the students to list two school subjects in which they excel. Pupils may compile a list of occupations that relate to each subject. Students might interview two or three people for information about the qualifications needed to do their jobs.	Number A778-5 Sl.C, Society for Visual Education, Inc. Newspapers, magazines, television, radio, library books Questionnaire items --- Examples: Name of occupation _____ How did you learn about your occupation? _____

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UNIT HEADING: Certain personal and background qualifications are needed by different types of workers.

Instructional Objective	Information to Be Presented	Suggestions for Teachers and/or Student Activities	Names and Sources of Media and Materials
		Teacher might invite a panel of resource speakers to come and tell the class about the qualifications needed to do their jobs. Pupils may interview the panelists for additional information about their work such as personality traits and background qualifications needed to do the job. Teacher might ask students to bring the want-ads of a newspaper to class and list five qualifications needed for ten different jobs. These may be placed in a career information notebook.	Do you feel you knew enough about your job before you went into it? What advice can you give me as I try to learn more about the world of work? Resource speakers --- Examples: Narcotics agent (NARC) Beautician Telephone repairman FBI agent Radio announcer Florist Auctioneer Lawyer Funeral director Electrician

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Instructional Objectives	Information to Be Presented	Suggestions for Teachers and/or Student Activities	Names and Sources of Material and Media
Familiarize students with the broad classifications of tools and equipment	Kinds of tools and equipment: .Power or Manual .Portable or Mounted .Large or Small	Class might view and discuss filmstrip(s), "...At Your Service" and "It's In Your Hands." While viewing, students may compile a list of the workers shown along with the tools they use in their jobs.	Number ECF-210 and Number ECF-203, The Wonderful World of Work Series, Edu-Craft, Inc.
	.Different uses of tools and equipment: .Cutting .Combing .Hammering .Measuring .Mixing .Drilling	Teacher might draw chart for classifying kinds and uses of tools and equipment on the chalkboard. Each student may enter the name of a tool or a piece of equipment seen in the filmstrip (s). Other pupils may help them to classify the tools and equipment listed.	See Appendix (for sample chart for classifying tools and equipment according to kind and use).
		Students might bring to class a list of tools and equipment used outside of school. Teacher may make a spirit master of the chart and add an extra column for listing workers who would use these tools and equipment in their work.	See Appendix (for sample chart for classifying tools and equipment according to kind, use and worker who might use them). Spirit masters
		Rather than bring a list of tools and equipment used in the world of work, students might bring real ones to class and analyze in the same way.	

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Instructional Objectives	Information to Be Presented	Suggestions for Teachers and/or Student Activities	Names and Sources of Material and Media
Make students aware that some tools and equipment are unique to selected occupations	.Selected occupations where special tools and equipment are used -- Examples: .Electrician .Carpenter .Painter .Plumber .Manicurist .Artist .Proper care of tools and equipment .Safety factors involved in using selected tools and equipment	Another variation of this activity might be for the students to bring to class pictures of tools or equipment used in the world of work and analyze in a similar fashion. Teacher might invite some resource speakers to come and show the class some of the tools and equipment they use in their work. Demonstrations would make the presentations more meaningful. Teacher might arrange a field trip to a business or shop where special tools and equipment are being used by the workers. Students might construct a simple tools or piece of equipment used in the world of work. Each student might select a favorite worker to research. He may compile a notebook of tools used by that worker using photographs, magazine or catalog pictures	Field trip suggestions: Jewelry Store (to see Jeweler and Watch Repairman) Public Library or Print Shop (to see a bookbinder) Dry Cleaning Shop (to see an apparel spotter) Automotive Repair Shop (to see a mechanic) See Appendix (for directions for making a hem gauge and a drill gauge). Dictionary of Occupational Titles

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Instructional Objectives	Information to Be Presented	Suggestions for Teachers and/or Student Activities	Names and Sources of Material and Media
		or free-hand illustrations.	Occupational Outlook Handbook Sears Power and Hand Tool Catalog Montgomery Ward Mail Order Catalog Individual student notebooks

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UNIT HEADING: Avocations can become vocations.

Instructional Objective	Information to Be Presented	Suggestions for Teachers and/or Student Activities	Names and Sources of Media and Materials
Help pupils to understand that hobbies can be developed to fill leisure time	.Differentiation of leisure time from work and sleep	Teacher might initiate a discussion of how students spend their leisure time by putting up a bulletin board display entitled "What Do You Do With Your Day?" She may then ask: 1. How much time per day do you sleep? 2. How much time per day do you work? 3. What do you do the rest of the day? Teacher might then remove the last third of the pie chart so as to reveal the words "leisure time." She may ask: 4. What is leisure time?	Sample pie chart: View 1 ? sleep work (school) 1/3 1/3 WHAT DO YOU DO WITH YOUR DAY? View 2 leisure time sleep work (school) 1/3 1/3 WHAT DO YOU DO WITH YOUR DAY?
	.Identification of leisure time activities of students .Definition of hobbies or avocations	Working in groups, the pupils might make a list of activities they engage in when they are not in school or asleep. The lists may be recorded on the chalkboard and the class might circle the activities that come under the heading of "hobbies."	
	.Examples of hobbies and avocations	Students with interesting avocations might be invited to show and tell the class about ways in which they spend their leisure time.	Hobbies that might be represented --- Examples: Stamp collecting Crewel embroidering Coin collecting

UNIT HEADING: Avocations can become vocations.

Instructional Objective	Information to Be Presented	Suggestions for Teachers and/or Student Activities	Names and Sources of Media and Materials
Help students to see how likes and dislikes help determine a person's avocations	.Ways hobbies develop	Teacher might display at least 30 items around the classroom. Pupils may list and classify the items according to the headings, "I like," "I dislike" and "I neither like nor dislike."	Painting Sample objects to be displayed: Foods Toys Games Flowers Books Recreational equipment
	.Activities which might become hobbies	Class might view and discuss filmstrip "What Do You Like to Do?"	Number A773-2 $1.C, Society for Visual Education, Inc.
		Pupils might read and report on a book about a special hobby that interests them.	Library books
Encourage pupils to see how leisure time activities can affect career choices	.Relationship of avocations to vocations	Class might design a questionnaire to administer to several people whose jobs interest them. The survey may be conducted by means of a personal interview or by mail. Results might be reported and tabulated within the class.	Questionnaire items --- Examples: Name of occupation _____ What did you like to do when you were my age? _____ Did these hobbies have any effect on your choice of a career? _____
		Teacher might invite several resource people to come and tell the students how their hobbies have led them into profitable careers.	Resource speakers --- Examples: Proprietor, arts and crafts shop Professional athlete Professional seamstress Commercial artist

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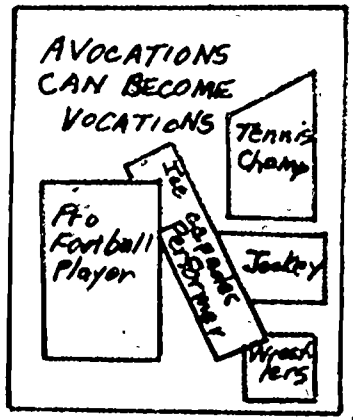
UNIT HEADING: Avocations can become vocations.

Instructional Objective	Information to Be Presented	Suggestions for Teachers and/or Student Activities	Names and Sources of Media and Materials
		Pupils might design posters using the theme "Avocations Can Become Vocations." A team of judges may be selected by the class to determine which poster best carries out the theme.	Sample poster: 

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RESOURCE MATERIALS

OCCUPATIONAL AWARENESS RESOURCE MATERIALS

(To Be Checked Out Through The Occupational Awareness Office)

BOOKS

1. Arnold, Arnold. Career Choices for the 70's. New York, New York: Crowell-Collier Press, 1971. ($4.95)

2. Athanson, William J. Automobile Body Repair and Paint Guide. New York, New York: Van Nostrand Press, 1967. ($3.95)

3. Ball, Anne W. Guess Who? Chicago, Illinois: Children's Press, 1972. ($2.96)

4. Clure, Beth and Helen Rumsey. Me. Glendale, California: Bowmar, 1968. ($2.99)

5. Clure, Beth and Helen Rumsey. Things I Like To Do. Glendale, Clifornia: Bowmar, 1968. ($3.99)

6. Clure, Beth and Helen Rumsey. Through the Day. Glendale, California: Bowmar, 1969. ($3.99)

7. Cramer, Stanley H. and Edwin L. Herr. Vocational Guidance and Career Development in the Schools: Toward a Systems Approach. Boston, Massachusetts: Houghton Mifflin Co., 1972. ($9.95)

8. Dodd, Ed. Careers for the 70's - Conservation. New York, New York: Crowell-Collier Press, 1971. ($4.95)

9. Dubnick, Phyllis. A Job For You. Austin, Texas: Steck-Vaughn Co., 1967. ($1.32)

10. Dunn, Charletta J. and Bill F. Payne. World of Work. Dallas, Texas: The Leslie Press, 1971. ($4.95)

11. Ellis, Mary Jackson. Fingerplay Approach to Dramatization. Minneapolis, Minnesota: T. S. Dennison and Co., Inc., 1960. ($3.75)

12. Forrester, Gertrude. Occupational Literature - An Annotated Bibliography 1971. New York, New York: H. W. Wilson Co., 1971. ($15.00)

13. Ginzberg, Eli. Career Guidance: Who Needs It, Who Provides It, Who Can Improve It. New York, New York: McGraw-Hill Book Co., 1971. ($7.95)

14. Hoppock, Robert. Occupational Information, 3rd Ed. New York, New York: McGraw-Hill Book Co., 1967. ($10.50)

15. I Want To Be ... Book Series. Chicago, Illinois: Children's Press: ($2.44 per book)

Greene, Carla. ... An Airplane Pilot, 1960.
Greene, Carla. ... An Animal Doctor, 1956.
Baker, Eugene. ... An Architect, 1969.
Greene, Carla. ... A Baker, 1956.
Greene, Carla. ... A Ballet Dancer, 1959.
Baker, Eugene. ... A Bank Teller, 1972.
Greene, Carla. ... A Baseball Player, 1961.
Baker, Eugene. ... A Basketball Player, 1972.
Baker, Eugene. ... A Beauty Operator, 1969.
Greene, Carla. ... A Bus Driver, 1957.
Greene, Carla. ... A Carpenter, 1959.
Greene, Carla. ... A Coal Miner, 1957.
Greene, Carla. ... A Cowboy, 1960.
Greene, Carla. ... A Dairy Farmer, 1957.
Greene, Carla. ... A Dentist, 1960.
Greene, Carla. ... A Doctor, 1958.
Greene, Carla. ... A Farmer, 1959.
Greene, Carla. ... A Fireman, 1959.
Greene, Carla. ... A Fisherman, 1957.
Baker, Eugene. ... A Football Player, 1972.
Baker, Eugene. ... A Forester, 1969.
Greene, Carla. ... A Homemaker, 1961.
Greene, Carla. ... A Librarian, 1960.
Greene, Carla. ... A Mechanic, 1959.
Greene, Carla. ... A Musician, 1962.
Greene, Carla. ... A News Reporter, 1958.
Greene, Carla. ... A Nurse, 1957.
Greene, Carla. ... An Orange Grower, 1956.

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Greene, Carla. ... A Pilot, 1957.
Greene, Carla. ... A Policeman, 1958.
Greene, Carla. ... A Postman, 1958.
Greene, Carla. ... A Restaurant Owner, 1959.
Greene, Carla. ... A Road Builder, 1958.
Baker, Eugene. ... A Sales Clerk, 1969.
Greene, Carla. ... A Scientist, 1961.
Baker, Eugene. ... A Secretary, 1969.
Baker, Eugene. ... A Service Station Attendant, 1972.
Greene, Carla. ... A Ship Captain, 1962.
Greene, Carla. ... A Space Pilot, 1961.
Greene, Carla. ... A Storekeeper, 1958.
Baker, Eugene. ... A Taxi Driver, 1969.
Greene, Carla. ... A Teacher, 1957.
Greene, Carla. ... A Telephone Operator, 1958.
Greene, Carla. ... A Train Engineer, 1956.
Greene, Carla. ... A Truck Driver, 1958.
Baker, Eugene. ... A Waitress, 1972.
Baker, Eugene. ... A Weatherman, 1972.
Greene, Carla. ... A Zoo-Keeper, 1957.

16. Kimbrell, Grady and Ben S. Vineyard. Activities for Succeeding in the World of Work. Bloomington, Illinois: McKnight & McKnight Publishing Co., 1972. ($1.98)

17. Kimbrell, Grady and Ben S. Vineyard. Succeeding in the World of Work. Bloomington, Illinois: McKnight & McKnight Publishing Co., 1970. ($3.97)

18. Knott, Bill. They Work and Serve. Austin, Texas: Steck-Vaughn Co., 1967. ($1.32)

19. Krebs, Alfred H.; Ed. Second Yearbook of the American Vocational Association - The Individual and His Education. Washington, D. C.: American Vocational Association, 1972. ($8.50)

20. Law, Gordon F., Ed. First Yearbook of the American Vocational Association - Contemporary Concepts in Vocational Education. Washington, D. C.: American Vocational Association, 1971. ($8.50)

21. Luboff, Norman and William Stracke. Songs of Man. Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1969. ($14.95)

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22. McLaughlin, Roberta and Lucille Wood. Sing a Song of People. Glendale, California: Bowmar, 1973. ($7.99)

23. Mace, Kay and Harry Mace. When I Grow Up. New York, New York: Golden Press, Inc., 1950. (Out of print)

24. Moss, Jeffrey. Sesame Street People in Your Neighborhood. New York, New York: Western Publishing Co., 1971. ($ .39)

25. Moss, Jeffrey and Joe Raposo. Sesame Street Song Book. New York, New York: Simon & Schuster, 1971. ($6.95)

26. Nestrick, Nova, Ed. The Little Red Hen and the Grain of Wheat. New York, New York: Platt and Munk Publishers, 1961. ($1.95)

27. Norris, Willa. Occupational Information in the Elementary Schools. Chicago, Illinois: Science Research Associates, Inc., 1963. ($5.50)

28. Powell, Meredith and Gail Yokubinas. What To Be? Chicago, Illinois: Children's Press, 1972. ($2.96)

29. Sur, William R. et. al. This Is Music, Book I. Boston, Massachusetts: Allyn and Bacon, Inc., 1963. (State accepted textbook)

30. _____. Texas Almanac. Dallas, Texas: The Dallas Morning News, 1972. ($2.00)

31. U. S. Department of Labor. Dictionary of Occupational Titles, Volume I, 3rd Ed. Washington, D.C.: Superintendent of Documents, 1965. ($7.75)

32. U. S. Department of Labor. Dictionary of Occupational Titles, Volume II, 3rd Ed. Washington, D. C.: Superintendent of Documents, 1965. ($6.75)

33. U. S. Department of Labor. Occupational Outlook Handbook, 1970-71. Washington, D. C.: Superintendent of Documents, 1970. ($6.25)

34. U. S. Department of Labor. Occupational Outlook Handbook, 1972-73. Washington, D. C.: Superintendent of Documents, 1972. ($6.25)

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35. Wilkinson, Jean and Ned Wilkinson. Come to Work With Us ... Book Series. Chicago, Illinois: Children's Press: ($3.38 per book)

... In Aerospace, 1970.
... At An Airport, 1970.
... At A Bank, 1972.
... At A Dairy, 1972.
... In A Department Store, 1972.
... In A Hospital, 1970.
... In A Hotel, 1972.
... In House Construction, 1970.
... At A Newspaper, 1972.
... At A Telephone Company, 1972.
... At A Toy Factory, 1970.
... At A Television Station, 1970.

36. Winn, Marie, Ed. The Fireside Book of Children's Songs. New York, New York: Simon and Schuster, 1966. ($6.95)

37. Zaidenberg, Arthur. How To Draw People At Work. New York, New York: Abelard-Schuman, 1970. ($3.75)

BOOKLETS AND PAMPHLETS

1. Boning, Richard A., Ed. "Locating the Answers - Specific Skill Series - Book B." Rockville Centre, New York: Barnell Loft, Ltd. (No price available)

2. Gelb, Donald L. "What Will I Be From A To Z?" Chicago, Illinois: National Dairy Council, 1971. (Free)

3. Hunt, Ruth, Ed. "Educators' Handbook for 'I Want To Be ...' Books Series." Chicago, Illinois: Children's Press, Inc., 1966. (Free with book series)

4. _____. "Let's Make Butter - Student Pamphlet." Chicago, Illinois: National Dairy Council, 1970. (Free)

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5. _____. "My Visit To The Dairy - Student Pamphlet." Chicago, Illinois: National Dairy Council, 1968. (Free)

6. _____. "The Color Me A Health Career Coloring Book." Austin, Texas: Texas Health Careers Program and Texas Hospital Association, 1970. (Free)

7. _____. "Vocational Education: Innovations Revolutionize Career Training." Washington, D. C.: National School Public Relations Association, 1971. ($4.00)

8. Williams, DeAtna M. "More Paper-Bag Puppets." Palo Alto, California: Fearon Publishers, 1968. ($1.86)

CURRICULUM AND TEACHING GUIDES

1. _____. A Guidebook for Teachers in Career Development - 'The Involved Commitment.' Trenton, New Jersey: Division of Vocational Education, Department of Education, 1963. ($2.00)

2. _____. An Analysis of Fifteen Occupational Clusters Identified By The U. S. Office of Education. Sherman/Denison, Texas: Grayson County College, 1972. ($7.00)

3. _____. Career Awareness, Grade 3. Austin, Texas: Texas School for the Deaf, 1972. (No price available)

4. _____. Career Awareness, Grade 4. Austin, Texas: Texas School for the Deaf, 1972. (No price available)

5. _____. Career Awareness, Grade 5. Austin, Texas: Texas School for the Deaf, 1972. (No price available)

6. _____. Career Education, K-6 Guide. Seattle, Washington: Seattle Public Schools, 1971. ($2.50)

7. _____. Careers of the Month Project. Abilene, Texas: Abilene Independent School District, 1968. ($1.50)

8. Coburn, Darrel W. Workers From A to Z - PROJECT DEVISE, Part II. Alliance, Nebraska: Educational Service Unit #12, 1971. ($1.35)

9. _____. Curriculum Bulletin in Career Guidance. Levelland, Texas: Levelland Independent School District, 1969. ($5.00)

10. _____. Elementary Methods and Resource Guide. San Antonio, Texas: Career Education Center, Harlandale Independent School District, 1972. (No price available)

11. _____. Handbook for Occupational Awareness, K-2. Houston, Texas: Houston Independent School District, 1972. ($4.95)

12. _____. Handbook for Occupational Awareness, 3-4. Houston, Texas: Houston Independent School District, 1972. ($3.00)

13. _____. Handbook for Occupational Awareness, 5-6. Houston, Texas: Houston Independent School District, 1972. ($2.50)

14. Laws, Lee. Elementary Guide for Career Development, Grades 1-6. Austin, Texas: Education Service Center, Region XIII, 1970. ($5.00)

15. Teachers Guide for PROJECT DEVISE - A Plan To Help Them. Alliance, Nebraska: Educational Service Unit #12, 1971. ($1.35)

GAMES, KITS AND PUZZLES

1. Crossword Puzzles with marking crayons. Oak Lawn, Illinois: Ideal School Supply Co.: ($2.25 per puzzle)

   No. 2569 - "Occupations" (8)
   No. 2571 - "Community Helpers" (8)

2. DUSO (Developing Understanding of Self and Others) Kit including story books, records, posters, hand puppets, role play and puppet activity cards, Set D-1. Circle Pines, Minnesota: American Guidance Services. ($84.00)

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3. Puppet Playmates, "Community Helpers" Series, No. 1103. Paoli, Pennsylvania: The Instructo Corporation: ($7.50)

   Doctor
   Fireman
   Nurse
   Policeman

4. Twenty-four Puzzle Match-Ups, "When I Grow Up" Series, No. 7106 by Playskool. Springfield, Massachusetts: Milton Bradley Company. ($1.23)

5. Urban Panorama Kit including full color panel of a city, sixteen sketches of city buildings and scenes, record, and teacher's guide sheet. Chicago, Illinois: National Dairy Council, 1969. (Free)

6. Wood Puzzles, "Community Workers" Series. Chicago, Illinois: Playskool, Inc.: ($2.30 per puzzle)

   No. 195-1 - "Farmer" (14 pieces)
   No. 195-2 - "School Teacher" (16 pieces)
   No. 195-3 - "Fireman" (17 pieces)
   No. 195-4 - "Baker" (16 pieces)
   No. 195-5 - "Doctor" (14 pieces)
   No. 195-6 - "Policeman" (16 pieces)
   No. 195-7 - "Milkman" (18 pieces)
   No. 195-8 - "Nurse" (17 pieces)
   No. 195-9 - "Grocer" (19 pieces)
   No. 195-10 - "Postman" (19 pieces)
   No. 195-11 - "Patrolwoman" (19 pieces)
   No. 195-12 - "Waitress" (19 pieces)

7. World of Work Game including score sheets, six wooden tokens, fifteen Worker cards and thirty-four Chance cards. Bryan, Texas: Bryan Independent School District, 1971. ($5.00)

MISCELLANEOUS

1. Occupational Awareness Staff. "Occupational Awareness Program 1971-72" Slide Series. Bryan, Texas: Bryan Independent School District, 1972. ($25.00)

2. Occupational Awareness Staff. "Occupational Information Address File, 1971-72." Bryan, Texas: Bryan Independent School District, 1971. ($5.00)

VISUALS

1. "Alphabet of Workers" posters. Bryan, Texas: Bryan Independent School District, 1972: ($75.00)

Announcer
Airplane pilot
Barber
Chef
Doctor
Engineer
Fireman
Farmer
Gasoline-plant operator
Homemaker
Interior decorator
Janitor
Kitchen-helper
Locksmith
Mason
Nurse
Orderly
Policeman
Quality control inspector
Quarterback
Rodman
Stewardess
Truck driver
Upholsterer
Urban geographer
Veterinarian
Welder
X-Ray technician
Yardman

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Zookeeper

2. Career Guidance Filmstrip Series. Chicago, Illinois: Society for Visual Education, Inc.: ($6.00 each)

   No. A778-2 S1.C - "What Do You Like To Do?"
   No. A778-3 S1.C - "What Is A Job?"
   No. A778-4 S1.C - "What Are Job Families?"
   No. A778-5 S1.C - "What Good Is School?"

3. Career Transparency Series with Discussion Guide. Austin, Texas: Education Service Center, Region XIII: ($98.00)

   No. 1 - "Individuals work to meet personal and social needs."
   No. 2 - "People work for various rewards or satisfactions."
   No. 3 - "Work has dignity."
   No. 4 - "Some workers produce goods; other services."
   No. 5 - "In many careers, cooperation among workers is essential."
   No. 6 - "Specialization leads to interdependency among workers."
   No. 7 - "Supply and demand help determine career choice."
   No. 8 - "Geographical location determines the kinds of work found therein."
   No. 9 - "Individuals live in a particular geographic location due to the nature of their work."
   No. 10 - "Careers are grouped by job families."
   No. 11 - "Positions are related within job families."
   No. 12 - "Young women as well as young men should prepare for a career."
   No. 13 - "Such factors as age, sex, race or religion no longer limit career possibilities to the extent they have in the past."
   No. 14 - "School is a part of the preparation for a career."
   No. 15 - "Individuals need a good general education as preparation for a changing world."
   No. 16 - "School subjects have significance for career exploration."
   No. 17 - "Relating career possibilities to school subjects helps improve student motivation."
   No. 18 - "Individuals need special training for most careers."
   No. 19 - "Workers of the future may have to retrain two or more times during a lifetime."
   No. 20 - "Technological and sociological changes eliminate and create jobs."
   No. 21 - "Careers are of wide variety."
   No. 22 - "Information about careers is needed by all individuals."

No. 23 - "Observation of people at work helps improve knowledge about careers."
No. 24 - "Exploratory work experience helps improve knowledge about careers."
No. 25 - "Interaction with workers helps improve knowledge about careers."
No. 26 - "Individuals are qualified to perform in many different occupations."
No. 27 - "Career choice is a developmental process."
No. 28 - "Individuals' cultural and socio-economic backgrounds affect career choices."
No. 29 - "Individuals' value systems affect career choice."
No. 30 - "Leisure time activities affect career choice."
No. 31 - "Individuals differ in their abilities, interests, aptitudes and values."
No. 32 - "Individuals are people, thing or idea-oriented."
No. 33 - "Information about abilities, aptitudes and achievement, and acceptance of this information helps individuals make more realistic career decisions."
No. 34 - "Relating attitudes and interests to characteristics of careers improves the probability of satisfaction with career choice."
No. 35 - "Individuals are attracted to careers due to the relationship of the characteristics of the careers to the life styles of the workers."
No. 36 - "Career choice affects the individuals' total life."
No. 37 - "A satisfying career contributes to mental health."
No. 38 - "Individual attitudes affect success in a career."
No. 39 - "The individual should learn to be self-governing as he enters the world of work."
No. 40 - "Worthy use of leisure time is vital to mental health and happiness in a career."

4. "Community Helpers" Pict-o-Graphs, Set No. 2310 by Cebco. Cincinnati, Ohio: The Standard Publishing Co., 1967: ($1.95)

Barber
Brick mason
Bulldozer operator
Cab driver
Carpenter
Coach
Construction worker
Deliveryman
Dentist
Doctor
Druggist
Fireman
Gardener
Groceryman
Ice cream man
Judge
Mailman
Mechanic
Milkman
Newsboy
Nurse
Painter
Policeman
Salesman
Sanitation worker
Shoe salesman
Teacher
Telephone operator
Telephone repairman

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5. "Community Workers and Helpers" poster cards, Set No. 7528. Springfield, Massachusetts: The Milton Bradley Co., 1967: ($3.75)

Cafeteria cook	Mailman	Sanitation worker
Firefighter	Meteorologist	School doctor
Forest ranger	Milkman	Surveyor
Hospital volunteer	Policeman	Visiting nurse
Librarian		

6. "Home and Community Helpers" Teaching Pictures including resource sheets, Set No. 07203. Elgin, Illinois: David C. Cook Publishing Co., 1972: ($2.75)

Bulldozer operator	Grandfather	Policeman
Dentist	Mother	Postman
Fireman	Office worker	Telephone lineman
Fruit market owner	Plumber	Service station attendant

7. "Let's Visit A Candy Factory" slide set with script or cassette tape. Bryan, Texas: Occupational Awareness Program, Bryan Independent School District, 1973. ($10.85)

8. "Life On A Dairy Farm" filmstrip with record and script. Chicago, Illinois: National Dairy Council, 1971. (Free)

9. Lollipop Dragon Filmstrip Series. Chicago, Illinois: Society for Visual Education, Inc.: ($11.00 each)

   No. L-106-1 - "How the Lollipop Dragon Got His Name" filmstrip (about sharing) with record

   No. L-106-2 - "Working Together" filmstrip with record

10. Manners Filmstrip Series, No. 395 by Troll Associates. Mahwah, New Jersey: Educational Reading Service: ($7.00 each)

    "Community Manners"
    "Home Manners"
    "School Manners"

11. "School and School Helpers" Teaching Pictures including resource sheets, Set No. 44693. Elgin, Illinois: David C. Cook Publishing Co., 1969: ($2.75)

Art teacher	Music teacher	Principal
Classroom teacher	Office secretary	School bus driver
Custodian	Parent-teachers association	School crossing guard
Librarian	Physical education teacher	School nurse

12. School Workers Filmstrip Series by McGraw-Hill Book Co. Mahwah, New Jersey: Audio-Visual Division, Educational Reading Service: ($7.75 each)

No. 641251 - "Our School Workers"
No. 641255 - "The Librarian"
No. 641256 - "The School Nurse"
No. 641257 - "The Principal"
No. 641258 - "The Custodian"

13. "Sharing With Others" filmstrip, Guidance Stories Series, No. 8491 S1.C. Chicago, Illinois: Encyclopedia Britannica Educational Corporation. ($6.00)

14. The Wonderful World of Work Filmstrip Series including records and booklets, K-3. Detroit, Michigan: Edu.Craft, Inc., 1968: ($149.00 per set)

No. ECF-101 - "Introduction To The World of Work"
No. ECF-102 - "The Newspaper Boy"
No. ECF-103 - "The Junior Home-Maker"
No. ECF-104 - "Electrical Servicers"
No. ECF-105 - "Gas and Oil Servicers"
No. ECF-106 - "Telephone Servicers"
No. ECF-107 - "Mail Delivery"
No. ECF-108 - "Dairy Products Delivery"
No. ECF-109 - "Drug Store"
No. ECF-110 - "Super-Market"
No. ECF-111 - "Service Station"

15. The Wonderful World of Work Filmstrip Series including records and booklets, 4-6. Detroit,

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Michigan: Edu.Craft, Inc., 1968: ($175.00 per set)

No. ECF-201 - "What Else Do Fathers Do?
No. ECF-202 - "Just What Do Mothers Do?"
No. ECF-203 - "It's In Your Hands"
No. ECF-204 - "The Electrical Workers"
No. ECF-205 - "The Gas and Oil Workers"
No. ECF-206 - "The Telephone Workers"
No. ECF-207 - "Getting The Goods To The Users"
No. ECF-208 - ". . . A Matter of Business"
No. ECF-209 - "It's The Growing Thing"
No. ECF-210 - ". . . At Your Service"
No. ECF-211 - "Raw Steel To Rolling Wheels"
No. ECF-212 - "Food . . . Shelter . . . Clothing"
No. ECF-213 - "Helping The Healing Hands"

16. "What Do You Like To Do?" (Health Careers) slide set with script or cassette tape. Bryan, Texas: Occupational Awareness Program, Bryan Independent School District, 1972. ($10.85)

17. "Sing a Song of People" LP Record, (Home and Community Series). Glendale, California: Bowmar, 1972. ($7.00)

FILMS

(Available On A Free-Loan Basis To Schools)

1. "As American As Apple Pie," 25 minute color film which gives a behind-the-scenes look at how frozen apple pies are processed by Mrs. Smith's Pie Company, No. 4154. (Order through Modern Talking Picture Service, Inc., 4084 Westheimer Road, Houston, Texas 88001).

2. "Candy Country - U.S.A.," 14 minute color film which demonstrates the fascinating process of manufacturing Jolly Rancher Candy, No. 2950. (Order through Modern Talking Picture Service, Inc., 4084 Westheimer Road, Houston, Texas 77001).

3. "Chocolate Crossroads of the World," 27 minute color film which shows how chocolate products are made in the Hershey Chocolate and Confectionery Division of the Hershey Foods Corporation, No. 2435. (Order through Modern Talking Picture Service, Inc., 4084 Westheimer Road, Houston, Texas 77001).

APPENDIX

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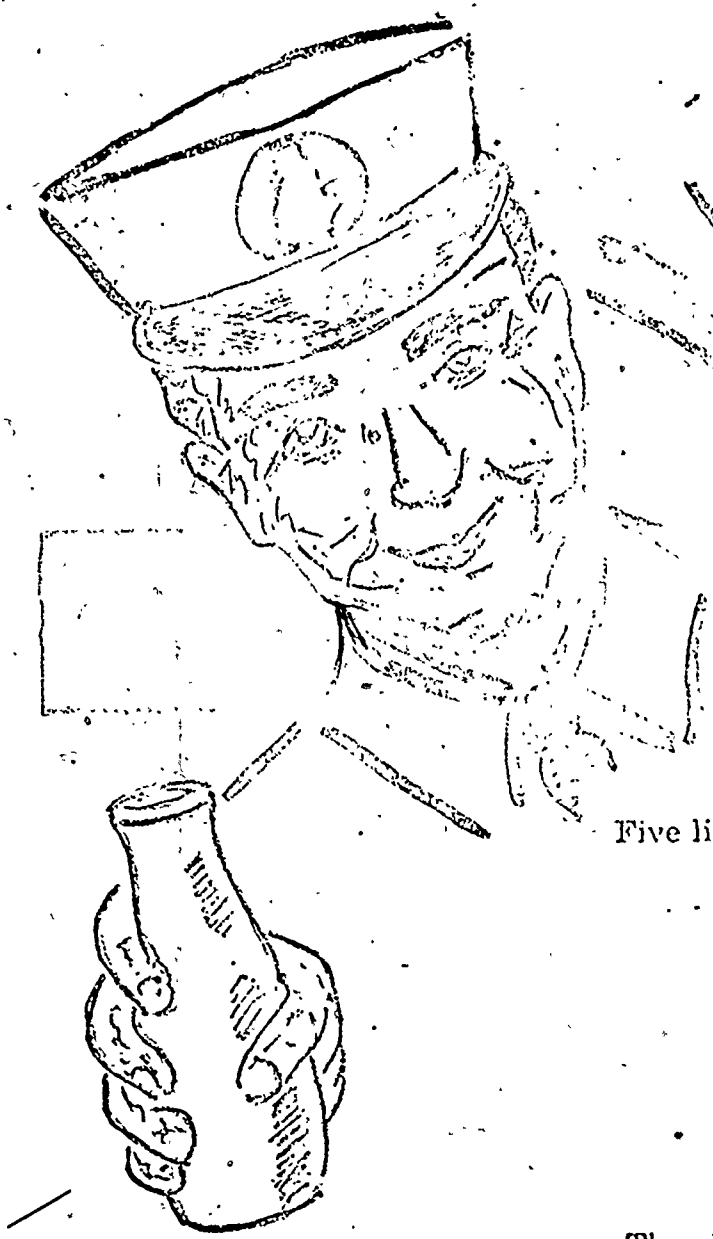
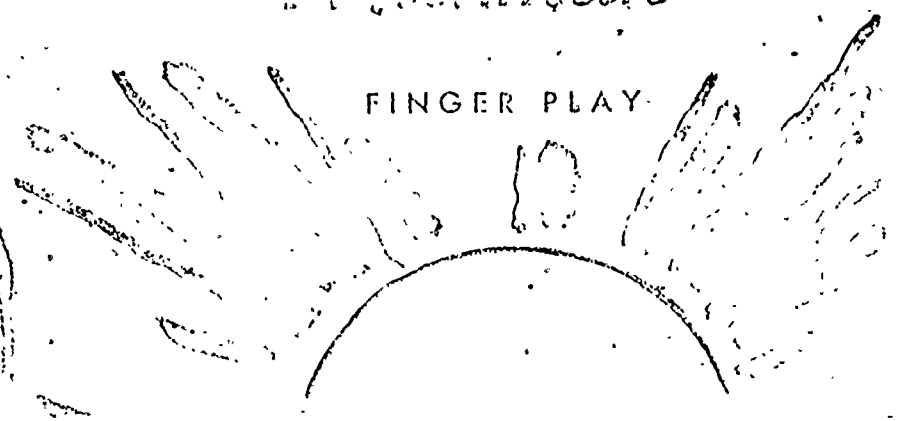
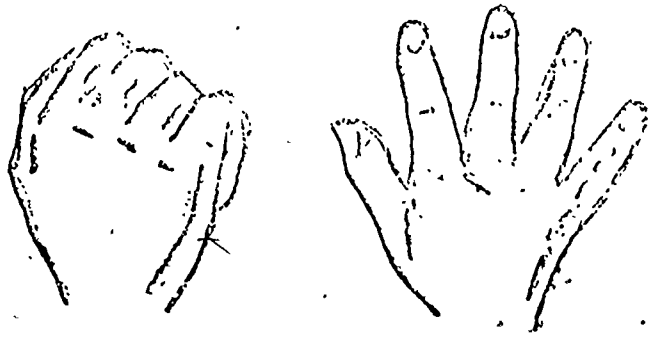


FINGER PLAY



Five little milkmen got up with the sun,



They hurried to the dairy to get their work done.

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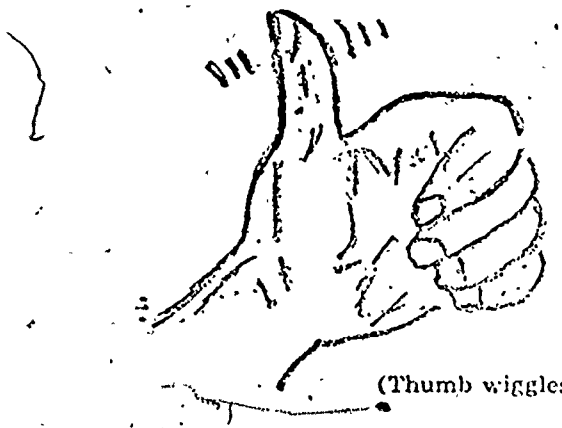

(Thumb wiggles)

(Two fingers "walking")

The first little milkman said, "It's a lovely day."

The second little milkman said, "Let's get started on our way."

(Index finger wiggles)

The third little milkman said, "I'm as sleepy as can be."

(Third finger wiggles)

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The fourth little milkman said, "Children wait for me."

(Fourth finger wiggles)

The fifth little milkman had nothing to say.

(Fifth finger wiggles)

They lifted the bottles, and they hurried away.

(Lifting motion)

(Hand behind back)

*Reprint from Fingerplay Approach to Dramatization.

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The Postman

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FINGER PLAY

This is the way the postman comes
walking down the street,
(Fingers — walking motion)

Left right — left right.
(Pat right hand — then left hand on floor)

I can hear his feet
(Hand at ear listening)

He sometimes smiles and waves at me;
(Make smile motion)

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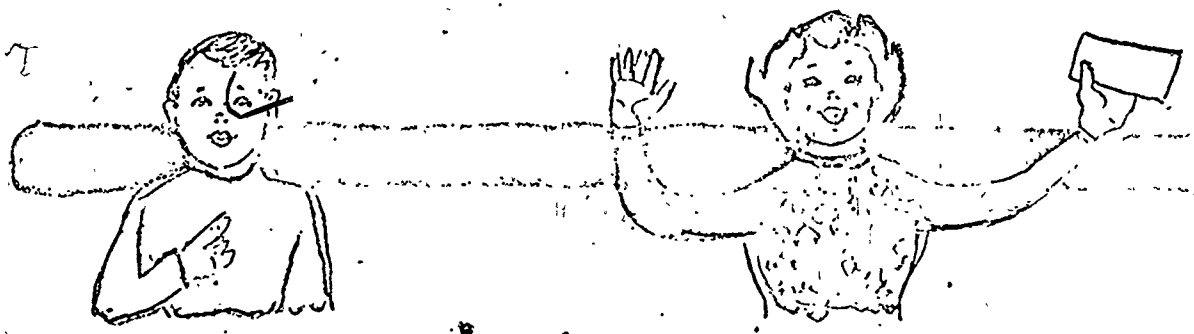
I clap my hands in glee,
(Clap hands)

For this is the way he lets me know
(Point to self)

He has a letter for me.
(Wave letter)



*Reprint from Fingerplay Approach to Dramatization.

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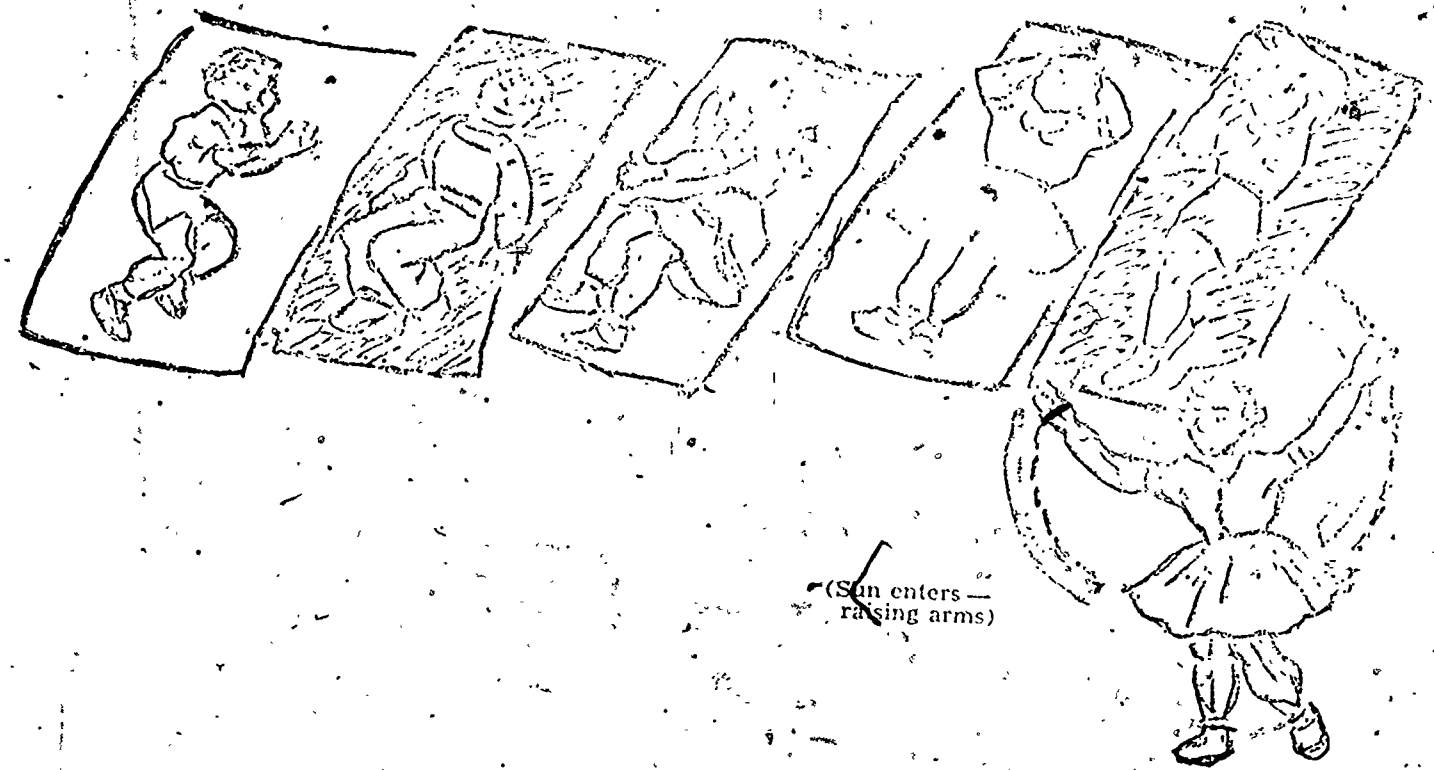
DRAMATIZATION

Five little milkmen got up with the sun,



(Sun enters — raising arms)

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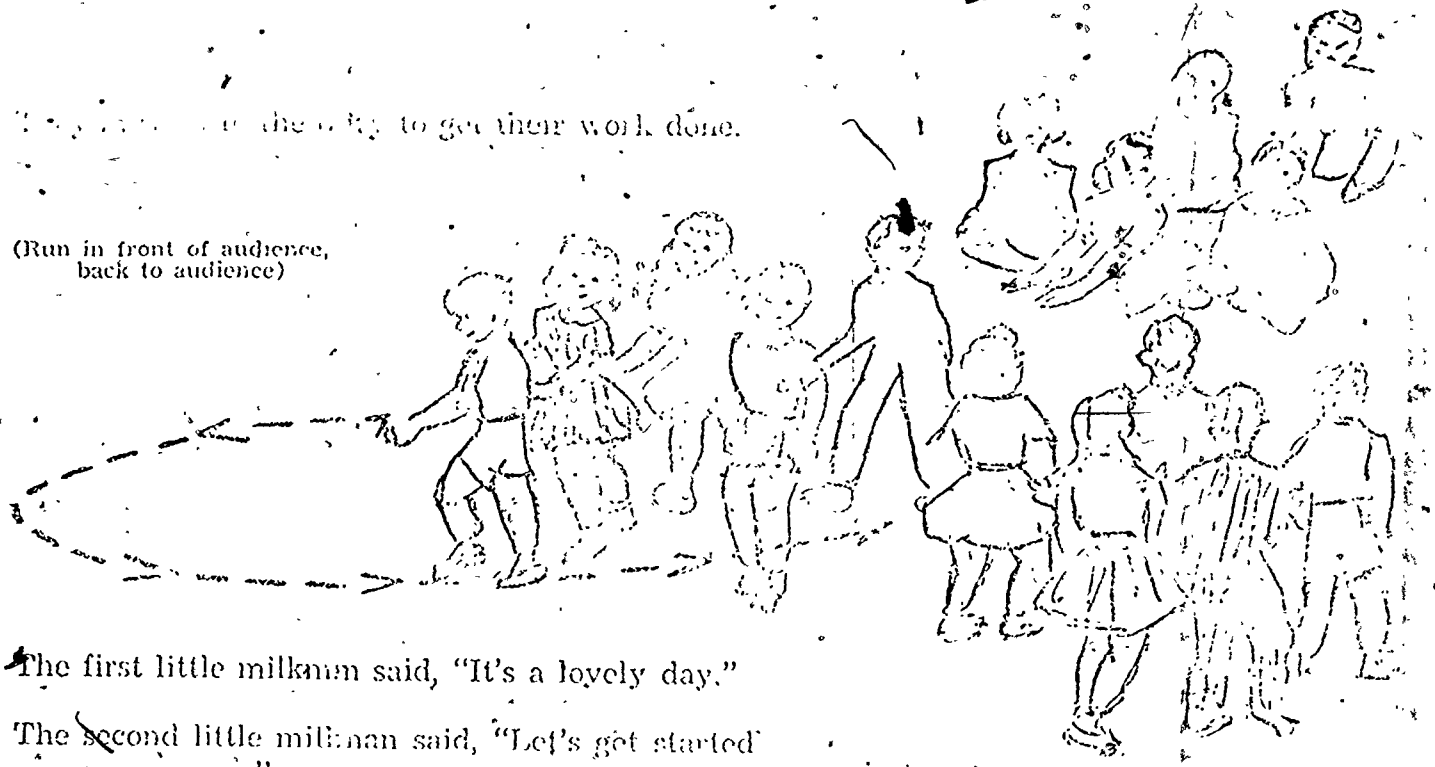
[illegible] to get their work done.

(Run in front of audience, back to audience)



The first little milkman said, "It's a lovely day."

The second little milkman said, "Let's get started on our way."

The third little milkman said, "I'm as sleepy as can be."

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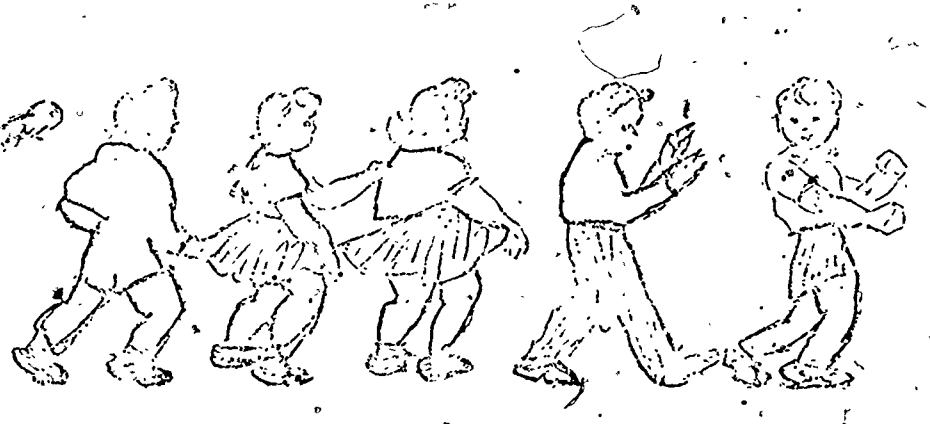
The fourth little milkman said, "Children wait for me."

The fifth little milkman had nothing to say.

They lifted the bottles, and they hurried away.

(Lifting motion)



(Hurrying away)

*Reprint from Fingerplay Approach to Dramatization.

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DRAMATIZATION

This is the way the postman comes
walking down the street,

(One child walking)

Left right — left right.

(Marching in place)

I can hear his feet

(Child listening)

He sometimes smiles and waves at me;

(Postman smiles and waves)

I clap my hands in glee,

(Show joy — clap hands)

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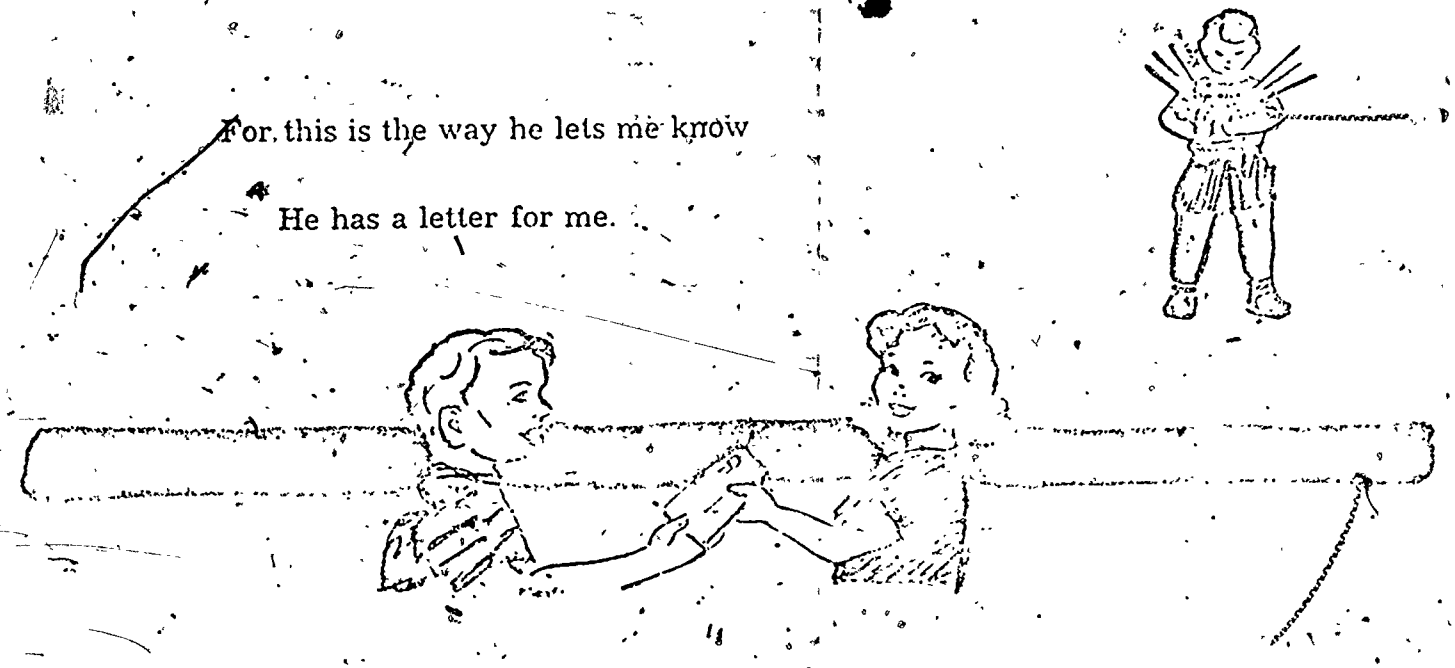
For this is the way he lets me know

He has a letter for me.



*Reprint from Fingerplay Approach to Dramatization.

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DIRECTIONS FOR MAKING MODELING COMPOUND

USE: 1 Cup cornstarch
2 Cups baking soda
1 1/4 Cups water

DO:

1. Mix all ingredients together in a saucepan until thoroughly blended.
2. Cook over medium heat for about four minutes, stirring constantly, until mixture thickens.
3. Cover with a damp cloth to cook.
4. Knead as you would dough.
5. This mixture may be colored with tempera or food coloring before molding and shaping, if desired.
6. (The compound should be placed on a cardboard base for drying as it sets up hard like plaster of Paris.)

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WHAT IS AN 'OCCUPAC?'

An OCCUPAC is a multi-media package or kit which is used to present career information to students at all grade levels, beginning even in Kindergarten. It incorporates learning skills such as seeing, talking, listening, and doing and helps to make a child more aware of himself as well as the world of work. It provides a type of hands-on learning experience and gives a child a chance to actually get the feel of a specific job. An OCCUPAC is usually self-contained; that is, it includes a programmed tape, slides or prints, sounds of work, simulated work activities, and props of all kinds from the real world of work.

The OCCUPAC idea originated at Eastern Illinois University in 1970. During the first year of operation, fifteen OCCUPACS were developed and many dimensions of the selected occupations were presented. For example, in the package for the licensed practical nurse, children were told that LPNs sometimes have to work during evening hours and on weekends and holidays. LPNs must also expect to do some lifting and they will undoubtedly see people with injuries and broken bones. In the secretary package, the children were able to look at and work with various materials. A taped comentary then asked questions like, "Do you think you would enjoy answering the telephone? Are you a neat person or are you messy? Would you like to do what your boss asks you to do? Did you enjoy trying to write some shorthand?" First graders were able to view slides of an electrician and wire up light bulbs and switches to get the feel of what an electrician does. Fourth graders were able to make study models of dentures by using the rubber molds, plaster-like materials, and other materials that dental assistants use. Sixth graders were able to set up cash register drawers, write sales slips, and use state sales tax guides to simulate the work of a retail sales clerk. In each case, the students were given little teacher assistance and were instead guided by taped and printed directions using an individualized instruction approach.*

*Adapted from "OCCUPACS for Hands-On Learning," AVA Journal, January, 1972, pp. 40-41

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WHO AM I? _____

(COLOR MY HAT BLUE.)

YOU'RE A BLOCKHEAD, CHARLIE BRONSON

(Charlie Bronson enters doctor's office)

CHARLIE: (a real boy)
Hello, Doctor, I'm Charlie Bronson, the very famous astronaut, and I'm not feeling too well. I've got the idea there's something wrong with my stomach and, after all, Doctor, there can't be anything wrong with me if I'm to go into outer space next week. (faces audience) You see, an astronaut has about the most important job there is. (Doctor and nurse turn to each other and laugh).

DOCTOR: (sack puppet)
All right, Charlie Bronson. Let's see if we can't fix you up. (Looks at Charlie, turns to nurse and both laugh). Take one of these pills and sit down for a few minutes; then we'll see how you feel. Next patient, please, Nurse.

CHARLIE: (a real boy)
Ohhh!

NURSE: (sack puppet)
Come in, please.

BAKER: (sack puppet)
(Enters). Ker-choo! (Doctor and nurse turn heads to avoid spray). Say, Doctor, I have a cold. Can you make me well? I'm a baker --- Ker-choo! and I can't mix my dough if I don't stop sneezing. Then you'd run out of bread for your sandwiches and there wouldn't be any more cookies --- Ker-choo!

DOCTOR: (sack puppet)
Goodness! Here's a prescription. Drink lots of fruit juice and get plenty of rest and you'll be fine soon.

BAKER: (sack puppet)
Thank you, Doctor. I know that will help. (Exits by Charlie --- stops --- turns to Charlie). Ker-choo!

CHARLIE: (a real boy)
ohhh!

DOCTOR: (sack puppet)
Next patient, please, Nurse.

NURSE: (sack puppet)
Come in. He will see you now.

FARMER: (sack puppet)
(Enters). I've hurt my finger, Doctor. Can you make it well? You see, I'm a dairy farmer and I can't milk my cows with my finger hurting like this. You'd soon run out of milk and cheese and butter and worst of all, there wouldn't be any more ice cream. So, please, Doctor, make my finger well.

DOCTOR: (sack puppet)
Let's have a look at it. Hmmm --- this doesn't look too serious. Soak it in warm salt water; then put this medicine on it and keep a clean bandage on it. It will soon be better and you'll be able to get back to work. I hope it gets well quickly because ice cream is my favorite dessert.

FARMER: (sack puppet)
Thank you, Doctor. (Exits).

CHARLIE: (a real boy)
You'd certainly think that a famous astronaut would get more attention than this. (Doctor and Nurse laugh).

DOCTOR: (sack puppet)
Next patient, please.

NURSE: (sack puppet)
The Doctor will see you now. Please come in.

MAILMAN: (sack puppet)
(Enters limping). Doctor, my leg hurts. Can you help me? I'm a mailman and I can't walk from house to house very well. See! (Walks around limping). My neighbors won't get the letters and packages they are expecting as long as I'm this way. Can you make it better?

DOCTOR: (sack puppet)
Hmmm ... it doesn't seem to be very bad. Rub this medicine on it tonight before going to bed and your leg should feel better tomorrow. I surely do like good mail service.

MAILMAN: (sack puppet)
Thank you, Doctor. (Exits).

DOCTOR: (sack puppet)
Next patient, please, Nurse.

NURSE: (sack puppet)
Please come in. The Doctor will see you now.

FIREMAN: (sack puppet)
(Enters. Bumps into wall and Charlie. Hat is pushed down in front). Hello, Doctor. Can you do something to help me? I seem to have tired blood lately. You see, I'm a fireman and I must be quick to face the flame and fire. I must have strength to battle the fires with all my might. Can you help me?

DOCTOR: (sack puppet)
(Lifts hat from over fireman's eyes). Does that help?

FIREMAN: (sack puppet)
Fine Doctor! That's much better!

DOCTOR: (sack puppet)
Well, good! We really need you firemen! (Fireman exits).

CHARLIE: (a real boy)
You'd think that going to the moon wasn't important at all. (Doctor and Nurse look at each other and laugh).

DOCTOR: (sack puppet)
Who's next, Nurse?

NURSE: (sack puppet)
There's only one more, Doctor. Come right in.

TEACHER: (sack puppet)
Oh, Doctor, I have a terrible headache. You see, I'm a teacher and with all the children in my classroom everyday, I must make learning fun and help these children grow but ...

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DOCTOR: (sack puppet)
It sounds to me like you have an "Excedrin" headache. I'd also like to prescribe a remedy for poor attitude. Just remember how very important you are. In fact, you're probably the most important member of that family. They'd never be able to make it without you. Take this tablet and a good dose of my advice and you'll be fine.

TEACHER: (sack puppet)
Oh, thank you, Doctor. I feel better already. (Exits).

DOCTOR: (sack puppet)
(Turns to Charlie). You know, Charlie Bronson, I used to think that I was the most important person in the world because I made sick people well. But just think! What would the world be like without all these hard-working people?

NURSE: (sack puppet)
Now do you see, Charlie Bronson? You thought you were the only great person in the world. You're a blockhead, Charlie Bronson!

CHARLIE: (a real boy)
Oh, Rats!

(End of Play)

*Adapted from World of Work

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DIRECTIONS FOR MAKING UNCOOKED CANDY

Fondant

USE:
1 egg white
1 Tablespoon cold water
2 Tablespoons light cream
1 teaspoon vanilla
5 Cups sifted confectioners sugar
Food coloring
Flavoring

DO:

1. Blend together egg white, water, cream and vanilla.
2. Add sugar gradually.
3. Knead until smooth.
4. Cover with damp cloth and let stand at room temperature 1 hour before using.
5. Tint; flavor and shape as desired.

YIELD: 1 1/4 pounds candy

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IDEAS FOR CREATING A 'VALENTINE ZOO'

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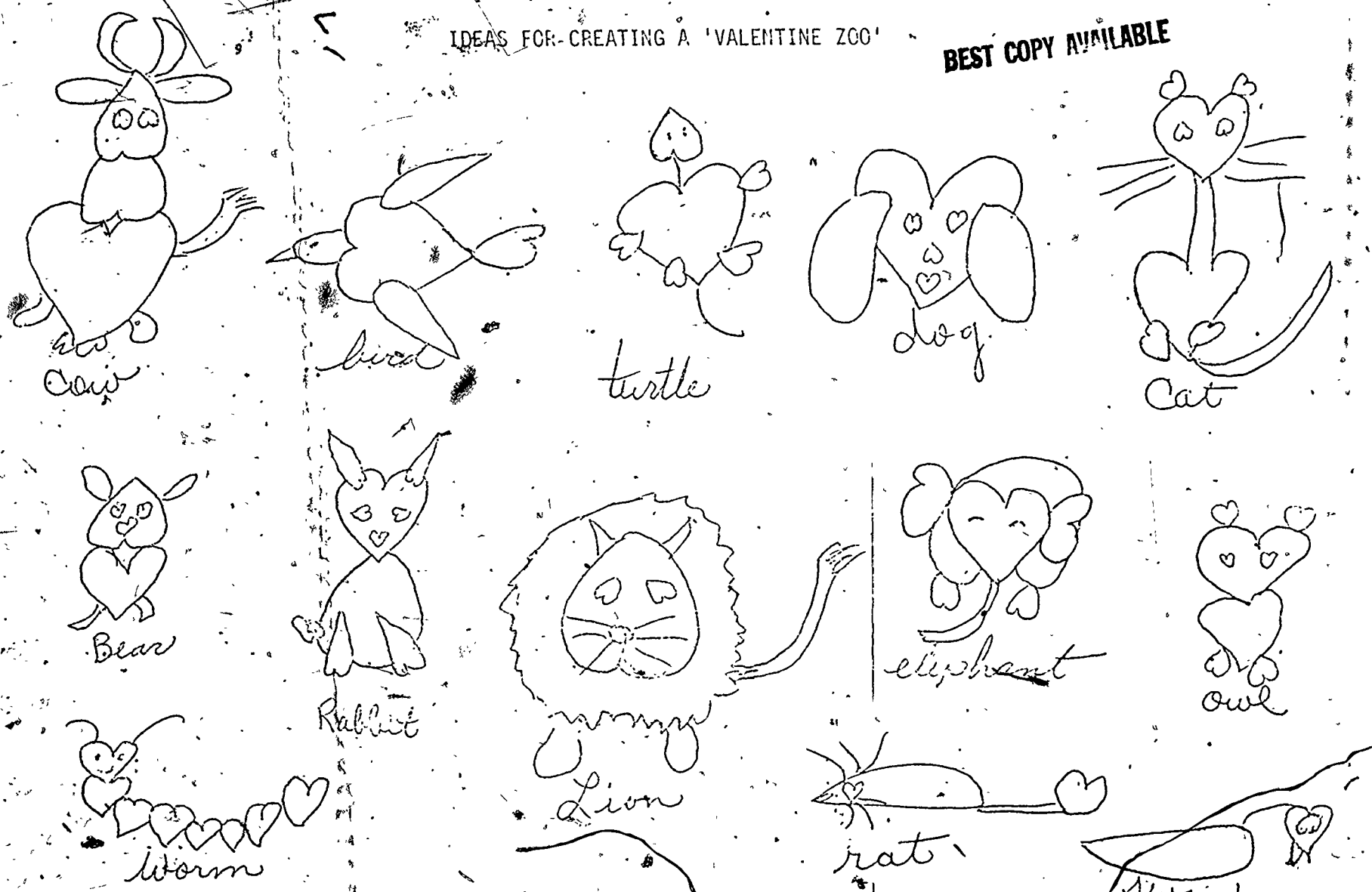

*Adapted from an "idea" sheet developed by Mrs. Winnifred Walston

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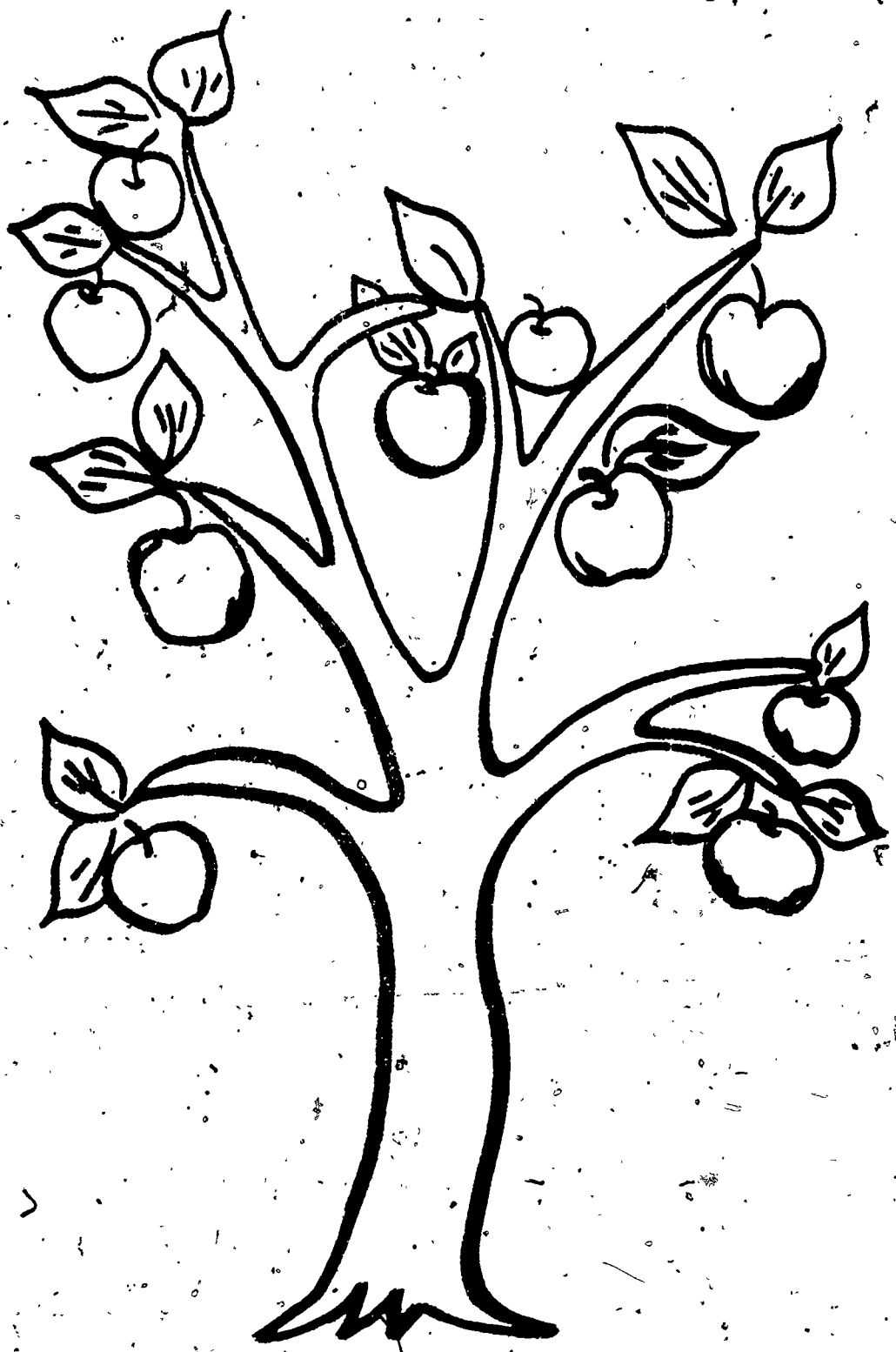
You Are Part Of A Family---



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Who belongs on your family tree?

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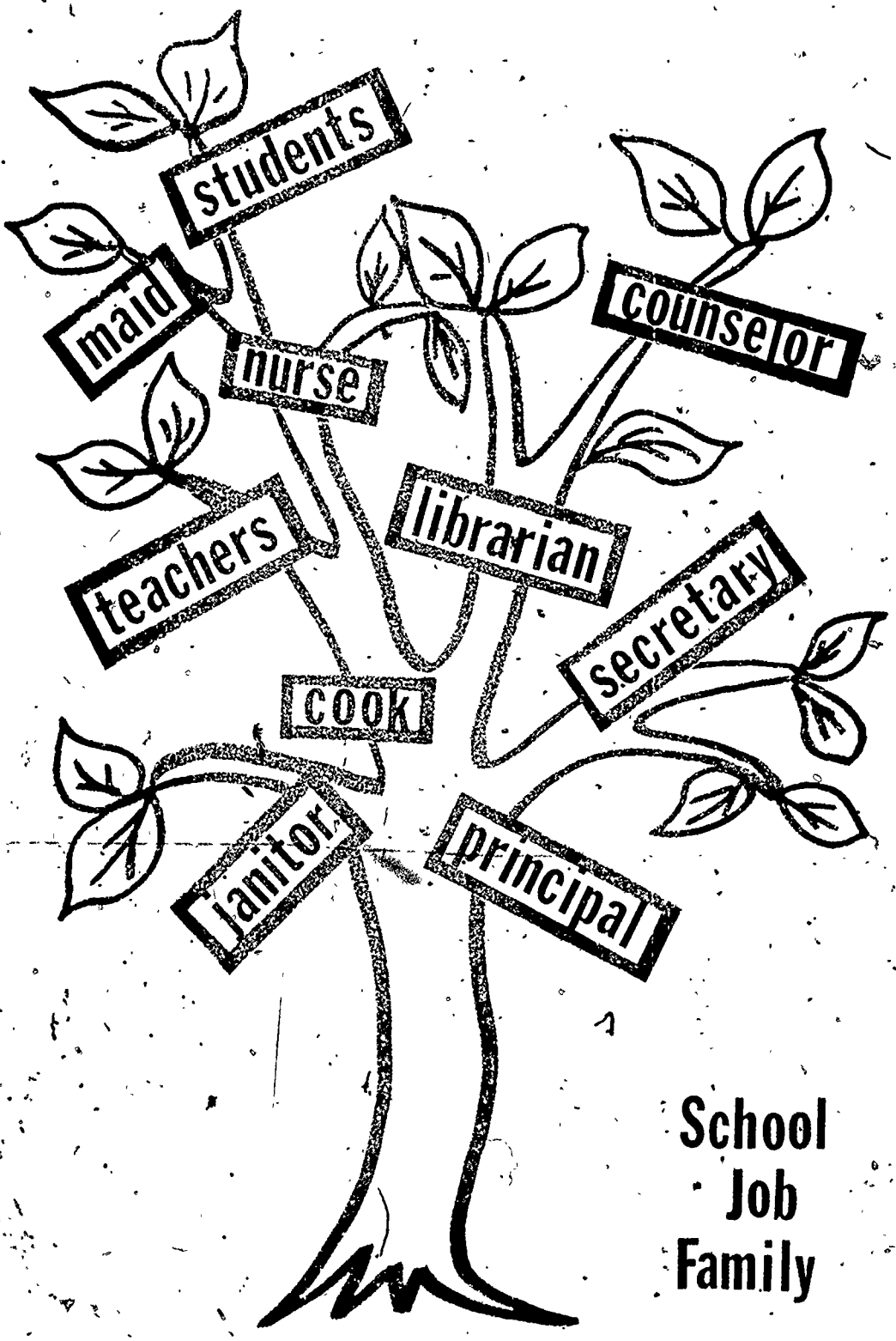
Suggested Bulletin Board Display



School
Job
Family

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DIRECTIONS FOR MAKING BUTTER IN THE CLASSROOM

USE:
- Bowl with rotary beater
- Measuring cup
- Small bowl
- Wooden spoon
- Cream
- Salt
- Knife
- Saltine crackers

DO:

1. Wash the bowl and beater.
2. Pour in the cream.
3. Turn the beater.
4. Watch for the butter to come; then pour off the buttermilk.
5. Work and work the butter.
6. Put it in a small bowl.
7. Add salt and taste.
8. Spread on crackers and pass for everyone to taste.

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STEPS TO SELECTING A CAREER

1. Learn at school about many kinds of work.
2. If several occupations interest you, find out as much as you can about each one.
3. Get to know yourself better --- find out what you do best and discover your personality strengths and weaknesses.
4. Develop some outside interests and hobbies --- find out what interests you and what you enjoy most. (Get involved in activities which help you prepare work.)
5. Set some occupational goals for yourself.
6. Get some type of work experience.
7. Develop good work habits --- these will lead to success in a job later on in life.
8. Think about what you want out of life; your values must be identified, weighed and examined.
9. Talk to people who work --- find out what they like about their jobs, what skills are required for their jobs and what attitudes they have about work.
10. Decide on one or several possible career goals.

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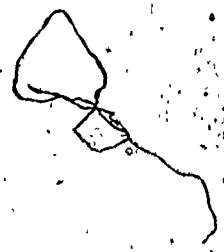
IF THIS WERE YOU

What kind of worker should she be? Should she wear a stewardess' cap, a nurse's cap, a waitress's cap or no cap at all? Would she wear a uniform, a house dress, a business dress or an apron?

Finish the picture as you think she should be. If she needs any special tools or equipment, you can draw them around her.



*Reprint from Teacher's Guide for PROJECT DEVISE.

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What kind of worker should he be? Should he wear a policeman's cap, a postman's cap, a pilot's cap, a carpenter's cap, a farmer's hat or no hat at all? Would he wear overalls, a business suit, a uniform or an apron?

Finish the picture as you think he should be. If he needs any special tools, you can draw them around him.

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*Reprint from Teacher's Guide for PROJECT DEVISE.

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SAMPLE CHART FOR CLASSIFYING JOBS

CAREER FIELDS	JOB TITLE Example:	WHOSE JOB? Parent, Friend
1. Business and Office		
2. Marketing and Distribution		
3. Communications and Media		
4. Construction		
5. Manufacturing		
6. Transportation	✓	✓
7. Agri-Bus. and Nat. Resources		
8. Marine Science		
9. Environmental Control		
10. Public Service		
11. Health		
12. Hospitality		
13. Personal Services		
14. Fine Arts and Humanities		
15. Consumer and Hmk.-Related		

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DIRECTIONS FOR MAKING A SALT MAP

USE: Beaverboard or heavy cardboard
Equal parts of flour and salt

DO:

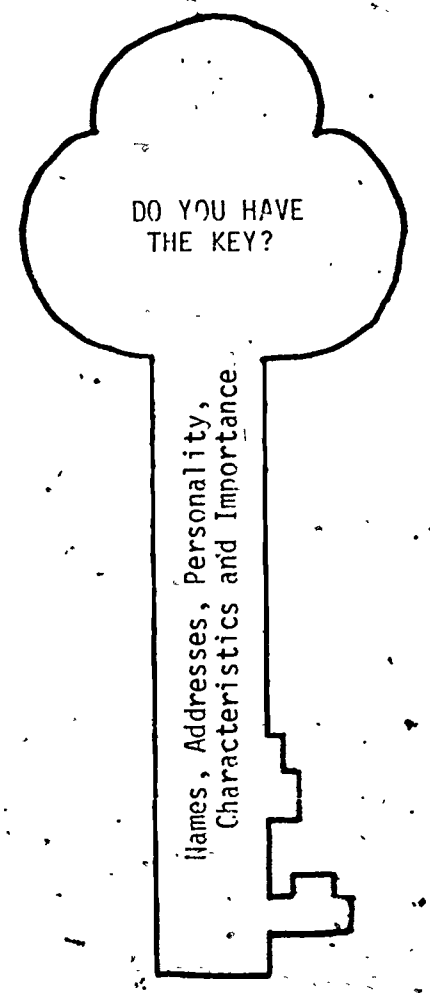
1. Mix equal parts of flour and salt with enough water to make a creamy consistency. Do not heat.
2. Put on beaverboard or heavy cardboard.
3. Let mixture harden and set.
4. When dry, salt map can be painted.
*5. (For relief maps, build up high elevations in layers, allowing each layer to dry before another is added.)

DIRECTIONS FOR PLAYING "WHO HAS THE KEY?"

Teacher might make up questions about facts and related information covered in the filmstrip, "What is a Job?" From colored construction paper, she may cut out keys and print the answers to the questions to be asked.

Several keys should be given to each student in the class. (Teacher might explain that she has lost her keys and cannot get through her door. A student may have the key that unlocks the door.)

Teacher may ask the questions one at a time. If a child thinks he has the correct answer, he might stand and say, "I have found your key." Then he may show the key to the teacher; he might also show it to the group. Class may decide whether he has found the correct key. If the answer is correct, the pupil may give the key to the teacher. If incorrect, the pupil keeps the key. The object of the game is to see which student can get rid of all his keys first.



Example: How are jobs like people?

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SAMPLE

Vocational Word Jumble

To learn about an unusual occupation, unjumble the letters to spell the name of a worker. The letters which are in the squares will spell the word which is missing in the sentence.

A _____ _____ _____

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10. T N E _____ (used to catch fish)

11. L G F U _____ (of Mexico)

12. D N I W _____ (propels sails)

13. N B O _____ (front end of ship)

14. E T G R E _____ (color of sea water)

15. N A K P _____ (edge of river)

16. C H B A E _____ (place to have fun)

17. P S H I P H _____ (small shell fish)

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CHORAL READING

"Be the Best of Whatever You Are"

If you can't be a nine on the top of the hill,
Be a scrub in the valley -- but be
Chorus: The best little scrub at the side of the rill:
Be a bush if you can't be a tree.

First Voice: We can't all be captains, we've got to be crew:
Second Voice: There's something for all of us here;
Chorus: There's big work to do, and there's lesser to do,
An the task we must do is the near.

First Voice: If you can't be a highway, then just be a trail,
Second Voice: If you can't be the sun, be a star;
Chorus: It isn't by size that you win or you fail --
Be the best of whatever you are.

--- Anonymous

CHART FOR CLASSIFYING TOOLS AND EQUIPMENT

NAME OF TOOLS AND EQUIPMENT	KINDS						USE
	Portable	Mounted	Power	Manual	Large	Small	
Example: SCISSORS	✓			✓		✓	CUTTING

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FOLLOW-UP CHART FOR CLASSIFYING TOOLS AND EQUIPMENT

NAME OF TOOLS AND EQUIPMENT	KINDS						USE	WORKERS WHO WOULD USE TOOLS AND EQUIPMENT
	Portable	Mounted	Power	Manual	Large	Small		
Example: SCISSORS	✓			✓		✓	CUTTING	Seamstress Barber Florist
LAWN MOWER	✓		✓		✓		CUTTING	Hospital Gardener Sports Grounds Keeper Cemetery Caretaker
BUILT-IN RANGE		✓	✓		✓		HEATING	Home Service Representative Food Products Tester

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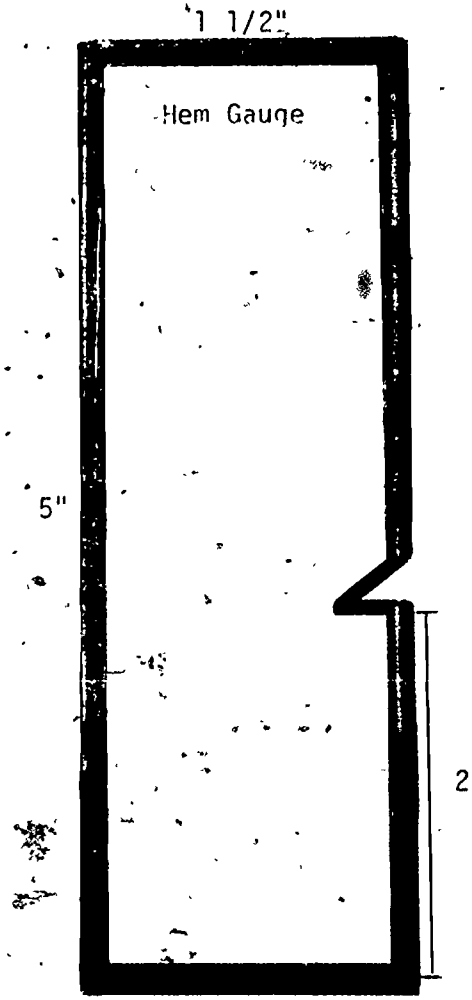
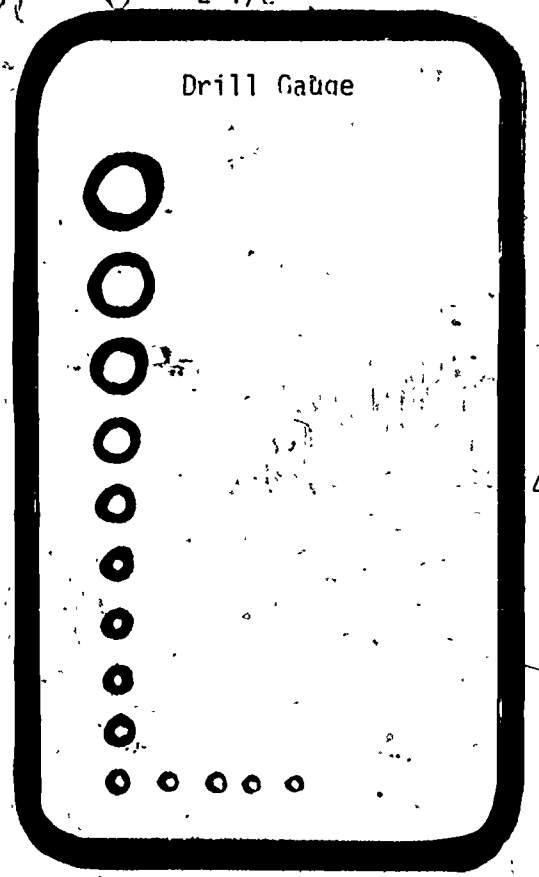
SIMPLE TOOL PROJECT FOR GIRLS

A simple hem gauge may be constructed from a thin cardboard. It should measure 1 1/2 X 5 inches and may be clipped or indented 2 inches from one end. To make it more realistic, cover the gauge with aluminum foil. A seamstress might use it for putting in a dress hem 2 inches deep. Teacher might demonstrate how it is used.



SIMPLE TOOL PROJECT FOR BOYS

A simple drill gauge may be constructed from a thin cardboard. It should measure 2 1/2 X 4 1/2 inches and the corners should be rounded. To make it more realistic, cover it with aluminum foil. Holes of graduating sizes can be cut in the simulated gauge. A mechanic or carpenter might use it for determining the sizes of drill bits. Teacher might demonstrate how it is used.



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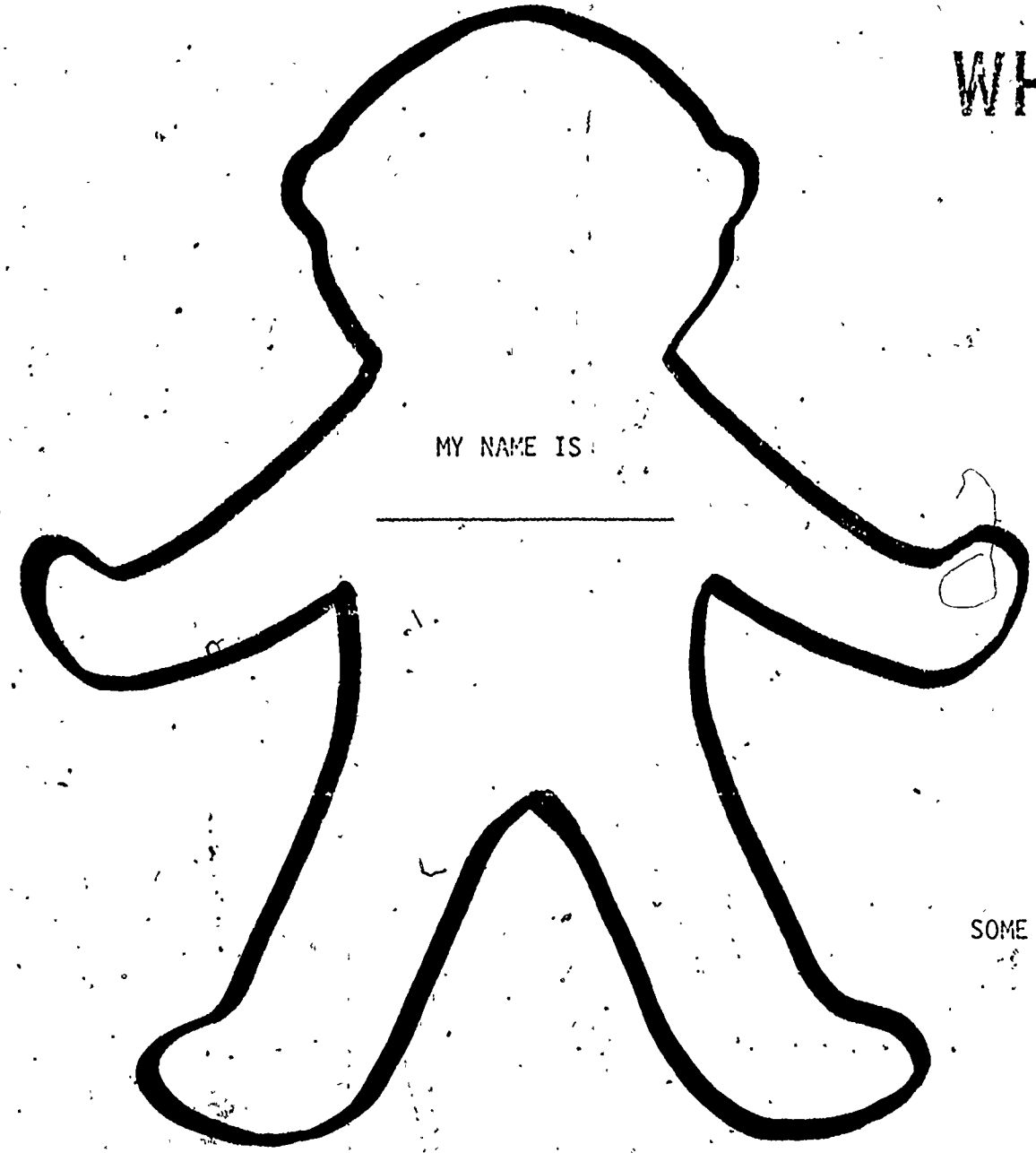

MY NAME IS

_____

WHAT CAN I BE?

MY INTERESTS ARE:

_____

_____

_____

MY ABILITIES INCLUDE:

_____

_____

_____

SOME POSSIBLE OCCUPATIONS FOR ME ARE:

_____

_____

_____

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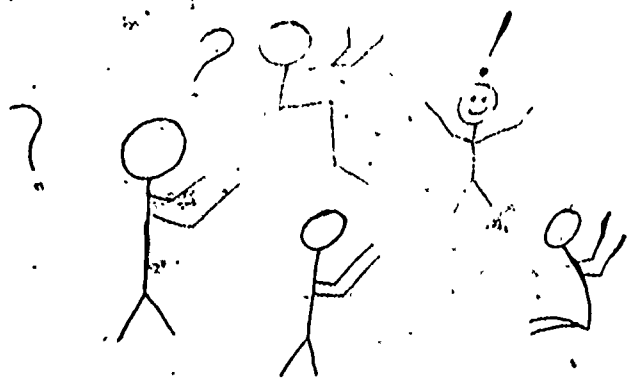
SAMPLE LETTER THAT COULD BE SENT TO PARENTS
INVITING THEM TO TELL ABOUT THEIR WORK

HI, PARENTS!

The children of Mrs. Doe's 3rd grade class would like to invite you to take part in our year's program.

Would you like to help us? Who? Yes, you!



Tell us about your job and
how it affects us.
We are very interested
and will give you
undivided attention.

I (will, will not) tell the class about my job. _____
(Signature of Parent)

_____ Time _____ Place or Room _____ Date

*Adapted from Occupational Information in the Elementary School

SAMPLE LETTER THAT COULD BE SENT TO PARENTS
INVITING THEM TO TELL ABOUT THEIR WORK

October 18, 1972

Dear Parents,

The children of the 3rd grade class have agreed that they would like to learn about the world of work. We have talked about the different ways in which we can get information. Among them was to ask our mothers and fathers to tell us about their jobs on a voluntary basis.

If you would like to participate, please fill out the blank which your child will bring home in a few days and state approximately the time and date when you might come.

Thank you for your consideration and cooperation.

Sincerely yours,

Third Grade Teacher, Bowie School

Jane Doe

(Mrs.) Jane Doe

*Adapted from Occupational Information in the Elementary School

SAMPLE QUESTIONNAIRE THAT COULD BE SENT TO PARENTS

Ben Milam Elementary School

Dear Mother or Father,

The girls and boys are about to start a unit of study about the importance of the many types of work their parents do. We want to stress not only how important it is for every community to have policemen, firemen, and milkmen -- but that to exist, a community also needs salesmen, engineers, doctors, draftsmen, etc. By working together, people of different positions emphasize the interdependence of every person living in a community.

Would you answer the questions below so that we may include you as an important member of our community?

1. In what type of work are you employed?
2. Explain some of your duties and their importance in relation to the completed job.
3. Is there anything used in your work which the children would enjoy seeing? (Pictures, work clothes, materials, etc.)
4. Would a field trip to your place of employment be worthwhile at this grade level?

Thank you.

Sincerely,

Second Grade Teacher

Jane Doe

(Mrs.) Jane Doe

*Adapted from Occupational Information in the Elementary School

ERIC

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Second Grade Teacher

Jane Doe

(Mrs.) Jane Doe

*Adapted from Occupational Information in the Elementary School

DIRECTIONS FOR MAKING PLAY DOUGH OR CLAY

USE:
1 Cup flour
1 Cup water
1/2 Cup salt
2 teaspoons cream of tartar
1 Tablespoon oil
Food coloring (as desired)

DO:

1. Mix all ingredients together.
2. Cook for three minutes over medium heat.
3. When cooked, and at the right consistency, knead approximately ten times.

*4. (Mixture is easier to work with if shortening is spread on cabinet top or wherever dough is to be used.)

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WHAT ARE "LEARNING TUNNELS?"

"Learning Tunnels" are unique teaching aids developed as the result of the Occupational Awareness Program within the Houston Independent School District. One teacher decided to individualize her instructional program by creating unique little crawl-in classrooms. The main ingredients of her learning tunnels were large boxes (refrigerator-like cartons), a projector, a light and volumes of cut-out materials. The tunnels were first used to teach a unit on newspaper jobs and later were used to teach about transportation and other jobs.

The instructor incorporated as many learning experiences as possible in her first learning tunnel. For example, there were different materials to feel such as a line of lead type, a mat and a zinc plate used by advertisers. The outside of the box was covered with newspaper clippings and the inside was a collage of drawings, comic strips and various other materials used around a newspaper plant. The idea behind the learning tunnel was that as the student crawled inside, he started a tape recorder and small projector which flashed pictures on one side of the box. Reinforcement techniques were incorporated into the tapes such as, "on the red side, there is a picture of a man. He is the editor. Point to his picture while we spell his name. E-D-I-T-O-R. What does an editor do? Here is what he says . . ." The tape which accompanied the tunnel was provided by the educational consultant for The Houston Chronicle.

Other projects were also worked into the learning tunnel. In one classroom, for example, there were drawings of the various job positions on a newspaper. Underneath were loose slips of paper with job descriptions on them. A sign invited the students to: "Match me to my job." The teacher also had the children interview each other and write a newspaper of their own.

A "Learning Tunnel" which proved to be even more sophisticated than the one just described dealt with transportation occupations. With it, teachers were able to teach pupils how to follow a map, the different types of trucks and a little bit about how each operated. It was used to cover such occupations as deliverymen, rapid transit jobs and other transportation careers through means of separate tapes and projectors. After going through the delivery section, pupils were given a little packet containing a notepad, an application form, a rate sheet, a receipt form and billing forms. They then learned to fill these out by solving problems involving actual salaries and such.

In each instance, field trips were used to supplement and enrich these mini-lessons relating to the world of work. Wouldn't this be a great way to make "learning" <u>fun</u> in your classroom!

*Taken from "Crawl-In Classroom Invented by Teacher," <u>The Houston Chronicle</u>, Section 7, pg. 1, March 16, 1973.

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HINTS FOR GIVING A "SHOW AND TELL" TALK

1. Take something along to interest the children in your job. Example: If you're a floral designer, take along some real flowers (2 or 3 stems), floral tape, floral wire, snippers, a corsage pin, ribbons and other simple decorations.

   a. Limit the number of items (tools and materials) to five or six.

   b. Place the display items on a table in easy view of all the students.

2. When you're introduced to the class, write on the chalkboard:

   "I am a _____."

3. Also write on the chalkboard: "Some of the tools I use in my work are . . ." (and list the names of the items you brought with you.)

4. Demonstrate how you use the tools and materials in your work. Example: If you're a carpenter, show the proper way to use a hammer --- actually hammer a nail into a block of wood.

5. Stress the safe use of your tools and materials.

6. If possible, let one or two children try to perform the task you demonstrated. Example: If you're a grocery sacker, let a student sack some grocery items according to the rules you stressed in your demonstration.

7. At the conclusion of your demonstration, let the children come up to the display table and look at your tools and materials.

   a. Instruct the children on how to view the tools and materials.

   b. Don't let the children play with the tools and materials.

   c. Let the children view the materials a few at a time. Example: a table at a time or five to six students in a group.

8. After viewing the tools and materials, the children should all be seated.

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9. Ask the children if they have questions they want to ask about your job.

   a. Instruct them to ask their questions one at a time by raising their hands and waiting to be called upon.

   b. Repeat each child's question aloud before answering --- most young children have very soft voices and it's hard for everyone to hear their questions.

   c. Keep your answers simple but make sure they are complete. (Don't just answer the questions with a "Yes" or "No.")

   d. If lags occur in the question and answer session, be prepared to fill in with other information about your job.

10. At the conclusion of your presentation, ask the children some review questions. Examples: What am I called? What do I do in my work?

11. Special Points to Remember:

   a. Be sure to use simple language.

   b. If you wear a uniform or special equipment on your job, wear it to present your "Show and Tell."

   c. Refrain from using such expressions as "ain't," "darn," "stupid," etc.

   d. If the children squirm in their seats or talk to each other while you're talking, that's usually a sign that they're bored or don't understand what you're saying.

   e. Keep your demonstration around fifteen minutes in length.

   f. If the children start to tell personal stories, change the subject. Example: "My daddy has a hammer. One time he let me try to hammer a nail. I hit my finger instead of the nail."

   g. Don't pass items around the room for the children to examine while you're talking; this will divert their attention.

   h. Emphasize the facts relating to your specific job such as work hours, job duties, special training needed for your job, skills needed to do your job, etc.

i. Draw the question and answer session to a halt when the children begin to ask the same questions over and over again.

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PERSONAL INVENTORY CHECKLIST

SAMPLE

"I Like To . . ."

____ Be indoors

____ Be outdoors

____ Be by myself

____ Help people

____ Build things

____ Collect things

____ Work with my hands

____ Draw pictures

____ Work with machines

____ Try new things

____ Talk to people

____ Do things where I can move around

____ Make up songs

ERIC

Airplane Song

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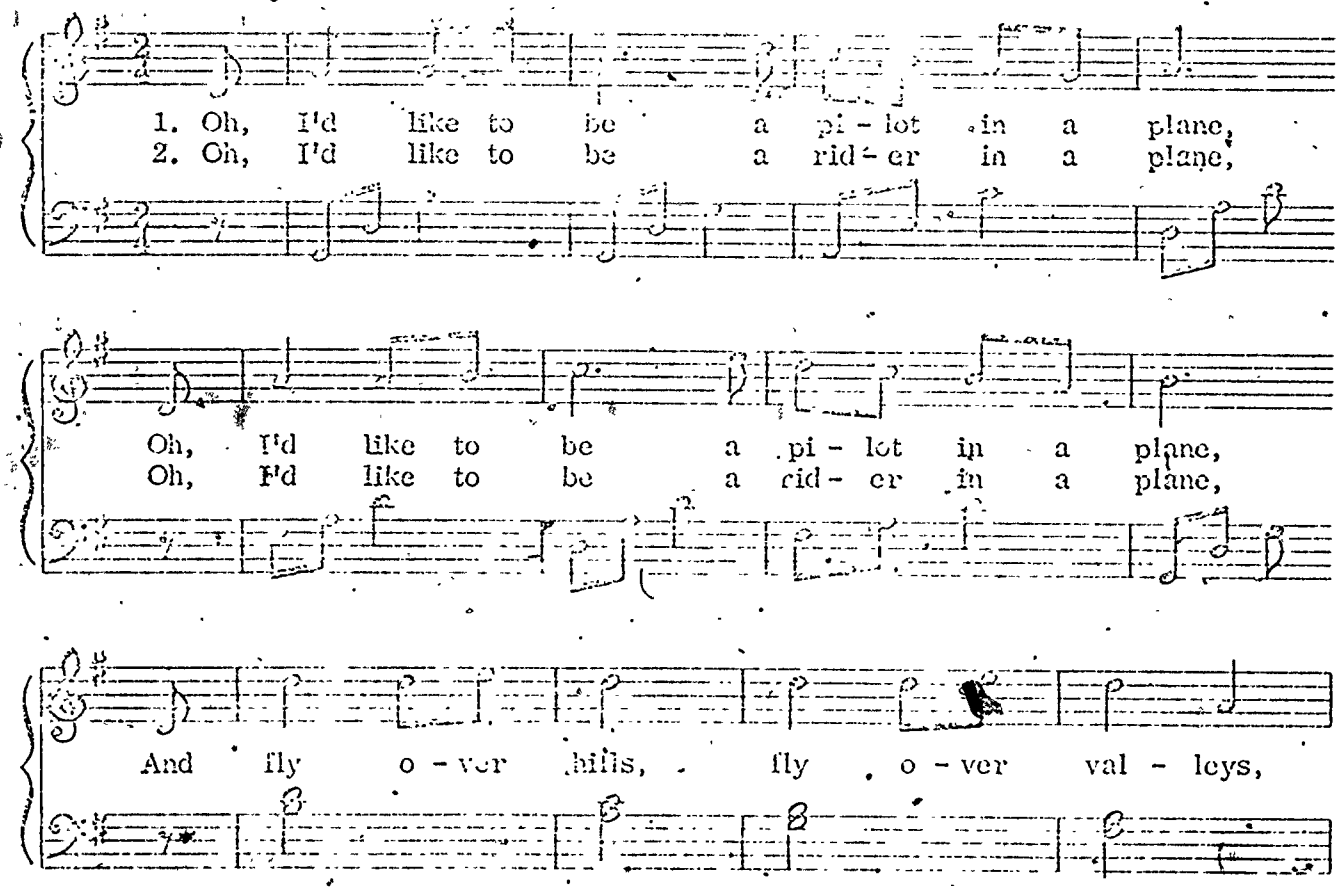
R. M. Smoothly R. M.



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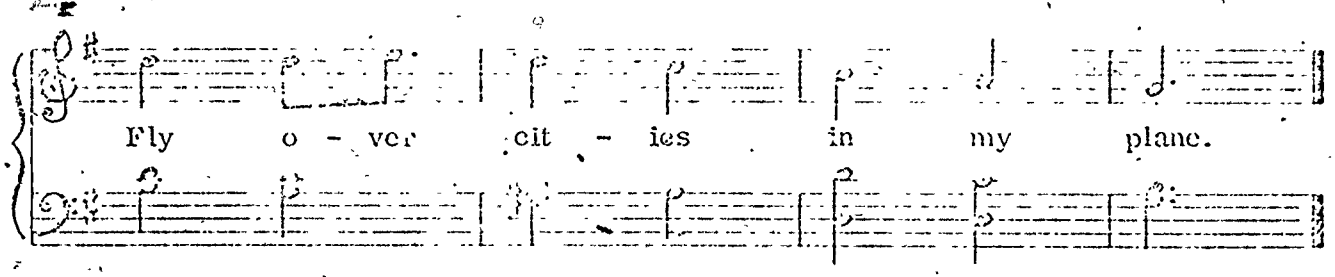
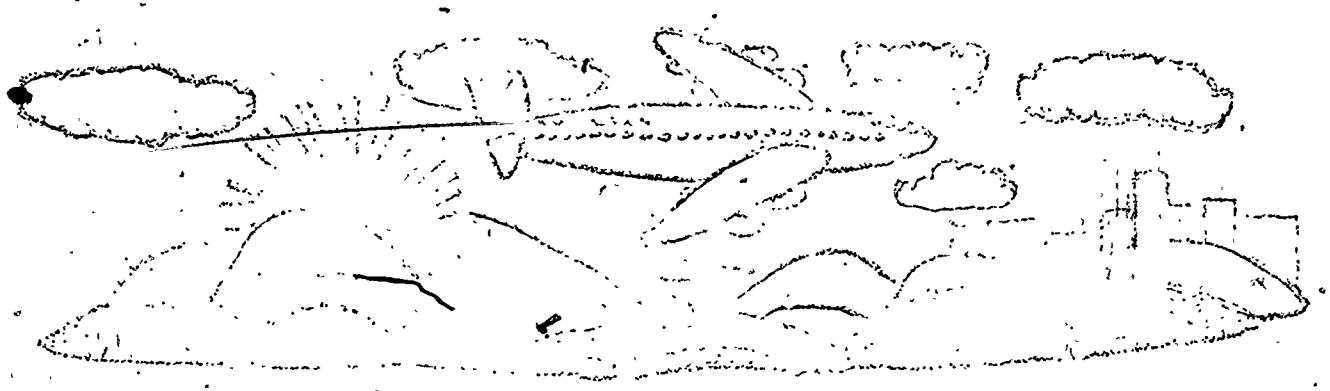


3. Oh, I'd like to be co-pilot in a plane,
4. Oh, I'd like to be a stewardess in a plane,



*Reprint from Sing a Song of People.

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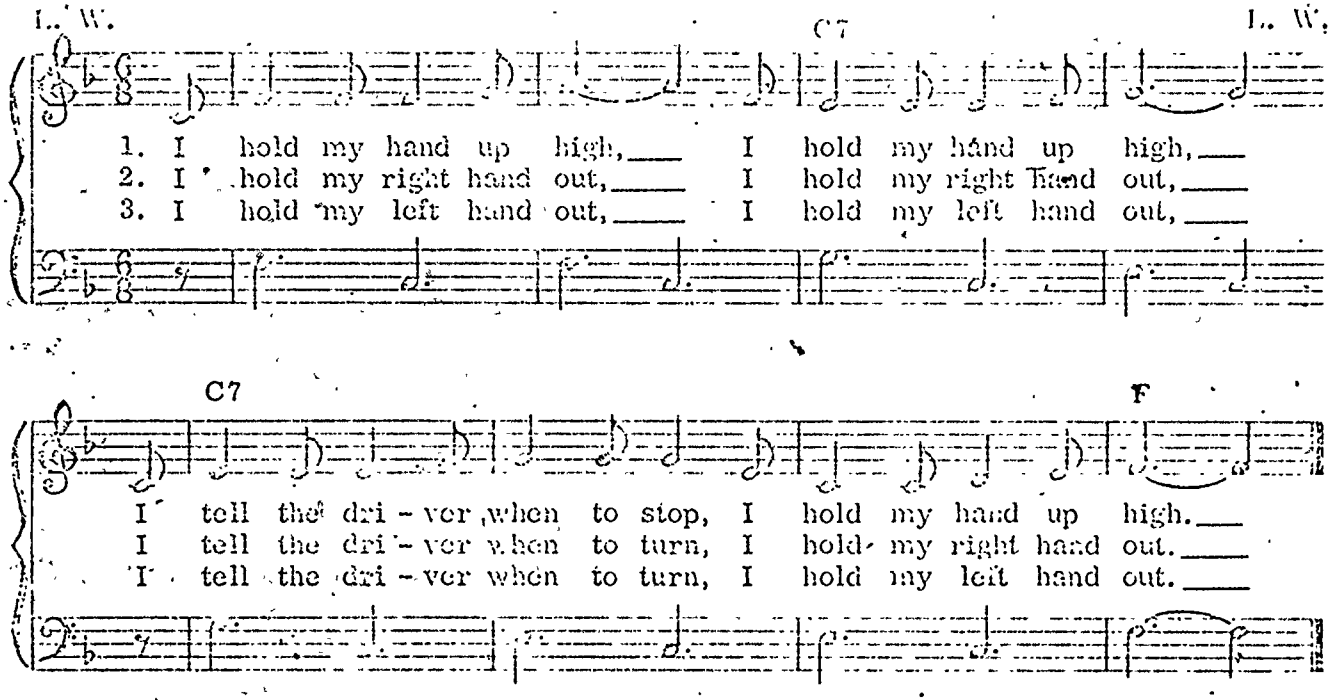
A Policeman



*Reprint from Sing a Song of People.

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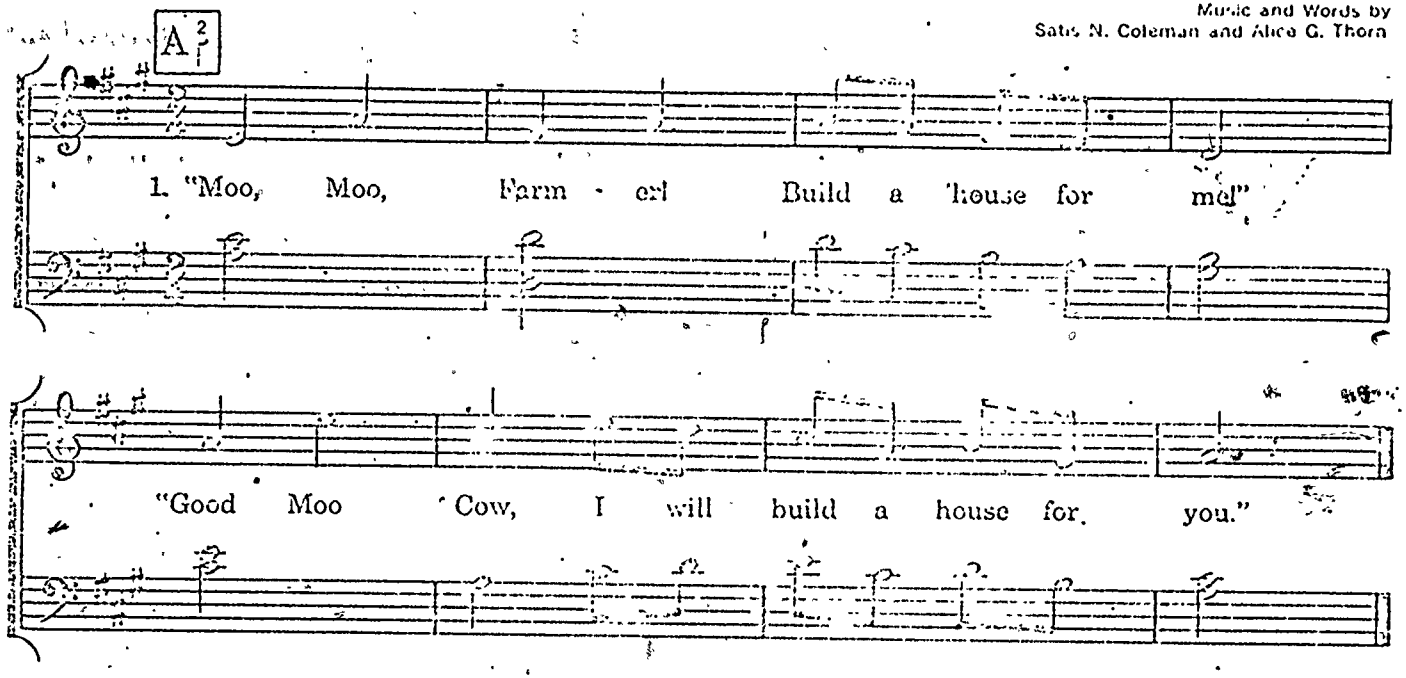
The Farmer and His Animals

Music and Words by
Satis N. Coleman and Alice G. Thorn



2. "Bah, Bah, Farmer! Build a house for me!"
"Woolly Sheep, I will build a house for you."

3. "Wee, Wee, Farmer! Build a house for me!"
"Wee Fat Pig, I will build a house for you."

4. "Cluck, Cluck, Farmer! Build a house for me!"
"Good Brown Hen, I will build a house for you."

Let one child be the farmer, and a number of children be various animals. Ask your children, "What other animals might ask the farmer to build them a house?" (He could have a goat, a dog, a cat, a horse, a turkey, a duck, a mule, etc.) In this dialogue song children learn to sing alone without self-consciousness.

*Reprint from This is Music, Book I.

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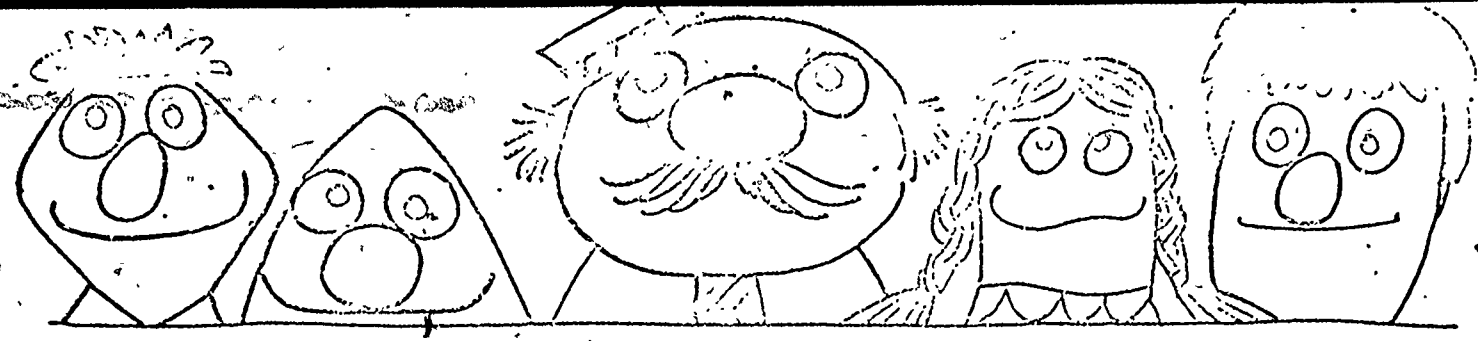


FIVE PEOPLE IN MY FAMILY

Soft Shoe

Words and music by Jeffrey Moss

Oh, I've got

mf

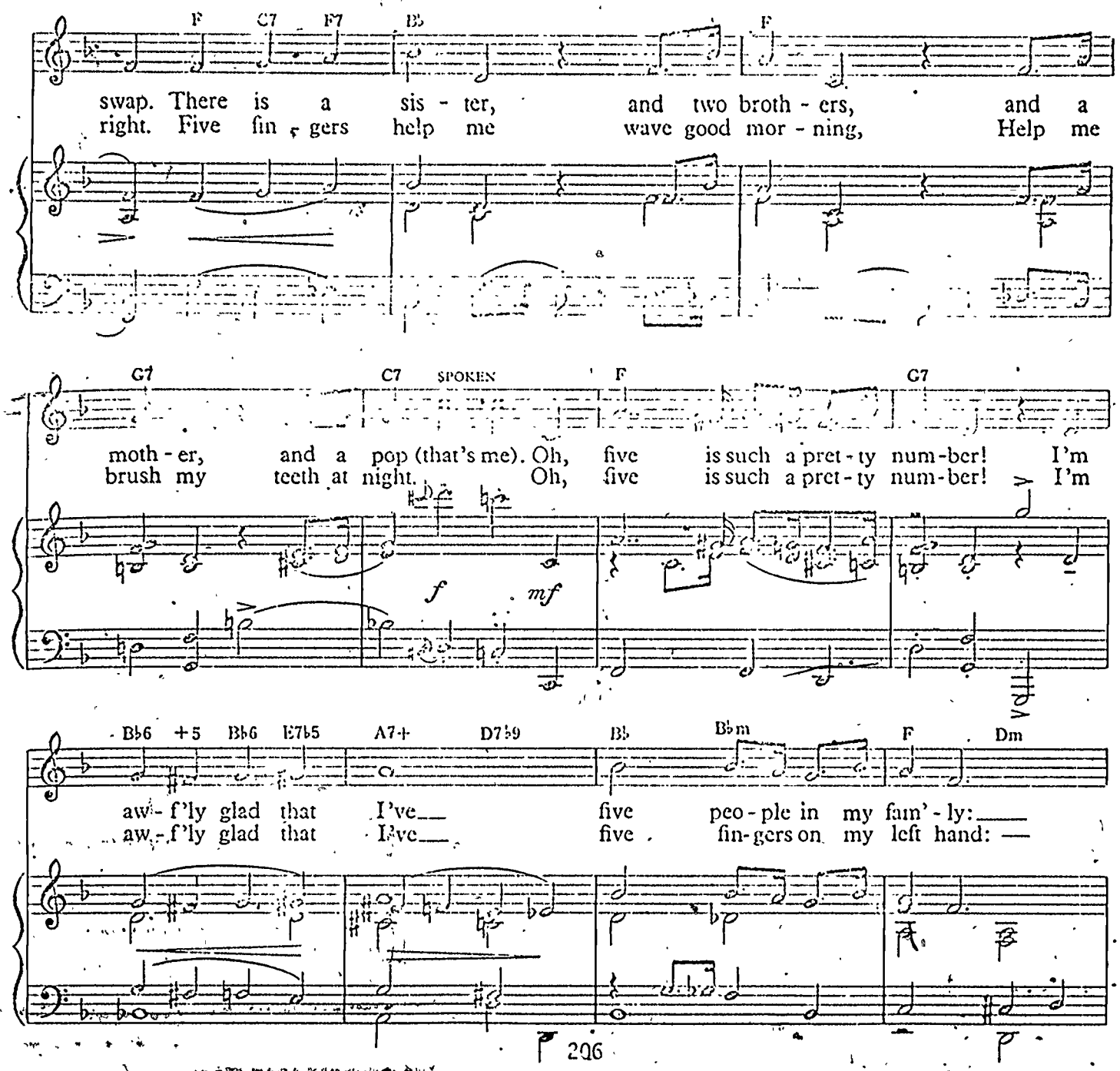
A tempo

F Dm7 C7 C7

1. five peo - ple in my fam' - ly, and there's not one of them I'd
2. five fin - gers on my left hand; I've got five fin - gers on my

mf

ERIC



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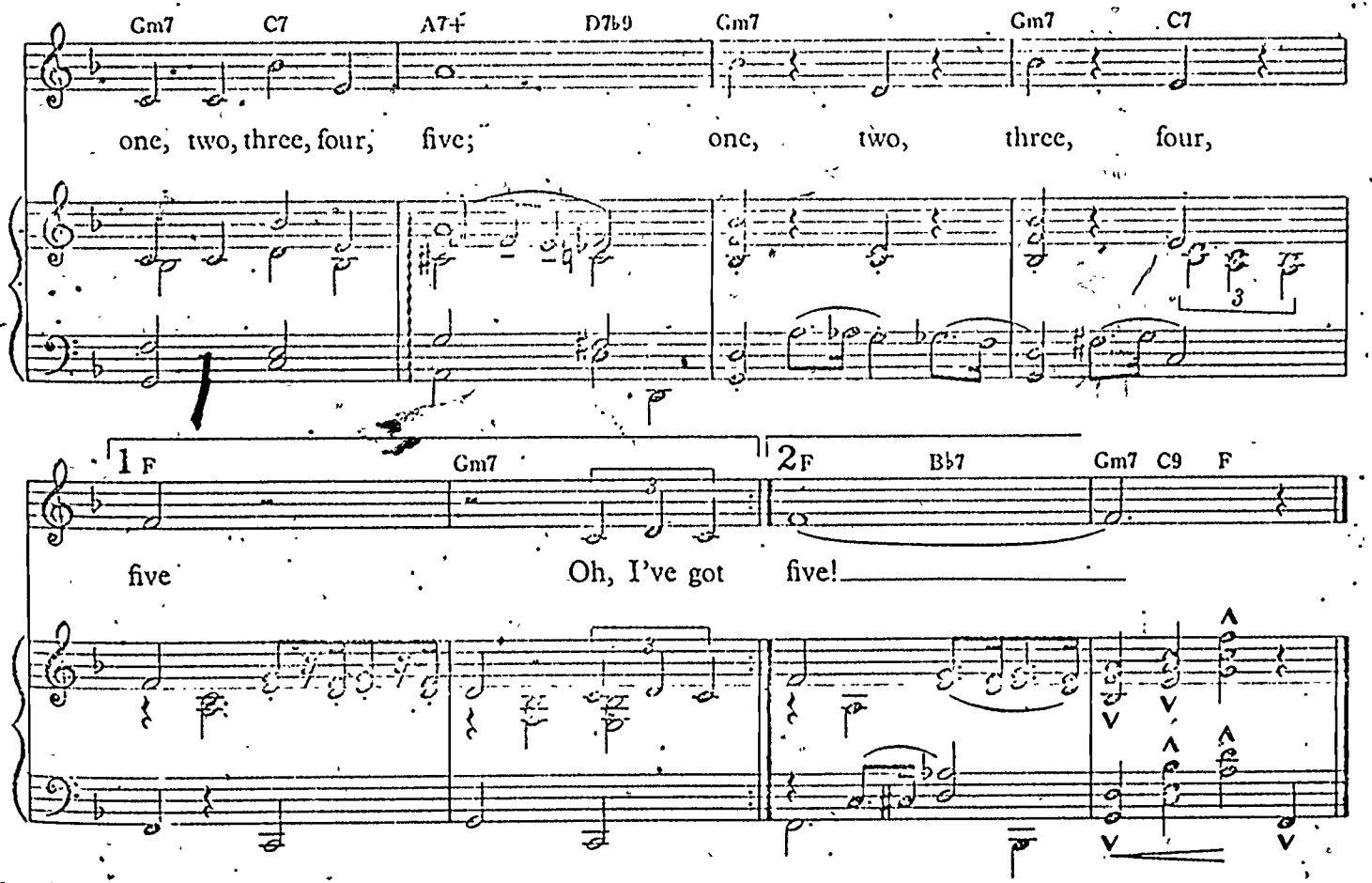

*Reprint from The Sesame Street Song Book.

I Wish I Were a Farmer

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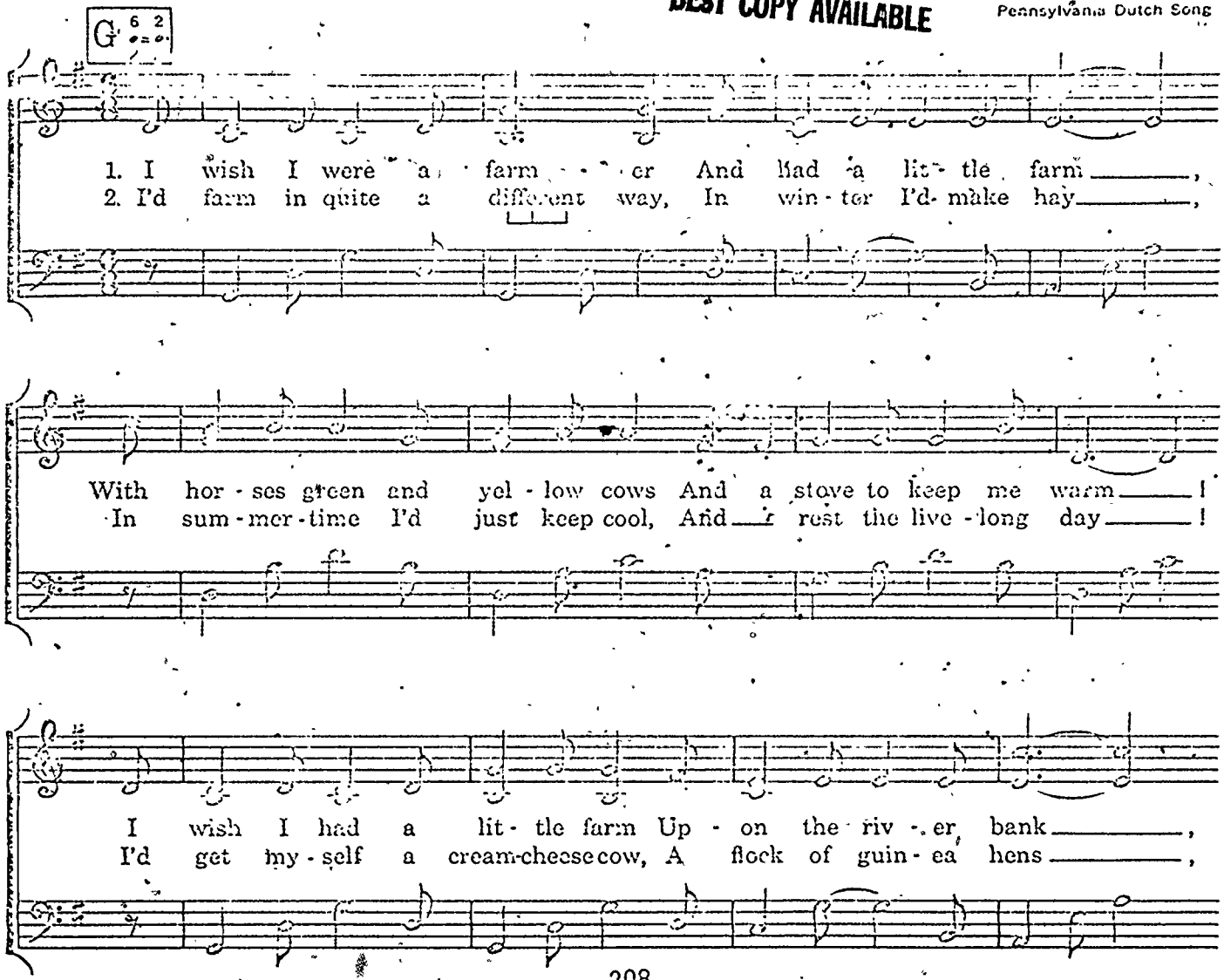
Pennsylvania Dutch Song

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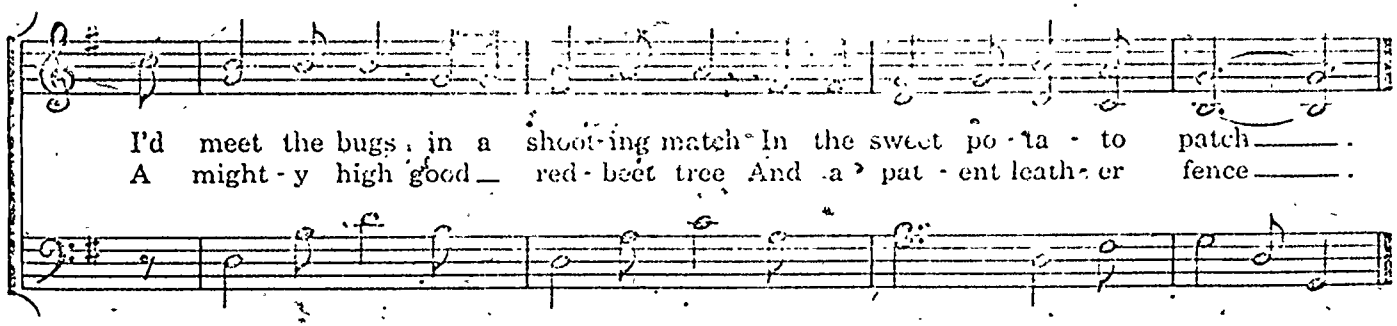

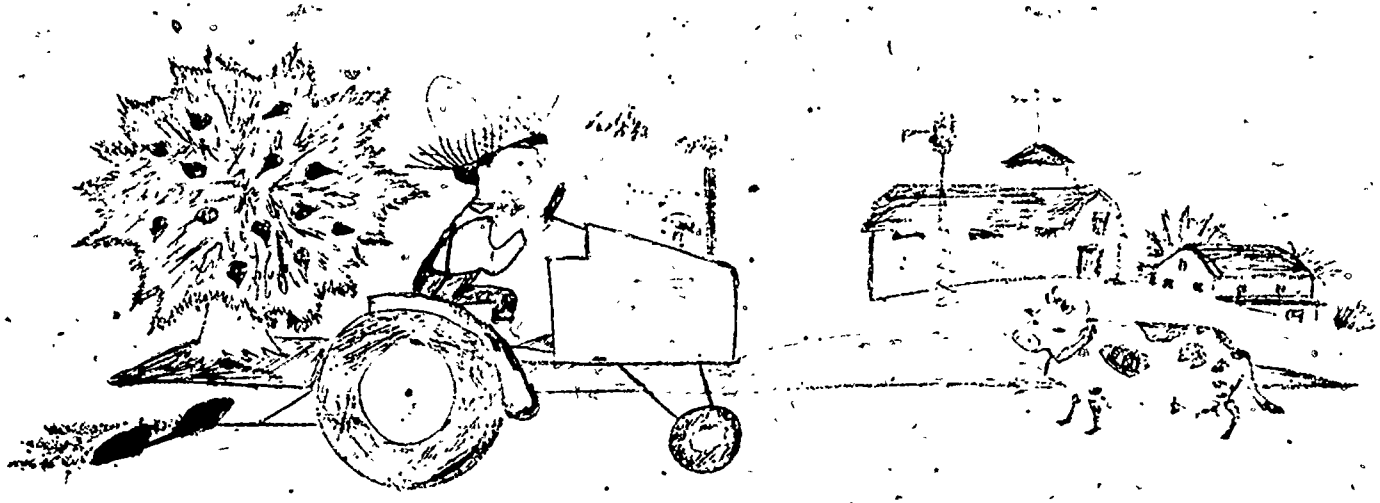

*Reprint from This Is Music, Book I.

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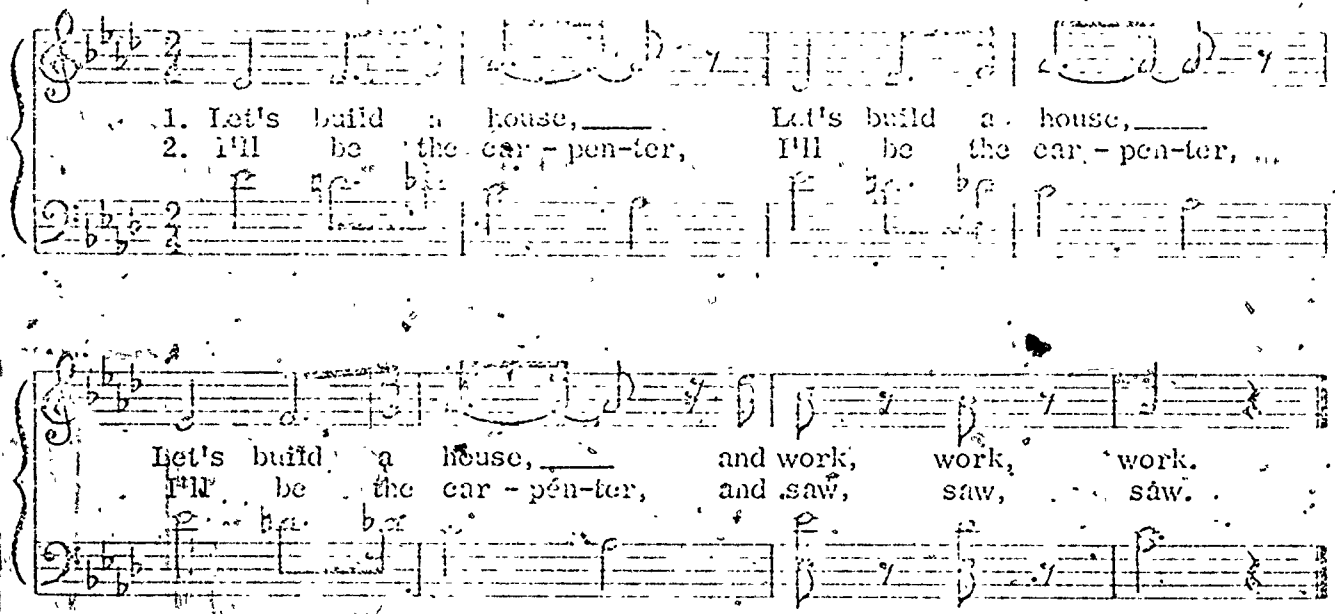
Let's Build a House

L. W. L. W.

Vigorously



3. I'll be the plumber, I'll be the plumber,
   I'll be the plumber, and bang, bang, bang.

4. I'll be the roofer, I'll be the roofer,
   I'll be the roofer, and pound, pound, pound.

Students may use wood blocks to play for the building, sand blocks for the carpenter, bells for the plumber, and tone blocks for the roofer.

*Reprint from Sing a Song of People.

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The Milkman

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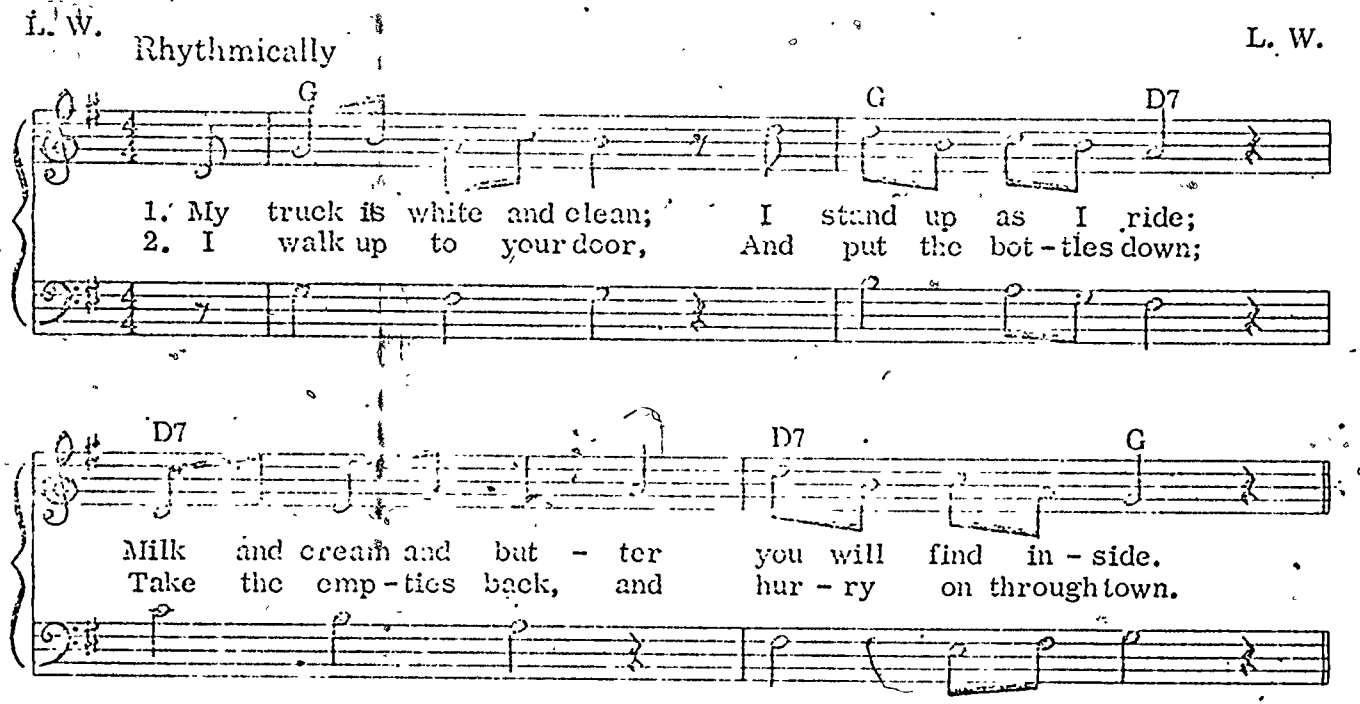

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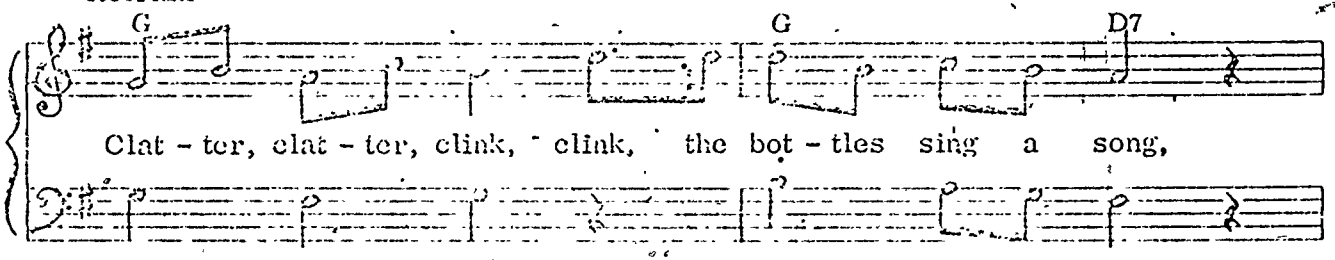
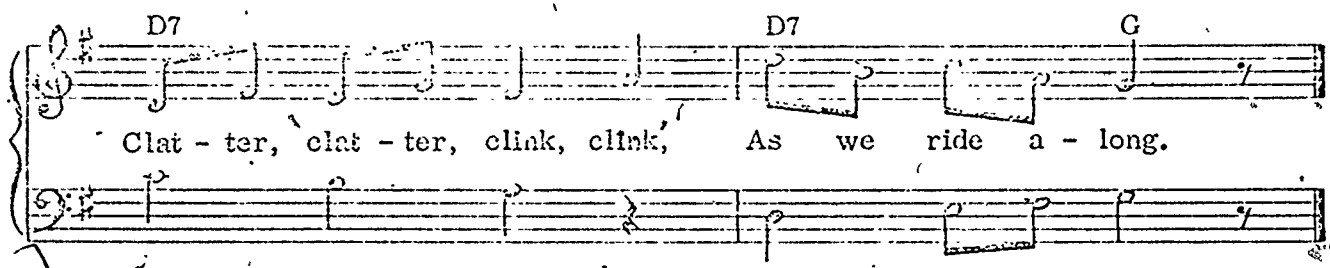
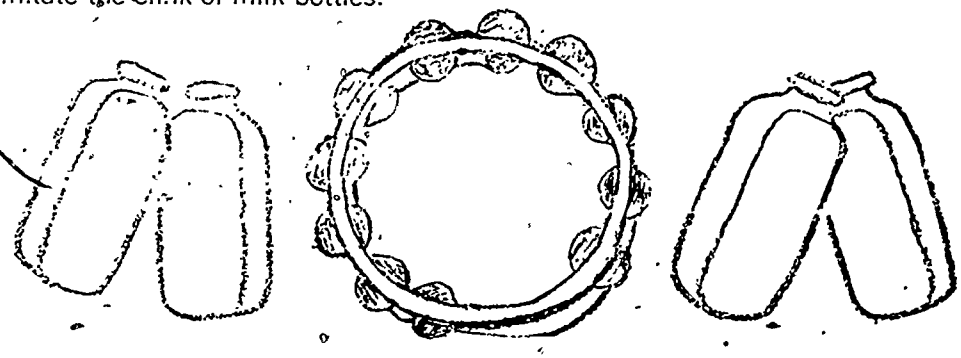
Refrain





The tambourine can imitate the clink of milk bottles.



Reprint from Sing a Song of People.

THE MULBERRY BUSH

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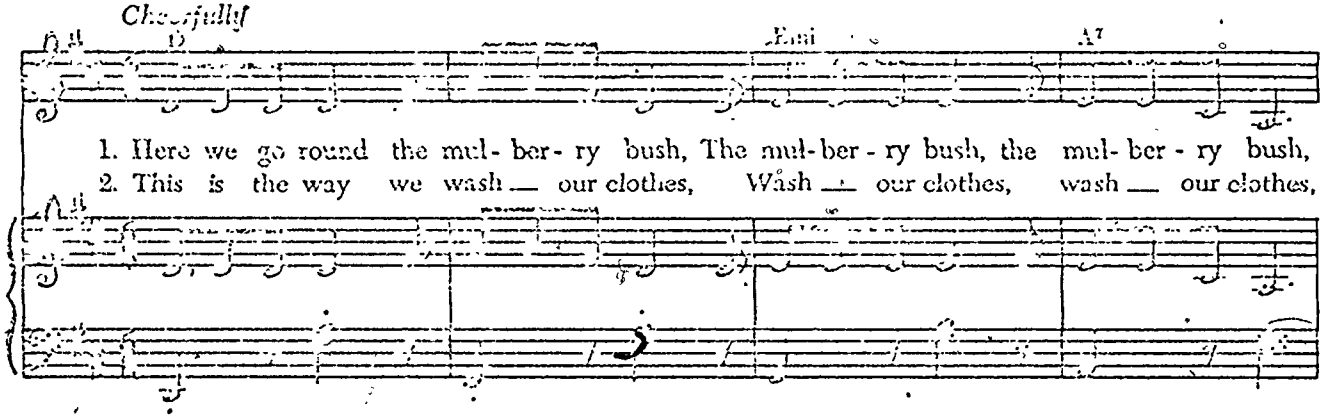
FORMATION: *Children hold hands and stand in a circle.*

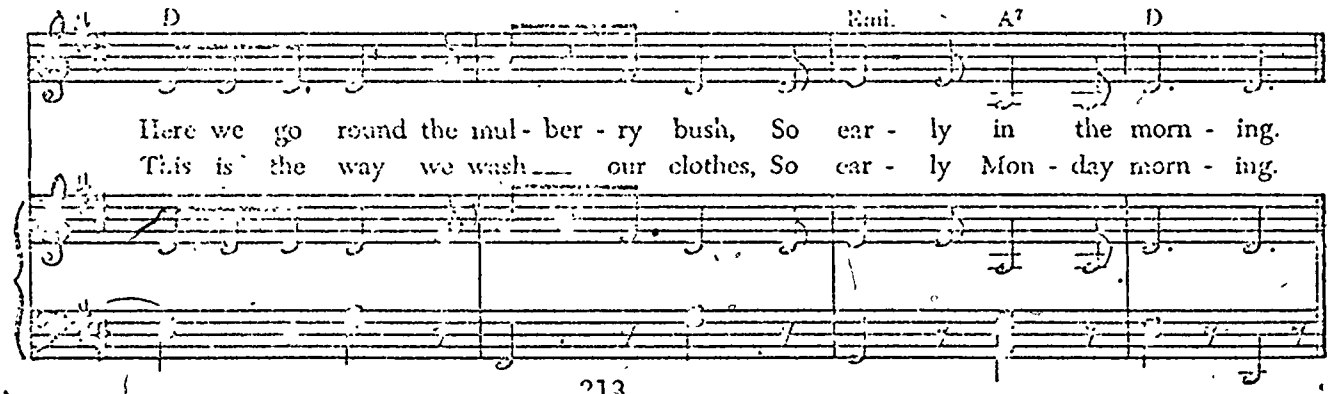
ACTION: Verse 1: *Children circle to the left and drop hands at the end of the verse.*

Verses 2-8: *Children act out the words of each verse in time to the music.*

At the end, Verse 1 is sung again as the children circle to the right, holding hands.

Cheerfully





3. This is the way we iron our clothes,
Iron our clothes, iron our clothes,
This is the way we iron our clothes,
So early Tuesday morning.

4. This is the way we scrub the floor,
Scrub the floor, scrub the floor,
This is the way we scrub the floor,
So early Wednesday morning.

5. This is the way we sweep the house,
Sweep the house, sweep the house,
This is the way we sweep the house,
So early Thursday morning.

6. This is the way we make a cake,
Make a cake, make a cake,
This is the way we make a cake,
So early Friday morning.

7. This is the way we brush our hair,
Brush our hair, brush our hair,
This is the way we brush our hair,
So early Saturday morning.

8. This is the way we go to church,
Go to church, go to church,
This is the way we go to church,
So early Sunday morning.

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*Reprint from The Fireside Book of Children's Songs

Our Helpers

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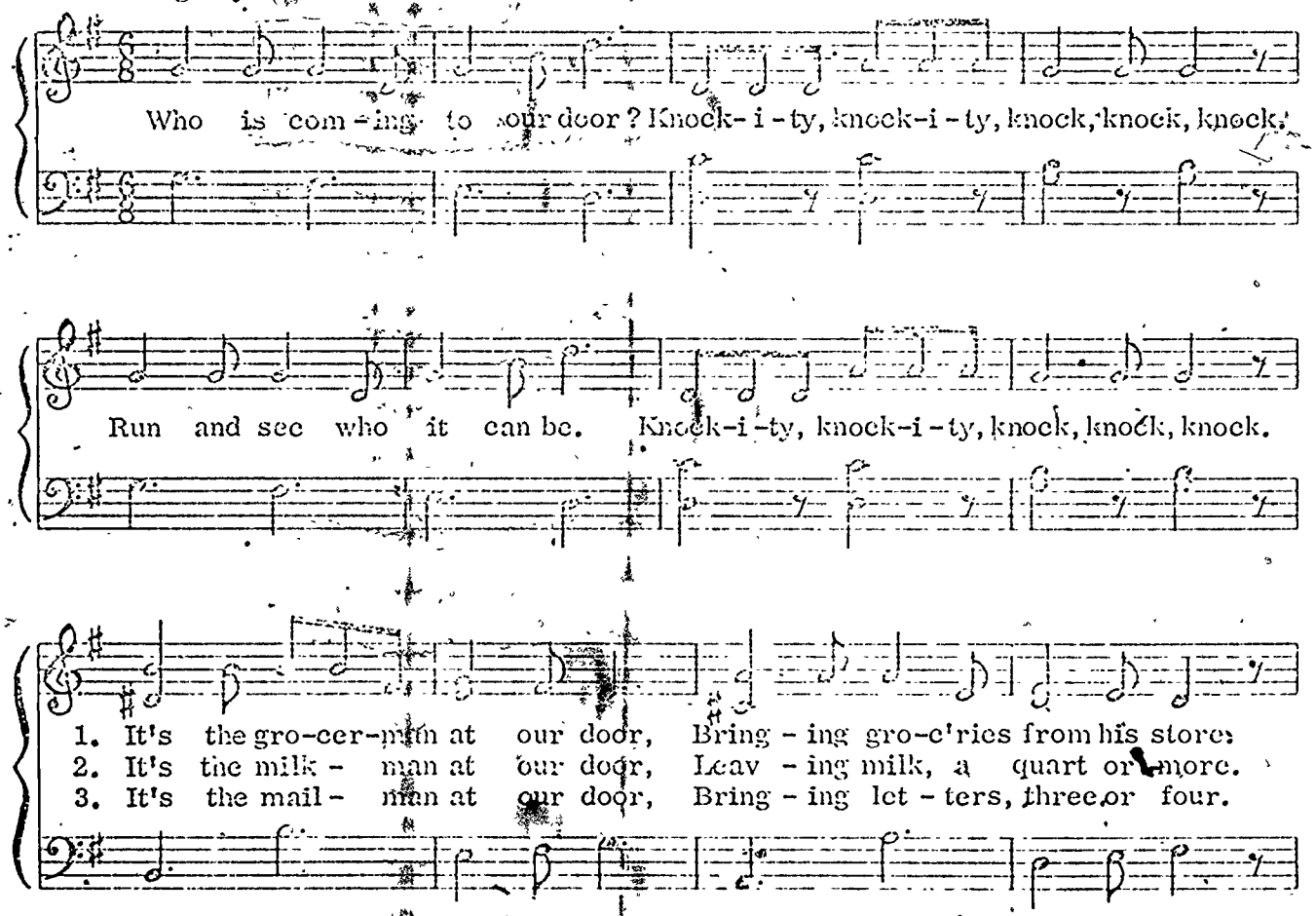
L. W. Brightly

L. W.

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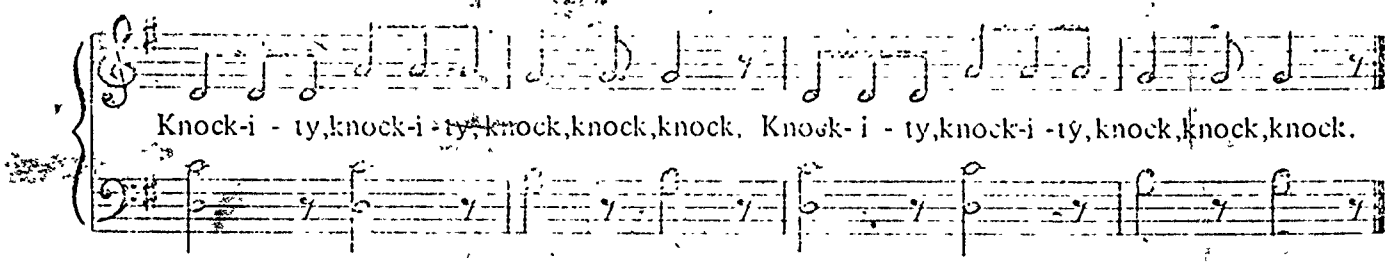

Play the "knockity" tune on the bells or xylophone.

*Reprint from Sing a Song of People.

ERIC

THE PEOPLE IN YOUR NEIGHBORHOOD

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Words and music by Jeffrey Moss

Soft Shoe

C Am7 Dm7 G7 C Ab7 Dm7 G7

Oh, — 1. who — are the peo - ple in your
2. post-man is , a per - son in your

mf *mp*

C Am7 Dm7 G7 C Dm7 Ebm7 Em7

neigh - bor-hood, in your neigh-bor-hood, in your neigh - bor - hood? Oh,
neigh - bor-hood, in your neigh-bor-hood, in your neigh - bor - hood. The

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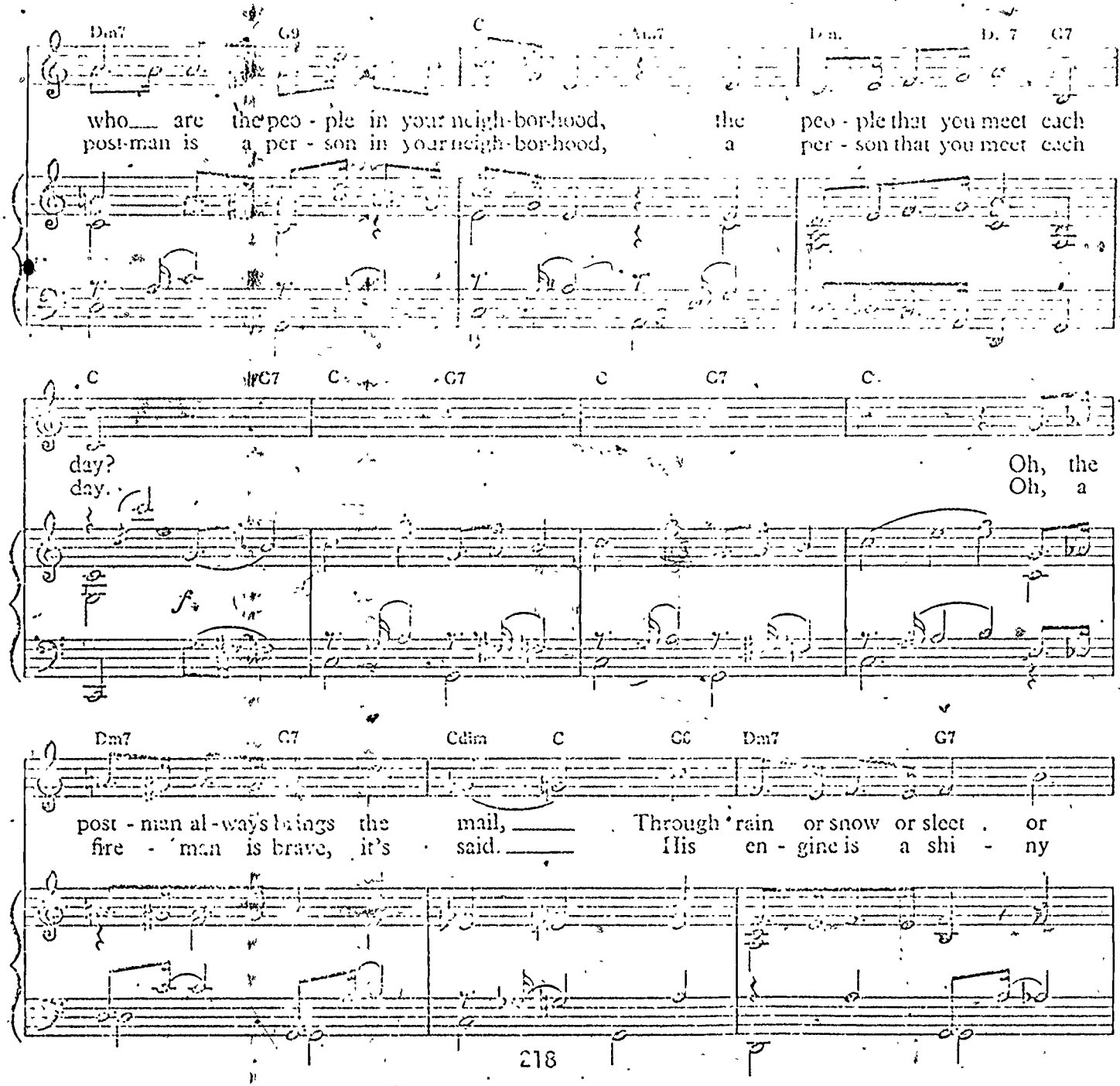
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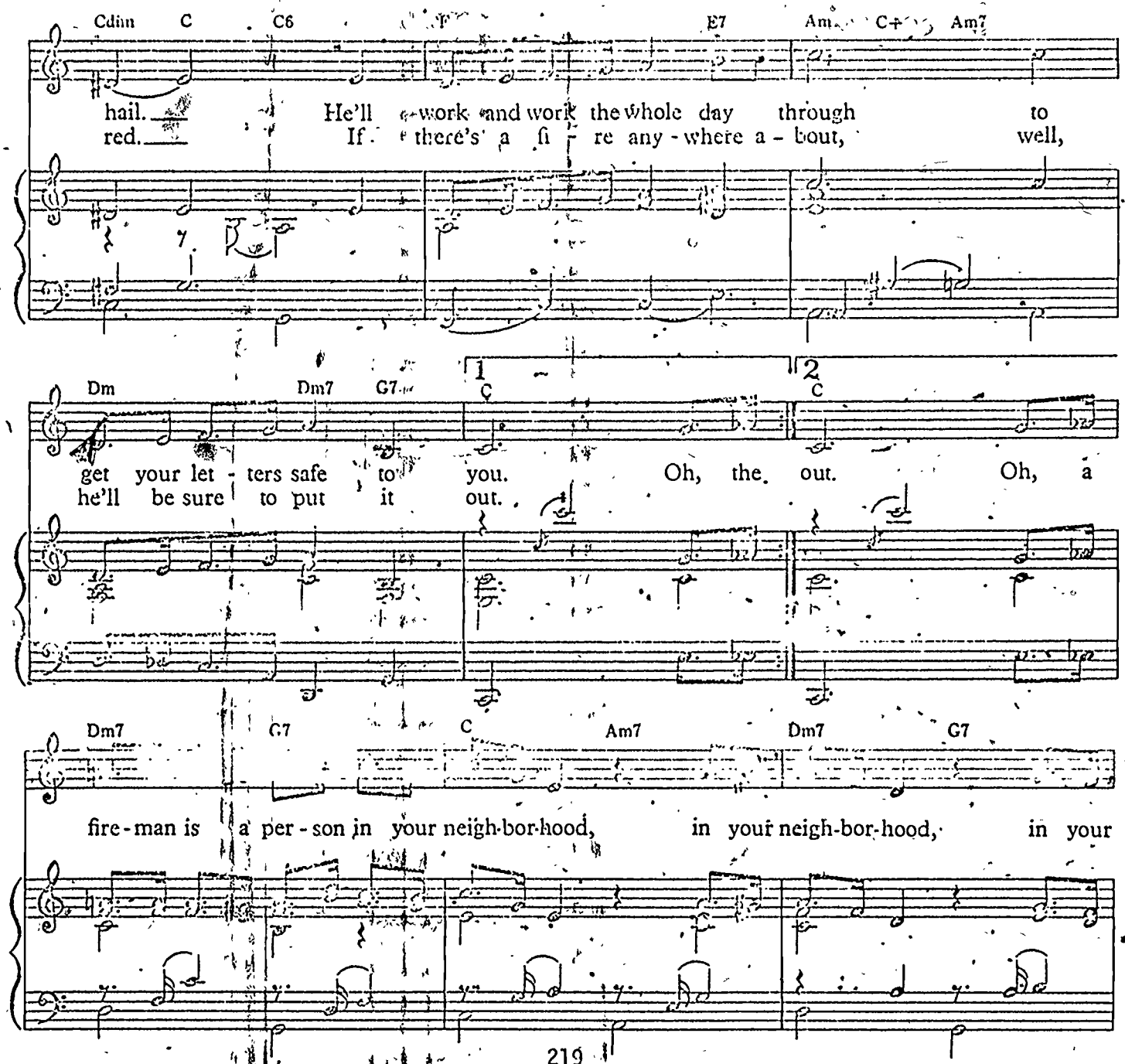
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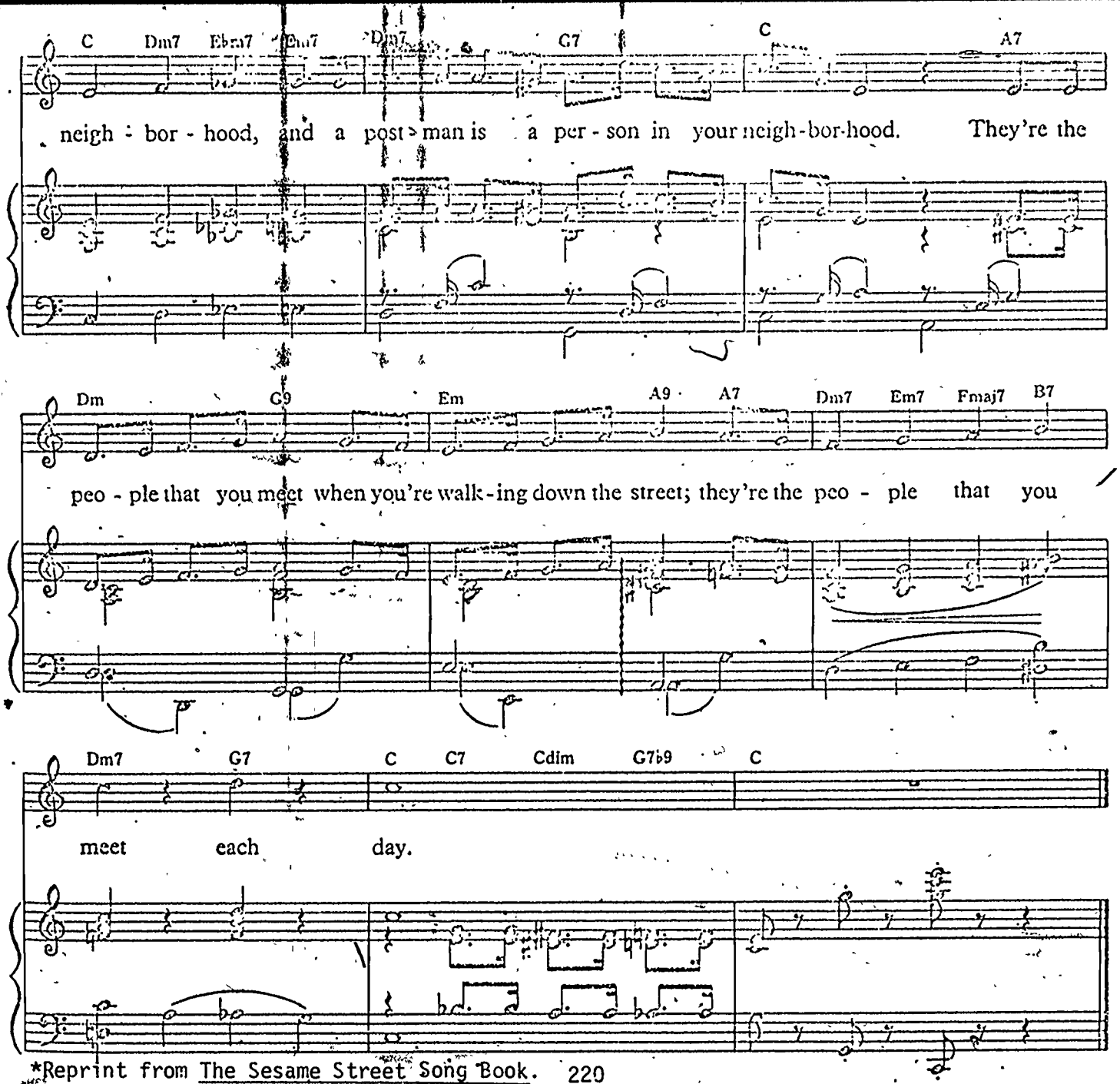
*Reprint from The Sesame Street Song Book. 220

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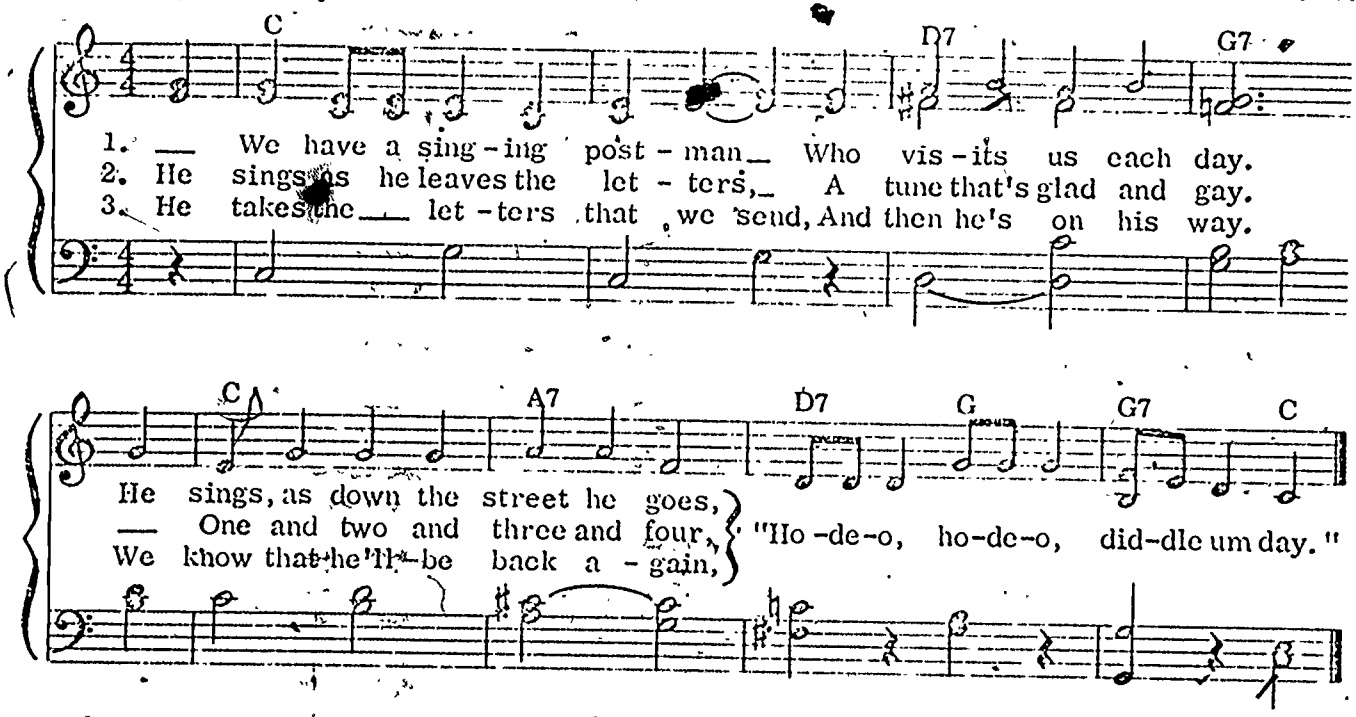
Singing Postman

L. W. Rhythmically

L. W.



*Reprint from Sing a Song of People.

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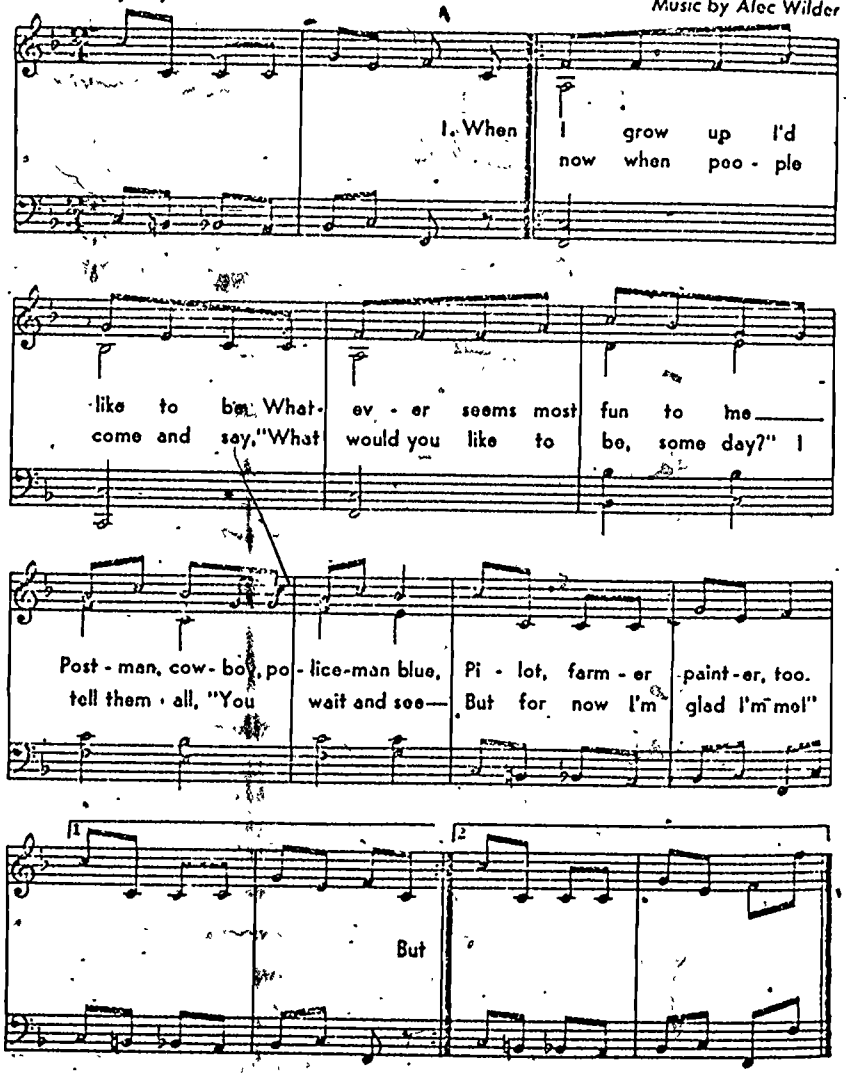
WHEN I GROW UP

Lively rhythm

Music by Alec Wilder



231

*Reprint from When I Grow Up

Announcer: Somehow the Peterkin family always did everything the wrong way. They all had bad judgment, from Mr. Peterkin right down to Solomon, the youngest. However, they could always count on one friend, who was wise and kind and could always get them out of trouble. That was the Lady from Philadelphia. But one time, the Lady from Philadelphia was out of town when a dreadful thing happened. On that sad morning, Mr. Peterkin and his oldest son, Agamemnon, started down to breakfast. Behind them marched the other children. Mrs. Peterkin was already at the table, beginning to drink her coffee. And that is when the trouble started. Everyone saw at once that something was wrong.

Solomon: Mother! Why do you make such a funny face when you tast your coffee?

Mrs. Peterkin: I have put salt into my coffee instead of sugar! I cannot drink it! Oh, dear, Oh, dear!

Mr. Peterkin: Agamemnon, you have been to college. Think of something clever. What can we do?

Agamemnon: I know a wise man who has been to college, too --- the chemist. We had better go to see him.

Mr. Peterkin: Fine! We'll visit the chemist at once.

(Music --- loud, then soft)

Peterkins (all together; breathlessly): Oh, Mr. Chemist, you must help us! A terrible thing has happened.

Chemist: Can't you see I'm busy? I'm working on a most important experiment. It will make me a fortune.

Elizabeth: But we must have your help. Mother cannot drink her coffee because there is salt in it!

Mr. Peterkin: Dear Mr. Chemist! I beg you to help us! I shall pay you in gold.

Chemist: Oh! That is a different matter! I need gold for my experiment. I shall be glad to go to your house. It is very possible that I can help you.

(Music - loud, then soft)

Mrs. Peterkin: Here we are, Mr. Chemist. And here is that dreadful cup of salty coffee. Please taste it.

Chemist (making sounds which show how bad the taste is): Ugh! I have never tasted anything worse! But I have an idea. A drop of oil of wintergreen will do wonders. There! Taste it now, Mrs. Peterkin.

Mrs. Peterkin (making the same sounds the chemist made over the taste): It --- it's worse than before. I suppose there's nothing to be done.

Chemist: Don't worry, dear lady. You may depend on me. I shall mix in some arrowroot and cottonseed oil. Now it will taste better!

Mrs. Peterkin: No! No! No!

Chemist (thoughtfully): I have it! Oil of peppermint and oil of juniper. A drop of each. You taste the coffee now, Mr. Peterkin.

Mr. Peterkin (unhappily): I'm afraid that the peppermint and the juniper don't help.

Chemist: Very mysterious! They ought to help! However, I'll try some of my very best medicines in it.

Agamemnon: Medicines? What kind of medicines?

Chemist: One to help nervous people, and one to put on scratches. Now, Mrs. Peterkin?

Mrs. Peterkin (strongly): NO!

Chemist: Then I shall dip this rock candy into the cup. And NOW --- I squeeze in a few drops of the strongest chemical known to man --- greatly condensed, of course. Because of its strength, it is bound to help.

Elizabeth: It makes the coffee such a pretty color!

Mrs. Peterkin: That is true, Elizabeth, but it doesn't taste all like coffee!

Chemist: It doesn't? Well, I'll dip this orange stick in --- and then --- oh, yes! I know! I shall dip a piece of hard rubber into the coffee. It's just what we need --- exactly! How does it taste now?

Mrs. Peterkin: I didn't think it was possible, but it tastes even worse!

Chemist: Very disappointing, indeed! But I have learned an important fact. There is something strangely wrong with that coffee. Now pay me the gold you promised.

Mr. Peterkin: Here it is, Mr. Chemist, and thank you for trying to help us.

Solomon: What are we to do now?

Elizabeth: Let's visit the wise old lady who gathers plants and herbs. She's bound to know what to do.

Solomon: I will go with you, Elizabeth, to visit the herb woman.

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(Music --- loud, then soft)

Solomon: Here we are. What a pretty garden the herb woman has!

Elizabeth: Hello, herb woman! Can you help us, please?

Herb Woman: That depends on what you what, Elizabeth. Tell me exactly what it is.

Elizabeth: Well, you see, this morning our mother put salt in her coffee instead of sugar. Will you come home with us and see what you can do?

Herb Woman: Oh, that was a mistake, indeed! But my herbs will fix the coffee very quickly.

(Music --- loud, then soft)

Herb Woman: Good day to you, foolist Peterkins!

All: Good day, herb woman.

Herb Woman: I shall undo your foolishness, Mrs. Peterkin, with a few powerful herbs in your coffee. Rosemary --- bonetset --- bay leaf! They're bound to make it better. Now it is the best cup of coffee in town.

Mrs. Peterkins: Possibly. But it is still unlike any coffee I have ever tasted.

Herb Woman: Possibly, indeed! I shall return to my herb gathering --- thank goodness! But I must charge you one nickel for the herbs I used.

Mr. Peterkin: Here is the nickel, and thank you. Now what? Something must be done!

Agamemnon: An idea if forming in my mind.

Mr. Peterkin: Good! I knew I was spending money wisely when I sent you to college!

Agamemnon: This is the day the Lady from Philadelphia returns!

Mrs. Peterkin (in great excitement): Go to her at once, Elizabeth! It is late and I have not had my coffee. I do miss my breatkfast coffee!

(Music --- loud, then soft)

Lady from Philadelphia: Why, Elizabeth, dear! What is the matter? You have been running.

Elizabeth: Oh, I'm so glad you're back! A terrible thing has happened. Neither the chemist nor the herb woman could help. Oh, please come!

Lady from Philadelphia: But, Elizabeth, you haven't told me exactly what did happen.

Elizabeth: It's dreadful! Mother put salt in her coffee. What can we do?

Lady from Philadelphia: That's not a hard question. I know what to do.

Elizabeth: We knew you could help us. What is it?

Lady from Philadelphia (with a jolly laugh): Why doesn't your mother make another cup of coffee?

Elizabeth: Oh! How clever you are! I'll run home and tell Mother right away!

Announcer: So --- thanks to the Lady from Philadelphia --- Mrs. Peterkin had her breakfast coffee.

(Music)

WHAT DO YOU THINK?

Directions for a Radio Play

What kind of music is called for? When was it used?
What sounds did the chemist make?

How did Mr. Peterkin feel when the chemist did not help?
How did Mrs. Peterkin say No to the chemist?
How did Mrs. Peterkin feel when the Lady from Philadelphia was suggested?*

*(Reprint) from American Adventures, 3rd Ed., Betts Basic Reader Series. Dallas, Texas: American Book Co., 1965 (Out of adoption State textbook).

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"PUTTING INTO"

Roosevelt Grady was happy as the school bus rolled along toward the camp where he was living. Tomorrow he would be learning about putting into. His teacher had promised. That promise had come as a surprise, and Roosevelt was looking forward to arithmetic class the next day. He was tired of always doing take-aways.

Back home in camp came the second surprise of the day, and it was not a good one. The Grady family was packing up.

Roosevelt's heart dropped. It was happening all over again. Not ever, probably, would he get to stay put in a school long enough so he'd feel like he really belonged.

What happened today was exactly what had happened at the school where he'd first heard about putting into. The teacher came to where it seemed she must explain it the very next day. And then what? The whole family packed up and piled into Cap Jackson's old truck, and away they went to find a place where onions or tomatoes or something was coming along ready to harvest. Roosevelt never got back to school to hear what the teacher had to say about putting into.

"Someday we'll find a house in a place where there's work for your papa every one of the twelve months in a year," Mama said. "And you and Sister and Matthew will go to the same school from fall to the end of spring," she promised.

During the weeks that Cap Jackson's crew of pickers followed the crops north from one camp to

another. Roosevelt thought a lot about Mama's promise. He talked it over with his friend, Manowar, whenever he had the chance. Manowar worked as handy-boy for a crew leader who didn't always take his crews to the same camps Cap Jackson chose. Manowar was long on thinking up things. He had ideas. Roosevelt was long on doing things in order. They made a good team.

Together they figured out a plan, a way to help Mama's promise work. Their plan had three steps to it. First they had to find the whereabouts of Elliott's Bus Camp, a good camp they'd heard about, where maybe the family could stay through the winter. That part wasn't too hard. Then they had to figure a way to get Cap Jackson to take his crew up there. The boys decided just to talk about it easy-like to Cap, not making a big thing of it. The third and most important step was to hunt up a winter job for Papa.

Then Manowar had one of his ideas.

"We could write a letter to this man Elliott who owns the bus camp and ask him about a winter job for your papa."

Roosevelt considered this. "It all he's got is pear trees, Mr. Elliott wouldn't have any winter jobs."

"We could write the mayor. Every town's got a mayor. He'd know everybody and everything. We don't have to know his name to write to him. There's only one mayor to a town, so he'd get the letter without any trouble. What can your papa do besides crops?"

"I'm not sure. But he knows everything about building houses. And down in Georgia he once

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worked in a sawmill."

"There! See? This will be easy."

But it wasn't easy. It took a whole day to get a letter written to suit them. This is what they wrote:

Dear Mister Sir Mayer,

Will you have a winter job in North Galilee fireman policeman maleman bus driver? He could sell gas or anything you got for sale or bild houses or work in a sawmill. Please anser quick.

Yours truly,
Manowar (Mister)

They mailed the letter on Thursday. The following Tuesday an answer came:

Dear Mr. Manowar:

We can always use a good fireman. We don't pay him anything, though. Our fire department is all volunteers.

The nearest we come to having a policeman is a justice of the peace and I'm it.

We have one postmaster and I'm it.

We use two men on rural delivery routes and they're both healthy. So is the school bus driver.

If you want to come around at fruit-picking time, hunt me up. I raise pears mostly, but a

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few peaches and apples, too. Who knows? Something may turn up. Glad you wrote to me.

Yours truly,
Johnathan Elliott
Mayor of North Galilee

Manowar whistled. "Elliott! He raises pears."

"He's the bus camp man," exclaimed Roosevelt. "And the mayor and the mailman and the policeman and everything. A big shot. Zowie!"

Then came the day the boys had been waiting for. Cap Jackson announced that his crew was leaving the next morning for Elliott's Bus Camp! Now there was only step three to worry about.

Elliott's Bus Camp proved to be the best camp the Gradys had seen. Sixteen buses, there were: eight in a line running back from the road like a freight train, and then the line turned a corner and eight more buses ran along behind the pear orchard.

"See there, Papa," said Roosevelt. "The fourth bus down has a smoke pipe coming out of the roof. Ask if we can have that one. Please?"

Papa laughed and said all right, he'd see if they could get it. He saw, and they could, and they did.

September brought Labor Day, and it was a day Roosevelt never forgot.

There was not rural mail delivery because it was a holiday. But Mr. Elliott, being the postmaster, brought the mail on Sundays and holidays and left it in the first bus, which was the camp manager's office.

Early that morning Roosevelt walked up to the first bus. Mr. Elliott himself was there with the mail. It was the first time Roosevelt had spoken to him or even seen him close up. He was a big man with snappy eyes and quite a lot of white hair, with a mustache and eyebrows to match.

"Grady, you say?" Mr. Elliott thumbed through the letters. "No. Nothing here for Grady. Grady! Why, you must be the son of the man who spoke to me about the job in the fertilizer plant."

Roosevelt's breath caught.

"Fact is, you look like him. Henry Grady. Is he your father?"

Roosevelt nodded.

"Tell him I talked to the foreman over at the plant and he says there'll be a spell of work there, come winter. Not three months steady the way your father wanted, but more than a little spell and more than one spell, too. Enough to see you folks through the winter, all right, and on into spring. Tell your father I'll be around in a little bit to talk about it."

Roosevelt tried to say yes, sir, or thank-you, or something polite like that, but the words stuck in his throat. All he could do was make a little bow and back out of the bus and tear home. Running head down, he catapulted smack into Papa.

"Whoa," said Papa, catching him. "What's the rush?"

As soon as Roosevelt could catch his breath he explained. "The fertilizer plant. Mr. Elliott said I should tell you. Said he'd be around to talk to you about it. Foreman said not three months steady, but spells enough to carry us through to spring. So we can stay here. Can't we? Please?"

"Elliott saying that, yes, it looks as if we might. Yes, it does. We'll see what your mama says."

Hand in hand they walked along toward the fourth bus sown. Manowar had come to visit and was waiting outside the bus.

Barely had Roosevelt finished telling him the news about the fertilizer company when along came Mr. Elliott, hugging to his stomach a little iron potbellied stove.

"There," he said, resting the stove on the ground and puffing. "You folks look to stay through the winter, you'll need this. One man thought to stay and that's why I put the chimney in. Who's your friend?" he asked Roosevelt.

"Manowar. He's come to visit me. His name's Manowar."

"So you're Mister Manowar. I've been wondering when you'd show up. Wondered what you'd look like, too. That was quite a letter you wrote me. Got a job yet?"

"No, sir," said Manowar.

"He's going to visit me," said Roosevelt.

Mr. Elliott smoothed his white moustache in both directions. "One good thing, Manowar can earn his keep while he's visiting. I plan to push up some old pear trees around here. He'll be doing me a favor to chop them up for the Grady's to burn in that potbellied stove.

Mr. Elliott looked at his watch.

"I have to run. Promised to ride my horse in the North Galilee Labor Day parade. Better come

and see how I do. Get Cap Jackson to put you in his truck and bring you. Other folks, too. Everybody welcome. About an hour from now, the band plays and we'll be lined up to begin. So long, men."

He stepped off toward the highway.

"So long," called the boys, sounding like one voice. They stood there looking at each other and grinning, neither one saying a word.

Up by the first bus an automobile horn sounded. The boys looked up and there, leaning out of the car window and beckoning, was Mr. Elliott. The boys ran up to him.

"Almost forgot," said Elliott. "Beginning tomorrow morning, Tuesday, ten minutes before eight, the school bus comes by on the highway. You got some brothers and sisters?"

"Yes, sir," said Roosevelt. "Two, the right size for school."

"Get them scrubbed up and ready and yourselves, too. Ten minutes ahead of eight o'clock. That's when the school bus stops here. You be on hand. Both of you."

"Me, too?" asked Manowar.

"Of course, you, too. This is one of my jobs your letter didn't ask me about, Manowar. School board. I aim to keep to school bus full. Round up all the prospects."

"You mean," asked Roosevelt, "we get to go in the regular school bus? To the regular school? With everybody who belongs?"

"Why not?" And Mr. Elliott slapped his right foot down on the gas pedal and the car shot to the edge of the highway. Then he braked it and looked both ways.

"So long for now," he called. And off roared the car onto the highway and up the hill toward North Galilee.*

--- Louisa R. Shotwell

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*(Reprint) from Trails to Treasure; 100 Ed., by Doris Gates, et. al., Boston, Massachusetts: Ginn and Co., 1966 (Out of adoption State textbook).

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OCCUPATIONAL AWARENESS

Program Evaluation

1971 - 72

Bryan Independent
School District
Bryan, Texas

Prepared
and
Compiled
by

Margaret B. Lindsey
Consultant-Coordinator
Occupational Awareness

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OCCUPATIONAL AWARENESS IN CAREER EDUCATION

Background and Explanation

Late in the summer of 1971, a proposal for a pilot program in Occupational Awareness was approved and funded by the Texas Education Agency. It involved two elementary schools within the Bryan Independent School District. Shortly thereafter, a consultant-coordinator was employed to give leadership and direction to the program and a procedure was then established to implement the program. Outlined in the procedure was a program evaluation to be conducted among the instructional staff participants and the students at Ben Milam and Bowie Elementary Schools, grades 1 through 5, near the conclusion of the 1971-72 school year.

Program Objectives

As a part of the organizational plan for Occupational Awareness, several overall objectives were established for the program. These included the following: (1) Making students more aware of the world of work; (2) Creating in students a wholesome respect for the dignity of work; (3) Helping students to develop worthwhile attitudes toward those who work; (4) Enhancing the value of work; and (5) Promoting the students' understanding of a wide variety of career opportunities.

Teaching objectives were also designed by grade level as guidelines for instructors in grades 1 through 5. They included the following:

Grade 1: To provide an understanding of the importance of jobs performed by parents and workers in the school; to stimulate thinking about occupations in and around the neighborhood; to develop within the pupils the recognition that work is honorable; and to emphasize the values of work.

Grade 2: To provide students with experiences in group cooperation; to explore a wide variety of occupations in and around the neighborhood and community; to create a sense of interdependence among pupils through activities involving teamwork or assembly-line techniques; to acquaint students with job families; and to develop the students' ability to distinguish between workers who produce goods and those who produce services.

Grade 3: To make students aware of and encourage them to develop personal qualities needed for job success; to develop within students a positive attitude toward work as a part of life and a desirable segment of education; to develop an increased awareness of the various occupations related to community life --- transportation, recreation, communication, manufacturing, public service, and the like; to help students acquire basic knowledge about a few selected occupations including physical and mental requirements, duties, and working conditions; and to develop within students a desire to obtain a job.

Grade 4: To help students identify and understand individual differences in people; to provide opportunities for students to investigate a variety of occupations outside the community in business, industry, and government; to increase students' awareness of the interrelation of jobs and interdependence of workers; to show students ways in which knowledge and skills acquired in school are used on the job; and to promote and encourage an understanding of some of the factors involved in making a career choice.

Grade 5: To help students grow in their ability to understand their feelings and capabilities; to provide students with opportunities to explore special interests and develop and exercise talents with occupational potential; to acquaint students with factors involved in making wise decisions and choices; to promote and encourage students to develop some special skills; and to investigate occupational areas related to the special interests, talents, and skills of students.

Grade Level Concepts

In addition to objectives, other instructional guidelines were set up for the Occupational Awareness Program. A conceptual approach was used and teachers were provided with the following concepts as developed by grade level:

Grade 1: (1) Work should have dignity; (2) People work to meet personal and social needs; (3) Individuals work for various rewards or satisfactions; (4) School is part of the preparation for a career; (5) People need special training for most careers; and (6) Careers are of wide variety.

Grade 2: (1) In many careers, cooperation among workers is essential; (2) Some workers produce goods; others services; (3) Specialization leads to interdependency; (4) Careers are grouped by job families; and (5) Positions are related within job families.

Grade 3: (1) Supply and demand help determine career choice; and (2) Career choice affects the individual's total life.

Grade 4: (1) People differ in their abilities, interests, attitudes, and values; (2) Technological and sociological changes eliminate and create jobs; (3) Individuals are qualified to perform in many different occupations; and (4) Geographical location determines the kinds of work found therein.

Grade 5: (1) Observation of people at work helps improve knowledge about careers; (2) Individuals live in a particular geographical location due to the nature of their work; and (3) Information about careers is needed by all individuals.

Evaluation Instruments

For the instructional staff evaluation, an instrument was devised to reveal the strengths and weaknesses of the program, interpret teacher attitudes toward the program, determine whether teachers perceive their role in a continuous career development program extending from K through 12, and to ascertain which Occupational Awareness resource materials were of most value to the instructors. Space was also provided on the evaluation instrument for teachers to offer suggestions for a more effective

program of Occupational Awareness in 1972-73. A sample of the instructional staff reaction form can be seen in Appendix B of this report.

To obtain a student reaction to the program, evaluation instruments were devised by grade levels in an effort to determine if the objectives of the program had been met. It was believed that if the specific grade level objectives had been fulfilled that the overall objectives of the program had also been met. Samples of the student reaction forms may be seen in Appendix C of this report.

Evaluation Procedures

On Tuesday, April 18, 1972, a joint meeting of teachers from the two participating schools was held at 3:15 P.M. in the library of Ben Milam Elementary School. Twenty-seven of the 28 teachers taking part in the program were present. Also present were Mr. A. R. Denney, Principal, Ben Milam Elementary School; Mr. C. B. Jones, Vocational Director, Bryan Public Schools; Mr. Steve Pearce, Elementary Coordinator, Bryan Public Schools; Mr. James Fales and Mr. W. E. Jordan, Graduate Students, Texas A&M University; Mrs. Alice Trejo, Librarian, Bowie Elementary School; Mrs. Aileen Scasta, Librarian, Ben Milam Elementary School; and a number of elementary student-teachers from Sam Houston State University and Texas A&M University. Only the Occupational Awareness instructors were given the instrument; out of this number 26 were returned. Of this total, 18 teachers signed their names to the reaction forms.

Teachers were also informed at that time about the student aspect of the program evaluation and special instructions were given for administering the instrument. Student reaction forms were scheduled for delivery to each respective school by Wednesday, April 26, and teachers were requested to have them completed and returned to Mrs. Margaret Lindsey, Consultant-Coordinator for Occupational Awareness, by Thursday, May 4.

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SUMMARY OF INSTRUCTIONAL STAFF REACTIONS
(Refer to Evaluation Instrument in Appendix B)

I. Participants' Responses to Items 1-18

The instructional staff was asked to react to each question by means of a check mark under the "YES" or "NO" column. Their responses were as follows:

1. Do you think the Occupational Awareness in-service programs were informative?

Yes - 22
No - 2
Invalid Responses - 2

2. Have you been able to use or adapt to your Occupational Awareness Program some of the materials and activities suggested to you at these in-service sessions?

Yes - 23
No - 3

3. Were the individual teacher-coordinator conferences helpful to you insofar as providing you with ideas for incorporating occupational information into your teaching?

Yes - 25
No - 1

Teachers' Comments: "We could always use more."
"A little"
"Some"

4. Have you been adequately provided with occupational resource materials?

Yes - 20
No - 6

5. Is the rotation of Occupational Awareness resource materials between the Bowie and Ben Milam Elementary School campuses satisfactory?

Yes - 17
No - 6
Invalid Responses - 3

6. Have your students generally enjoyed the occupationally-related activities they have engaged in this year?

Yes - 25
No - 0
Invalid Response - 1

7. Have the monthly reports of the Advisory Council for Technical-Vocational Education in Texas (ACTVE) helped to make you aware of current developments in career education in our state?

Yes - 17
No - 9

Teachers' Comments: "Haven't read many of them."
"I didn't pay as much attention to them as I should."

8. Is there a need for a local resource guide in Occupational Awareness?

Yes - 25
No - 1

9. Did the concepts and objectives set up by grade level provide you with sufficient guidelines for developing a program of Occupational Awareness in your classroom?

Yes - 21
No - 3
Invalid Responses - 2

10. Do you have a better understanding of the Occupational Awareness Program than you did when it was first implemented?

Yes - 24
No - 2

11. Is there a need for Occupational Awareness among elementary school children in Bryan?

Yes - 25
No - 1

12. Are the overall objectives of the Occupational Awareness Program reaslistic?

Yes - 25
No - 1

13. Can occupational information be related to the basic elementary school subjects of arithmetic, language arts, reading, science,

and social studies?

Yes - 24
No - 0
Invalid Responses - 2

Teacher Comment: "Hard to work in"

14. Do you favor the above "interdisciplinary" approach as a means of making elementary students more aware of the world of work?

Yes - 25
No - 1

15. Are you a part of the overall career education program in our school system?

Yes - 23
No - 2
Invalid Responses - 1

16. Do you think you have successfully met the objectives of the Occupational Awareness Program at your grade level?

Yes - 10
No - 14
Invalid Responses - 2

Teacher Comment: "Tried to"

17. Have you developed a variety of activities to be used in teaching each Occupational Awareness concept at your grade level?

Yes - 15
No - 9
Invalid Responses - 2

Teachers' Comments: "Not yet"
"No, because we are departmentalized."

18. Have you fulfilled the overall objectives of the Occupational Awareness Program?

Yes - 12
No - 12
Invalid Responses - 2

II. Participants' Ratings of the Resource Materials as to Their Value

The participants were asked to rate the usefulness of each resource unit provided them by placing a check mark beside the ones which they found helpful in implementing a program of Occupational Awareness. The value of the materials is shown as follows:

"Career Transparencies," (T-40), produced by the Region XIII Education Service Center

Of Value - 8
Not of Value - 18

"Discussion Guide for Counselors and Teachers for Using Career Transparencies (Grades 1-6)," produced by the Region XIII Education Service Center

Of Value - 3
Not of Value - 23

Counselor's Guide to Manpower Information, an annotated bibliography of government publications

Of Value - 5
Not of Value - 21

Curriculum Bulletins from Abilene ISD, Houston ISD, and Levelland ISD

Of Value - 13
Not of Value - 13

Dictionary of Occupational Titles, Vol. I, Publication of the U.S. Department of Labor

Of Value - 9
Not of Value - 17

Elementary Guide for Career Development (Grades 1-6) by Lee Laws

Of Value - 10
Not of Value - 13

Occupational Orientation in the Elementary Schools by Willa Norris, a resource text

Of Value - 5
Not of Value - 21

"Occupational Information Address File"

Of Value - 0
Not of Value - 26

Occupational Outlook Handbook, 1970-71, Publication of the U.S. Department of Labor

Of Value - 4
Not of Value - 22

Project DEVISE Publication by Darrel W. Coburn, DEVISE - A Plan to Help Them (Teacher's Guide)

Of Value - 1
Not of Value - 25

Project DEVISE Publication by Darrel W. Coburn, Workers From A to Z

Of Value - 3
Not of Value - 23

"World of Work" Filmstrips, K-3 Series and 4-6 Series

Of Value - 26
Not of Value - 0

World of Work Game

Of Value - 7
Not of Value - 19

III. General remarks and/or suggestions for a More Effective Occupational Awareness Program

Most of the comments and suggestions made by the program participants were of a positive nature and concerned the use of field trips, resource materials and outside speakers. Only one derogatory comment was made with regard to the program.

Field Trips

Three participants thought that guidelines should be set for field trips at each grade level so that there will not be any repetition in visits being made by the children. One teacher also suggested that buses be provided for taking field trips and that special funds be set aside for paying for the field trips.

Resource Materials

Two participants commented that more resource materials were needed. Still another instructor suggested that the resource materials be left at each school for a longer period of time. Referring to resource materials, one teacher commented, "We need more awareness of what is available and how to use it effectively."

Outside Speakers

One teacher suggested that guidelines also be set for the kinds of outside speakers used at each grade level. In this way, "repeats" would be avoided. Still another teacher commented that more resource people should be provided to talk and/or demonstrate to students.

Some Actual Quotes

"If we were self-contained, we could have presented concepts more effectively."

"Since we learned from the past school year what we could do next year, we should be able to have a much more interesting program in '72-73."

"It seems that 'a few' people have from 40-50 people at 2 campuses doing work for them which they themselves should do and will eventually get credit for having done."

SUMMARY OF STUDENT REACTIONS
(Refer to Evaluation Instruments in Appendix C)

Teacher's Name Dooley, Ola Mae School Ben Milam - Grade One

Total Class Enrollment 32 Total Returns 31

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Objectives and Test Items	Correct Responses	Incorrect Responses	Invalid Responses
1. To determine if students understand the importance of jobs performed by parents and workers in the school . . .			
Car Mechanic	31	0	0
School Cook	31	0	0
School Counselor	31	0	0
Homemaker	31	0	0
Soldier	31	0	0
Doctor	31	0	0
School Secretary	31	0	0
Gas Station Worker	31	0	0
2. To determine if students understand the value of work . . .			
There are many kinds of work.	31	0	0
People work for many reasons.	31	0	0
We earn money through work.	31	0	0
Jobs make school important.	31	0	0
People learn to do (special) jobs.	31	0	0
3. To determine if students know what an occupation is . . .	25	4	2
4. To determine if students feel that it is honorable to work and if they know about a variety of jobs in the neighborhood . . .			
Part A	30	1	0
Part B: School Janitor	31	0	0
Policeman	31	0	0
Taxi Driver	30	1	0
Fireman	25	3	3
School Bus Driver	29	1	1
Postman	30	1	0
School Secretary	31	0	0
Milkman	31	0	0
5. To determine if students know something about the world of work . . .			
Taxi Driver	29	1	1
Policeman	29	1	1
Postman	26	5	0
Fireman	27	4	0
Number of Possible Correct Responses 837 — Total Number	807	22	8
Percentages	96%	03%	01%

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Teacher's Name Drgac, Annie Laurie School Ben Milam - Grade One

Total Class Enrollment 33 Total Returns 32

Objectives and Test Items	Correct Responses	Incorrect Responses	Invalid Responses
1. To determine if students understand the importance of jobs performed by parents and workers in the school . . .			
Car Mechanic	20	12	0
School Cook	16	16	0
School Counselor	26	6	0
Homemaker	13	19	0
Soldier	12	20	0
Doctor	31	1	0
School Secretary	14	18	0
Gas Station Worker	14	18	0
2. To determine if students understand the value of work . . .			
There are many kinds of work.	30	2	0
People work for many reasons.	32	0	0
We earn money through work.	27	5	0
Jobs make school important.	28	4	0
People learn to do (special) jobs.	32	0	0
3. To determine if students know what an occupation is . . .	4	26	2
4. To determine if students feel that it is honorable to work and if they know about a variety of jobs in the neighborhood . . .			
Part A	32	0	0
Part B: School Janitor	31	1	0
Policeman	28	2	2
Taxi Driver	31	1	0
Fireman	28	4	0
School Bus Driver	28	4	0
Postman	27	4	1
School Secretary	24	8	0
Milkman	24	6	2
5. To determine if students know something about the world of work . . .			
Taxi Driver	23	7	2
Policeman	25	7	0
Postman	27	5	0
Fireman	27	5	0
Number of Possible Correct Responses 864 — Total Number	654	201	09
Percentages	76%	23%	01%

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Teacher's Name Hall, Eddie School Ben Milam - Grade One

Total Class Enrollment 32 Total Returns 31

Objectives and Test Items	Correct Responses	Incorrect Responses	Invalid Responses
1. To determine if students understand the importance of jobs performed by parents and workers in the school . . .			
Car Mechanic	31	0	0
School Cook	31	0	0
School Counselor	30	0	1
Homemaker	31	0	0
Soldier	23	8	0
Doctor	31	0	0
School Secretary	31	0	0
Gas Station Worker	31	0	0
2. To determine if students understand the value of work . . .			
There are many kinds of work.	31	0	0
People work for many reasons.	29	2	0
We earn money through work.	31	0	0
Jobs make school important.	31	0	0
People learn to do (special) jobs.	30	1	0
3. To determine if students know what an occupation is . . .	25	6	0
4. To determine if students feel that it is honorable to work and if they know about a variety of jobs in the neighborhood . . .			
Part A	0	0	31
Part B: School Janitor	29	1	1
Policeman	28	2	1
Taxi Driver	31	0	0
Fireman	28	2	1
School Bus Driver	30	1	0
Postman	26	4	1
School Secretary	27	4	0
Milkman	30	1	0
5. To determine if students know something about the world of work . . .			
Taxi Driver	29	2	0
Policeman	25	5	1
Postman	26	4	1
Fireman	28	2	1
Number of Possible Correct Responses 837 — Total Number	753	45	39
Percentages	90%	05%	05%

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Teacher's Name Hatfield, Anne School Bowie - Grade One

Total Class Enrollment 31 Total Returns 30

Objectives and Test Items	Correct Responses	Incorrect Responses	Invalid Responses
1. To determine if students understand the importance of jobs performed by parents and workers in the school . . .			
Car Mechanic	27	3	0
School Cook	28	2	0
School Counselor	24	6	0
Homemaker	29	1	0
Soldier	27	3	0
Doctor	26	3	1
School Secretary	28	2	0
Gas Station Worker	30	0	0
2. To determine if students understand the value of work . . .			
There are many kinds of work.	28	0	2
People work for many reasons.	26	1	3
We earn money through work.	27	0	3
Jobs make school important.	25	2	3
People learn to do (special) jobs.	27	0	3
3. To determine if students know what an occupation is . . .	15	6	9
4. To determine if students feel that it is honorable to work and if they know about a variety of jobs in the neighborhood . . .			
Part A	23	1	6
Part B: School Janitor	25	4	1
Policeman	16	10	4
Taxi Driver	17	10	3
Fireman	22	7	1
School Bus Driver	19	8	3
Postman	19	8	3
School Secretary	17	10	3
Milkman	25	3	2
5. To determine if students know something about the world of work . . .			
Taxi Driver	19	4	7
Policeman	16	9	5
Postman	19	5	6
Fireman	20	4	6
Number of Possible Correct Responses 810 — Total Number	624	112	74
Percentages	77%	14%	09%

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Teacher's Name Robison, Mary School Ben Milam - Grade One

Total Class Enrollment 34 Total Returns 28

Objectives and Test Items	Correct Responses	Incorrect Responses	Invalid Responses
1. To determine if students understand the importance of jobs performed by parents and workers in the school . . .			
Car Mechanic	0	28	0
School Cook	28	0	0
School Counselor	23	5	0
Homemaker	12	16	0
Soldier	4	24	0
Doctor	17	11	0
School Secretary	21	7	0
Gas Station Worker	6	22	0
2. To determine if students understand the value of work . . .			
There are many kinds of work.	23	4	1
People work for many reasons.	24	3	1
We earn money through work.	22	2	4
Jobs make school important.	24	4	0
People learn to do (special) jobs.	25	2	1
3. To determine if students know what an occupation is . . .	7	10	11
4. To determine if students feel that it is honorable to work and if they know about a variety of jobs in the neighborhood . . .			
Part A	26	0	2
Part B: School Janitor	23	4	1
Policeman	23	4	1
Taxi Driver	24	3	1
Fireman	18	8	2
School Bus Driver	17	9	2
Postman	13	10	5
School Secretary	17	7	4
Milkman	19	7	2
5. To determine if students know something about the world of work . . .			
Taxi Driver	16	5	7
Policeman	13	6	9
Postman	11	11	6
Fireman	18	4	6
Number of Possible Correct Responses 756 — Total Number	474	216	66
Percentages	63%	29%	08%

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Teacher's Name Streetman, Mozelle School Bowie - Grade One

Total Class Enrollment 31 Total Returns 27

Objectives and Test Items	Correct Responses	Incorrect Responses	Invalid Responses
1. To determine if students understand the importance of jobs performed by parents and workers in the school . . .			
Car Mechanic	27	0	0
School Cook	26	1	0
School Counselor	26	1	0
Homemaker	26	1	0
Soldier	27	0	0
Doctor	26	1	0
School Secretary	27	0	0
Gas Station Worker	26	1	0
2. To determine if students understand the value of work . . .			
There are many kinds of work.	26	0	1
People work for many reasons.	26	0	1
We earn money through work.	27	0	0
Jobs make school important.	27	0	0
People learn to do (special) jobs.	27	0	0
3. To determine if students know what an occupation is . . .	23	1	3
4. To determine if students feel that it is honorable to work and if they know about a variety of jobs in the neighborhood . . .			
Part A	27	0	0
Part B: School Janitor	26	0	1
Policeman	25	1	1
Taxi Driver	24	3	0
Fireman	22	1	4
School Bus Driver	21	3	3
Postman	22	3	2
School Secretary	21	5	1
Milkman	20	2	5
5. To determine if students know something about the world of work . . .			
Taxi Driver	18	7	2
Policeman	19	3	5
Postman	22	3	2
Fireman	23	2	2
Number of Possible Correct Responses 729 — Total Number	657	39	33
Percentages	89%	06%	05%

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Teacher's Name Drapeau, Arlene School Ben Milam - Grade Two

Total Class Enrollment 34 Total Returns 33

Objectives and Test Items	Correct Responses	Incorrect Responses	Invalid Responses
1. To determine if students know what co-operation is . . .	25	7	1
2. To determine if students know what jobs are available in and around the neighborhood and community . . .			
Postman	30	3	0
Astronaut	33	0	0
Policeman	30	3	0
Judge	30	3	0
Fireman	22	11	0
Soldier	28	5	0
Weatherman	23	10	0
Farmer	21	12	0
Garbage Collector	29	4	0
Airplane Pilot	30	3	0
Taxi Driver	29	4	0
3. To determine if students understand the meaning of teamwork and the assembly-line method . . .			
Part A	5	28	0
Part B	26	6	1
4. To determine if students are familiar with what a job family is . . .			
Doctor	32	1	0
Airplane Pilot	32	1	0
Milkman	30	2	1
Plumber	32	1	0
Judge	30	3	0
Newspaper Reporter	32	1	0
Actor	32	0	1
Electrician	33	0	0
5. To determine if students are able to distinguish the difference in workers who produce goods and those who produce services . . .			
Part A: Postman	27	6	0
Baker	31	2	0
Fireman	31	2	0
Weatherman	32	1	0
Policeman	32	1	0

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Objectives and Test Items		Correct Responses	Incorrect Responses	Invalid Responses
	Astronaut	32	1	0
	Factory Worker	32	1	0
	Mechanic	22	10	1
Part B:	Factory Worker	26	7	0
	Waitress	27	6	0
	Telephone Operator	30	3	0
	Farmer	28	5	0
	Telephone Repairman	29	4	0
	Cabinetmaker	25	8	0
	Janitor	26	7	0
Number of Possible Correct Responses 1,221	Total Number	1,044	172	05
	Percentages	85%	14%	01%

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Teacher's Name Giesenschlag, Ruth School Bowie-Grade Two

Total Class Enrollment 33 Total Returns 31

Objectives and Test Items	Correct Responses	Incorrect Responses	Invalid Responses
1. To determine if students know what co-operation is . . .	29	2	0
2. To determine if students know what jobs are available in and around the neighborhood and community . . .			
Postman	29	2	0
Astronaut	31	0	0
Policeman	1	30	0
Judge	29	2	0
Fireman	0	31	0
Soldier	31	0	0
Weatherman	31	0	0
Farmer	31	0	0
Garbage Collector	28	3	0
Airplane Pilot	29	2	0
Taxi Driver	0	31	0
3. To determine if students understand the meaning of teamwork and the assembly-line method . . .			
Part A	23	2	6
Part B	18	9	4
4. To determine if students are familiar with what a job family is . . .			
Doctor	28	3	0
Airplane Pilot	31	0	0
Milkman	28	3	0
Plumber	28	3	0
Judge	31	0	0
Newspaper Reporter	29	2	0
Actor	29	2	0
Electrician	27	4	0
5. To determine if students are able to distinguish the difference in workers who produce goods and those who produce services . . .			
Part A: Postman	25	6	0
Baker	23	8	0
Fireman	29	2	0
Weatherman	27	4	0
Policeman	30	1	0

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Objectives and Test Items		Correct Responses	Incorrect Responses	Invalid Responses
	Astronaut	29	2	0
	Factory Worker	20	11	0
	Mechanic	24	7	0
Part B:	Factory Worker	29	2	0
	Waitress	16	15	0
	Telephone Operator	15	16	0
	Farmer	25	6	0
	Telephone Repairman	24	7	0
	Cabinetmaker	21	10	0
	Janitor	15	16	0
Number of Possible Correct Responses 1,147	Total Number	893	244	10
	Percentages	77%	22%	01%

Teacher's Name Hatchett, Pauline School Ben Milam - Grade Two

Total Class Enrollment 33 Total Returns 25

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Objectives and Test Items	Correct Responses	Incorrect Responses	Invalid Responses
1. To determine if students know what co-operation is . . .	23	2	0
2. To determine if students know what jobs are available in and around the neighborhood and community . . .			
Postman	25	0	0
Astronaut	25	0	0
Policeman	0	25	0
Judge	25	0	0
Fireman	0	25	0
Soldier	25	0	0
Weatherman	25	0	0
Farmer	25	0	0
Garbage Collector	0	25	0
Airplane Pilot	25	0	0
Taxi Driver	0	25	0
3. To determine if students understand the meaning of teamwork and the assembly-line method . . .			
Part A	25	0	0
Part B	0	0	25
4. To determine if students are familiar with what a job family is . . .			
Doctor	25	0	0
Airplane Pilot	25	0	0
Milkman	25	0	0
Plumber	24	1	0
Judge	25	0	0
Newspaper Reporter	25	0	0
Actor	25	0	0
Electrician	0	25	0
5. To determine if students are able to distinguish the difference in workers who produce goods and those who produce services . . .			
Part A: Postman	24	1	0
Baker	0	25	0
Fireman	25	0	0
Weatherman	25	0	0
Policeman	25	0	0

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Objectives and Test Items		Correct Responses	Incorrect Responses	Invalid Responses
	Astronaut	25	0	0
	Factory Worker	22	3	0
	Mechanic	25	0	0
Part B:	Factory Worker	25	0	0
	Waitress	23	2	0
	Telephone Operator	0	25	0
	Farmer	25	0	0
	Telephone Repairman	0	25	0
	Cabinetmaker	25	0	0
	Janitor	0	25	0
Number of Possible Correct Responses 925	Total Number	666	234	25
	Percentages	72%	25%	03%

Teacher's Name Herrera, Betty School Ben Milam - Grade Two

Total Class Enrollment 34 Total Returns 31

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Objectives and Test Items	Correct Responses	Incorrect Responses	Invalid Responses
1. To determine if students know what co-operation is . . .	22	7	2
2. To determine if students know what jobs are available in and around the neighborhood and community . . .			
Postman	26	5	0
Astronaut	28	3	0
Policeman	29	1	1
Judge	29	2	0
Fireman	28	3	0
Soldier	28	3	0
Weatherman	29	2	0
Farmer	28	3	0
Garbage Collector	29	2	0
Airplane Pilot	27	4	0
Taxi Driver	29	2	0
3. To determine if students understand the meaning of teamwork and the assembly-line method . . .			
Part A	28	2	1
Part B	9	19	3
4. To determine if students are familiar with what a job family is . . .			
Doctor	31	0	0
Airplane Pilot	28	3	0
Milkman	29	2	0
Plumber	28	3	0
Judge	30	1	0
Newspaper Reporter	26	5	0
Actor	27	4	0
Electrician	28	3	0
5. To determine if students are able to distinguish the difference in workers who produce goods and those who produce services . . .			
Part A: Postman	25	6	0
Baker	30	1	0
Fireman	29	2	0
Weatherman	30	1	0
Policeman	29	2	0

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Objectives and Test Items		Correct Responses	Incorrect Responses	Invalid Responses
	Astronaut	31	0	0
	Factory Worker	30	1	0
	Mechanic	9	21	1
Part B:	Factory Worker	23	4	4
	Waitress	26	0	5
	Telephone Operator	25	1	5
	Farmer	11	17	3
	Telephone Repairman	26	1	4
	Cabinetmaker	2	25	4
	Janitor	26	1	4
Number of Possible Correct Responses 1,147	Total Number	948	162	37
	Percentages	83%	14%	03%

Teacher's Name Hix, Martha School Ben Milam - Grade Two

Total Class Enrollment 34 Total Returns 32

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Objectives and Test Items	Correct Responses	Incorrect Responses	Invalid Responses
1. To determine if students know what co-operation is . . .	30	1	1
2. To determine if students know what jobs are available in and around the neighborhood and community . . .			
Postman	16	16	0
Astronaut	29	3	0
Policeman	24	8	0
Judge	29	3	0
Fireman	17	15	0
Soldier	31	1	0
Weatherman	27	5	0
Farmer	29	3	0
Garbage Collector	25	7	0
Airplane Pilot	31	1	0
Taxi Driver	14	18	0
3. To determine if students understand the meaning of teamwork and the assembly-line method . . .			
Part A	16	15	1
Part B	8	14	10
4. To determine if students are familiar with what a job family is . . .			
Doctor	32	0	0
Airplane Pilot	31	1	0
Milkman	32	0	0
Plumber	30	2	0
Judge	30	2	0
Newspaper Reporter	32	0	0
Actor	32	0	0
Electrician	32	0	0
5. To determine if students are able to distinguish the difference in workers who produce goods and those who produce services . . .			
Part A: Postman	31	1	0
Baker	31	1	0
Fireman	27	5	0
Weatherman	30	2	0
Policeman	32	0	0

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Objectives and Test Items		Correct Responses	Incorrect Responses	Invalid Responses
	Astronaut	30	2	0
	Factory Worker	28	4	0
	Mechanic	21	10	1
Part B:	Factory Worker	29	3	0
	Waitress	21	11	0
	Telephone Operator	9	23	0
	Farmer	26	6	0
	Telephone Repairman	12	20	0
	Cabinetmaker	17	15	0
	Janitor	22	10	0
Number of Possible Correct Responses 1,184	Total Number	943	228	13
	Percentages	80%	19%	01%

Teacher's Name Guice, Sandra School Bowie - Grade 3

Total Class Enrollment 31 Total Returns 31

Objectives and Test Items		Correct Responses	Incorrect Responses	Invalid Responses
1. To determine if students are aware of some of the personal qualities needed for job success . . .				
Mary		29	0	2
Thurman		27	2	2
Judy		11	18	2
Manuel		27	2	2
Esther		22	7	2
Lucy		12	17	2
2. To determine whether students' attitudes toward work as a part of life and a desirable segment of education are positive . . .				
Part A		21	0	10
Part B:	Dusting the classroom	24	2	5
	Riding your bicycle	25	1	5
	Straightening the books	26	0	5
	Jumping the "jump" rope	26	0	5
	Tap-dancing	21	5	5
	Cleaning the blackboard	24	1	5
	Dusting the erasers	24	2	5
3. To determine if students have an awareness of the various occupations related to community life . . .				
P.E. Teacher:	Helps children with spelling	27	0	4
	Directs traffic	26	1	4
	Helps children build strong bodies	26	1	4
Newspaper Boy:	Collects old newspapers	25	1	5
	Throws away garbage	25	1	5
	Throws newspapers	26	0	5
Bus Driver:	Makes ice cream	26	2	3
	Empties the garbage	25	3	3
	Obeys traffic rules	24	4	3
Telephone Repairman:	Works on wires	23	4	4

Objectives and Test Items		Correct Responses	Incorrect Responses	Invalid Responses
	Plants flowers	25	2	4
	Waits on tables	25	2	4
Factory Workers:	Cuts away branches	19	4	8
	Works on an assembly-line	15	7	9
	Drives people across town	21	1	9
4. To determine if students have a basic knowledge about a few selected occupations including physical and mental requirements, duties, working conditions . . .				
Bus Driver:	Knows how to read street signs in town	25	2	4
	Helps people get across town	17	10	4
	Needs no special drivers' license	13	14	4
	Sells tickets or tokens	8	19	4
	Drives only cars	22	5	4
	Can make change	7	20	4
Life-guard:	Must have good eyesight	19	7	5
	Reads magazines while on duty	22	4	5
	Goes to school to learn to swim	9	17	5
	Sits on top of a tower	8	18	5
	Must be strong and not get tired easily	18	8	5
	Must be able to swim	22	4	5
Construc-tion Worker:	Uses special tools and equipment in his work	17	8	6
	Always wears a uniform when he works	11	14	6
	Can measure large and small boards	14	11	6
	Is strong and able to lift heavy objects	19	6	6
	May belong to a "union"	6	19	6
	Builds only houses	18	7	6
Newspaper Boy:	Collects money	16	10	5
	Writes and prints the newspapers he sells	11	15	5
	Delivers newspapers	17	9	5
	Rolls papers for delivery	15	11	5
	Pays for the newspapers he sells	9	17	5
	Always drives a truck	24	2	5

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Objectives and Test Items		Correct Responses	Incorrect Responses	Invalid Responses
Garbage Collector:	Goes to work early in the mornings	21	5	5
	Works in rain or snow, hot or cold	14	11	6
	Drives a car in his job	20	6	5
	Lifts many garbage cans	16	10	5
	Helps people get rid of trash	21	5	5
	Goes to school to learn how to collect trash	21	5	5
Super-market Helper:	Bakes bread to sell	15	11	5
	Places cans and bottles on the empty shelves	13	13	5
	Puts the food in bags	19	7	5
	Dusts and cleans the display shelves	8	18	5
	Delivers eggs to the store	20	6	5
	Carries groceries to the customers' cars	16	10	5
5. To determine if students have the desire to work . . .				
Part A		24	0	7
Part B:	Policeman	21	0	10
	Truck Driver			
	Piano Teacher			
	Service Station Man			
	Fireman			
	Life Guard			
	Teacher			
	Supermarket Helper			
	Nurse			
	Mother			
Number of Possible Correct Responses 2,077	Total Number	1294	454	329
	Percentages	62%	22%	16%

277

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Teacher's Name LaBarbera, Ruth School Ben Milam - Grade Three

Total Class Enrollment 33 Total Returns 30

Objectives and Test Items		Correct Responses	Incorrect Responses	Invalid Responses
1. To determine if students are aware of some of the personal qualities needed for job success . . .				
Mary		29	0	1
Thurman		29	0	1
Judy		15	15	0
Manuel		30	0	0
Esther		30	0	0
Lucy		13	17	0
2. To determine whether students' attitudes toward work as a part of life and a desirable segment of education are positive . . .				
Part A		29	0	1
Part B:	Dusting the classroom	29	1	0
	Riding your bicycle	28	2	0
	Straightening the books	30	0	0
	Jumping the "jump" rope	28	2	0
	Tap-dancing	26	4	0
	Cleaning the blackboard	30	0	0
	Dusting the erasers	30	0	0
3. To determine if students have an awareness of the various occupations related to community life . . .				
P.E. Teacher:	Helps children with spelling	29	0	1
	Directs traffic	30	0	0
	Helps children build strong bodies	30	0	0
Newspaper Boy:	Collects old newspapers	30	0	0
	Throws away garbage	30	0	0
	Throws newspapers	30	0	0
Bus Driver:	Makes ice cream	30	0	0
	Empties the garbage	30	0	0
	Obeys traffic rules.	30	0	0
Telephone Repairman:	Works on wires	30	0	0

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Objectives and Test Items		Correct Responses	Incorrect Responses	Invalid Responses
	Plants flowers	29	0	1
	Waits on tables	30	0	0
Factory Workers:	Cuts away branches	29	1	0
	Works on an assembly-line	28	1	1
	Drives people across town	29	1	0
4. To determine if students have a basic knowledge about a few selected occupations including physical and mental requirements, duties, working conditions . . .				
Bus Driver:	Knows how to read street signs in town	26	2	2
	Helps people get across town	24	3	3
	Needs no special drivers' license	17	13	0
	Sells tickets or tokens	25	5	0
	Drives only cars	27	2	1
	Can make change	19	7	4
Life-guard:	Must have good eyesight	27	2	1
	Reads magazines while on duty	30	0	0
	Goes to school to learn to swim	6	24	0
	Sits on top of a tower	17	11	2
	Must be strong and not get tired easily	26	4	0
	Must be able to swim	27	1	2
Construction Worker:	Uses special tools and equipment in his work	29	1	0
	Always wears a uniform when he works	17	13	0
	Can measure large and small boards	25	5	0
	Is strong and able to lift heavy objects	27	2	1
	May belong to a "union"	19	9	2
	Builds only houses	27	3	0
Newspaper Boy:	Collects money	27	3	0
	Writes and prints the newspapers he sells	26	4	0
	Delivers newspapers	30	0	0
	Rolls papers for delivery	26	4	0
	Pays for the newspapers he sells	21	5	4
	Always drives a truck	27	3	0

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Objectives and Test Items		Correct Responses	Incorrect Responses	Invalid Responses
Garbage Collector:	Goes to work early in the mornings	29	1	0
	Works in rain or snow, hot or cold	25	3	2
	Drives a car in his job	27	3	0
	Lifts many garbage cans	28	2	0
	Helps people get rid of trash	29	1	0
	Goes to school to learn how to collect trash	27	3	0
Super-market Helper:	Bakes bread to sell	26	4	0
	Places cans and bottles on the empty shelves	27	3	0
	Puts the food in bags	29	1	0
	Dusts and cleans the display shelves	24	4	2
	Delivers eggs to the store	20	10	0
	Carries groceries to the customers' cars	25	2	3
5. To determine if students have the desire to work . . .				
Part A		29	1	0
Part B:		29	0	1
Number of Possible Correct Responses 2,010	Total Number	1766	208	36
	Percentages	88%	10%	02%

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Teacher's Name Loyd, Frances School Ben Milam - Grade 3

Total Class Enrollment 31 Total Returns 30

Objectives and Test Items		Correct Responses	Incorrect Responses	Invalid Responses
1. To determine if students are aware of some of the personal qualities needed for job success . . .				
Mary		26	3	1
Thurman		28	1	1
Judy		26	3	1
Manuel		29	0	1
Esther		27	2	1
Lucy		22	7	1
2. To determine whether students' attitudes toward work as a part of life and a desirable segment of education are positive . . .				
Part A		28	0	2
Part B:	Dusting the classroom	25	5	0
	Riding your bicycle	28	2	0
	Straightening the books	30	0	0
	Jumping the "jump" rope	28	2	0
	Tap-dancing	26	4	0
	Cleaning the blackboard	30	0	0
	Dusting the erasers	29	0	1
3. To determine if students have an awareness of the various occupations related to community life . . .				
P.E. Teacher:	Helps children with spelling	26	4	0
	Directs traffic	29	1	0
	Helps children build strong bodies	26	4	0
Newspaper Boy:	Collects old newspapers	27	3	0
	Throws away garbage	28	2	0
	Throws newspapers	28	2	0
Bus Driver:	Makes ice cream	28	0	2
	Empties the garbage	28	0	2
	Obeys traffic rules	28	0	2
Telephone Repairman:	Works on wires	28	0	2

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Objectives and Test Items		Correct Responses	Incorrect Responses	Invalid Responses
	Plants flowers	28	0	2
	Waits on tables	28	0	2
Factory Workers:	Cuts away branches	28	1	1
	Works on an assembly-line	27	1	2
	Drives people across town	29	0	1
4. To determine if students have a basic knowledge about a few selected occupations including physical and mental requirements, duties, working conditions . . .				
Bus Driver:	Knows how to read street signs in town	29	1	0
	Helps people get across town	28	2	0
	Needs no special drivers' license	16	14	0
	Sells tickets or tokens	9	21	0
	Drives only cars	24	6	0
	Can make change	21	9	0
Life-guard:	Must have good eyesight	25	5	0
	Reads magazines while on duty	26	4	0
	Goes to school to learn to swim	15	15	0
	Sits on top of a tower	12	18	0
	Must be strong and not get tired easily	30	0	0
	Must be able to swim	30	0	0
Construction Worker:	Uses special tools and equipment in his work	27	3	0
	Always wears a uniform when he works	12	18	0
	Can measure large and small boards	27	3	0
	Is strong and able to lift heavy objects	28	2	0
	May belong to a "union"	8	22	0
	Builds only houses	11	19	0
Newspaper Boy:	Collects money	27	3	0
	Writes and prints the newspapers he sells	19	11	0
	Delivers newspapers	29	1	0
	Rolls papers for delivery	24	6	0
	Pays for the newspapers he sells	17	13	0
	Always drives a truck	26	4	0

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Objectives and Test Items		Correct Responses	Incorrect Responses	Invalid Responses
Garbage Collector:	Goes to work early in the mornings	30	0	0
	Works in rain or snow, hot or cold	24	6	0
	Drives a car in his job	19	11	0
	Lifts many garbage cans	29	1	0
	Helps people get rid of trash	27	3	0
	Goes to school to learn how to collect trash	23	7	0
Super-market Helper:	Bakes bread to sell	12	18	0
	Places cans and bottles on the empty shelves	24	6	0
	Puts the food in bags	26	4	0
	Dusts and cleans the display shelves	22	8	0
	Delivers eggs to the store.	14	16	0
	Carries groceries to the customers' cars	24	6	0
5. To determine if students have the desire to work . . .				
Part A		30	0	0
Part B:	Mechanic	28	0	2
	Scientist			
	Policeman			
	Supermarket Helper			
	Teacher			
	Nurse			
	Horse Trainer			
	Electrician			
	Football Player			
	Newspaper Boy			
	Doctor			
	Secretary			
	Western Cowgirl			
Number of Possible Correct Responses 2,010	Total Number	1650	333	27
	Percentages	82%	17%	01%

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Teacher's Name Mabry, Mary School Ben Milam - Grade 3

Total Class Enrollment 32 Total Returns 30

Objectives and Test Items		Correct Responses	Incorrect Responses	Invalid Responses
1. To determine if students are aware of some of the personal qualities needed for job success . . .				
Mary		30	0	0
Thurman		30	0	0
Judy		25	5	0
Manuel		29	1	0
Esther		29	0	1
Lucy		18	12	0
2. To determine whether students' attitudes toward work as a part of life and a desirable segment of education are positive . . .				
Part A		28	0	2
Part B:	Dusting the classroom	28	2	0
	Riding your bicycle	30	0	0
	Straightening the books	30	0	0
	Jumping the "jump" rope	29	1	0
	Tap-dancing	26	4	0
	Cleaning the blackboard	27	3	0
	Dusting the erasers	29	1	0
3. To determine if students have an awareness of the various occupations related to community life . . .				
P.E. Teacher:	Helps children with spelling	27	3	0
	Directs traffic	30	0	0
	Helps children build strong bodies	27	3	0
Newspaper Boy:	Collects old newspapers	29	1	0
	Throws away garbage	30	0	0
	Throws newspapers	29	1	0
Bus Driver:	Makes ice cream	28	2	0
	Empties the garbage	28	2	0
	Obeys traffic rules	27	3	0
Telephone Repairman:	Works on wires	28	2	0

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Objectives and Test Items		Correct Responses	Incorrect Responses	Invalid Responses
	Plants flowers	28	2	0
	Waits on tables	30	0	0
Factory Workers:	Cuts away branches	28	2	0
	Works on an assembly-line	27	3	0
	Drives people across town	29	1	0
4. To determine if students have a basic knowledge about a few selected occupations including physical and mental requirements, duties, working conditions . . .				
Bus Driver:	Knows how to read street signs in town	28	2	0
	Helps people get across town	29	1	0
	Needs no special drivers' license	23	7	0
	Sells tickets or tokens	27	3	0
	Drives only cars	25	4	1
	Can make change	15	15	0
Life-guard:	Must have good eyesight	29	1	0
	Reads magazines while on duty	30	0	0
	Goes to school to learn to swim	14	16	0
	Sits on top of a tower	20	10	0
	Must be strong and not get tired easily	26	4	0
	Must be able to swim	30	0	0
Construction Worker:	Uses special tools and equipment in his work	29	1	0
	Always wears a uniform when he works	13	17	0
	Can measure large and small boards	25	5	0
	Is strong and able to lift heavy objects	26	4	0
	May belong to a "union"	22	8	0
	Builds only houses	26	4	0
Newspaper Boy:	Collects money	28	2	0
	Writes and prints the newspapers he sells	20	10	0
	Delivers newspapers	30	0	0
	Rolls papers for delivery	29	1	0
	Pays for the newspapers he sells	17	13	0
	Always drives a truck	30	0	0

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Objectives and Test Items		Correct Responses	Incorrect Responses	Invalid Responses
Garbage Collector:	Goes to work early in the mornings	25	5	0
	Works in rain or snow, hot or cold	25	5	0
	Drives a car in his job	29	1	0
	Lifts many garbage cans	27	3	0
	Helps people get rid of trash	28	2	0
	Goes to school to learn how to collect trash	28	2	0
Super-market Helper:	Bakes bread to sell	10	20	0
	Places cans and bottles on the empty shelves	23	7	0
	Puts the food in bags	26	4	0
	Dusts and cleans the display shelves	23	7	0
	Delivers eggs to the store	14	16	0
	Carries groceries to the customers' cars	27	3	0
5. To determine if students have the desire to work . . .				
Part A	Policeman	28	0	2
Part B:	Teacher	28	0	2
	Nurse			
	Newspaper boy			
	Banker			
	Doctor			
	Housewife			
	Baby sitter			
	Waitress			
	Baseball player			
	Mayor			
	Mother			
Number of Possible Correct Responses 2,010	Total Number	1,745	257	8
	Percentages	87%	12%	01%

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Teacher's Name Still, Cindy School Bowie - Grade Three

Total Class Enrollment 30 Total Returns 27

Objectives and Test Items		Correct Responses	Incorrect Responses	Invalid Responses
1. To determine if students are aware of some of the personal qualities needed for job success . . .				
Mary		20	1	6
Thurman		21	0	6
Judy		2	19	6
Manuel		13	8	6
Esther		16	5	6
Lucy		15	5	7
2. To determine whether students' attitudes toward work as a part of life and a desirable segment of education are positive . . .				
Part A		13	1	13
Part B:	Dusting the classroom	22	5	0
	Riding your bicycle	25	2	0
	Straightening the books	7	20	0
	Jumping the "jump" rope	27	0	0
	Tap-dancing	26	1	0
	Cleaning the blackboard	5	22	0
	Dusting the erasers	5	22	0
3. To determine if students have an awareness of the various occupations related to community life . . .				
P.E. Teacher:	Helps children with spelling	24	3	0
	Directs traffic	25	2	0
	Helps children build strong bodies	25	2	0
Newspaper Boy:	Collects old newspapers	21	6	0
	Throws away garbage	26	0	1
	Throws newspapers	25	1	1
Bus Driver:	Makes ice cream	26	0	1
	Empties the garbage	23	3	1
	Obeys traffic rules	21	5	1
Telephone Repairman:	Works on wires	21	6	0

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Objectives and Test Items		Correct Responses	Incorrect Responses	Invalid Responses
	Plants flowers	25	1	1
	Waits on tables	22	4	1
Factory Workers:	Cuts away branches	12	9	6
	Works on an assembly-line	11	10	6
	Drives people across town	21	0	6
4. To determine if students have a basic knowledge about a few selected occupations including physical and mental requirements, duties, working conditions . . .				
Bus Driver:	Knows how to read street signs in town	18	9	0
	Helps people get across town	21	6	0
	Needs no special drivers' license	16	11	0
	Sells tickets or tokens	2	25	0
	Drives only cars	24	3	0
	Can make change	5	22	0
Life-guard:	Must have good eyesight	10	16	1
	Reads magazines while on duty	24	2	1
	Goes to school to learn to swim	20	6	1
	Sits on top of a tower	9	17	1
	Must be strong and not get tired easily	12	14	1
	Must be able to swim	19	7	1
Construction Worker:	Uses special tools and equipment in his work	16	10	1
	Always wears a uniform when he works	11	15	1
	Can measure large and small boards	8	18	1
	Is strong and able to lift heavy objects	8	18	1
	May belong to a "union"	3	23	1
	Builds only houses	19	7	1
Newspaper Boy:	Collects money	24	2	1
	Writes and prints the newspapers he sells	18	8	1
	Delivers newspapers	16	8	3
	Rolls papers for delivery	16	10	1
	Pays for the newspapers he sells	5	21	1
	Always drives a truck	24	2	1

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Objectives and Test Items		Correct Responses	Incorrect Responses	Invalid Responses
Garbage Collector:	Goes to work early in the mornings	26	0	1
	Works in rain or snow, hot or cold	14	12	1
	Drives a car in his job	21	5	1
	Lifts many garbage cans	7	19	1
	Helps people get rid of trash	15	11	1
	Goes to school to learn how to collect trash	22	4	1
Super-market Helper:	Bakes bread to sell	23	2	2
	Places cans and bottles on the empty shelves	13	13	1
	Puts the food in bags	22	4	1
	Dusts and cleans the display shelves	7	19	1
	Delivers eggs to the store	17	9	1
	Carries groceries to the customers' cars	5	21	1
5. To determine if students have the desire to work				
Part A		12	1	14
Part B:	Fireman	22	0	5
	Nurse			
	Teacher			
	Lifeguard			
	Newspaper Boy			
	Garbage Collector			
	Plumber			
	Policeman			
	Supermarket Helper			
	Hospital Worker			
Number of Possible Correct Responses 1,809	Total Number	1119	563	127
	Percentages	62%	31%	07%

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Teacher's Name Williams, Catherine School Ben Milam - Grade 3

Total Class Enrollment 33 Total Returns 31

Objectives and Test Items		Correct Responses	Incorrect Responses	Invalid Responses
1. To determine if students are aware of some of the personal qualities needed for job success . . .				
Mary		27	4	0
Thurman		31	0	0
Judy		10	20	1
Manuel		31	0	0
Esther		31	0	0
Lucy		22	9	0
2. To determine whether students' attitudes toward work as a part of life and a desirable segment of education are positive . . .				
Part A		31	0	0
Part B:	Dusting the classroom	31	0	0
	Riding your bicycle	31	0	0
	Straightening the books	30	1	0
	Jumping the "jump" rope	28	3	0
	Tap-dancing	26	5	0
	Cleaning the blackboard	31	0	0
	Dusting the erasers	30	1	0
3. To determine if students have an awareness of the various occupations related to community life . . .				
P.E. Teacher:	Helps children with spelling	30	1	0
	Directs traffic	26	5	0
	Helps children build strong bodies	25	6	0
Newspaper Boy:	Collects old newspapers	28	1	2
	Throws away garbage	28	1	2
	Throws newspapers	27	2	2
Bus Driver:	Makes ice cream	29	1	1
	Empties the garbage	29	1	1
	Obeys traffic rules	28	2	1
Telephone Repairman:	Works on wires	31	0	0

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Objectives and Test Items		Correct Responses	Incorrect Responses	Invalid Responses
	Plants flowers	31	0	0
	Waits on tables	31	0	0
Factory Workers:	Cuts away branches	30	1	0
	Works on an assembly-line	27	4	0
	Drives people across town	29	2	0
4.- To determine if students have a basic knowledge about a few selected occupations including physical and mental requirements, duties, working conditions . . .				
Bus Driver:	Knows how to read street signs in town	28	3	0
	Helps people get across town	30	1	0
	Needs no special drivers' license	4	27	0
	Sells tickets or tokens	9	22	0
	Drives only cars	27	4	0
	Can make change	22	9	0
Life-guard:	Must have good eyesight	30	1	0
	Reads magazines while on duty	27	4	0
	Goes to school to learn to swim	10	21	0
	Sits on top of a tower	15	16	0
	Must be strong and not get tired easily	28	3	0
	Must be able to swim	29	2	0
Construc-tion Worker:	Uses special tools and equipment in his work	30	1	0
	Always wears a uniform when he works	4	27	0
	Can measure large and small boards	27	4	0
	Is strong and able to lift heavy objects	19	12	0
	May belong to a "union"	5	26	0
	Builds only houses	18	13	0
Newspaper Boy:	Collects money	27	2	2
	Writes and prints the newspapers he sells	19	12	0
	Delivers newspapers	31	0	0
	Rolls papers for delivery	26	5	0
	Pays for the newspapers he sells	15	16	0
	Always drives a truck	23	8	0

BEST COPY AVAILABLE

Objectives and Test Items		Correct Responses	Incorrect Responses	Invalid Responses
Garbage Collector:	Goes to work early in the mornings	31	0	0
	Works in rain or snow, hot or cold	25	6	0
	Drives a car in his job	27	4	0
	Lifts many garbage cans	28	3	0
	Helps people get rid of trash	29	2	0
	Goes to school to learn how to collect trash	23	8	0
Supermarket Helper:	Bakes bread to sell	26	5	0
	Places cans and bottles on the empty shelves	26	5	0
	Puts the food in bags	29	2	0
	Dusts and cleans the display shelves	26	5	0
	Delivers eggs to the store	24	7	0
	Carries groceries to the customers' cars	31	0	0
5. To determine if students have the desire to work . . .				
Part A		31	0	0
Part B:	Motorcycle Racer	20	0	11
	Teacher			
	Paper Boy			
	Ballet Teacher			
	Fireman			
	Movie Star			
	Supermarket Helper			
	Bus Driver			
	Soldier			
	Nurse			
	Truck Driver			
	Trash Man			
	House Keeper			
Number of Possible Correct Responses 2,077	Total Number	1698	356	23
	Percentages	82%	17%	01%

BEST COPY AVAILABLE

Teacher's Name Barnett, Audrey School Ben Milam - Grade Four

Total Class Enrollment 34 Total Returns 34

Objectives and Test Items		Correct Responses	Incorrect Responses	Invalid Responses
1. To determine if students can identify and understand individual differences in people . . .				
Susan		32	2	0
David		31	3	0
Mary		30	4	0
Pam		30	4	0
Bob		32	2	0
2. To determine if students have a knowledge of occupations outside the community in business, industry, and government . . .				
Sheriff:	Drives a car	24	10	0
	Protects the people	30	4	0
	Sees that laws are obeyed	30	4	0
	Wears a badge	23	11	0
Factory Worker:	Works on an assembly-line	25	9	0
	Works in a coat and tie	24	10	0
	May belong to a union	25	9	0
	Works on a shift	17	17	0
Fisher-man:	Mends his nets	22	12	0
	Begins his day early	22	12	0
	Cleans his boat	25	9	0
	Keeps all the fish he catches	12	22	0
Grocery-man:	Puts food in bags	32	2	0
	Keeps groceries on the shelves	32	2	0
	Orders the stock	12	22	0
	Sells cars	31	3	0
Rancher:	Feeds cows	32	1	1
	Brands cattle	30	3	1
	Raises cattle	17	16	1
	Fixes fences	21	12	1
3. To determine if students are aware of the interrelation of jobs and the interdependence of workers . . .				
Banker:	Cashier at movie	30	4	0
	Lifeguard	30	4	0
	Grocery store checker	27	7	0
	Tax collector	32	2	0
	Fireman	28	6	0

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Objectives and Test Items		Correct Responses	Incorrect Responses	Invalid Responses
Long Distance Truck Driver:	Bus driver	34	0	0
	Delivery Man	29	5	0
	Taxi driver	30	4	0
	Airplane pilot	31	3	0
	Train engineer	29	5	0
Carpenter:	House painter	32	2	0
	Doctor	33	1	0
	Plumber	30	3	1
	Airplane pilot	32	2	0
	Secretary	30	4	0
Teacher:	Farmer	33	1	0
	Janitor	30	4	0
	Librarian	32	2	0
	Cafeteria employee	31	3	0
	Truck driver	32	2	0
Garbage Collector:	Banker	9	25	0
	Mayor	25	8	1
	Barber	18	16	0
	Water meter reader	26	8	0
	House painter	17	17	0
4. To determine if students are aware of ways in which knowledge and skills acquired at school are used on the job . . .				
Gas station attendant:	Makes change	29	5	0
	Fills out tickets for customers	16	18	0
	Takes pictures of customers	33	1	0
	Reads the numbers on the gasoline pump	26	8	0
	Helps people get rid of trash	33	1	0
Baker:	Uses fractions in making recipies smaller or larger	24	9	1
	Uses a map to tell him what ingredients to use	25	8	1
	Uses lots of flour and sugar	16	17	1
	Starts his job very early in the day	13	20	1
	Uses time and temperature when baking his products	23	10	1

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Objectives and Test Items		Correct Responses	Incorrect Responses	Invalid Responses
Secretary:	Tells her boss what to do	31	2	1
	Uses good manners when answering the telephone	24	9	1
	Uses a cash register	26	7	1
	Punctuates letters for her boss	26	7	1
	Spells words correctly when typing letters	28	5	1
Construction Worker:	Measures small boards and large boards	30	3	1
	Bakes bread	32	1	1
	Cuts pieces of lumber at different angles	28	5	1
	Gives first-aid	33	0	1
	Figures the cost of his materials.	24	9	1
Telephone Operator:	Uses good manners in handling calls	27	6	1
	Can remember numbers easily	12	21	1
	Makes telephones rings	20	13	1
	Says her words slowly and clearly	26	7	1
	Speaks in a friendly and pretty tone	25	8	1
5. To determine if students have an understanding of some of the factors involved in making a career choice				
Learn about many kinds of work		33	1	0
Take only the advise of your friends		33	1	0
Follow in your father's or mother's footsteps		25	9	0
Set some career goals for yourself		19	15	0
Get to know yourself and find out what you do best		25	9	0
Let your parents choose a career for you		23	11	0
If several occupations interest you find out as much as you can about each one		25	9	0
Depend on someone else to offer you a career		24	10	0
Assume you will find a job later in life		22	12	0
Develop some hobbies and find out what interests you have and what you enjoy		28	6	0
Number of Possible Correct Responses 2,890	Total Number	2238	626	26
	Percentages	77%	22%	01%

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Teacher's Name Ganter, Ann School Bowie - Grade Four

Total Class Enrollment 28 Total Returns 25

Objectives and Test Items		Correct Responses	Incorrect Responses	Invalid Responses
1. To determine if students can identify and understand individual differences in people . . .				
Susan		25	0	0
David		19	6	0
Mary		20	5	0
Pam		24	1	0
Bob		23	2	0
2. To determine if students have a knowledge of occupations outside the community in business, industry, and government . . .				
Sheriff:	Drives a car	11	14	0
	Protects the people	22	3	0
	Sees that laws are obeyed	24	1	0
	Wears a badge	13	12	0
Factory Worker:	Works on an assembly-line	23	2	0
	Works in a coat and tie	25	0	0
	May belong to a union	16	9	0
	Works on a shift	20	5	0
Fisherman:	Mends his nets	20	5	0
	Begins his day early	21	4	0
	Cleans his boat	19	6	0
	Keeps all the fish he catches	14	11	0
Groceryman:	Puts food in bags	24	1	0
	Keeps groceries on the shelves	25	0	0
	Orders the stock	12	13	0
	Sells cars	24	1	0
Rancher:	Feeds cows	24	1	0
	Brands cattle	25	0	0
	Raises cattle	20	5	0
	Fixes fences	21	4	0
3. To determine if students are aware of the interrelation of jobs and the interdependence of workers . . .				
Banker:	Cashier at movie	23	2	0
	Lifeguard	22	3	0
	Grocery store checker	20	5	0
	Tax collector	23	2	0
	Fireman	25	0	0

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Objectives and Test Items.		Correct Responses	Incorrect Responses	Invalid Responses
Long Distance Truck Driver:	Bus driver.	24	1	0
	Delivery Man.	19	6	0
	Taxi driver	20	5	0
	Airplane pilot	16	9	0
	Train engineer	20	5	0
Carpenter:	House painter	25	0	0
	Doctor	25	0	0
	Plumber	22	3	0
	Airplane pilot	25	0	0
	Secretary	25	0	0
Teacher:	Farmer	25	0	0
	Janitor	18	7	0
	Librarian	25	0	0
	Cafeteria employee	24	1	0
	Truck driver	25	0	0
Garbage Collector:	Banker	7	18	0
	Mayor	24	1	0
	Barber	17	8	0
	Water meter reader	16	9	0
	House painter	18	7	0
4. To determine if students are aware of ways in which knowledge and skills acquired at school are used on the job . . .				
Gas station attendant:	Makes change	20	5	0
	Fills out tickets for customers	5	20	0
	Takes pictures of customers	21	4	0
	Reads the numbers on the gasoline pump	20	5	0
	Helps people get rid of trash	21	4	0
Baker:	Uses fractions in making recipies smaller or larger	20	5	0
	Uses a map to tell him what ingredients to use	10	15	0
	Uses lots of flour and sugar	18	7	0
	Starts his job very early in the day	5	20	0
	Uses time and temperature when baking his products	19	6	0

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Objectives and Test Items		Correct Responses	Incorrect Responses	Invalid Responses
Secretary:	Tells her boss what to do	25	0	0
	Uses good manners when answering the telephone	23	2	0
	Uses a cash register	23	2	0
	Punctuates letters for her boss	18	7	0
	Spells words correctly when typing letters	24	1	0
Construction Worker:	Measures small boards and large boards	22	3	0
	Bakes bread	25	0	0
	Cuts pieces of lumber at different angles	19	6	0
	Gives first-aid	23	2	0
	Figures the cost of his materials	20	5	0
Telephone Operator:	Uses good manners in handling calls	23	2	0
	Can remember numbers easily	12	13	0
	Makes telephones rings	16	9	0
	Says her words slowly and clearly	19	6	0
	Speaks in a friendly and pretty tone	17	8	0
5. To determine if students have an understanding of some of the factors involved in making a career choice				
Learn about many kinds of work		24	1	0
Take only the advise of your friends		23	2	0
Follow in your father's or mother's footsteps		20	5	0
Set some career goals for yourself		23	2	0
Get to know yourself and find out what you do best		20	5	0
Let your parents choose a career for you		23	2	0
If several occupations interest you find out as much as you can about each one		22	3	0
Depend on someone else to offer you a career		25	0	0
Assume you will find a job later in life		21	4	0
Develop some hobbies and find out what interests you have and what you enjoy		23	2	0
Number of Possible Correct Responses 2,125	Total Number	1739	386	0
	Percentages	82%	18%	0%

BEST COPY AVAILABLE

Teacher's Name McQuaide, Betsi School Bowie - Grade Four

Total Class Enrollment 30 Total Returns 30

Objectives and Test Items		Correct Responses	Incorrect Responses	Invalid Responses
1. To determine if students can identify and understand individual differences in people . . .				
Susan		30	0	0
David		27	3	0
Mary		29	1	0
Pam		28	2	0
Bob		26	4	0
2. To determine if students have a knowledge of occupations outside the community in business, industry, and government . . .				
Sheriff:	Drives a car	13	17	0
	Protects the people	22	8	0
	Sees that laws are obeyed	26	4	0
	Wears a badge	13	17	0
Factory Worker:	Works on an assembly-line	29	1	0
	Works in a coat and tie	23	7	0
	May belong to a union	6	24	0
	Works on a shift	24	6	0
Fisherman:	Mends his nets	23	7	0
	Begins his day early	14	16	0
	Cleans his boat	18	12	0
	Keeps all the fish he catches	15	15	0
Groceryman:	Puts food in bags	29	1	0
	Keeps groceries on the shelves	24	6	0
	Orders the stock	24	6	0
	Sells cars	30	0	0
Rancher:	Feeds cows	30	0	0
	Brands cattle	30	0	0
	Raises cattle	22	8	0
	Fixes fences	16	14	0
3. To determine if students are aware of the interrelation of jobs and the interdependence of workers . . .				
Banker:	Cashier at movie	25	5	0
	Lifeguard	25	5	0
	Grocery store checker	26	4	0
	Tax collector	26	4	0
	Fireman	27	3	0

BEST COPY AVAILABLE

Objectives and Test Items		Correct Responses	Incorrect Responses	Invalid Responses
Long Distance Truck Driver:	Bus driver	24	6	0
	Delivery Man	11	19	0
	Taxi driver	27	3	0
	Airplane pilot	11	19	0
	Train engineer	29	1	0
Carpenter:	House painter	29	1	0
	Doctor	30	0	0
	Plumber	25	5	0
	Airplane pilot	28	2	0
	Secretary	29	1	0
Teacher:	Farmer	28	2	0
	Janitor	29	1	0
	Librarian	30	0	0
	Cafeteria employee	28	2	0
	Truck driver	30	0	0
Garbage Collector:	Banker	19	11	0
	Mayor	21	9	0
	Barber	19	11	0
	Water meter reader	27	3	0
	House painter	19	11	0
4. To determine if students are aware of ways in which knowledge and skills acquired at school are used on the job . . .				
Gas station attendant:	Makes change	26	4	0
	Fills out tickets for customers	12	18	0
	Takes pictures of customers	29	1	0
	Reads the numbers on the gasoline pump	29	1	0
	Helps people get rid of trash	29	1	0
Baker:	Uses fractions in making recipies smaller or larger	27	3	0
	Uses a map to tell him what ingredients to use	22	8	0
	Uses lots of flour and sugar	13	17	0
	Starts his job very early in the day	1	29	0
	Uses time and temperature when baking his products	30	0	0

BEST COPY AVAILABLE

Objectives and Test Items		Correct Responses	Incorrect Responses	Invalid Responses
Secretary:	Tells her boss what to do	30	0	0
	Uses good manners when answering the telephone	28	2	0
	Uses a cash register	20	10	0
	Punctuates letters for her boss	26	4	0
	Spells words correctly when typing letters	28	2	0
Construction Worker:	Measures small boards and large boards	30	0	0
	Bakes bread	29	1	0
	Cuts pieces of lumber at different angles	29	1	0
	Gives first-aid	29	1	0
	Figures the cost of his materials	28	2	0
Telephone Operator:	Uses good manners in handling calls	26	4	0
	Can remember numbers easily	6	24	0
	Makes telephones rings	23	7	0
	Says her words slowly and clearly	24	6	0
	Speaks in a friendly and pretty tone	26	4	0
5. To determine if students have an understanding of some of the factors involved in making a career choice				
Learn about many kinds of work		30	0	0
Take only the advise of your friends		30	0	0
Follow in your father's or mother's foot-steps		22	8	0
Set some career goals for yourself		26	4	0
Get to know yourself and find out what you do best		24	6	0
Let your parents choose a career for you		26	4	0
If several occupations interest you find out as much as you can about each one		26	4	0
Depend on someone else to offer you a career		27	3	0
Assume you will find a job later in life		23	7	0
Develop some hobbies and find out what interests you have and what you enjoy		23	7	0
Number of Possible Correct Responses 2,550	Total Number	2050	500	0
	Percentages	80%	20%	0%

BEST COPY AVAILABLE

Teacher's Name Park, Carol School Ben Milam - Grade Four

Total Class Enrollment 35 Total Returns 35

Objectives and Test Items		Correct Responses	Incorrect Responses	Invalid Responses
1. To determine if students can identify and understand individual differences in people . . .				
Susan		33	2	0
David		27	8	0
Mary		34	1	0
Pam		34	1	0
Bob		30	5	0
2. To determine if students have a knowledge of occupations outside the community in business, industry, and government . . .				
Sheriff:	Drives a car	28	7	0
	Protects the people	34	1	0
	Sees that laws are obeyed	35	0	0
	Wears a badge	30	5	0
Factory Worker:	Works on an assembly-line	28	6	1
	Works in a coat and tie	22	12	1
	May belong to a union	20	14	1
	Works on a shift	24	10	1
Fisher-man:	Mends his nets	23	12	0
	Begins his day early	29	6	0
	Cleans his boat	28	7	0
	Keeps all the fish he catches	19	16	0
Grocery-man:	Puts food in bags	33	2	0
	Keeps groceries on the shelves	31	4	0
	Orders the stock	25	10	0
	Sells cars	35	0	0
Rancher:	Feeds cows	34	1	0
	Brands cattle	34	1	0
	Raises cattle	25	10	0
	Fixes fences	26	9	0
3. To determine if students are aware of the interrelation of jobs and the interdependence of workers . . .				
Banker:	Cashier at movie	32	3	0
	Lifeguard	35	0	0
	Grocery store checker	33	2	0
	Tax collector	32	3	0
	Fireman	33	2	0

BEST COPY AVAILABLE

Objectives and Test Items		Correct Responses	Incorrect Responses	Invalid Responses
Long Distance Truck Driver:	Bus driver	32	3	0
	Delivery Man	25	10	0
	Taxi driver	30	5	0
	Airplane pilot	31	4	0
	Train engineer	29	6	0
Carpenter:	House painter	35	0	0
	Doctor	34	1	0
	Plumber	32	3	0
	Airplane pilot	34	1	0
	Secretary	35	0	0
Teacher:	Farmer	34	1	0
	Janitor	31	4	0
	Librarian	35	0	0
	Cafeteria employee	35	0	0
	Truck driver	34	1	0
Garbage Collector:	Banker	10	24	1
	Mayor	18	16	1
	Barber	14	20	1
	Water meter reader	19	15	1
	House painter	22	12	1
4. To determine if students are aware of ways in which knowledge and skills acquired at school are used on the job				
Gas station attendant:	Makes change	11	22	2
	Fills out tickets for customers	5	29	1
	Takes pictures of customers	33	1	1
	Reads the numbers on the gasoline pump	30	4	1
	Helps people get rid of trash	32	2	1
Baker:	Uses fractions in making recipies smaller or larger	23	12	0
	Uses a map to tell him what ingredients to use	31	4	0
	Uses lots of flour and sugar	19	16	0
	Starts his job very early in the day	14	21	0
	Uses time and temperature when baking his products	23	12	0

BEST COPY AVAILABLE

Objectives and Test Items		Correct Responses	Incorrect Responses	Invalid Responses
Secretary:	Tells her boss what to do	34	1	0
	Uses good manners when answering the telephone	34	1	0
	Uses a cash register	32	3	0
	Punctuates letters for her boss	28	7	0
	Spells words correctly when typing letters	31	4	0
Construction Worker:	Measures small boards and large boards	31	4	0
	Bakes bread	33	2	0
	Cuts pieces of lumber at different angles	31	4	0
	Gives first-aid	31	4	0
	Figures the cost of his materials	21	14	0
Telephone Operator:	Uses good manners in handling calls	30	5	0
	Can remember numbers easily	14	21	0
	Makes telephones rings	21	14	0
	Says her words slowly and clearly	29	6	0
	Speaks in a friendly and pretty tone	23	12	0
5. To determine if students have an understanding of some of the factors involved in making a career choice				
Learn about many kinds of work		32	3	0
Take only the advise of your friends		34	1	0
Follow in your father's or mother's footsteps		33	2	0
Set some career goals for yourself		34	1	0
Get to know yourself and find out what you do best		29	6	0
Let your parents choose a career for you		32	3	0
If several occupations interest you find out as much as you can about each one		33	2	0
Depend on someone else to offer you a career		35	0	0
Assume you will find a job later in life		29	6	0
Develop some hobbies and find out what interests you have and what you enjoy		32	3	0
Number of Possible Correct Responses 2,975	Total Number	2422	538	15
	Percentages	81%	18%	01%

BEST COPY AVAILABLE

Teacher's Name Steck; Dorothy School Ben Milam - Grade Four

Total Class Enrollment 35 Total Returns 33

Objectives and Test Items		Correct Responses	Incorrect Responses	Invalid Responses
1. To determine if students can identify and understand individual differences in people . . .				
Susan		26	6	1
David		25	7	1
Mary		29	3	1
Pam		28	4	1
Bob		27	5	1
2. To determine if students have a knowledge of occupations outside the community in business, industry, and government . . .				
Sheriff:	Drives a car	27	5	1
	Protects the people	27	5	1
	Sees that laws are obeyed	29	3	1
	Wears a badge	29	3	1
Factory Worker:	Works on an assembly-line	30	2	1
	Works in a coat and tie	27	5	1
	May belong to a union	23	9	1
	Works on a shift	26	6	1
Fisherman:	Mends his nets	29	3	1
	Begins his day early	26	6	1
	Cleans his boat	26	6	1
	Keeps all the fish he catches	19	13	1
Groceryman:	Puts food in bags	32	0	1
	Keeps groceries on the shelves	31	1	1
	Orders the stock	27	5	1
	Sells cars	32	0	1
Rancher:	Feeds cows	32	0	1
	Brands cattle	31	1	1
	Raises cattle	24	8	1
	Fixes fences	25	7	1
3. To determine if students are aware of the interrelation of jobs and the interdependence of workers . . .				
Banker:	Cashier at movie	31	0	2
	Lifeguard	27	4	2
	Grocery store checker	31	0	2
	Tax collector	28	3	2
	Fireman	31	0	2

BEST COPY AVAILABLE

Objectives and Test Items		Correct Responses	Incorrect Responses	Invalid Responses
Long Distance Truck Driver:	Bus driver	31	0	2
	Delivery Man	30	1	2
	Taxi driver	29	2	2
	Airplane pilot	28	3	2
	Train engineer	30	1	2
Carpenter:	House painter	31	0	2
	Doctor	31	0	2
	Plumber	30	1	2
	Airplane pilot	31	0	2
	Secretary	30	1	2
Teacher:	Farmer	31	0	2
	Janitor	29	2	2
	Librarian	30	1	2
	Cafeteria employee	30	1	2
	Truck driver	31	0	2
Garbage Collector:	Banker	10	21	2
	Mayor	27	4	2
	Barber	12	19	2
	Water meter reader	13	20	0
	House painter	18	13	2
4. To determine if students are aware of ways in which knowledge and skills acquired at school are used on the job . . .				
Gas station attendant:	Makes change	24	7	2
	Fills out tickets for customers	16	15	2
	Takes pictures of customers	27	4	2
	Reads the numbers on the gasoline pump	30	1	2
	Helps people get rid of trash	25	6	2
Baker:	Uses fractions in making recipies smaller or larger	28	3	2
	Uses a map to tell him what ingredients to use	29	2	2
	Uses lots of flour and sugar	17	14	2
	Starts his job very early in the day	12	19	2
	Uses time and temperature when baking his products	23	8	2

BEST COPY AVAILABLE

Objectives and Test Items		Correct Responses	Incorrect Responses	Invalid Responses
Secretary:	Tells her boss what to do	31	0	2
	Uses good manners when answering the telephone	29	2	2
	Uses a cash register	18	13	2
	Punctuates letters for her boss	25	6	2
	Spells words correctly when typing letters	30	1	2
Construction Worker:	Measures small boards and large boards	28	3	2
	Bakes bread	30	1	2
	Cuts pieces of lumber at different angles	29	2	2
	Gives first-aid	27	4	2
	Figures the cost of his materials	27	4	2
Telephone Operator:	Uses good manners in handling calls	29	2	2
	Can remember numbers easily	11	20	2
	Makes telephones rings	23	8	2
	Says her words slowly and clearly	24	7	2
	Speaks in a friendly and pretty tone	26	5	2
5. To determine if students have an understanding of some of the factors involved in making a career choice				
Learn about many kinds of work		29	2	2
Take only the advise of your friends		27	4	2
Follow in your father's or mother's footsteps		21	10	2
Set some career goals for yourself		19	12	2
Get to know yourself and find out what you do best		28	3	2
Let your parents choose a career for you		27	4	2
If several occupations interest you find out as much as you can about each one		26	5	2
Depend on someone else to offer you a career		29	2	2
Assume you will find a job later in life		28	3	2
Develop some hobbies and find out what interests you have and what you enjoy		29	2	2
Number of Possible Correct Responses 2,805	Total Number	2248	414	143
	Percentages	80%	15%	05%

BEST COPY AVAILABLE

Teacher's Name Catalena, Frank School Ben Milam - Grade Five

Total Class Enrollment 37 Total Returns 37

Objectives and Test Items	Correct Responses	Incorrect Responses	Invalid Responses
1. To determine if students are able to understand their own feelings and capabilities. . .			
Yes	35	2	0
No	33	4	0
Yes	29	8	0
Yes	36	1	0
Yes	35	2	0
No	23	9	0
2. To determine whether students have an understanding of the occupational areas related to their special interests, talents and skills. . .			
Dental hygienist	24	13	0
Newspaper ad salesman	27	10	0
Cook	30	6	1
Beautician	31	5	1
Mechanic	29	7	1
Secretary	33	3	1
3. To determine if students are acquainted with factors involved in making wise decisions and choices . . .			
Accept what happens because of your choice	30	5	1
Ask yourself, "What choices do I have?"	33	3	1
Make a decision	31	5	1
Ask yourself "What will happen if I make the wrong choice?"	32	4	1
4. To determine whether students are able to distinguish skills from interests . . .			
You play baseball well	25	12	0
You can repair bicycles	27	10	0
You enjoy riding horses	26	11	0
You can quickly thread your mother's sewing machine	24	13	0
You like to collect stamps	26	11	0
You make delicious brownies	23	14	0

BEST COPY AVAILABLE

Objectives and Test Items	Correct Responses	Incorrect Responses	Invalid Responses
You enjoy reading stories about animals	24	13	0
You enjoy watching football games on television	20	8	0
You can tap-dance to music	21	16	0
You are able to style hair	24	13	0
5. To determine whether students understand that special interests and talents can lead into occupations. . .			
Librarian	32	3	2
Postal clerk	23	7	2
Beautician	29	5	3
Disc jockey	23	10	4
Entertainer	25	8	4
Sports writer	27	6	4
6. To determine if students have explored special interests and developed and exercised talents with occupational potential . . .			
Part A:	24	6	7
Part B: Section 1	21	11	5
Section 2	22	10	5
Part C: Section 1	11	21	5
Section 2	8	23	6
Section 1	4	27	6
Section 2	5	26	6
Part D: Section 1	12	18	7
Section 2	13	17	7
Section 3	16	12	9
Section 4	15	13	9
Number of Possible Correct Responses 1,591 — Total Number	1060	432	99
Percentages	67%	27%	06%

BEST COPY AVAILABLE

Teacher's Name Helms, Kay School Bowie - Grade Five

Total Class Enrollment 26 Total Returns 24

Objectives and Test Items	Correct Responses	Incorrect Responses	Invalid Responses
1. To determine if students are able to understand their own feelings and capabilities. . .			
Yes	22	2	0
No	21	3	0
Yes	22	2	0
Yes	24	0	0
Yes	21	3	0
No	14	10	0
2. To determine whether students have an understanding of the occupational areas related to their special interests, talents and skills. . .			
Dental hygienist	17	7	0
Newspaper ad salesman	18	6	0
Cook	22	2	0
Beautician	23	1	0
Mechanic	24	0	0
Secretary	21	3	0
3. To determine if students are acquainted with factors involved in making wise decisions and choices . . .			
Accept what happens because of your choice	13	11	0
Ask yourself, "What choices do I have?"	8	16	0
Make a decision	4	20	0
Ask yourself "What will happen if I make the wrong choice?"	6	18	0
4. To determine whether students are able to distinguish skills from interests . . .			
You play baseball well.	10	14	0
You can repair bicycles	21	3	0
You enjoy riding horses	20	4	0
You can quickly thread your mother's sewing machine	18	6	0
You like to collect stamps	19	5	0
You make delicious brownies	14	10	0

BEST COPY AVAILABLE

Objectives and Test Items	Correct Responses	Incorrect Responses	Invalid Responses
You enjoy reading stories about animals	16	8	0
You enjoy watching football games on television	18	6	0
You can tap-dance to music	15	9	0
You are able to style hair	20	4	0
5. To determine whether students understand that special interests and talents can lead into occupations. . .			
Librarian	23	1	0
Postal clerk	21	3	0
Beautician	22	1	1
Disc jockey	22	2	0
Entertainer	20	4	0
Sports writer	20	4	0
6. To determine if students have explored special interests and developed and exercised talents with occupational potential . . .			
Part A:	23	0	1
Part B: Section 1	21	3	0
Section 2	21	2	1
Part C: Section 1	8	13	3
Section 2	5	13	6
Section 1	2	9	13
Section 2	1	8	15
Part D: Section 1	10	13	1
Section 2	11	8	5
Section 3	9	9	6
Section 4	11	6	7
Number of Possible Total Number	701	272	59
Correct Responses 1,032 Percentages	68%	26%	06%

BEST COPY AVAILABLE

Teacher's Name McNeil, Cladie School Ben Milam - Grade Five

Total Class Enrollment 38 Total Returns 37

Objectives and Test Items	Correct Responses	Incorrect Responses	Invalid Responses
1. To determine if students are able to understand their own feelings and capabilities. . .			
Yes	37	0	0
No	34	3	0
Yes	33	4	0
Yes	37	0	0
Yes	36	1	0
No	16	21	0
2. To determine whether students have an understanding of the occupational areas related to their special interests, talents and skills. . .			
Dental hygienist	31	6	0
Newspaper ad salesman	31	6	0
Cook	37	0	0
Beautician	35	2	0
Mechanic	37	0	0
Secretary	36	1	0
3. To determine if students are acquainted with factors involved in making wise decisions and choices . . .			
Accept what happens because of your choice	17	20	0
Ask yourself, "What choices do I have?"	11	26	0
Make a decision	11	26	0
Ask yourself "What will happen if I make the wrong choice?"	10	27	0
4. To determine whether students are able to distinguish skills from interests . . .			
You play baseball well	21	16	0
You can repair bicycles	27	10	0
You enjoy riding horses	27	10	0
You can quickly thread your mother's sewing machine	24	13	0
You like to collect stamps	23	14	0
You make delicious brownies	28	9	0

BEST COPY AVAILABLE

Objectives and Test Items	Correct Responses	Incorrect Responses	Invalid Responses
You enjoy reading stories about animals	31	6	0
You enjoy watching football games on television	33	4	0
You can tap-dance to music	31	6	0
You are able to style hair	28	9	0
5. To determine whether students understand that special interests and talents can lead into occupations. . .			
Librarian	24	12	1
Postal clerk	31	5	1
Beautician	33	3	1
Disc jockey	25	11	1
Entertainer	27	9	1
Sports writer	25	11	1
6. To determine if students have explored special interests and developed and exercised talents with occupational potential . . .			
Part A:	29	7	1
Part B: Section 1	26	11	0
Section 2	25	12	0
Part C: Section 1	13	24	0
Section 2	13	24	0
Section 1	13	24	0
Section 2	12	25	0
Part D: Section 1	11	26	0
Section 2	11	26	0
Section 3	10	27	0
Section 4	9	28	0
Number of Possible Correct Responses 1,591 — Total Number	1059	525	7
Percentages	66%	33%	01%

BEST COPY AVAILABLE

Teacher's Name Merka, Ella School Ben Milam - Grade Five

Total Class Enrollment 37 Total Returns 37

Objectives and Test Items	Correct Responses	Incorrect Responses	Invalid Responses
1. To determine if students are able to understand their own feelings and capabilities. . .			
Yes	37	0	0
No	34	3	0
Yes	29	8	0
Yes	37	0	0
Yes	33	4	0
No	18	19	0
2. To determine whether students have an understanding of the occupational areas related to their special interests, talents and skills. . .			
Dental hygienist	19	18	0
Newspaper ad salesman	32	5	0
Cook	36	1	0
Beautician	33	4	0
Mechanic	33	4	0
Secretary	31	6	0
3. To determine if students are acquainted with factors involved in making wise decisions and choices . . .			
Accept what happens because of your choice	23	14	0
Ask yourself, "What choices do I have?"	11	26	0
Make a decision	10	27	0
Ask yourself "What will happen if I make the wrong choice?"	12	25	0
4. To determine whether students are able to distinguish skills from interests . . .			
You play baseball well	20	17	0
You can repair bicycles	26	11	0
You enjoy riding horses	24	13	0
You can quickly thread your mother's sewing machine	25	12	0
You like to collect stamps	27	10	0
You make delicious brownies	24	13	0

BEST COPY AVAILABLE

Objectives and Test Items	Correct Responses	Incorrect Responses	Invalid Responses
You enjoy reading stories about animals	28	9	0
You enjoy watching football games on television	22	15	0
You can tap-dance to music	22	5	0
You are able to style hair	25	12	0
5. To determine whether students understand that special interests and talents can lead into occupations. . .			
Librarian	32	5	0
Postal clerk	30	7	0
Beautician	33	4	0
Disc jockey	25	12	0
Entertainer	27	10	0
Sports writer	27	10	0
6. To determine if students have explored special interests and developed and exercised talents with occupational potential . . .			
Part A:	36	0	1
Part B: Section 1	23	12	2
Section 2	24	9	4
Part C: Section 1	8	25	4
Section 2	8	23	6
Section 1	7	24	6
Section 2	8	23	6
Part D: Section 1	10	14	4
Section 2	18	14	5
Section 3	22	9	6
Section 4	21	9	7
Number of Possible Total Number	1049	491	51
Correct Responses 1,591 Percentages	66%	31%	03%

BEST COPY AVAILABLE

Teacher's Name Walston, Winnifred School Bowie - Grade Five

Total Class Enrollment 26 Total Returns 22

Objectives and Test Items	Correct Responses	Incorrect Responses	Invalid Responses
1. To determine if students are able to understand their own feelings and capabilities. . .			
Yes	22	0	0
No	21	1	0
Yes	20	2	0
Yes	22	0	0
Yes	21	1	0
No	16	6	0
2. To determine whether students have an understanding of the occupational areas related to their special interests, talents and skills. . .			
Dental hygienist	19	3	0
Newspaper ad salesman	21	1	0
Cook	22	0	0
Beautician	22	0	0
Mechanic	22	0	0
Secretary	22	0	0
3. To determine if students are acquainted with factors involved in making wise decisions and choices . . .			
Accept what happens because of your choice	10	12	0
Ask yourself, "What choices do I have?"	9	13	0
Make a decision	6	16	0
Ask yourself "What will happen if I make the wrong choice?"	10	12	0
4. To determine whether students are able to distinguish skills from interests . . .			
You play baseball well	8	14	0
You can repair bicycles	21	1	0
You enjoy riding horses	22	0	0
You can quickly thread your mother's sewing machine	18	4	0
You like to collect stamps	20	2	0
You make delicious brownies	17	5	0

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Objectives and Test Items	Correct Responses	Incorrect Responses	Invalid Responses
You enjoy reading stories about animals	22	0	0
You enjoy watching football games on television	21	1	0
You can tap-dance to music	18	4	0
You are able to style hair	20	2	0
5. To determine whether students understand that special interests and talents can lead into occupations. . .			
Librarian	21	1	0
Postal clerk	21	1	0
Beautician	21	0	1
Disc jockey	21	1	0
Entertainer	20	2	0
Sports writer	21	1	0
6. To determine if students have explored special interests and developed and exercised talents with occupational potential . . .			
Part A:	19	1	2
Part B: Section 1	15	7	0
Section 2	14	8	0
Part C: Section 1	14	8	0
Section 2	15	7	0
Section 1	16	6	0
Section 2	16	6	0
Part D: Section 1	17	5	0
Section 2	17	4	1
Section 3	15	6	1
Section 4	14	2	2
Number of Possible Correct Responses 946 — Total Number	769	170	7
Percentages	81%	18%	01%

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APPENDIX A

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SUMMARY REPORT OF STUDENT REACTIONS

Grade Level	School	Student Population Groups	Total Returns	Correct Responses	Incorrect Responses	Invalid Responses
1	Milam	Code *A	31	96%	03%	01%
1	Milam	Code *B	32	76%	23%	01%
1	Milam	Code *C	31	90%	05%	05%
1	Bowie	Code *D	30	77%	14%	09%
1	Milam	Code *E	28	63%	29%	08%
1	Bowie	Code *F	27	89%	06%	05%
2	Milam	Code *G	33	85%	14%	01%
2	Bowie	Code *H	31	77%	22%	01%
2	Milam	Code *I	25	72%	25%	03%
2	Milam	Code *J	31	83%	14%	03%
2	Milam	Code *K	31	80%	19%	01%
2	Bowie	Code *L		DID NOT PARTICIPATE		
3	Bowie	Code *M	31	62%	22%	16%
3	Milam	Code *N	30	88%	11%	01%
3	Milam	Code *O	30	82%	17%	01%
3	Milam	Code *P	30	87%	12%	01%
3	Bowie	Code *Q	27	62%	31%	07%
3	Milam	Code *R	31	82%	17%	01%
4	Milam	Code *S	34	77%	22%	01%
4	Bowie	Code *T	25	82%	18%	0%
4	Bowie	Code *U	30	80%	20%	0%
4	Milam	Code *V	35	81%	18%	01%

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Grade Level	School	Student Population Groups	Total Returns	Correct Responses	Incorrect Responses	Invalid Responses
4	Milam	Code *W	33	80%	15%	05%
5	Milam	Code *X	37	67%	27%	06%
5	Bowie	Code *Y	24	68%	26%	06%
5	Milam	Code *Z	37	66%	33%	01%
5	Milam	Code *AA	37	66%	31%	03%
5	Bowie	Code *BB	22	81%	18%	01%

* - See Teacher Codes to Student Population Groups

Teacher Codes to
Student Population Groups

A - Dooley, Ola Mae

B - Drgac, Annie Laurie

C - Hall, Eddie Lois

D - Hatfield, Anne

E - Robison, Mary

F - Streetman, Mozelle

G - Drapeau, Arlene

H - Giesenschlag, Ruth

I - Hatchett, Pauline

J - Herrera, Betty

K - Hix, Martha

L - Piwonka, Lillian

M - Guice, Sandra

N - LaBarbera, Ruth

O - Loyd, Frances

P - Mabry, Mary

Q - Still, Cindy

R - Williams, Catherine

S - Barnett, Audrey

T - Ganter, Ann

U - McQuaide, Betsi

V - Park, Carol

W - Steck, Dorothy

X - Catalena, Frank

Y - Helms, Kay

Z - McNeil, Cladie

AA - Merka, Ella

BB - Walston, Winnifred

APPENDIX B

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INSTRUCTIONAL STAFF REACTION FORM

IN ACCORDANCE WITH THE PROPOSAL FOR FUNDING THE "AWARENESS TO THE WORLD OF WORK" PROJECT, AN EVALUATION IS REQUIRED. YOUR RESPONSE TO THE FOLLOWING QUESTIONS WITH REGARD TO THE OCCUPATIONAL AWARENESS PROGRAM WILL PROVIDE VALUABLE FEEDBACK INFORMATION FOR THE EVALUATORS. IF ADDITIONAL SPACE IS NEEDED FOR COMMENTS OR SUGGESTIONS, PLEASE USE THE BACK SIDES OF THESE SHEETS.

I. USE A CHECK MARK UNDER THE "YES" OR "NO" COLUMN TO INDICATE YOUR REACTION TO THE FOLLOWING QUESTIONS.

YES	NO	
___	___	1. DO YOU THINK THE OCCUPATIONAL AWARENESS IN-SERVICE PROGRAMS WERE INFORMATIVE?
___	___	2. HAVE YOU BEEN ABLE TO USE OR ADAPT TO YOUR OCCUPATIONAL AWARENESS PROGRAM SOME OF THE MATERIALS AND ACTIVITIES SUGGESTED TO YOU AT THESE IN-SERVICE SESSIONS?
___	___	3. WERE THE INDIVIDUAL TEACHER-COORDINATOR CONFERENCES HELPFUL TO YOU INSOFAR AS PROVIDING YOU WITH IDEAS FOR INCORPORATING OCCUPATIONAL INFORMATION INTO YOUR TEACHING?
___	___	4. HAVE YOU BEEN ADEQUATELY PROVIDED WITH OCCUPATIONAL RESOURCE MATERIALS?
___	___	5. IS THE ROTATION OF OCCUPATIONAL AWARENESS RESOURCE MATERIALS BETWEEN THE LOVIE AND DEL PLAN ELEMENTARY SCHOOL CAMPUSES SATISFACTORY?
___	___	6. HAVE YOUR STUDENTS GENERALLY ENJOYED THE OCCUPATIONALLY-RELATED ACTIVITIES THEY HAVE ENGAGED IN THIS YEAR?
___	___	7. HAVE THE MONTHLY REPORTS OF THE ADVISORY COUNCIL FOR TECHNICAL-VOCATIONAL EDUCATION IN TEXAS (ACTVE) HELPED TO MAKE YOU AWARE OF CURRENT DEVELOPMENTS IN CAREER EDUCATION IN OUR STATE?
___	___	8. IS THERE A NEED FOR A LOCAL RESOURCE GUIDE IN OCCUPATIONAL AWARENESS?
___	___	9. DID THE CONCEPTS AND OBJECTIVES SET UP BY GRADE LEVEL PROVIDE YOU WITH SUFFICIENT GUIDELINES FOR DEVELOPING A PROGRAM OF OCCUPATIONAL AWARENESS IN YOUR CLASSROOM?

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YES NO

___ ___ 10. DO YOU NOW HAVE A BETTER UNDERSTANDING OF THE OCCUPATIONAL AWARENESS PROGRAM THAN YOU DID WHEN IT WAS FIRST IMPLEMENTED?

___ ___ 11. IS THERE A NEED FOR OCCUPATIONAL AWARENESS AMONG ELEMENTARY SCHOOL CHILDREN IN BRYAN?

___ ___ 12. ARE THE OVERALL OBJECTIVES OF THE OCCUPATIONAL AWARENESS PROGRAM REALISTIC?

___ ___ 13. CAN OCCUPATIONAL INFORMATION BE RELATED TO THE BASIC ELEMENTARY SCHOOL SUBJECTS OF ARITHMETIC, LANGUAGE ARTS, READING, SCIENCE, AND SOCIAL STUDIES?

___ ___ 14. DO YOU FAVOR THE ABOVE "INTERDISCIPLINARY" APPROACH AS A MEANS OF MAKING ELEMENTARY STUDENTS MORE AWARE OF THE WORLD OF WORK?

___ ___ 15. ARE YOU A PART OF THE OVERALL CAREER EDUCATION PROGRAM IN OUR SCHOOL SYSTEM?

___ ___ 16. DO YOU THINK YOU HAVE SUCCESSFULLY MET THE OBJECTIVES OF THE OCCUPATIONAL AWARENESS PROGRAM AT YOUR GRADE LEVEL?

___ ___ 17. HAVE YOU DEVELOPED A VARIETY OF ACTIVITIES TO BE USED IN TEACHING EACH OCCUPATIONAL AWARENESS CONCEPT AT YOUR GRADE LEVEL?

___ ___ 18. HAVE YOU FULFILLED THE OVERALL OBJECTIVES OF THE OCCUPATIONAL AWARENESS PROGRAM?

II. PLACE A CHECK MARK BESIDE THE RESOURCE MATERIALS LISTED BELOW WHICH HAVE BEEN HELPFUL TO YOU IN IMPLEMENTING A PROGRAM OF OCCUPATIONAL AWARENESS.

___ "CAREER TRANSPARENCIES," (1-40), PRODUCED BY THE REGION XIII EDUCATION SERVICE CENTER

___ "DISCUSSION GUIDE FOR COUNSELORS AND TEACHERS FOR USING CAREER TRANSPARENCIES (GRADES 1-6)," PRODUCED BY THE REGION XIII EDUCATION SERVICE CENTER

___ COUNSELOR'S GUIDE TO MANPOWER INFORMATION, AN ANNOTATED BIBLIOGRAPHY OF GOVERNMENT PUBLICATIONS

___ CURRICULUM BULLETINS FROM ABILENE I.S.D., HOUSTON I.S.D., AND LEVELLAND I.S.D.

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____ DICTIONARY OF OCCUPATIONAL TITLES, VOL. I, PUBLICATION OF THE U.S. DEPARTMENT OF LABOR

____ ELEMENTARY GUIDE FOR CAREER DEVELOPMENT (GRADES 1-6) BY LEE LANS

____ OCCUPATIONAL ORIENTATION IN THE ELEMENTARY SCHOOLS BY WILLA NORRIS, A RESOURCE TEXT

____ "OCCUPATIONAL INFORMATION ADDRESS FILE"

____ OCCUPATIONAL OUTLOOK HANDBOOK, 1970-71, PUBLICATION OF THE U.S. DEPARTMENT OF LABOR

____ PROJECT DEVISE PUBLICATION BY DARREL W. COBURN, DEVISE - A PLAN TO HELP THEM (TEACHER'S GUIDE)

____ PROJECT DEVISE PUBLICATION BY DARREL W. COBURN, WORKERS FROM A TO Z

____ "WORLD OF WORK" FILMSTRIPS, K-3 SERIES AND 4-6 SERIES

____ "WORLD OF WORK" GAME

III. WHAT SUGGESTIONS CAN YOU OFFER FOR A MORE EFFECTIVE PROGRAM OF OCCUPATIONAL AWARENESS IN 1972-73?

(INSTRUCTOR'S NAME, OPTIONAL) (GRADE LEVEL)

APPENDIX C

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STUDENT REACTION FORM

GRADE 1

1. THE SCHOOL JANITOR HAS AN IMPORTANT JOB. BELOW, THERE IS A CHECK MARK BESIDE THE SCHOOL JANITOR. (PUT CHECKS IN THE BLANKS BY THE OTHER WORKERS LISTED IF THEIR JOBS ARE NEEDED IN THE WORLD OF WORK.)

✓ SCHOOL JANITOR	____ SCHOOL COUNSELOR	____ DOCTOR
____ CAR MECHANIC	____ HOMEMAKER	____ SCHOOL SECRETARY
____ SCHOOL COOK	____ SOLDIER	____ GAS STATION WORKER

2. THIS YEAR AT SCHOOL, YOU TALKED ABOUT PEOPLE AND THEIR WORK. SINCE WORK IS GOOD FOR PEOPLE, IT HAS "YES" WRITTEN BY IT. READ EACH SENTENCE BELOW. IF YOU THINK THE SENTENCE IS RIGHT, PUT "YES" IN THE BLANK. IF YOU THINK THE SENTENCE IS WRONG, PUT "NO" IN THE BLANK.

YES 1. WORK IS GOOD FOR PEOPLE.
____ 2. THERE ARE MANY KINDS OF WORK.
____ 3. PEOPLE WORK FOR MANY REASONS.
____ 4. WE EARN MONEY THROUGH WORK.
____ 5. JOBS MAKE SCHOOL IMPORTANT.
____ 6. PEOPLE LEARN TO DO (SPECIAL) JOBS.

3. AN OCCUPATION IS A JOB. WHICH OF THE FOLLOWING ALSO MEANS OCCUPATION? (CHECK ONLY ONE.)

____ THE WORLD OF WORK
____ A TYPE OF WORK
____ LOTS OF WORKERS

4. DO YOU THINK IT IS GOOD TO WORK? (CIRCLE ONE.) YES NO

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DRAW A LINE TO THE TOOL OR SYMBOL WHICH BEST MATCHES EACH WORKER BELOW:

SCHOOL JANITOR

POLICEMAN

TAXI DRIVER

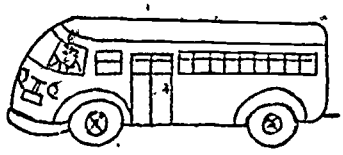
FIREMAN

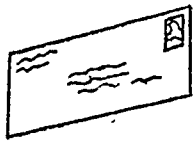
SCHOOL BUS DRIVER

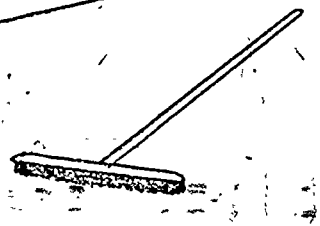
POSTMAN

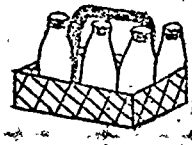
SCHOOL SECRETARY

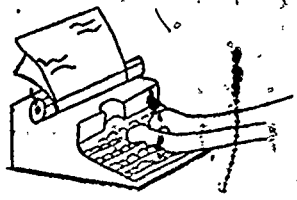
MILKMAN











5. A MILKMAN'S JOB IS TO DELIVER MILK TO HOMES. BESIDE THAT STATEMENT BELOW IS A CHECK MARK. (TELL WHAT THE OTHER WORKERS DO BY COMPLETING EACH STATEMENT WITH A CHECK MARK.)

A MILKMAN'S JOB IS TO . . . . . ____ FIX FLATS.

____ DELIVER MAIL.

✓ DELIVER MILK TO HOMES.

A TAXI DRIVER'S JOB IS TO . . . . . ____ MAKE PEOPLE WELL.

____ CARRY PEOPLE ACROSS TOWN.

____ TEACH CHILDREN.

A POLICEMAN'S JOB IS TO . . . . . ____ TRAIN ANIMALS.

____ BAKE BREAD.

____ DIRECT TRAFFIC.

A POSTMAN'S JOB IS TO . . . . . ____ CLEAN HOUSE.

____ DELIVER MAIL.

____ HELP SICK PEOPLE.

A FIREMAN'S JOB IS TO . . . . . ____ PUT OUT FIRES.

____ FIX CARS.

____ BUILD HOUSES.

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STUDENT REACTION FORM

GRADE 2

1. COOPERATION IS THE SAME AS TEAMWORK. WHICH OF THE FOLLOWING ALSO MEANS COOPERATION? (CHECK ONLY ONE.)

____ WORKING ALONE

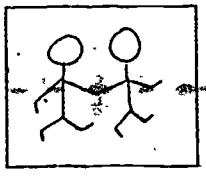
____ WORKING TOGETHER

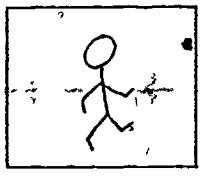
____ WORKING FOR SOMEONE

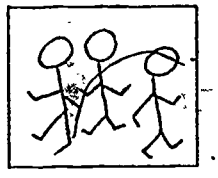
2. A MILKMAN SOMETIMES WORKS IN THE AREA AROUND YOUR SCHOOL. BELOW, THERE IS A CHECK MARK BESIDE THE MILKMAN. (USE CHECKS TO SHOW WHAT OTHER WORKERS YOU COULD FIND WORKING NEAR YOUR SCHOOL.)

____ POSTMAN	____ FIREMAN	____ FARMER
____ ASTRONAUT	✓ MILKMAN	____ GARBAGE COLLECTOR
____ POLICEMAN	____ SOLDIER	____ AIRPLANE PILOT
____ JUDGE	____ WEATHERMAN	____ TAXI DRIVER

3. WHICH PICTURE BELOW IS A TEAM? (CIRCLE ONLY ONE.)







WHEN MAKING PAPER CHAINS IN CLASS, YOU MUST DO YOUR WORK IN PROPER ORDER. NOW, WHAT IS THAT ORDER? (SINCE COLLECTING SUPPLIES IS THE FIRST THING YOU DO, IT HAS A "1" BY IT. PUT A "2" BY THE BLANK THAT IS THE SECOND THING YOU DO AND SO ON.)

____ GLUING STRIPS TOGETHER

1 COLLECTING SUPPLIES

____ PUTTING SUPPLIES AWAY

____ CLEANING UP MESS

____ CUTTING PAPER STRIPS

____ HANGING PAPER CHAINS

4. A CARPENTER BELONGS TO A FAMILY OF WORKERS. BELOW, THERE IS A CHECK MARK BESIDE THE CARPENTER. WHAT OTHER WORKERS LISTED BELOW BELONG TO THE "CONSTRUCTION TRADES" FAMILY? (USE CHECK MARKS.)

____ DOCTOR	____ MILKMAN	____ NEWSPAPER REPORTER
____ AIRPLANE PILOT	____ PLUMBER	____ ACTOR
✓ CARPENTER	____ JUDGE	____ ELECTRICIAN

5. A FARMER GROWS FOODS. BELOW, THERE IS A CHECK MARK BESIDE THE FARMER. WHAT OTHER WORKERS LISTED BELOW ALSO MAKE OR PRODUCE THINGS? (USE CHECK MARKS.)

____ POSTMAN	✓ FARMER	____ ASTRONAUT
____ BAKER	____ WEATHERMAN	____ FACTORY WORKER
____ FIREMAN	____ POLICEMAN	____ MECHANIC

A TAXI DRIVER HELPS PEOPLE. BELOW, THERE IS A CHECK MARK BESIDE THE TAXI DRIVER. WHAT OTHER WORKERS LISTED BELOW ALSO HELP PEOPLE BUT DO NOT MAKE OR PRODUCE THINGS? (USE CHECK MARKS.)

____ FACTORY WORKER	____ FARMER
____ WAITRESS	____ TELEPHONE REPAIRMAN
____ TELEPHONE OPERATOR	____ CABINETMAKER
✓ TAXI DRIVER	____ JANITOR

STUDENT REACTION FORM

GRADE 3

1. EVERYONE HAS SOME GOOD QUALITIES. WORKERS MUST HAVE MANY GOOD QUALITIES. IN EACH STORY BELOW, A CERTAIN "WORKER QUALITY" IS DISPLAYED. THERE IS A QUESTION AT THE END OF EACH STORY. READ EACH STORY AND PUT A CHECK MARK UNDER "YES" OR "NO." THIS WILL TELL YOUR TEACHER IF YOU UNDERSTAND EACH WORKER QUALITY.

YES	NO	
____	____	MARY'S TEACHER GIVES SPELLING HOMEWORK. MARY COMES TO SCHOOL THE NEXT DAY AND TELLS THE TEACHER, "I FORGOT TO DO MY HOMEWORK." IS MARY ACCEPTING HER PART IN SCHOOL?
____	____	THURMAN FOUND 40¢ ON THE PLAYGROUND. HIS BEST FRIEND TELLS HIM TO KEEP IT. SHOULD THURMAN TRY TO FIND THE PERSON WHO LOST THE MONEY AND GIVE IT BACK?
____	____	JUDY SAW JOE HIT ANOTHER BOY IN FUN. SHE RAN TO THE TEACHER AND TOLD HER. SHOULD SHE HAVE GONE TO THE TEACHER?
____	____	THE TEACHER JUST FINISHED GIVING DIRECTIONS FOR THE MATH PAPER. SHE ASKED, "ARE THERE ANY QUESTIONS?" NO HANDS RAISED. TEN MINUTES LATER, MANUEL ASKED, "WHAT DO I DO?" DID MANUEL FOLLOW DIRECTIONS?
____	____	ESTHER IS A HELPER FOR THE DAY. SHE FORGOT THAT SHE CLEANS THE TABLES AT LUNCH AND WENT OUT TO PLAY INSTEAD OF DOING HER JOB. WAS SHE DEPENDABLE?
____	____	LUCY'S BEST FRIEND ASKED TO USE HER HAIRBRUSH. LUCY SAID, "NO, MY MOTHER SAID I SHOULDN'T LET OTHER PEOPLE USE MY BRUSH." WAS LUCY RIGHT NOT TO SHARE HER BRUSH WITH HER BEST FRIEND?

2. DO YOU THINK IT IS GOOD TO WORK? (CIRCLE ONE:) — YES — NO

WORK CAN BE FUN OR SOMETIMES IT IS SOMETHING WE HAVE TO DO. DOING MATH PROBLEMS IS A FORM OF WORK. BELOW, DOING MATH PROBLEMS HAS A CHECK BESIDE IT. PUT A CHECK BESIDE ANYTHING ELSE LISTED THAT IS A FORM OF WORK.

- ✓ DOING MATH PROBLEMS
- ____ DUSTING THE CLASSROOM
- ____ RIDING YOUR BICYCLE

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____ STRAIGHTENING THE BOOKS.

____ JUMPING THE "JUMP" ROPE

____ TAP-DANCING

____ CLEANING THE BLACKBOARD

____ DUSTING THE ERASERS

3. THE TELEPHONE OPERATOR HELPS PEOPLE GET THEIR CALLS THROUGH. BELOW, THERE IS A CHECK MARK BESIDE THE TELEPHONE OPERATOR HELPS PEOPLE GET THEIR CALLS THROUGH. THE TELEPHONE OPERATOR DOES NOT MAKE CHANGE OR PUT IN TELEPHONES. ALL THE OTHER WORKERS LISTED BELOW DO CERTAIN JOBS. PUT A CHECK MARK BESIDE EACH JOB THAT EACH WORKER DOES.

THE TELEPHONE OPERATOR:
- ____ MAKES CHANGE.
- ✓ HELPS PEOPLE GET THEIR CALLS THROUGH.
- ____ PUTS IN TELEPHONES.

THE P.E. TEACHER:
- ____ HELPS CHILDREN WITH SPELLING.
- ____ DIRECTS TRAFFIC.
- ____ HELPS CHILDREN BUILD STRONG BODIES.

THE NEWSPAPER BOY:
- ____ COLLECTS OLD NEWSPAPERS.
- ____ THROWS AWAY GARBAGE.
- ____ THROWS NEWSPAPERS.

THE BUS DRIVER:
- ____ MAKES ICE CREAM.
- ____ EMPTIES THE GARBAGE.
- ____ OBEYS TRAFFIC RULES.

THE TELEPHONE REPAIRMAN:
- ____ WORKS ON WIRES.
- ____ PLANTS FLOWERS.
- ____ WAITS ON TABLES.

THE FACTORY WORKER:

____ CUTS AWAY BRANCHES.

____ WORKS ON AN ASSEMBLY-LINE.

____ DRIVES PEOPLE ACROSS TOWN.

4. SOME WORKERS HAVE SKILLS AND KNOW-HOW THAT MAKE A CERTAIN JOB RIGHT FOR THEM. SINCE THE SERVICE STATION WORKER SELLS GAS AND OIL, WORKS IN ALL WEATHER, WEARS A UNIFORM, AND CLEANS WINDSHIELDS, THESE STATEMENTS BELOW HAVE CHECK MARKS BESIDE THEM. THE SERVICE STATION WORKER DOES NOT GO TO SCHOOL TO LEARN HIS JOB AND HE DOES NOT PUT IN TELEPHONES. PUT A CHECK BESIDE THE FOUR STATEMENTS BELOW THAT APPLY TO EACH OF THE OTHER WORKERS' JOBS.

THE SERVICE STATION WORKER . . . .

____ GOES TO SCHOOL TO LEARN HIS JOB.

✓ SELLS GAS AND OIL.

✓ WORKS IN ALL WEATHER.

____ PUTS IN TELEPHONES.

✓ WEARS A UNIFORM.

✓ CLEANS WINDSHIELDS.

THE BUS DRIVER: . . . . . .

____ KNOWS HOW TO READ STREET SIGNS IN TOWN.

____ HELPS PEOPLE GET ACROSS TOWN.

____ NEEDS NO SPECIAL DRIVER'S LICENSE.

____ SELLS TICKETS OR TOKENS.

____ DRIVES ONLY CARS.

____ CAN MAKE CHANGE.

THE LIFEGUARD . . . . . ____ MUST HAVE GOOD EYESIGHT.

____ READS MAGAZINES WHILE ON DUTY.

____ GOES TO SCHOOL TO LEARN TO SWIM.

____ SITS ON TOP OF A TOWER.

____ MUST BE STRONG AND NOT GET TIRED EASILY.

____ MUST BE ABLE TO SWIM.

THE CONSTRUCTION WORKER . . . . . ____ USES SPECIAL TOOLS AND EQUIPMENT IN HIS WORK.

____ ALWAYS WEARS A UNIFORM WHEN HE WORKS.

____ CAN MEASURE LARGE AND SMALL BOARDS.

____ IS STRONG AND ABLE TO LIFT HEAVY OBJECTS.

____ MAY BELONG TO A "UNION."

____ BUILDS ONLY HOUSES.

THE NEWSPAPER BOY . . . . . ____ COLLECTS MONEY.

____ WRITES AND PRINTS THE NEWSPAPERS HE SELLS.

____ DELIVERS NEWSPAPERS.

____ ROLLS PAPERS FOR DELIVERY.

____ PAYS FOR THE NEWSPAPERS HE SELLS.

____ ALWAYS DRIVES A TRUCK.

THE GARBAGE COLLECTOR . . . . . ____ GOES TO WORK EARLY IN THE MORNING.

____ WORKS IN RAIN OR SNOW, HOT OR COLD.

____ DRIVES A CAR IN HIS JOB.

____ LIFTS MANY GARBAGE CANS.

____ HELPS PEOPLE GET RID OF TRASH.

____ GOES TO SCHOOL TO LEARN HOW TO COLLECT TRASH.

THE SUPERMARKET HELPER . . . . . ____ BAKES BREAD TO SELL.

____ PLACES CANS AND BOTTLES ON THE EMPTY SHELVES.

____ PUTS THE FOOD IN BAGS.

____ DUSTS AND CLEANS THE DISPLAY SHELVES.

____ DELIVERS EGGS TO THE STORE.

____ CARRIES GROCERIES TO THE CUSTOMERS' CARS.

5. DO YOU WANT A JOB WHEN YOU FINISH SCHOOL? (CIRCLE ONE) YES NO

WHAT DO YOU WANT TO BE? _____

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STUDENT REACTION FORM

GRADE 4

1. PEOPLE ARE DIFFERENT. SOMETIMES IT IS HARD FOR PEOPLE WHO WORK TO GET ALONG WITH EACH OTHER. MAYBE THEY DO NOT UNDERSTAND THE DIFFERENCES IN PEOPLE. DO YOU? IN EACH STORY BELOW, THERE IS A QUESTION ABOUT THE PEOPLE IN IT. ANSWER THE QUESTIONS BY CIRCLING THE NAME OF ONE PERSON IN EACH STORY.

(CIRCLE ONE.)

JANE
MARY
SUSAN

MARY, A NEW STUDENT AT SCHOOL, ENTERED THE ROOM FOR THE FIRST TIME. SHE WORE A BRACE ON HER LEG AND LIMPED AS SHE WENT TO HER SEAT. JANE WHISPERED TO SUSAN, "LOOK AT THAT FUNNY GIRL; LET'S NOT PLAY WITH HER. SUSAN REPLIED, "DON'T BE LIKE THAT, JANE. WHICH GIRL BEST ACCEPTS THE DIFFERENCES IN PEOPLE?

DAVID
JACK
KIM

KIM MOVED TO BRYAN FROM KOREA. HE WALKED INTO THE CLASSROOM AND SAID, "GOOD MORNING MOST KIND TEACHER, I HOPE YOU RESTED WELL." JACK THOUGHT THIS WAS FUNNY AND LAUGHED OUT LOUD AT KIM. AFTER THIS, KIM WAS VERY QUIET. DURING RECESS, DAVID ASKED KIM IF HE WOULD LIKE TO LEARN TO PLAY KICKBALL. WHICH STUDENT BEST ACCEPTS THE DIFFERENCES IN PEOPLE?

JAN
JOHN
MARY

THE TEACHER ASKED THREE STUDENTS TO GO TO THE BOARD TO WORK MULTIPLICATION PROBLEMS. MARY AND JOHN WORKED THEIR PROBLEM QUICKLY. JAN COULD NOT WORK HER PROBLEM AND JOHN AND THE OTHER BOYS GIGGLED. MARY WENT OVER AND EXPLAINED HOW JAN SHOULD WORK THE PROBLEM. WHICH STUDENT BEST ACCEPTS THE DIFFERENCES IN PEOPLE?

PAM
SALLY
SUSIE

SINCE SCHOOL BEGAN THIS YEAR, SALLY HAD WANTED TO BE FRIENDS WITH SUSIE. BECAUSE SALLY'S SKIN WAS A DIFFERENT COLOR, SUSIE DID NOT LIKE HER. SALLY'S FEELINGS WERE HURT. PAM ENJOYED THE SAME GAMES AS SALLY AND THE COLOR OF SALLY'S SKIN DID NOT MAKE ANY DIFFERENCE TO PAM. PAM INVITED SALLY TO PLAY WITH HER AT RECESS. WHICH GIRL BEST ACCEPTS THE DIFFERENCES IN PEOPLE?

BOB
RANDY
SAM

RANDY HAD ALWAYS BEEN BEST FRIENDS WITH SAM AND BOB. IN THE MIDDLE OF THE YEAR, RANDY'S FATHER BECAME ILL AND HAD TO QUIT WORK. HIS FAMILY WAS FORCED TO SELL THEIR HOUSE AND MOVE TO A SECTION OF TOWN WHERE THE RENT WAS VERY CHEAP. NOW, EVERY TIME RANDY INVITES SAM TO COME OVER, HE FINDS AN EXCUSE NOT TO GO. BOB STILL ENJOYS GOING TO RANDY'S HOUSE. WHICH BOY BEST ACCEPTS THE DIFFERENCES IN PEOPLE?

2. SINCE THE POSTMAN HELPS PEOPLE GET THEIR MAIL BY DELIVERING LETTERS AND PACKAGES AND PICKING UP OUT-GOING MAIL, THESE STATEMENTS BELOW HAVE CHECK MARKS BESIDE THEM. THE POSTMAN DOES NOT PUT STAMPS ON THE MAIL AND HE DOES NOT SEAL THE ENVELOPES. EACH OF THE OTHER WORKERS LISTED BELOW DOES CERTAIN JOBS. PUT A CHECK BESIDE EACH JOB EACH OF THE OTHER WORKERS DO.

THE POSTMAN . . . . . √ DELIVERS LETTERS AND PACKAGES.

____ SEALS THE ENVELOPES.

√ PICKS UP OUT-GOING MAIL.

____ PUTS STAMPS ON THE MAIL.

THE SHERIFF . . . . . ____ DRIVES A CAR.

____ PROTECTS THE PEOPLE.

____ SEES THAT LAWS ARE OBEYED.

____ WEARS A BADGE.

THE FACTORY ASSEMBLER . . . . . ____ WORKS ON AN ASSEMBLY-LINE.

____ WORKS IN A COAT AND TIE.

____ MAY BELONG TO A UNION.

____ WORKS ON A SHIFT.

THE FISHERMAN . . . . . ____ MENDS HIS NETS.

____ BEGINS HIS DAY EARLY.

____ CLEANS HIS BOAT.

____ KEEPS ALL THE FISH HE CATCHES.

THE GROCERYMAN . . . . . ____ PUTS FOOD IN BAGS.

____ KEEPS GROCERIES ON THE SHELVES.

____ ORDERS THE STOCK.

____ SELLS CARS.

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THE RANCHER . . . . . ____ FEEDS COWS.

____ BRANDS CATTLE.

____ RAISES COTTON.

____ FIXES FENCES.

3. A WAITRESS WORKS IN A RESTAURANT. SINCE A COOK, A DISHWASHER, AND A WAITER ALSO WORK IN A RESTAURANT, THEY HAVE CHECK MARKS BESIDE THEM BELOW. (A DENTIST DOES NOT WORK IN A RESTAURANT AND NEITHER DOES AN ELECTRICIAN.) UNDER EACH OF THE OTHER STATEMENTS BELOW, PUT A CHECK IN THE SPACE BESIDE THE WORKERS WHOSE JOBS ARE RELATED TO THE ONE IN EACH SENTENCE.

A WAITRESS WORKS IN A RESTAURANT.

- ✓ COOK
- ✓ DISHWASHER
- ____ DENTIST
- ____ ELECTRICIAN
- ✓ WAITER

A CARPENTER HELPS BUILD HOUSES.

- ____ HOUSE PAINTER
- ____ DOCTOR
- ____ PLUMBER
- ____ AIRPLANE PILOT
- ____ SECRETARY

A BANKER DEALS WITH MONEY.

- ____ CASHIER AT THE MOVIE
- ____ LIFEGUARD
- ____ GROCERY STORE CHECKER
- ____ TAX COLLECTOR
- ____ FIREMAN

A TEACHER WORKS AT SCHOOL.

- ____ FARMER
- ____ JANITOR
- ____ LIBRARIAN
- ____ CAFETERIA EMPLOYEE
- ____ TRUCK DRIVER

A LONG DISTANCE TRUCK DRIVER TRAVELS FROM ONE PLACE TO ANOTHER.

- ____ BUS DRIVER
- ____ DELIVERY MAN
- ____ TAXI DRIVER
- ____ AIRPLANE PILOT
- ____ TRAIN ENGINEER

A GARBAGE COLLECTOR WORKS FOR THE CITY.

- ____ BANKER
- ____ MAYOR
- ____ BARBER
- ____ WATER METER READER
- ____ HOUSE PAINTER

4. SINCE THE MOVING MAN PROBABLY LEARNED TO READ A MAP AND TO READ ROAD SIGNS AT SCHOOL, THIS STATEMENT HAS A CHECK MARK BESIDE IT. (HE PROBABLY DID NOT LEARN TO LIFT HEAVY OBJECTS OR TO USE CARE IN PACKING FURNITURE AT SCHOOL. NEITHER DID HE LEARN AT SCHOOL TO HELP PEOPLE MOVE THE THINGS THEY OWN OR TO COVER FURNITURE WITH THICK PADS.) THERE ARE SEVERAL OTHER WORKERS LISTED BELOW. UNDER EACH ARE SOME FACTS ABOUT THEIR WORK. PLACE A CHECK BESIDE THE SKILLS EACH WORKER PROBABLY LEARNED AT SCHOOL.

THE MOVING MAN:

____ LIFTS HEAVY OBJECTS

✓ READS A MAP AND ROAD SIGNS

____ USES CARE IN PACKING FURNITURE

____ HELPS PEOPLE MOVE THE THINGS THEY OWN

____ COVERS FURNITURE WITH THICK PADS

THE GAS STATION WORKER:

____ MAKES CHANGE

____ FILLS OUT TICKETS FOR CUSTOMERS

____ TAKES PICTURES OF CUSTOMERS

____ READS THE NUMBERS ON THE GASOLINE PUMP

____ HELPS PEOPLE GET RID OF TRASH

THE BAKER:

____ USES FRACTIONS IN MAKING RECIPES SMALLER OR LARGER

____ USES A MAP TO TELL HIM WHAT INGREDIENTS TO USE

____ USES LOTS OF FLOUR AND SUGAR

____ STARTS HIS JOB VERY EARLY IN THE DAY

____ USES TIME AND TEMPERATURE WHEN BAKING HIS PRODUCTS

THE SECRETARY:

____ TELLS HER BOSS WHAT TO DO

____ USES GOOD MANNERS WHEN ANSWERING THE TELEPHONE

____ USES A CASH-REGISTER

____ PUNCTUATES LETTERS FOR HER BOSS

____ SPELLS WORDS CORRECTLY WHEN TYPING LETTERS

THE CONSTRUCTION WORKER:

____ MEASURES SMALL BOARDS AND LARGE BOARDS

____ BAKES BREAD

____ CUTS PIECES OF LUMBER AT DIFFERENT ANGLES

____ GIVES FIRST-AID

____ FIGURES THE COST OF HIS MATERIALS

THE TELEPHONE OPERATOR:

____ USES GOOD MANNERS IN HANDLING CALLS

____ CAN REMEMBER NUMBERS EASILY

____ MAKES TELEPHONES RING

____ SAYS HER WORDS SLOWLY AND CLEARLY

____ SPEAKS IN A FRIENDLY AND PRETTY TONE

5. PEOPLE SHOULD CHOOSE AND PREPARE FOR THEIR LIFE'S WORK. CHOOSING THE OCCUPATION THAT IS RIGHT FOR YOU MEANS FOLLOWING A PLAN. FROM THE LIST OF IDEAS BELOW, CHECK THE FIVE WHICH ARE MOST IMPORTANT IN SELECTING A CAREER.

_____ LEARN ABOUT MANY KINDS OF WORK.

_____ TAKE ONLY THE ADVICE OF YOUR FRIENDS.

_____ FOLLOW IN YOUR FATHER'S OR MOTHER'S FOOTSTEPS.

_____ SET SOME CAREER GOALS FOR YOURSELF.

_____ GET TO KNOW YOURSELF AND FIND OUT WHAT YOU DO BEST.

_____ LET YOUR PARENTS CHOOSE A CAREER FOR YOU.

_____ IF SEVERAL OCCUPATIONS INTEREST YOU, FIND OUT AS MUCH AS YOU CAN ABOUT EACH ONE.

_____ DEPEND ON SOMEONE ELSE TO OFFER YOU A CAREER.

_____ ASSUME YOU WILL FIND A JOB LATER IN LIFE.

_____ DEVELOP SOME HOBBIES AND FIND OUT WHAT INTERESTS YOU HAVE AND WHAT YOU ENJOY.

STUDENT REACTION FORM

GRADE 5

1. EVERYBODY HAS FEELINGS ABOUT WORK. IF YOU AGREE WITH THESE STATEMENTS ABOUT WORK, PUT A CHECK IN THE SPACE UNDER THE "YES" COLUMN. IF YOU DO NOT AGREE WITH SOME OF THE STATEMENTS, PUT A CHECK IN THE SPACE UNDER THE "NO" COLUMN.

YES	NO	
___	___	EVERYONE SHOULD BE INTERESTED IN SOME TYPE OF WORK.
___	___	CHOOSING A CAREER ALWAYS CAUSES PEOPLE TO BE UNHAPPY.
___	___	CERTAIN JOBS CAN BE DONE ONLY IN CERTAIN PLACES.
___	___	THERE ARE MANY KINDS OF WORK.
___	___	CERTAIN JOBS MUST BE DONE BY PEOPLE WITH CERTAIN SKILLS AND KNOW-HOW.
___	___	LACK OF KNOWLEDGE ABOUT MANY KINDS OF WORK HELPS PEOPLE TO CHOOSE THE ONE JOB THEY WANT.

2. JOBS ARE FILLED BY PEOPLE WITH CERTAIN SKILLS, KNOWLEDGE, AND ATTITUDES. PRETEND YOU ARE THE PERSON IN EACH STORY BELOW. A QUESTION FOLLOWS EACH STORY. ANSWER THE QUESTION BY CIRCLING THE ONE JOB LISTED UNDER THE STORY WHICH BEST SUITS THAT PERSON.

YOU ARE SUSIE STRONG. YOU ARE A GOOD STUDENT IN SCHOOL AND MAKE GOOD GRADES IN SCIENCE. YOU THINK HEALTH EDUCATION IS IMPORTANT. YOU HOPE SOMEDAY TO GET A JOB WHERE YOU CAN USE YOUR KNOWLEDGE OF SCIENCE AND HEALTH EDUCATION. YOU LIKE THE IDEA OF WEARING A UNIFORM TO WORK. YOU ALSO PLAN TO GO TO COLLEGE FOR AT LEAST 2 YEARS. FOR WHICH JOB ARE YOU BEST SUITED? (CIRCLE ONLY ONE.)

BEAUTICIAN COOK DENTAL HYGIENIST NEWSPAPER AD SALESMAN MECHANIC SECRETARY

YOU ARE CHARLES STOVER. YOU ARE A HIGH SCHOOL SENIOR AND ARE ON THE YEARBOOK STAFF. YOU ENJOY JOURNALISM AND MAKE "A'S" IN IT. YOU HAVE A LOT OF CONTACT WITH BUSINESS PEOPLE. YOU ARE NOT REALLY INTERESTED IN GOING TO COLLEGE AND THINK YOU CAN PROBABLY GET A SALES TYPE JOB IF YOU TRY. FOR WHICH JOB ARE YOU BEST SUITED? (CIRCLE ONLY ONE.)

BEAUTICIAN COOK DENTAL HYGIENIST NEWSPAPER AD SALESMAN MECHANIC SECRETARY

YOU ARE PETE ROGERS. YOU LIKE TO DO THINGS WITH YOUR HANDS. YOU HAVE TAKEN SEVERAL COURSES IN HIGH SCHOOL WHERE YOU HAVE LEARNED SOME HAND SKILLS. YOUR FATHER OWNS A RESTAURANT AND SOMETIMES YOU HELP HIM IN THE KITCHEN. YOU LIKE TO WORK WITH THE CHEF AND ARE THINKING OF TAKING SOME SPECIAL TRAINING IN FOOD SERVICE. FOR WHICH JOB ARE YOU BEST SUITED? (CIRCLE ONLY ONE.)

BEAUTICIAN COOK DENTAL HYGIENIST NEWSPAPER AD SALESMAN MECHANIC SECRETARY

YOU ARE MARIA RIOS. YOU ARE VERY POPULAR AT SCHOOL AND WHEN THERE IS A SCHOOL DANCE, ALL THE GIRLS ASK YOU TO HELP THEM WITH THEIR MAKE-UP AND HAIR-DOS. YOU WANT TO START TO BEAUTY COLLEGE AFTER HIGH SCHOOL GRADUATION. YOUR MOTHER THINKS YOU GET ALONG WELL WITH PEOPLE. FOR WHICH JOB ARE YOU BEST SUITED? (CIRCLE ONLY ONE.)

BEAUTICIAN COOK DENTAL HYGIENIST NEWSPAPER AD SALESMAN MECHANIC SECRETARY

YOU ARE JOE CARTER. YOU HAVE FINISHED HIGH SCHOOL AND PLAN TO GO TO A 2-YEAR TECHNICAL SCHOOL. THERE, YOU CAN BECOME A SKILLED TRADESMAN. YOU LIKE TO TAKE THINGS APART AND PUT THEM BACK TOGETHER. AS A YOUNG BOY, YOU FIXED ALL THE BICYCLES IN YOUR NEIGHBORHOOD. FOR WHICH JOB ARE YOU BEST SUITED? (CIRCLE ONLY ONE.)

BEAUTICIAN COOK DENTAL HYGIENIST NEWSPAPER AD SALESMAN MECHANIC SECRETARY

YOU ARE KATHY SMITH. YOU HOPE TO GO TO WORK IN AN OFFICE AFTER HIGH SCHOOL GRADUATION. YOU ARE NEAT, ATTRACTIVE, AND LIKE TO BE AROUND PEOPLE. YOU LIKE TYPING AND FILING AND YOUR TEACHERS THINK YOU ARE A POLITE AND ORDERLY-TYPE PERSON. YOU ARE PLANNING TO GO TO A BUSINESS SCHOOL FOR A YEAR. FOR WHICH JOB ARE YOU BEST SUITED? (CIRCLE ONLY ONE.)

BEAUTICIAN COOK DENTAL HYGIENIST NEWSPAPER AD SALESMAN MECHANIC SECRETARY

---

3. WE MUST ALL LEARN TO MAKE WISE DECISIONS AND CHOICES. IF YOU DECIDE TO GO TO THE MOVIE ON FRIDAY NIGHT INSTEAD OF SATURDAY NIGHT, YOU HAVE MADE A CHOICE. EACH TIME YOU MAKE THIS KIND OF DECISION, YOU FOLLOW A MENTAL PLAN. IN MAKING WISE CHOICES, YOU FIRST STUDY THE PROBLEM TO SEE WHAT MAKES IT A PROBLEM. (THE STATEMENT AT THE TOP OF THE NEXT PAGE HAS A "1" BY IT BECAUSE IT IS THE FIRST STEP OF THAT MENTAL PLAN. PUT A "2" BY THE BLANK THAT IS THE SECOND THING YOU DO AND SO ON WHEN MAKING A WISE DECISION.)

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____ ACCEPT WHAT HAPPENS BECAUSE OF YOUR CHOICE.

____ ASK YOURSELF, "WHAT CHOICES DO I HAVE?"

1 STUDY THE PROBLEM TO SEE WHAT MAKES IT A PROBLEM.

____ MAKE A DECISION.

____ ASK YOURSELF, "WHAT WILL HAPPEN IF I MAKE THE WRONG CHOICE?"

4. MOST BOYS AND GIRLS LIKE TO DO CERTAIN THINGS IN THEIR SPARE TIME. THIS IS CALLED A HOBBY. HOBBIES CAN HELP YOU DEVELOP SKILLS AND INTERESTS THAT LEAD TO JOBS LATER IN LIFE. (HAVING A SKILL MEANS THAT YOU CAN DO SOMETHING WITH YOUR HANDS OR BODY. HAVING AN INTEREST MEANS THAT YOU LIKE OR ENJOY SOMETHING.) FROM THE LIST BELOW, SEE IF YOU CAN TELL THE DIFFERENCE IN A SKILL AND AN INTEREST. BESIDE EACH STATEMENT, PUT AN "S" IF IT IS A SKILL AND PUT AN "I" IF IT IS AN INTEREST.

S YOU PLAY BASEBALL WELL.

S YOU CAN REPAIR BICYCLES.

I YOU ENJOY RIDING HORSES.

S YOU CAN QUICKLY THREAD YOUR MOTHER'S SEWING MACHINE.

I YOU LIKE TO COLLECT STAMPS.

S YOU MAKE DELICIOUS BROWNIES.

I YOU ENJOY READING STORIES ABOUT ANIMALS.

I YOU ENJOY WATCHING FOOTBALL GAMES ON TELEVISION.

S YOU CAN TAP-DANCE TO MUSIC.

S YOU ARE ABLE TO STYLE HAIR.

5. MANY HOBBIES CAN LEAD TO CAREERS LATER IN LIFE. WHAT KIND OF WORKER MIGHT HAVE MADE EACH STATEMENT BELOW? MATCH EACH WORKER FROM THE LIST BELOW WITH THE STATEMENTS BY WRITING THE OCCUPATION OF THE WORKER IN THE SPACE PROVIDED BESIDE EACH STATEMENT.

POSTAL CLERK	SPORTS WRITER	BEAUTICIAN
DISC JOCKEY	ENTERTAINER	LIBRARIAN

_____ "WHEN I WAS YOUNG, MY HOBBY WAS READING."

_____ "WHEN I WAS YOUNG, MY HOBBY WAS COLLECTING STAMPS."

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_____ "WHEN I WAS YOUNG, MY HOBBY WAS COLLECTING PICTURES OF BEAUTIFUL HAIR STYLES."

_____ "WHEN I WAS YOUNG, MY HOBBY WAS COLLECTING RECORDS."

_____ "WHEN I WAS YOUNG, MY HOBBY WAS TAP-DANCING AND SINGING."

_____ "WHEN I WAS YOUNG, MY HOBBY WAS PLAYING BASEBALL AND FOOTBALL."

6. HAVE YOU DEVELOPED ANY SPECIAL SKILLS AND INTERESTS AT SCHOOL THIS YEAR? (CIRCLE ONE.)

YES NO

THESE ARE MY SPECIAL SKILLS AND INTERESTS:	MY SPECIAL SKILLS AND INTERESTS COULD LEAD TO THESE OCCUPATIONS LATER IN LIFE:	I AM INTERESTED IN KNOWING MORE ABOUT THESE OCCUPATIONS:
1. _____	1. _____	1. _____
	2. _____	2. _____
2. _____	1. _____	3. _____
	2. _____	4. _____

ACCESSION NUMBER: VT101462

TITLE: JUNIOR HIGH SKILL ACTIVITIES IN AGRICULTURE.

PERSONAL AUTHOR: VINYARD, CARL

DESCRIPTOR: *AGRICULTURAL EDUCATION; *AGRICULTURAL SKILLS; *STUDENT PROJECTS; *PROJECT TRAINING METHODS; *VOCATIONAL AGRICULTURE; AGRICULTURAL ENGINEERING; ANIMAL SCIENCE; AGRICULTURAL PRODUCTION

IDENTIFIER: *FUTURE FARMERS OF AMERICA; FFA; INDIANA

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ABSTRACT: THIS TEACHING GUIDE IS COMPOSED OF INDIVIDUAL SKILL SHEETS TO PROVIDE INDIANA TEACHERS WITH IDEAS FOR HANDS-ON PROJECTS IN THE INDIANA JUNIOR HIGH SCHOOL AGRICULTURAL PROGRAMS. A 3-PART RECORD BOOKLET OF FUTURE FARMERS OF AMERICA (FFA) ACTIVITIES IS DESIGNED FOR ENTRIES RELATED TO IMPROVEMENT PROJECTS, EARNINGS AND EXPENSES, AND FFA ACTIVITIES. AREAS OF AGRICULTURAL SKILL COVERED IN THE GUIDE INCLUDE ANIMAL SCIENCE, NATURAL RESOURCES, CROP PRODUCTION, AGRONOMY, AND AGRICULTURAL MECHANICS AND ENGINEERING. (AUTHOR/MU)

VT 101 462

JUNIOR HIGH

SKILL ACTIVITIES IN AGRICULTURE

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VT 101 462

JUNIOR HIGH SKILL ACTIVITIES IN AGRICULTURE

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Special Thanks To: Dr. Thomas Hoerner of the Agricultural Engineering Department at Iowa State University for providing many of the skill sheets in agricultural machinery, agricultural mechanics, and small gasoline engines.

Dr. Sam Curtis of the Agricultural Education Department at The Pennsylvania State University for providing many of the skill sheets for the horticulture area.

PREFACE

The teacher reference entitled Junior High Skill Activities in Agriculture is composed of individual skill sheets relating to the major areas of agriculture. The purpose of the skill sheets is to provide teachers with ideas for student "hands-on" projects. The junior high agriculture program is a part of the student's career exploration and a chance for the student to determine if there is a career in agriculture for him. Hopefully these skill sheets will assist the teacher and student in accomplishing this goal.

It is not expected that a teacher will make use of all the skill sheets provided or even all the areas included. This would depend on the length of the teacher's junior high program and the needs of his students. This booklet is designed to allow the teacher to remove those skill sheets of interest and place them with the respective unit of instruction. The skill sheets can be duplicated and used as individual or group projects. A part of each skill sheet is an evaluation rating for use by both the teacher and the student to evaluate the project.

MR. F.F.F.A.A.
(Future F.F.A. Advisor)

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I. CONTESTS AND ACTIVITIES CONDUCTED BY DISTRICT AND/OR STATE AND/OR NATIONAL F.F.A. ASSOCIATIONS.

1 Public Speaking
2 Freshman Public Speaking
3 Essay Contest
4 Impromptu Speaking
5 Creed Contest
6 Improving Agriculture and Leadership
7 Scrapbook Contest
8 Chapter Meeting Contest
9 Exhibit Contest
10 Co-operative Award Contest
11 Talent Contest
12 Production Agriculture Demonstrations
13 Agriculture Mechanics Demonstrations
14 Agriculture Sales Demonstrations
15 Leadership Award
16 State and National Chapter Activities
17 Hoosier Farmer Degree
18 Crop Proficiency
19 Dairy Proficiency
20 Poultry Proficiency
21 Forest Management Proficiency
22 Soil, Water and Air Management Proficiency
23 Home Improvement Proficiency
24 Agriculture Electrification Proficiency
25 Ornamental Horticulture Proficiency
26 Agriculture Mechanics Proficiency
27 Beef Production Proficiency
28 Sheep Production Proficiency
29 Swine Production Proficiency
30 Placement in Processing Proficiency
31 Placement in Agriculture Production Proficiency
32 Placement in Sales and Service Proficiency
33 Fish and Wildlife Management Proficiency
34 Proficiency Award in Agri-Business
35 State Chapter Contest Report
36 Annual Membership Report
37 Annual Chapter Report
38 Chapter Program of Work (For following calendar year)
39 American Farmer Degree
40 Farm Safety Contest
41 State F.F.A. Band
42 State F.F.A. Chorus
43 National F.F.A. Band
44 National F.F.A. Chorus
45 Chapter Star Farmer Award
46 Application to be State F.F.A. Officer
47 Charter Application (New Chapters)
48 Educational Exchange Program
49 Building Our American Communities Contest
50 Tractor Trouble Shooting Contest

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51 Small Wood Project Exhibit
52 Advanced Wood Project Exhibit
53 Welding Skills - Freshmen/Sophomore
54 Welding Skills - Junior/Senior
55 Advanced Metal Project Exhibits
56 Blooming Plant Propagation Exhibit
57 Indoor-Outdoor Foliage Plant Propagation Exhibit
58 Landscape Design Exhibit
59 Landscape Planting Exhibit
60 Sales and Service Exhibit
61 Greased Pig Contest
62 Sweetheart Contest
63 Chapter Secretary's Book Contest
64 Chapter Treasurer's Book Contest
65 District Officer Application
66 Section President Application
67 State F.F.A. Leadership Camp
68 State F.F.A. Orientation Camp
69 State F.F.A. Convention Usher Participation
70 State F.F.A. Convention Courtesy Corp Participation
71 Attendance of State F.F.A. Convention (Official Delegates)
72 Attendance of National F.F.A. Convention
73 Chapter News Letter
74 Officer Training
75 District F.F.A. Meetings

II. CONTESTS CONDUCTED JOINTLY WITH THE COOPERATIVE EXTENSION SERVICE.

1 Land Judging
2 Livestock Judging
3 Crops Judging
4 Entomology Judging
5 Forestry Judging
6 Poultry and Egg Judging
7 Horticulture Judging
8 Dairy Judging
9 Meat Products Demonstrations
10 Dairy Foods Demonstrations
11 Fruit and Vegetables Demonstrations
12 Electric Demonstrations
13 Flower and Landscaping Demonstrations
14 Health and Safety Demonstrations
15 Conservation and Natural Resources Demonstrations
16 Horse and Pony Demonstrations
17 Animal Science Demonstrations
18 Plant Science Demonstrations
19 Mechanical Science Demonstrations
20 General Demonstrations

III. OTHER CONTESTS FOR F.F.A. MEMBERS

1 DeKalb Corn Awards
2 DeKalb Outstanding Senior Award
3 Funk's 304 Bushel Challenge
4 Indiana Farm Bureau Co-Op Essay Contest
5 Lincoln Arc Welding Contest
6 Soil and Water Conservation Public Speaking Contest

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7 Purdue Invitational Livestock Judging Contest
8 Purdue Horticulture Judging Contest
9 Purdue Invitational Soil Judging Contest
10 Purdue Invitational Crop Judging Contest
11 Purdue Horticulture Demonstration Contest

IV. LOCAL CHAPTER CONTESTS AND ACTIVITIES

1 F.F.A. Meetings
2 Chapter Star Greenhand Award
3 Honorary Chapter Farmer Award
4 Attend Officer Training Meeting (District)
5 Young McDonald Farm Exhibit
6 Parent and Student Banquet
7 F.F.A. Foundation Drive
8 F.F.A. Test Plots
9 F.F.A. Week Promotions
10 F.F.A. Calendar Project
(Fund Raising Examples)
11 Garden Seed Sales
12 Slave Sale
13 Scrap Drive
14 Citrus Sale
15 Garden Tractor Pull
16 Shop Project Sale
17 Coat Checks
18 Concessions
19 Equipment Repair
20 Magazine Sales

V. MORE!!

1 Teach
2 Vacation
3
4
5
6
7
8
9
10

ERIC

FFA RECORD

Month_____ Year_____

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Name_____ Phone_____ Greenhand_____

Address_____ Location of Home_____ Chapter Degree_____

Parent's Name_____ State Degree_____

Address_____ Parent's Occupation_____ American Degree_____

FFA ACTIVITIES (Judging-Program of Work, etc.)	FFA OFFICES HELD (Greenhand, Chapter, District)	FFA AWARDS RECEIVED (Example-Star Greenhand District IV Swine Proficiency 2)	OUTSIDE ACTIVITIES (Church, School, Comm.)
	FFA WORK ACTIVITIES (Coat check)		

VOC. AG. RECORD

Name _____ Phone _____

Address _____ Parent's Name _____

Location of Home _____

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Career Objectives

Ag Courses at T.C.	Sophomore	Junior	Senior
Ag Experience Program - Freshman	Sophomore	Junior	Senior
Post-High School			

A G R I C U L T U R E

JR. HIGH RECORD BOOK

NAME _____

ADDRESS _____

SOCIAL SECURITY NO. _____

SCHOOL _____

This record book is not intended to be a complete treatment of record keeping, but merely an introduction to the subject. It is hoped that by using this record book the student will develop the habits necessary to maintain good records.

This book is designed for the student to make entries in three (3) areas: (1) Improvement Projects; (2) Earnings and Expenses; (3) FFA Points (Activities).

An improvement project is an undertaking which is planned to improve the real estate value or efficiency of the home or farm.

The earnings and expenses section has been designed to help show the student where his money comes from and how he spends it.

It is hoped that the section on FFA points will encourage all students to become active in their organization.

SUGGESTED JR FFA POINT SYSTEM

1. Grades - 6 weeks	A-10 points	B - 8 points
2. Bulletin Boards	5 points	
3. Pest Contest	Winning team - 10 points Top 5 individuals 10 points each	
4. Work Jacket	5 points	
5. Attendance at Meetings	1 point per meeting	
6. Citizenship Grade	2 points for a 1	
7. Creed Paragraph Memorized	5 points per paragraph	
8. Sales projects	3 points/$10 sold	

Top 15 on point system to go camping at Indiana FFA Leadership Center at Chapter's expense.

IMPROVEMENT PROJECT NO. 1

Title of Project _____

Date	Jobs Done	Hrs. of Labor	Cost
			$

Date Completed _____ % Done by Student _____

IMPROVEMENT PROJECT NO. 2

Title of Project _____

Date	Jobs Done	Hrs. of Labor	Cost
			$

Date Completed _____ % Done by Student _____

MY RECORD OF EARNINGS AND EXPENSES

Date	Activity	Amount Earned	Amount Spent
		$	$

MY RECORD OF JR. FFA POINTS

Date	Activity	Points

TOTAL

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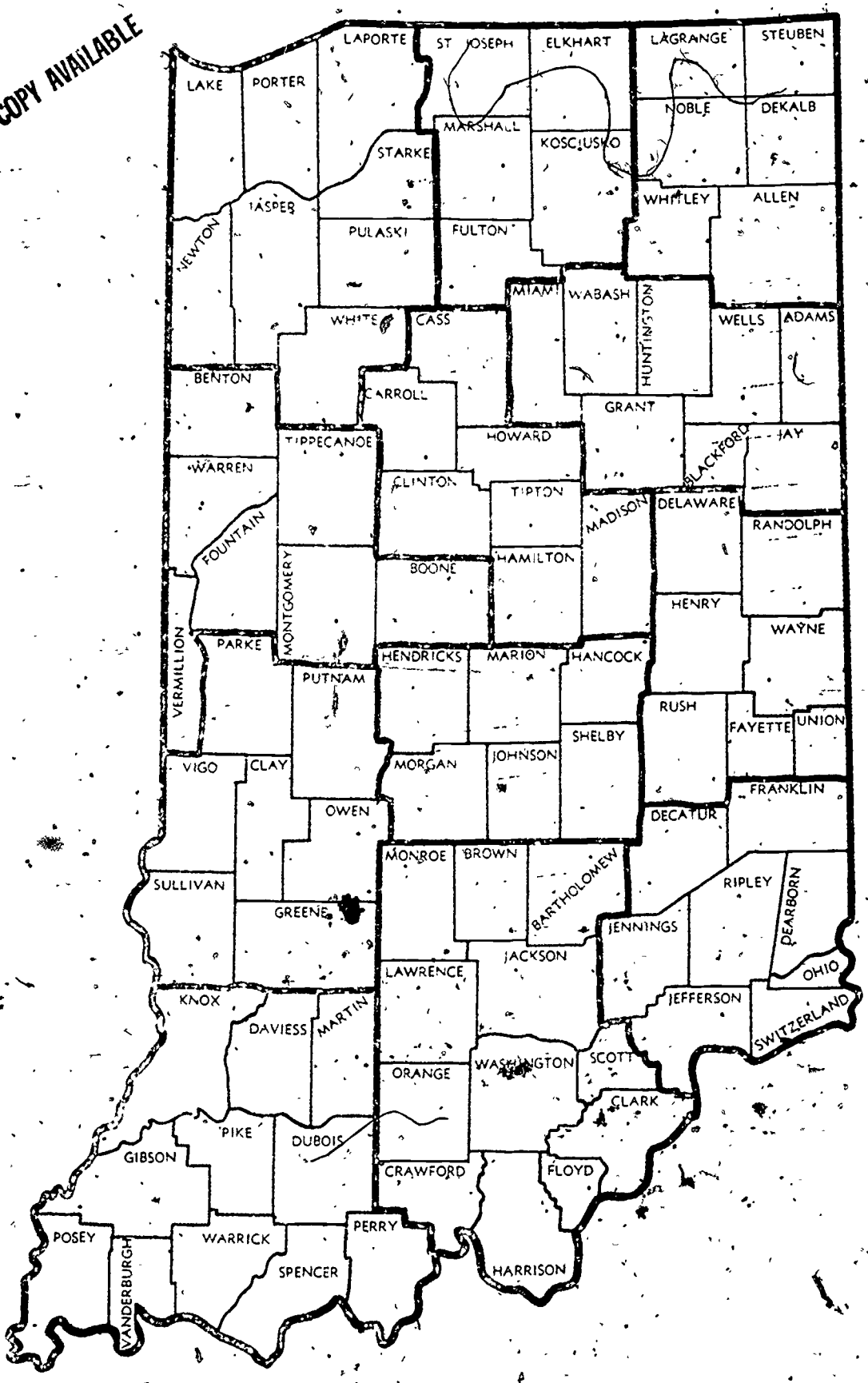

Unit: Animal Science

Title of Activity: Breed Identification

Method of Teaching: Flashcards and Scrapbook

Objective:

1 Student will be able to identify 70% of the main breeds of: Dairy, Beef, Swine and Sheep
2 Student will complete a scrapbook containing 100% of above breeds (See attached sheet for form completion)

Materials Needed:

1 Tape
2 Pen
3 Scissors
4 3x5 Index cards
5 Breed form papers
6 Pictures obtained from references

Procedure:

1 Pre-testing by showing pictures of breeds to stimulate interest
2 Divide class into species herd
3 Allow 15 minutes to brainstorm listing breeds of that species
4 Each group's leader reports on their listings
5 Class supplies additional breeds of that species with direction of teacher
6 Herd secretary writes the breed names on the board and displays sample picture of each breed
7 Each student completes his breed forms (see attached paper)
8 Each student is given 20 minutes to match breed pictures with breed name

References:

Name- _____ Species- _____

BREED NAME _____

Place picture of breed below!

COLOR MARKINGS: _____

SPECIFIC BREED CHARACTERISTICS: _____

IMPORTANCE OF BREED IN OUR AREA: Less 1 2 3 4 5 Most Important

OTHER COMMENTS ABOUT THIS BREED: _____

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UNIT: ANIMAL SCIENCE

TITLE OF ACTIVITY: WRITING BREED ASSOCIATIONS

METHOD OF TEACHING: LECTURE DISCUSSION ON PARTS OF THE LETTER AND HOW TO WRITE A BUSINESS LETTER. ROLE-PLAYING

OBJECTIVE-- Each student will be able to list the parts of a business letter and locate each on a given letter.

Each student will compose and write a business letter seeking information and pictures in each species on the attached pages.

MATERIALS NEEDED: Theme paper, pen, envelopes, stamps, and addresses of breed associations.

DETAILED PROCEDURE:

1. Stimulate the class by showing colored pictures you may have received by writing a certain breed association. Ask them if they would like some pictures of their own.
2. Discuss the parts of a letter and locate them on the board.
3. Show them various business letters and have them identify the parts.
4. As a class, compose a sample letter to ABC breed association telling them about what you are doing and requesting materials and pictures about their breed.
5. Assign the breeds a certain number and let students draw the breed association they will write by placing numbers in a box.
6. Help students begin writing their letters.
7. Evaluate their letters and assign a grade. Let students evaluate each others letters.
8. Demonstrate the proper way to fold a business letter and the correct procedure for placing it in an envelope.
9. Show students the correct way to address envelopes and then allow the students to address thir own. Have them place their return address on the envelope correctly.
10. As students receive information, let student show and tell about the breed information and pictures he received.

REFERENCES:

1. Breed association addresses are attached.
2. Business letters that the Agriculture Department may have recived to show parts of letters and their location.

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BREED REGISTRY ASSOCIATIONS

SWINE

American Landrace Association, Inc.
112½ North Main Street
Culver, Indiana 46511

American Berkshire Association
601 West Monroe Street
Springfield, Illinois 62704

Chester White Swine Record Association
P.O. 228
Rochester, Indiana 46975

United Duroc Swine Registry
Duroc Building
237-39 North Monroe
Peoria, Illinois 61602

Hampshire Swine Registry
1111 Main Street
Peoria, Illinois 61606

National Hereford Hog Record Association
Norway, Iowa 52318

OIC Swine Breeders, Association, Inc.
P.O. 111
Greencastle, Indiana 46135

Poland China Record Association
501 East Losey Street
Galesburg, Illinois 61401

Red Berkshire Swine Record Association
Lancaster, Kentucky 40444

National Spotted Swine Record Association
Bainbridge, Indiana 46105

Tamworth Swine Association
Route 2
Cedarville, Ohio 45314

Wessex Saddleback Swine Association
4010 Clinton Avenue
Des Moines, Iowa 50310

American Yorkshire Club, Inc.
1001 South Street
P.O.878
Lafayette, Indiana 47902

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DAIRY BREED REGISTRY ASSOCIATIONS

Ayrshire Breeders Association
Brandon, Vermont 05733

Brown Swiss Cattle Breeders Association
800 Pleasant Street
Beloit, Wisconsin 53511

American Guernsey Cattle Club
70 Main Street
Peterborough, New Hampshire 03458

Holstein-Friesian Association of America
P. O. Box 808
Brattleboro, Vermont 05301

American Jersey Cattle Club
1521 E. Broad Street
Columbus, Ohio 43205

BEEF BREED REGISTRY ASSOCIATIONS

American Angus Association
3201 Frederick Blvd.
St. Joseph, Missouri 64501

Beefmaster Breeders Universal
3488 Gunter Hotel
San Antonio, Texas 78206

American Brahman Breeders Association
4815 Gulf Freeway
Houston, Texas 77023

International Brangus Breeders Association
908 Livestock Exchange Bldg.
Kansas City, Missouri 64102

American Charbray Breeders Assoc or American Charolais Assoc.
923 Lincoln Liberty Life Bldg.
Houston, Texas 77002

American Devon Cattle Club, Inc.
704 Suffield Street
Agawan, Massachusetts 01001

Galloway Cattle Society of America, Inc.
Springfield, Iowa 52336

American Hereford Association
Hereford Drive
Kansas City, Missouri 64105

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American Milking Shorthorn Society
313 S. Glonstone Avenue
Springfield, Missouri 65802.

American Polled Hereford Association
4700 E. 63rd Street
Kansas City, ,issouri 64130

American Polled Shorthorn Association
8288 Hascall Street
Omaha, Nebraska 68124

Red Angus Association of America
3275 Holdrege Street
Lincoln, Nebraska 68333

Santa Gertrudis Breeders International Association
Box 1257
Kingsville, Texas 78363

American Scotch Highland Breeders Association
Edgemont, South Dakota 57735

American Shorthorn Association
8288 Hascall Street
Omaha, Nebraska 68124

Maine-Anjou Soceity
P.O. 11411
Kansas City, Missouri 64112

North American Limousin Foundation
1140 Delaware Street
Denver, Colorado

American Simmental Association
270 Country Commons Road
Cary, Illinois 60013

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SHEEP BREED REGISTRY ASSOCIATIONS

American Cheviot Sheep Society, Inc.
P. O. Box 5051
Lafayette Hill Pa. 19444

Columbia Sheep Breeders Association of America
Box 272E
Upper Sandusky, Ohio 43351

American Corriedale Association, Inc.
Box 29C
Seneca, Illinois 61360

American Cotswold Record
217 N. Pennsylvania Avenue
Fremont, Ohio 43420

Debouillet Sheep Breeders Association
300 S. Kentucky Avenue
Roswell, New Mexico 88201

The American and Delaine-Merino Record Association
Aleppo, Pennsylvania 15350

Continental Dorset Club
Hickory, Pennsylvania 15340

American Hampshire Sheep Association
Stuart, Iowa 50250

National Lincoln Sheep Breeders Association
5284 S. Albaugh Road
West Milton, Ohio 45383

Montadale Sheep Breeders Association, Inc.
4103 North Broadway
St. Louis, Missouri 63147

American Oxford Down Record Association
Eaton Rapids, Michigan 48827

American Panama Registry Association
Jerome, Idaho 83338

American Ramouillet Sheep Breeders Association
2709 Sherwood Way
San Angelo, Texas 76903

American Shropshire Registry Association, Inc.
Box 678
Lafayette, Indiana 47902

American Southdown Breeders Association
212 S. Allen Street
State College, Pa. 16801

American Suffolk Sheep Association
Box 324 Columbia, Missouri 65201

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Unit: Animal Science

Title of Activity: Livestock Markets

Method of Teaching: Small Groups, Field Trips, Demonstrations, Discussion, Guest Speaker

Objective: Students will develop an awareness and understanding of the Livestock markets

Materials Needed:

1 Daily newspaper
2 Pasteboard
3 Marking Pencil
4 Local Market

Procedure:

1 Students should list different methods of marketing livestock (sale barn, country buying station, terminal market, packing house, private sale, etc.)
2 Students would be divided into four groups with each group having either swine, dairy, beef or sheep. The groups would find out the major method of marketing their species and report back to the class
3 Students would develop a graph on the market price for each species, showing the ups and downs of the market
4 Students would tour local markets to develop a better understanding of marketing facilities
5 Students would list advantages and dis-advantages of each marketing method
6 Students would listen to guest speaker (local hog or cattle buyer) on his preparation for becoming a buyer

References:

Sample Problem:

Alan sold 3 market hogs for $35.00 per hundred with the average being 200 pounds. How much was his total hog check?

200 weight per hog	600 pound total
x 3 no. of hogs	x$.35 price per pound
600 Total weight	$210.00 Total of hog check

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Name_____ AGRICULTURE - ANIMAL SCIENCE 25 pts.

MARKETING LIVESTOCK

1. Jim sold 12 market hogs this morning for $30.00 per hundred weight, while they averaged 220 pounds each. How much was his total hog check?

2. Joe Smith sold steers weighing 1030 average with 9 on the truck. He said steers were selling for $47.50 per cwt. How much was his check?

3. If you sold 15 hogs for $42.25 per cwt., and they averaged 236 pounds; what would be the total hog check?

4. Ron sold heifers for $49.00 per cwt. How much would his check be if he marketed 21 and they weighed 835 pounds each?

5. Jerry sold a load of chickens for $38.00 per hundred. There were 7500 on the load averaging 4.75 pounds each. What is his total check amount?

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ANIMAL SCIENCE TERMS

concentrate

fat

protein

vitamins

carbohydrate

supplement

roughage

ration

drug

antibiotic

fiber

pellet

springer

meal

feed grains

trace mineral

barrow

gilt

sow

boar

pedigree

breed

species

stag

heifer

cow

bull

steer

ling

farrow

calf

pig

hog

shoat

feeder pig

feedlot

slat

slot

bulk tank

lagoon

self-feed

farrowing crate

breeding crate

colostrum

TGE

scours

creep-feed

castrate

gestation

pregnant

trough

litter

herd

AI

semen

pork

beef

lamb

BEST COPY AVAILABLE

mutton

leg of mutton

hamburger

steak

butter fat

freshen

milking parlor

harvestore

silage

haylage

manure

honey wagon

digestible nutrient

ruminant

afterbirth

abortion

sterile

infertile

amino acid

anemia

bloat

crossbreeding

cull

dam

sire

finish

forage

grade

heat

service

vaccination

veal

cud

lactation

ram

wether

flushing

feed conversion

rate of gain

heredity

environment

gene

chromosome

dominant

recessive

offspring or progeny

natural selection

loin eye

herd sire

performance test

registration paper

palatable

pasteurization

homogenation

fleece

hand breed

pasture breed

hand

stallion

foal

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Unit: Animal Science

Title of Activity: Livestock Parts Identification

Method of Teaching: Pin the Animal Part, Demonstration, Discussion

Objective: Each student will be able to identify all the parts of beef, dairy, swine and sheep

Materials Needed:

1 Attached sheets
2 3x5 Index cards
3 Plywood-3/8"
4 White paint
5 Felt-tip pen
6 28 cup hooks or L-screws
7 3D finish nails
8 Scissors

Procedure:

1 Use attached sheet as a master; make a transparency and project on plywood
2 Sketch outline on painted (white latex) plywood
3 Sketch in dividing areas of parts
4 Each student chooses a 3x5 card, cut it in half, and writes the two parts of the animal assigned to that student
5 Instructor randomly calls out animal parts and students will place their part at appropriate place on sketch of animal

References:

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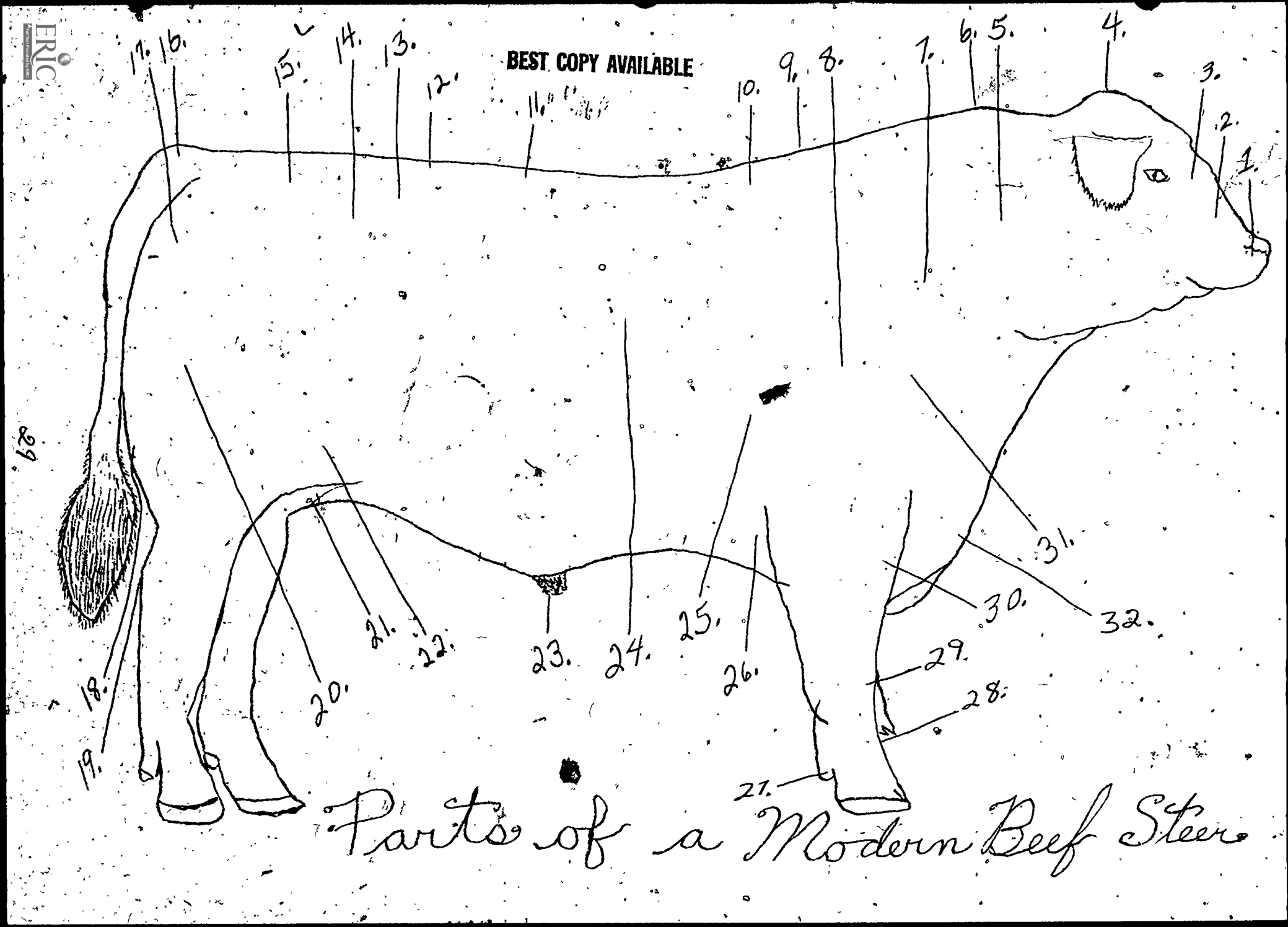

Parts of a Modern Beef Steer

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Students name _____ UNIT: ANIMAL SCIENCE

Lesson: PARTS OF A MODERN BEEF STEER

ANSWER SHEET FOR PARTS OF A MODERN BEEF STEER

1. Muzzle
2. Face
3. Forehead
4. Poll
5. Neck
6. Crest of neck
7. Shoulder vein
8. Shoulder
9. Top of shoulder
10. Crops
11. Back
12. Loin
13. Loin edge
14. Hip bone
15. Rump
16. Tailhead
17. Pin bones
18. Twist
19. Hock
20. Quarter
21. Cod
22. Rear flank
23. Sheath
24. Ribs
25. Heart girth
26. Fore flank
27. Dew claw
28. Knee
29. Cannon bone
30. Forearm
31. Point of shoulder
32. Brisket

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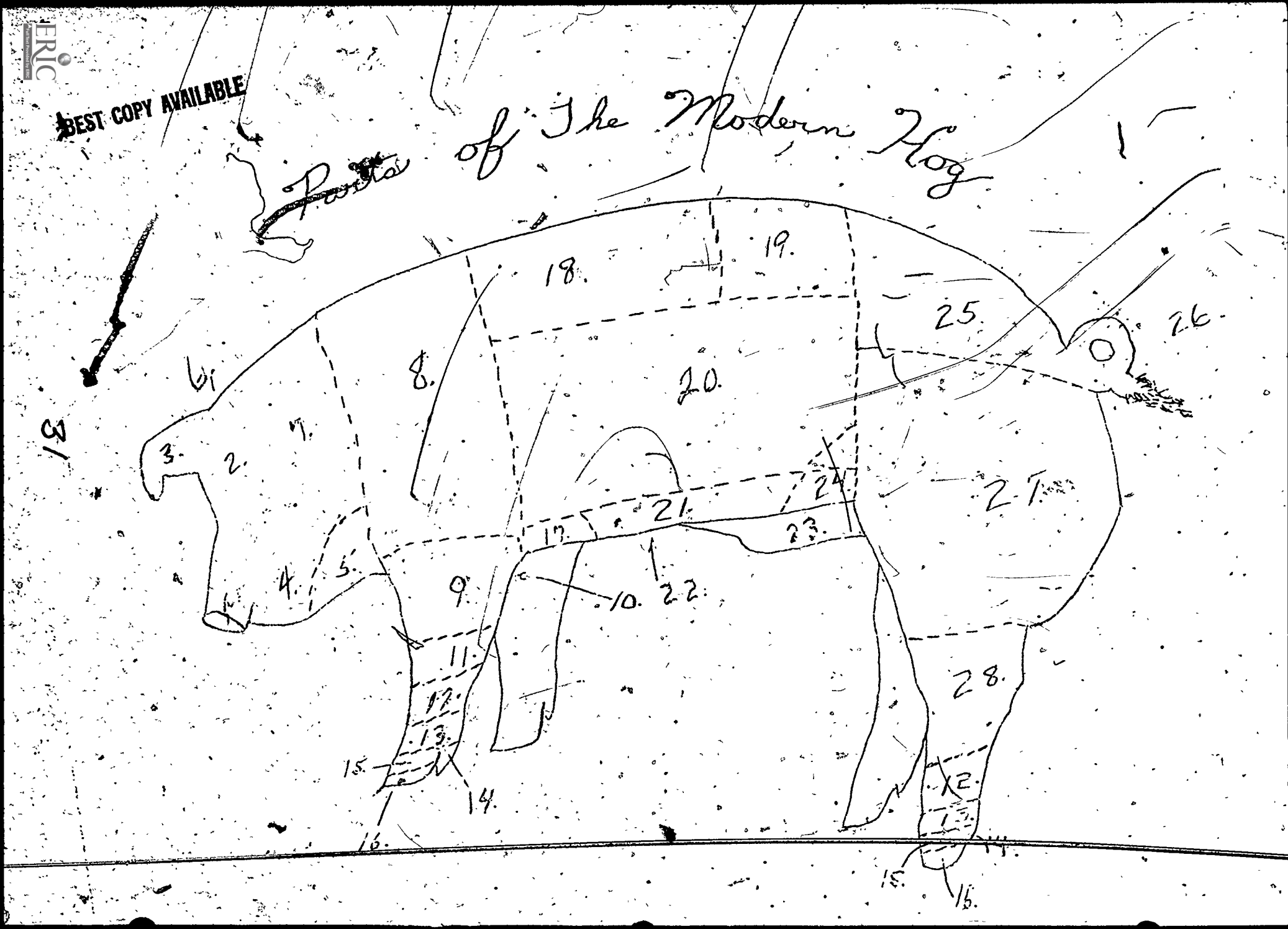
Parts of The Modern Hog



Students name _____ UNIT: ANIMAL SCIENCE

Lesson: PARTS OF A MODERN HOG

ANSWER SHEET FOR PARTS OF A MODERN HOG

1. Snout
2. Eye
3. Ear
4. Cheek
5. Jowl
6. Poll
7. Neck
8. Shoulder
9. Foreleg
10. Elbow
11. Knee
12. Shank
13. Ankle
14. Dew claw
15. Pastern
16. Toe
17. Fore Flank
18. Back
19. Loin
20. Side
21. Belly
22. Teats
23. Sheath
24. Hind Flank
25. Rump
26. Tail
27. Ham
28. Hock

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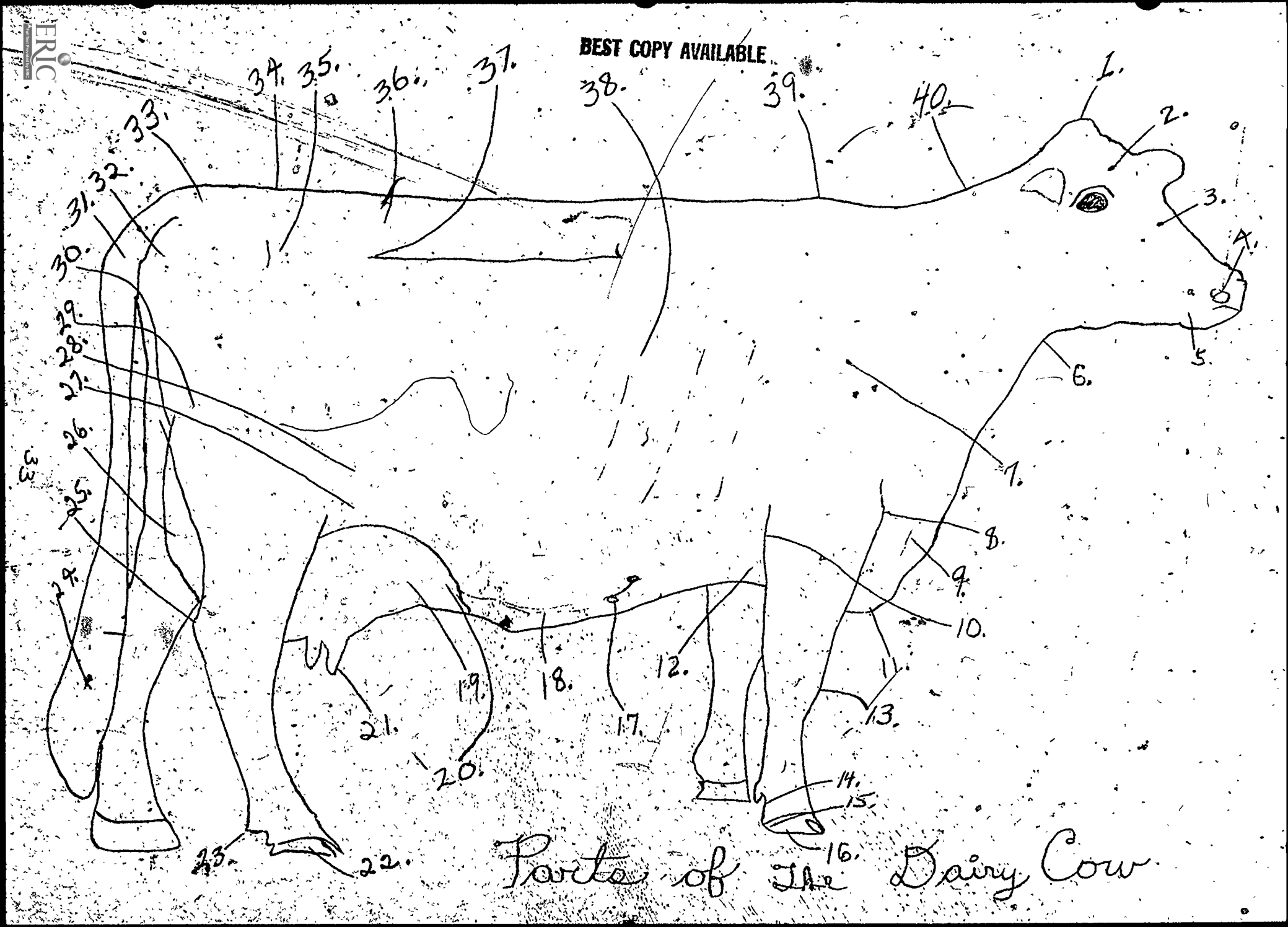

Parts of the Dairy Cow

Students name _____ UNIT: ANIMAL SCIENCE

Lesson: PARTS OF THE DAIRY COW

ANSWER SHEET FOR THE PARTS OF THE DAIRY COW

1. Poll
2. Forehead
3. Bridge of nose
4. Muzzle
5. Jaw
6. Throat
7. Shoulder blade
8. Point of shoulder
9. Dewlap
10. Point of elbow
11. Brisket
12. Chest floor
13. Knee
14. Pastern
15. Heel
16. Sole
17. Milk wells
18. Mammary veins
19. Fore udder
20. Fore udder attachment
21. Teats
22. Hoof
23. Dew claw
24. Switch
25. Hock
26. Rear udder
27. Flank
28. Stifle
29. Thigh
30. Rear udder attachment
31. Tail
32. Pin bone
33. Tailhead
34. Rump
35. Thurl
36. Loin
37. Barrel
38. Ribs
39. Withers
40. Neck

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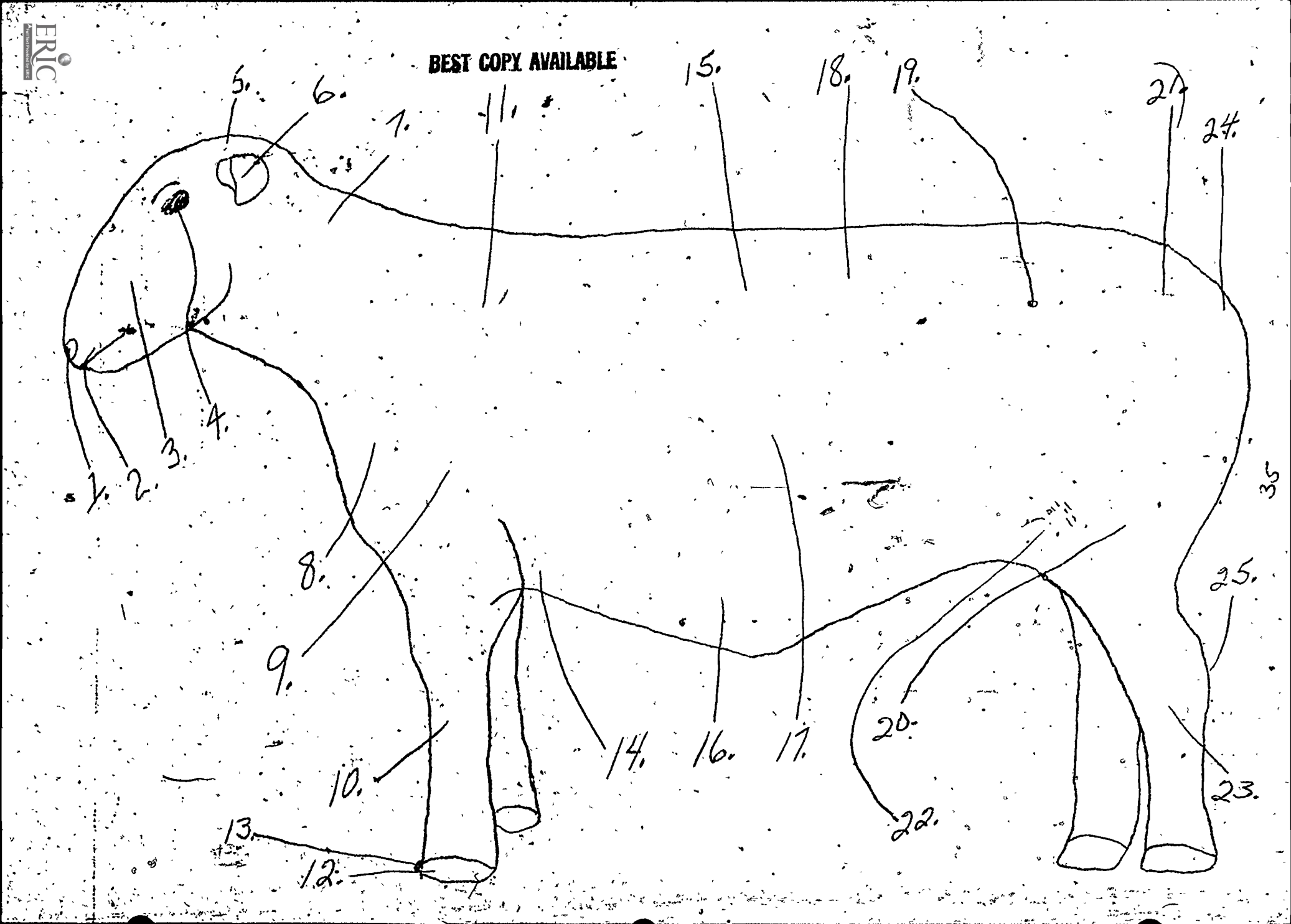

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Students name _____ UNIT: ANIMAL SCIENCE

Lesson: PARTS OF A MODERN SHEEP

ANSWER SHEET FOR PARTS OF A MODERN SHEEP

1. Nostrils
2. Mouth
3. Face
4. Eye
5. Poll
6. Ear
7. Neck
8. Breast
9. Shoulder
10. Fore shank
11. Crops
12. Hoof
13. Dew claws
14. Fore flank
15. Rack
16. Underline
17. Side
18. Loin
19. Hip bones
20. Leg of mutton
21. Dock
22. Rear flank
23. Rear shank
24. Tail setting
25. Hock

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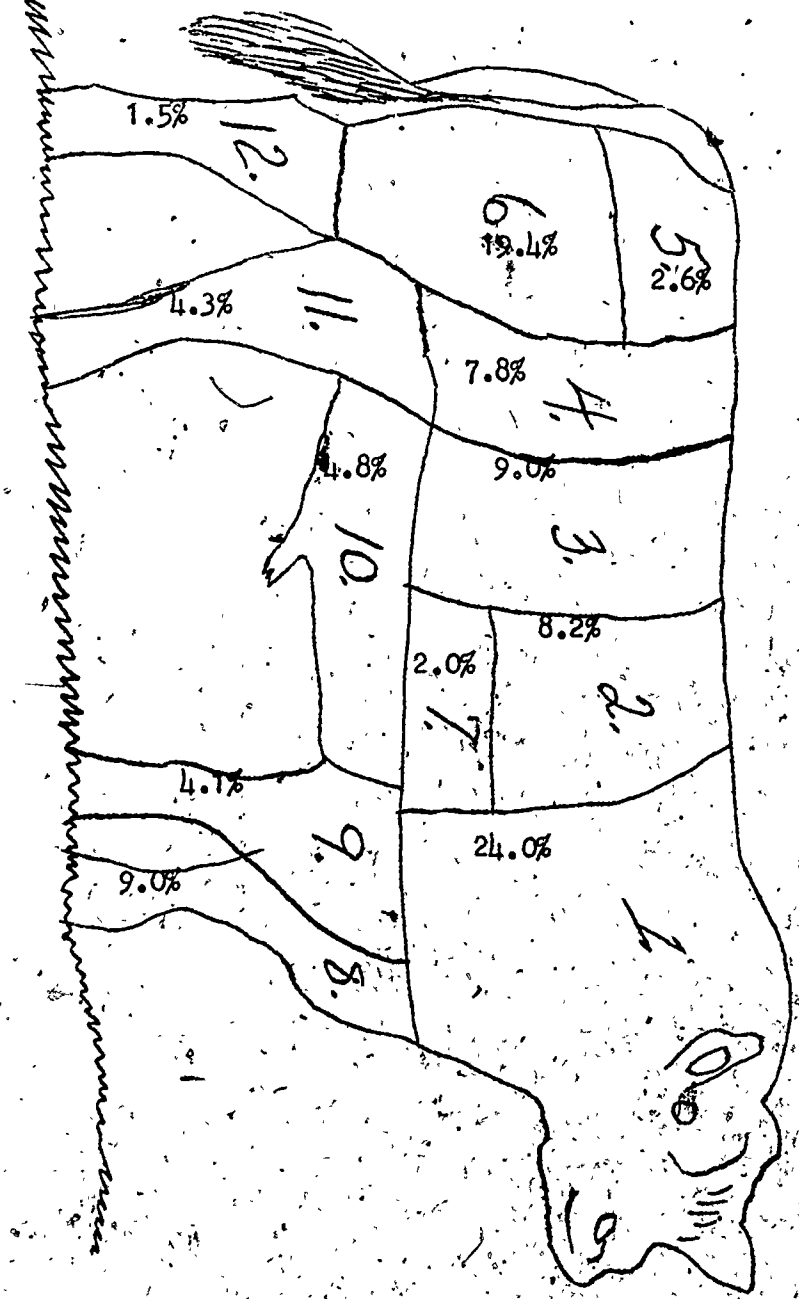
Wholesale Cuts of the MODERN STEER

1. Chuck
2. Rib
3. Short Loin
4. Loin End
5. Rump
6. Round
7. Short ribs
8. Brisket
9. Fore shank
10. Plate
11. Flank
12. Hind shank



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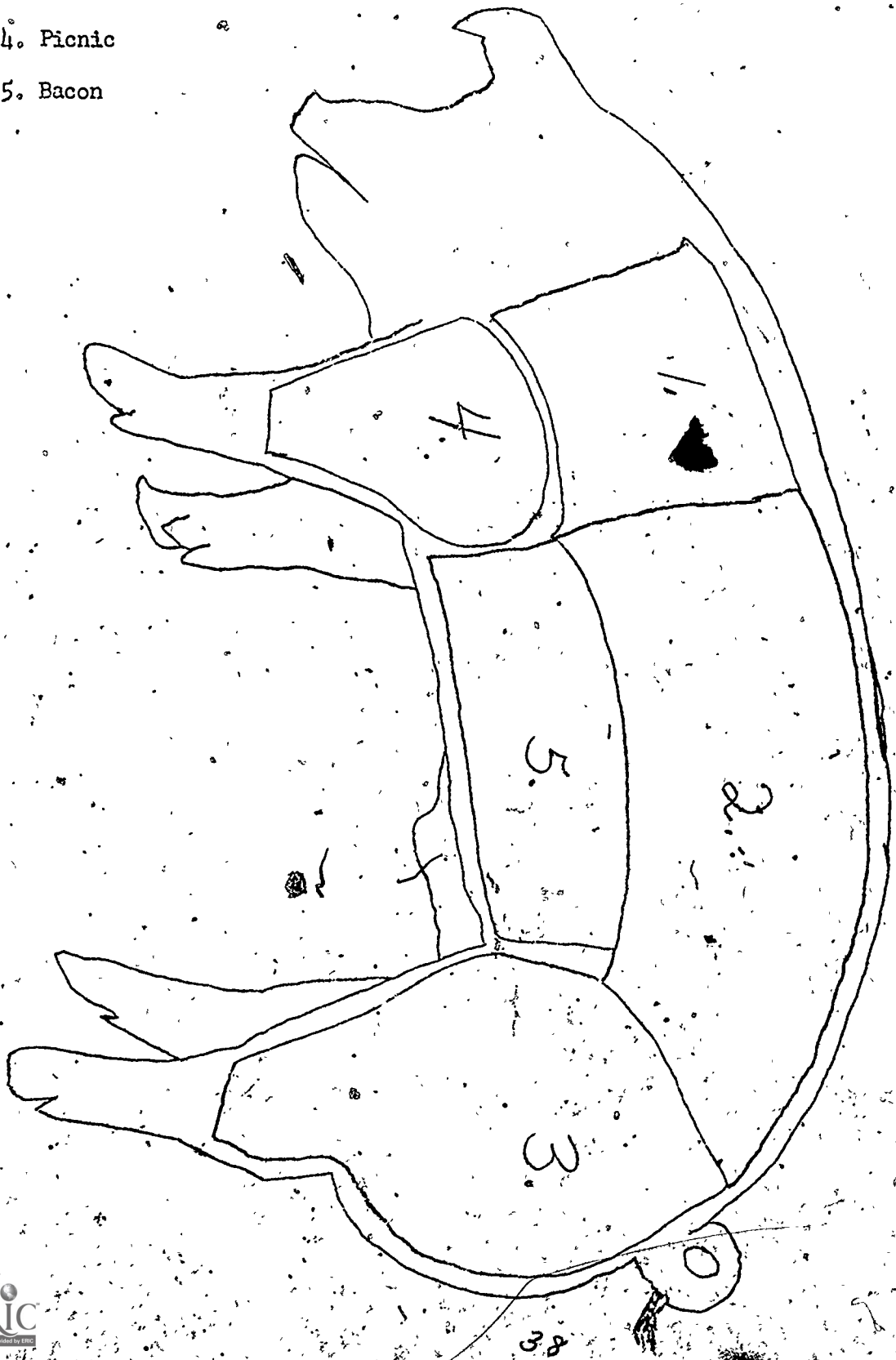
Wholesale Cuts of the PORK CARCASS

1. Boston Butt
2. Loin
3. Ham
4. Picnic
5. Bacon



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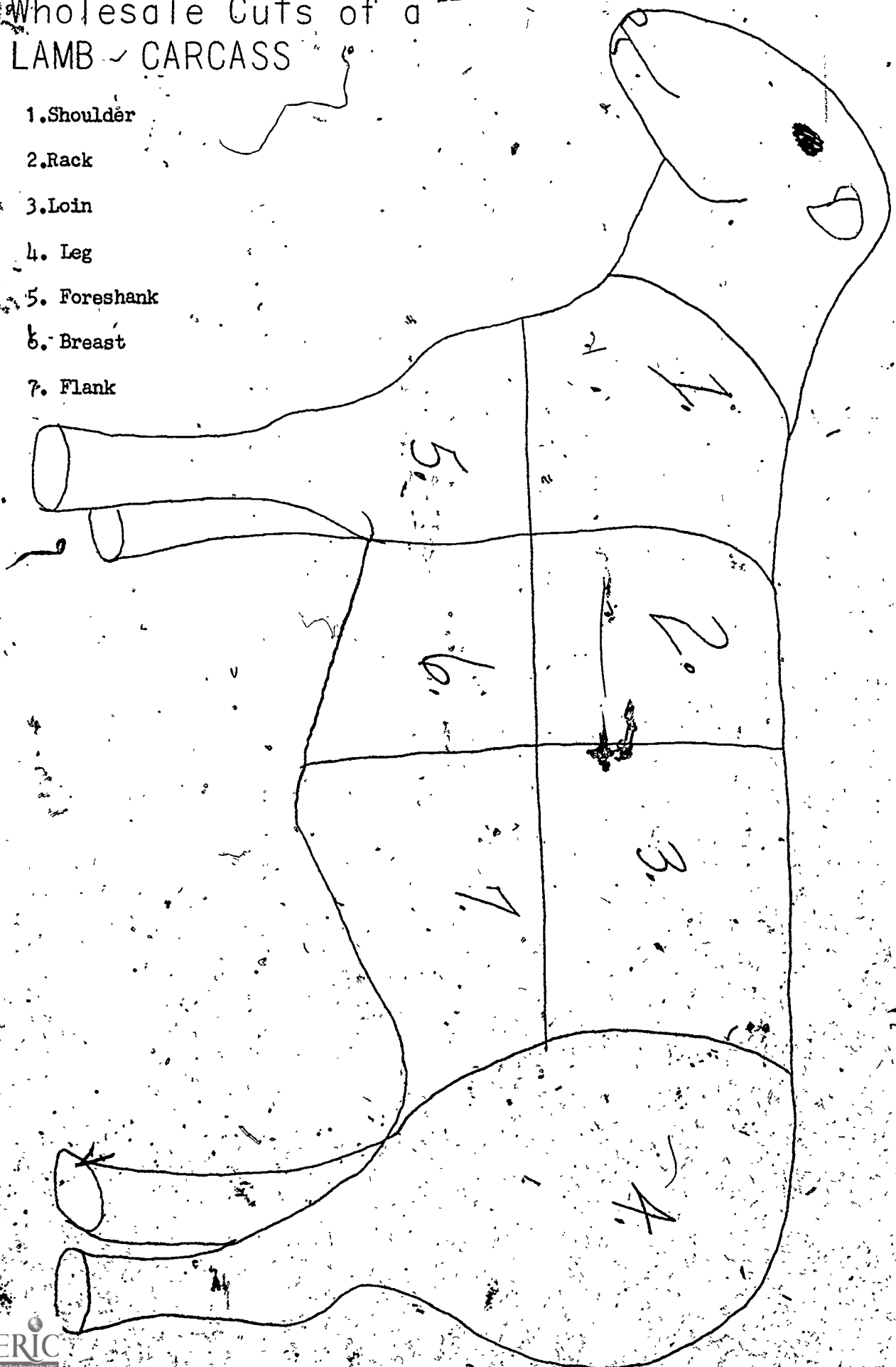
Wholesale Cuts of a LAMB CARCASS

1. Shoulder
2. Rack
3. Loin
4. Leg
5. Foreshank
6. Breast
7. Flank



Unit: Animal Science

Title of Activity: Feed Samples and their Characteristics

Method of Teaching: Collection, Demonstration, Show and Tell

Objective: Each student will be able to identify feeds for Monogastric and Ruminant animals; being able to distinguish between concentrates and roughages

Materials Needed:

1 Feed Processing Interest
2 Pellet, Meal, Crumbles
3 Labels
4 Feed Samples
5 Vials
6 Magic Marker
7 Cigar Box

Procedure:

1 Display diagram of digestive system for ruminant and monogastric animal. Have students identify which diagram matches a certain animal
2 Using lectures-discussion, explain the reasons for the different feeds for monogastric and ruminant animals
3 Each student collects one sample of ruminant and one sample of non-ruminant feeds
4 Each student will show and tell about his samples
5 Each student will collect samples of pelleted feed, meal, crumbles, and block structure
6 Students will be given a test by matching samples of feeds with correct animal diet

References:

1 Local Feed Store

Unit: Animal Science

Title of Activity: Figuring Gallon Capacity of Water Tanks

Method of Teaching: Actual Problems using Formulas

Objective: Given the formulas, all students will be able to compute the capacity of round or circular tanks, rectangular tanks, curve-bottom trough, slanting sides trough or Vee-sides trough. Each student will have an understanding of why there are differences in the formulas.

Materials Needed:

1 Poster board
2 Dri-Marker set
3 Pictures of different tanks

Procedure:

1 Paste pictures of different shapes of tanks on seperate sheets of poster board
2 Write formulas on poster board sheets
3 Have students match the formula with the tank
4 Explain how to figure each type of tank capacity by giving examples of actual sizes of tanks or have students bring in sizes of tanks they have at home
5 Assign a worksheet of typical problems they may have such as how many gallons in a 20' diameter pool with 4' of water
6 Give a quiz over each type of tank problem

References:

1 Anchor - Veterinary Handbook For All Livestock

Unit: Animal Science

Title of Activity: Hatching Quail Eggs

Method of Teaching: Experimental Testing, Demonstration, Large Group

Objective: Students shall complete a display by arranging, observing and identifying hatching quail eggs

Materials Needed:

1 Incubator with 75 watt light bulb
2 Thermometer (laboratory or household)
3 Container for water
4 Marking pencil
5 Large carton or box
6 Goose neck lamp with 100 watt bulb
7 Food
8 Quail eggs
9 Water container

Procedure:

1 Each student should become familiar with incubation schedule:

Incubation Schedule	Days	Temperature
Bobwhite Quail	21	38°C or 102°F

2 Students should use marking pencil and write letter "A" on one side of each egg and "B" on the other side.

3 Students should place all eggs "A" side up sides touching, as snugly as possible. Do not rotate or touch eggs for first 60 hours. Then students should turn eggs twice a day, three times if practical to do so, allowing 4 hours elapsed time between turns

4 Students should not turn eggs during last 18 hours. Proper humidity is essential. If wet-bulb thermometer is used, it should read 85%. Two days before hatching, increase humidity 5%

5 A few days before hatching is expected, students should start preparations for a container for the baby quail. They should use corrugated boxes with a goose neck lamp with a 100 watt bulb to insure proper temperature. Students should sprinkle the bottom with leaves, newspaper or organic material

6 After quail have hatched, they may be left in the incubator for a period up to 12 hours. Students should make sure the quail are fluffed out and dry before removing them from the incubator.

7 Students should place water container and food within container, checking daily on proper amount of water and food

References:

1 Kenatec Educational Corp., 3514 Plyers Mill Road, Kensington, Maryland 20795

2 Wadley Quail Farm, Wadley, Georgia

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Title of Activity: Identification of Trees

Method of Teaching Used: Flash Cards

Materials Needed by the Student:

1 3 x 5 Index Cards
2 Glue
3 Tree Books

Objective:

1 To develop a knowledge of the common trees used in Indiana

Detailed Procedure:

1 Have the students cut out pictures from tree books and paste them on 3 x 5 index cards

References Used:

1 50 Trees of Indiana

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Title of Activity: Identification of Flowers

Method of Teaching Used: Flash Cards

Materials needed by the Student:

1 3 x 5 Index Cards
2 Glue
3 Flower Books

Objective:

1 To develop a knowledge of the common flowers found in Indiana

Detailed Procedure:

1 Have the students cut and paste pictures of flowers onto 3 x 5 index cards
2 Have them write the names of each flower on the back of the card
3 Hold a contest in the class to see who can identify the most flowers

References Used:

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Title of Activity: Identification of Shrubs

Method of Teaching Used: Flash Cards

Materials Needed by the Student:

1 3 x 5 Index Cards
2 Glue
3 Shrub Books

Objective:

1 To develop a knowledge of the common shrubs found in Indiana

Detailed Procedure:

1 Have the students cut out pictures of shrubs and paste them on 3 x 5 index cards
2 Have them write the names of each shrub on the back of the cards
3 Divide the class into 2 sections. Have a game to see who can identify the most shrubs

References Used:

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Title of Activity: Vegetable Identification

Method of Teaching Used: Flash Cards

Materials Needed by the Student:

1 3 x 5 Index Cards
2 Glue and Tape
3 Seed Catalog (Have the students bring them from home if they can)

Objective:

1 To develop a knowledge of the common vegetables

Detailed Procedure:

1 Give the students a supply of seed catalogs and have them cut out 25 pictures of different vegetables

2 Have the students paste the pictures on the 3 x 5 index cards, placing the names of each vegetable on the back of the card

References Used:

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Title of Activity: How to start plants indoors

Method of Teaching Used: Example

Materials needed by the Student:

1 Peat Pots
2 Potting Soil
3 Flower or Vegetable seeds

Objective:

To develop an understanding of how plants can be grown indoors

Detailed Procedure:

1 Give each student 4 peat pots with potting soil
2 Have each student bring a packet of seeds from home
3 Have them plant the seeds in the soil
4 Keep a record of their progress

Background Information:

I What and when to plant: (Use the following chart)

Annuals	Start Indoors
Ageratum	March 15
Alyssum	March 1
Aster	April 1
Marigold	April 1
Petunia	March 15
Salvia	April 1
Snapdragon	March 1
Zinnia	April 15
Vegetables	
Cabbage	March 1
Celery	March 1
Cucumber	April 15
Eggplant	March 1
Leaf Lettuce	March 1
Melons	April 15
Pepper	March 15
Squash	April 15
Tomato	April 1

II How to Plant:

1 Select a potting soil which is loose, fine and low in nutrients (Example--1 part topsoil--1 part vermiculite--1 part peat soil)
2 Fill container to 1 inch from top
3 Water mixture
4 Plant seed according to seed packet
5 Water again with fine mist
6 Label each pot
7 Keep at 60-75o F.
8 Keep new plants watered - may add fertilizer
9 Rotate plants if you put them in a window each day

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References Used:

1 HO-14 Starting Seeds Indoors
2 HO-74-1 House Plants Under Artificial Light
3 HO-13 Terrariums
4 HO-39 House Plant Care

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Title of Activity: How to Take Cuttings

Method of Teaching Used: Example

Materials Needed by the Student:

1 Potting Soil
2 Pots
3 Coleus Plant
4 Sharp Knife

Objective:

1 To develop an understanding of how to grow a new plant from cutting a section from that plant

Detailed Procedure:

1 Give each student a pot and potting soil
2 Have them take a cutting and plant, using the following recommendations:

I. Rooting Media
What should we use? Pure Soil?
½ potting soil ½ vermiculite

II. Containers
What can we use?
Milk containers - flower pots
flats - plastic freezing containers

III. Preparation
Place cuttings in a plastic bag to keep from losing moisture
Place cuttings in rooting media (You may want to use some type of rooting hormone on the hard-to-root plants)

References Used:

1 HO-37 New Plants from Cuttings

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Title of Activity: How to Arrange Flowers

Method of Teaching Used: Example

Materials needed by the Student:
1 4 types of flowers
2 Vase

Objective:
1 To develop an understanding of the ways flowers can be arranged

Detailed Procedure:
1 Allow the students to arrange one vase of flowers of the basic list of arrangements:
   a. Triangle
   b. Simple Vertical
   c. Crescent
   d. Diagonal Line

References Used:
1 HO-102 Dried Flower Arrangement
2 HO-73-1 Principles of Flower Arrangements

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Title of Activity: Developing a Landscape Plan

Method of Teaching Used: Drawing their plan

Materials needed by the student:
1 Graph paper
2 Colored pens
3 Ruler

Objectives:
1 To develop an understanding in making a basic landscape plan

2 To develop an understanding of what to plant in a given area

Detailed Prodecure:
1 Give the students materials above. Have them landscape an area with a house on the place.

2 Give the students a list of the most used trees and shrubs, and have them landscape the area.

References Used:
1 HO-41 Introduction to landscape planning
2 HO-111 Landscaping at Home-Workshop I
3 HO-112 Landscaping at Home-Workshop II
4 HO-113 Landscaping at Home-Workshop III

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Title of Activity: How to Properly Care For a Lawn

Method of Teaching Used: Charts and Examples

Objectives:

1 To develop a knowledge of the types of grasses used for lawns
2 To develop an understanding of how to establish and care for a lawn

Detailed Procedure:

1 Have the students prepare a chart of all the grasses used in their area for lawns
2 Give the students an area, with a house on it, and have them list all the procedures they would use to establish and maintain a lawn

Background Information:

Use the following steps:

1 Use only adapted grasses for your area
2 Mow regularly at proper height
  a. 2 inches
  b. sharpen the mower blades monthly
3 Fertilize two or more times each year
  a. High in nitrogen
  b. Low in phosphorus
  c. Medium in potassium
  (Example--10-3-7; 12-4-8; 16-3-9; 24-7-14)
4 Kill broadleaf weeds
5 Water to Keep lawn green
6 Prevent crabgrass
7 Prevent insect damage
8 Make room for new leaves by removing an excess of clippings
9 Protect against disease that kill leaves
10 Kill unwanted patches of grass

References Used:

1 AY-4 Fertilizing Lawns
2 AY-2 Lawn Care Programs
3 AY-3 Starting a Lawn
4 AY-1 Ten Steps to a Good Lawn
5 AY-7 Watering Lawns

NATURAL RESOURCES. Name _____

Activity: Hunting & Fishing Laws Date _____ Section _____

1 What are the following terms used to talk about Fishing and Hunting Laws?

a. Resident

b. Non-resident

c. Bag limit

d. Open season

e. Closed season

2 How much would a Fishing License be for you? _____

3 How much would it be when you reached age 16? _____

4 How much would a Hunting License be? _____

5 What age do you need a Hunting License? _____

6 What is the limit on Small mouth or Large mouth Bass?

7 Bluegill season is open when? _____

How many bluegill can you catch in one day? _____

8 How is it illegal to catch fish?

9 What is the largest Bass caught in the state? _____

-largest bluegill? _____
-largest carp? _____

10 For our country, when is the season open for

Rabbit _____ Pheasant _____

Raccoon _____

11 What special item is needed for hunting of migratory birds?

12 What about Sunday hunting and Protected animals?

NATURAL RESOURCES Name _____

Activity: Biography of a Covey of Quail Date _____ Section _____

For an entire year, follow the life cycle of a covey of quail, keep a record of the number of animals, food sources, shelter, and how they are killed off and any other important information.

Month	Number	Shelter	Food Source	Killed By	Other Information
January					
February					
March					
April					
May					
June					
July					
August					
September					
October					
November					
December					

1. What would have happened if the Winter was colder and less food was available?

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AREA - NATURAL RESOURCE CONSERVATION

TITLE OF ACTIVITY - Soil Managament and its Contribution to Water Pollution

METHOD OF TEACHING - Laboratory exxercise

PURPOSE -- Using your senses to evaluate soil management and its effect on water pollution

MATERIALS NEEDED - Two pie pans, tin can with perforated bottom, enough soil to fill two pie tins evenly, grass seed, and two containers to catch runoff water.

PROCEDURE- 1. Sprirkle grass seed on one pie tin withthe soil in it. Press the seed into the soil, and moisten well. Place in sunlight and water twice daily. Let it grow for approximataely two to three weeks.

Note: Step 1 is a separate project, which can be used with the following experiment. An an alternate to step 1, a pieceof sod about the size of the pie tin can be used instead.

2. Set pie tins (one with soil and grass and the other with soil alone) on a slant on the edge of a table with the catch basins on the floor under them. Sprinkle equal amounts of water on the two pie tins. Compare the amount of soil in each basin.

CONCLUSIONS: Put the water into an aquarium with fish. What happens? Will hamstersdrink the water? Would the children drink the water? Have someone take dictation form those who cannot write their story. Whan can peiple do to prevent this runoff?

Conduct a field trip to locate some barren spots and to plant grass seed or other vegetation. Go back periodically to check the effectiveness of the seed in controlling erosion. The project, when completed, may be newworthy for the school or local newspaper.

References:

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AREA - NATURAL RESOURCE CONSERVATION

TITLE OF ACTIVITY - WATER QUALITY

METHOD OF TEACHING - DEMONSTRATION AND FIELD TRIP

PURPOSE - The awareness and appreciation of water pollution

MATERIALSNEEDED - One quart of
a. City water fresh from the tap
b. city water after setting for 24 hours
c. Well water
d. Stream or ditch water
e. Rain water collected in a container setting out in open.
f. Rain water off a roof
g. Dilute vinegar
h. Dilute NaOH (caustic) solution (one pellet per qt.)

PROCEDURE:

Before you start, show them how to taste the water by sipping from a paper cup andnot swallowing it. Let them see, smell, feel and taste each sample, describe it. Make a chart for them to fill in. See sample below

Sample No.	a		b		c		d		e		f.	
	YES	NO	YES	NO	YES	NO	YES	NO	YES	NO	YES	NO
Does it look good?												
Does it feel good?												
Does it smell good?												
Does it taste good?												

CONCLUSION: Which sample looks, smells, feels, and tastes best? Which is best for drinking? Wich is worst? Then explain what each sample was and how it can be improved by treatment. The vinegar (acid) feels "squeaky". Baess are slippery. If itisn't either, itis gnerally neutral.

Do not taste stream or ditch water or rain water off a roof.

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AREA - NATURAL RESOURCE CONSERVATION

TITLE OF ACTIVITY - WATER POLLUTION

METHOD OF TEACHING - Laboratory

PURPOSE - awareness and appreciation of water pollution.

MATERIALS NEEDED - One quart of soapy water (dish water) and one quart of tap water.

PROCEDURE - Note the appearance and odor of both samples at the start. Put in aquiet area out of the sun. Let the students guess whatwill halpen to each sample in an hour and by the next morming. Then note the appearance and odor of each sample at the suggested time intervals.

CONCLUSION: Did they guess right? Has anything settled out? What does this mean to the whole community. Do they think dish water is good for people to drink?

REFERENCES:

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AREA - NATURAL RESOURCE CONSERVATION

TITLE OF ACTIVITY - SOUND QUALITIES AND NOISE

METHOD OF TEACHING - Field Trip

PURPOSE - Become aware of pleasant and unpleasant sound (noise)

PROCEDURE - Kinds of Sound

1. Take the class to several different "listening" places. Have them describe the sounds they hear. Make a comparison of sounds which are pleasant and which are unpleasant. What causes the sounds? Can anything be done to correct the noise? Why are the sounds pleasant and unpleasant. Where do they thnnk it is best to run and shout?

2. Work with the students and make a list of sounds, ranking them as to which are pleasant and unpleasant. What makes these noises? What can be one to make them pleasant.

3. Assign students to make a list of sounds heard athome and bring the list to school. What makes these sounds? Which are pleasant and unpleasant?

4. Have the students draw or cut out pictures that suggest pleasant and unpleasant sounds to them. Evaluate their learnings of the ideas by ranking them in order from pleasantness to unpleasantness.

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Unit: Natural Resource Conservation

Title of Activity: Water Pollution Treatment

Method of Teaching: Laboratory Exercise

Objective: Using your senses to evaluate Water Pollution

Materials Needed:

1 One quart of soapy water (dish) and tap water
2 Filter paper or paper towels
3 Funnel
4 Aerator from a fish aquarium
5 Empty container for each sample

Procedure:

1 Pour water into seperate containers through the filter shaped into the funnel
2 Put the aerator tube into this filtered water for one hour; 24 hours
3 Note any change in appearance, odor or taste
4 Let the children make predictions before and after each step

Conclusions:

What are their conclusions about the effects of settling, filtration, and aeration on the appearance, odor, and taste of the water?

References:

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NATURAL RESOURCES Name _____

Activity: State Parks Date _____ Section _____

1 Name 10 State Parks

a. f.
b. g.
c. h.
d. i.
e. j.

2 Take one State Park, review the main attractions (or attraction) that it has and then answer the other questions someone might wish to know about if you had suggested this park for them.

Name of Park _____ Location in State _____

Type of area or land _____

Main attraction (or attractions) _____

_____

(Yes or No)

Can I camp out? _____

Can a group have one cabin to use? _____

Is there a museum for the kids? _____

What about hiking trails? _____

Is there a place to get prepared foods? _____

Is a swimming area available? _____

Is fishing available in this Park? _____

Is there anything else of importance at this park? _____

What might it be? _____

Have you been there? _____

What did you like? _____ _____ _____

_____

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AREA - NATURAL RESOURCES CONSERVATION

TITLE OF ACTIVITY - EVALUATING AIR POLLUTION BY ODOR

MATERIALS: Equal sized, covered, glass continers for each of the items. The following suggestions are possible examples. Onion, Peanut ;butter, moth ball, perfume, aerosol hair spray, auto exhaust, vinegar.

CAUTION : In using the senses as a detector, you should alwayl be extremely careful since the material may be toxic.

PROCEDURE:

1. Rub a piece of the onion on the sids and lid of container and close.
2. Rub the peanut butter on the sides and lid of container and close.
3. Rub one drop of vinegar an the sides and lid of container
4. Place moth ball in containar for five minutes, remove, and close the lid.
5. Rub a drop of the perfume on the sides and lid of container and close.
6. Make one short squirt of aerosol hair spray into the container and close.
7. Capture auto exaust by placing open container at exhaust pipe of running car and quickly closing lid.
8. One container with nothing in it as a control for comparison
9. Numb r each container.
10. Guess what causes the odor in each numbered container

After everyone has smelled each continer, discuss what they think it is. Is it pleasant or unpleasant? What can you do at home to get rid of an unpleasant smell? What is one way to tell if the air is polluted at home? Which smells are pleasant? Unpleasant? List them.. Is this way Adequate for all air Pollutants?

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Name _____

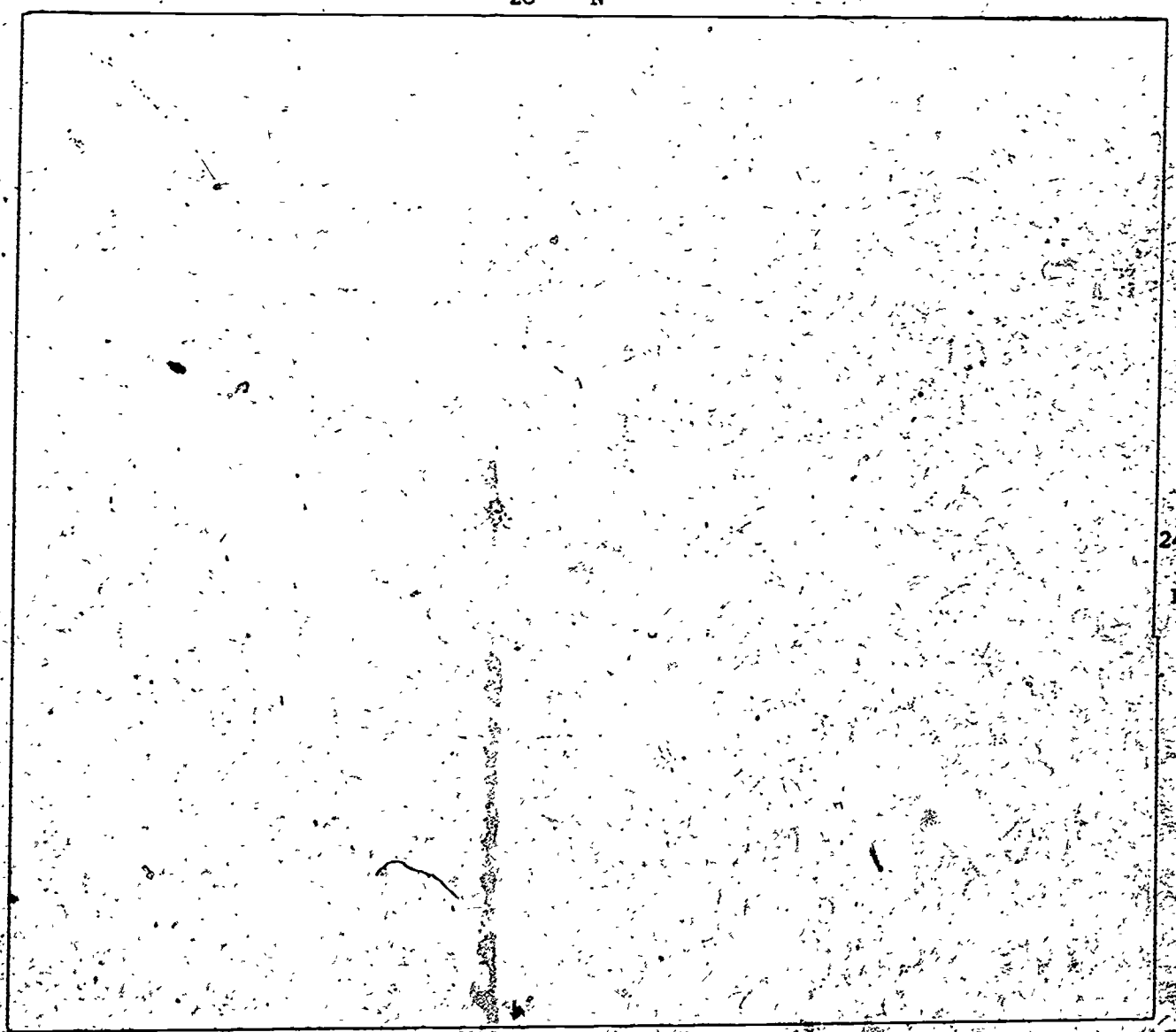
Activity: Planning a Garden Date _____ Section _____

Each Gardener should, in the Winter months plan out his garden to know the amount of seed and plants to buy, what storage he will need, and when to plant for harvest.

Plant: Sweet Corn - Cucumbers - Radishes - Green Beans - Tomatoes

The sun should not shade any part of the garden. Placement of rows will be important.
The amount of plants in one row might mean additional rows of some and less of others.
Scale is ¼" on the ruler is equal to 1' on this paper.

28' N



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HORTICULTURE Name _____

Activity: Planting Seeds Indoors Date _____ Section _____

Supplies: Flat with prepared potting soil
3-4 varieties of seeds
Identification stake or label

Procedure:

1 Secure 10 seeds of each type to be used (the smaller the seed the harder it is to get just 10)

2 Level out soil flat and make a row 1/8" deep for each type of seed you have

3 Take each type of seed and place in a different row. (Space between seeds in the row)

4 Without burying the seeds too deep, cover all seeds slightly.

5 Place flat in greenhouse. (Water by misting)

6 Water daily to keep top of soil moist.

Questions:

1 Is there a need to have light for germination of seeds? Why or why not?

2 What are the conditions for good seed germination?

3 Why should these seeds be planted near the surface?

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Ornamental Horticulture Task Sheet

Soil Preparation for Seeding or Sodding

Performance Objective: Given an area to be planted to turfgrass, appropriate equipment, tools, and materials, the student is able to prepare an area for seeding or sodding. Performance is evaluated by the teacher using the guide on the back of this sheet.

Introduction: This task sheet assumes that the site has been rough and finish graded, has about 6 inches of topsoil, and that results of a soil test report are on hand.

Equipment, Tools, and Materials Needed:

Equipment	Hand Tools	Materials
Tractor with	Rake	Ground limestone
plow(s)	Spade	Superphosphate
disc	Roller	Sulfate of potash
harrow	Drag	Complete fertilizer
drag	Fertilizer spreader	having a 2-1-1
-or-	(hopper or drum type)	ratio
Power tiller	Broom and shovel	

Knowledge:

Equipment safety and maintenance
Estimation of surface areas in square feet
Measurements of quantities in pounds

Skills:

Equipment operation
Determination of moisture content of soil

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Task Statements and Evaluation

	Possible Points	Earned
1. Determine whether the soil is in proper moisture condition to be tilled.	10	
2. Apply ground limestone, superphosphate, and sulfate of potash separately at rates recommended by the soil test report, using a fertilizer spreader.	10	
3. Using tractor and plow, or power tiller, turn over the soil to a depth of 6 inches.	10	
4. Use tractor and disc (if power tiller not previously used) to break up soil.	10	
5. Use harrow and/or drag to smooth the soil, making at least 6 passes from different directions.	10	
6. Use spade and rake to fill in hollows and smooth humps. Remove all stones, sticks, and trash.	10	
7. Roll lightly; smooth again with drag.	10	
8. Apply the complete fertilizer at the rate recommended by the soil test report, using a fertilizer spreader.	10	
9. Rake the complete fertilizer into the top 1 inch of the prepared soil surface.	10	
10. Remove all rubbish from the site, sweep walks and drives, remove all equipment, tools and materials from the site.	20	
Total	100	

Note: Ideally in Northeast States, lawn seeding should be done in August or early spring, while seeding is best done in May or August.

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Ornamental Horticulture Task Sheet

Root-Pruning Trees

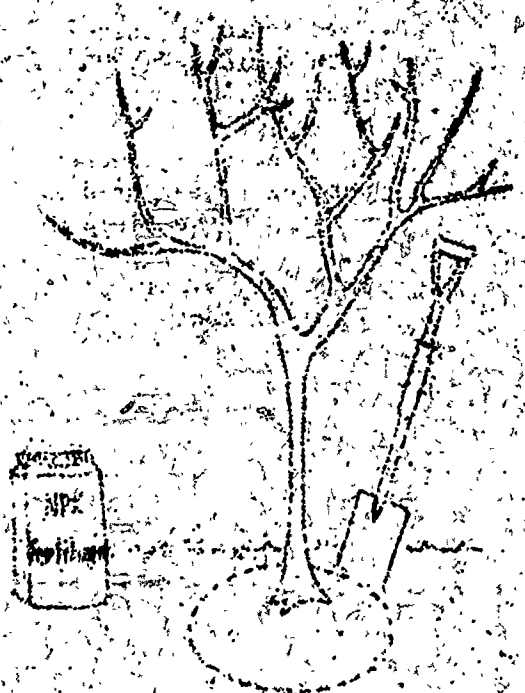
Performance Objective: Given the materials indicated below, the student will be able to circle and root-prune a shrub or tree within a radius of about one-fourth of the height of the tree. Performance is evaluated by teacher using guide on the back of this sheet.

Introduction:

Roots of trees and shrubs naturally grow well beyond the soil volume that can be moved with B & B plants, or the root spread exceeds that easily handled with bare root stock. In order to keep most of the roots within a small area, trees and shrubs are root-pruned in the nursery every 2 or 3 years until they are dug for sale. If this root-pruning is not done, the roots lost when the plant is dug for sale may be such a shock that it dies after being replanted. Fertilizer is usually applied at the time of root pruning.

Materials and Tools Needed:

- Tree digging spade
- Fertilizer (10-10-10 or similar)
- Colored plastic strips 2" wide
- 6-8" long



Knowledge:

- Root growth distribution
- Dormancy and growth cycles of woody plants

Skills:

- Use of spade
- Estimation of distances

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Task Statements and Evaluation

	Possible	Points
1. Mark a circle around the tree with a diameter of about one-fourth the height of the tree.	25	
2. Thrust the spade straight down to full depth all around and just outside the circle. This will cut off the roots outside the circle.	25	
3. Sprinkle a cupful of fertilizer evenly over the ground just inside the circle.	25	
4. Tag the tree to show that it has been root-pruned.	25	
Total	100	

Note: Root-pruning is done only after leaves have fallen from deciduous plants in late fall. Root-pruning at other times may damage the nursery stock severely.

In large-scale operations, root-pruning is usually done by passing a tractor-drawn, U-shaped blade under the rows of plants in the field.

The roots within the pruned space form many branches, giving a strong root system within a confined space.

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Ornamental Horticulture Task Sheet

Digging Bare-Root Trees

Performance Objective: Given a tree digging spade and soft twine, the student will be able to dig a tree bare-root without damaging the root system. Performance is evaluated by teacher using guide on the back of this sheet.

Introduction:

Small deciduous shade trees (2 inch diameter or less) are usually dug bare-root; larger sizes are dug B & B (balled and burlapped). Deciduous trees are dug only in the dormant state in early spring or in the fall after the leaves have changed color. Bare-root stock is often held in common or cold storage over winter so that early spring deliveries are possible. Care must be taken not to skin the bark while working with trees.

Materials and Tools Needed:

Ball of soft twine

Tree digging spade

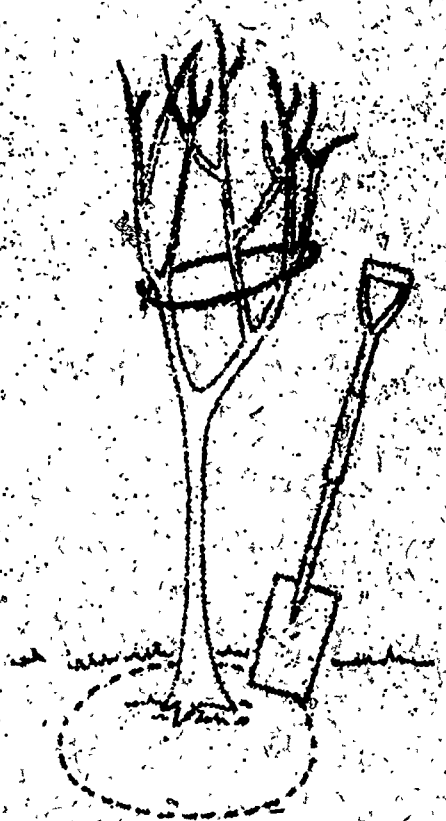
Knowledge:

Root growth distribution

Skills:

How to tie a square knot

Use of spade



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Task Statement and Evaluation

	Possible	Earned
1. Encircle the branches with a single piece of twine and gently pull them together into an upright position. Tie the twine with a square knot. Cut twine from ball.	10	
2. Mark a circle around the tree with the radius of one-third the height of the tree.	15	
3. Dig straight down around the tree with spade from outside circle with the back of the blade of the spade toward the plant. Roots extending beyond the circle will be cut by the spade.	15	
4. Remove the soil by pulling it away from the plant.	15	
5. Repeat, and when the trench is 12 to 15 inches deep, undercut the ball as far as possible.	15	
6. Shove the spade under the tree from both sides to cut roots beneath the tree.	15	
7. Gently pull tree from hole by the trunk and shake excess soil from around the root system.	15	
Total	100	

Note: Burlap should be placed on a waiting truck and moved to storage as quickly as possible to prevent drying of the roots, which would kill the trees.

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Ornamental Horticulture Task Sheet

Planting Bare-Root Trees

Performance Objective: Given specified tools and supplies, the student will be able to plant a bare-root shrub at the correct depth using supports to maintain an upright position. Performance is evaluated by teacher using guide on the back of this sheet.

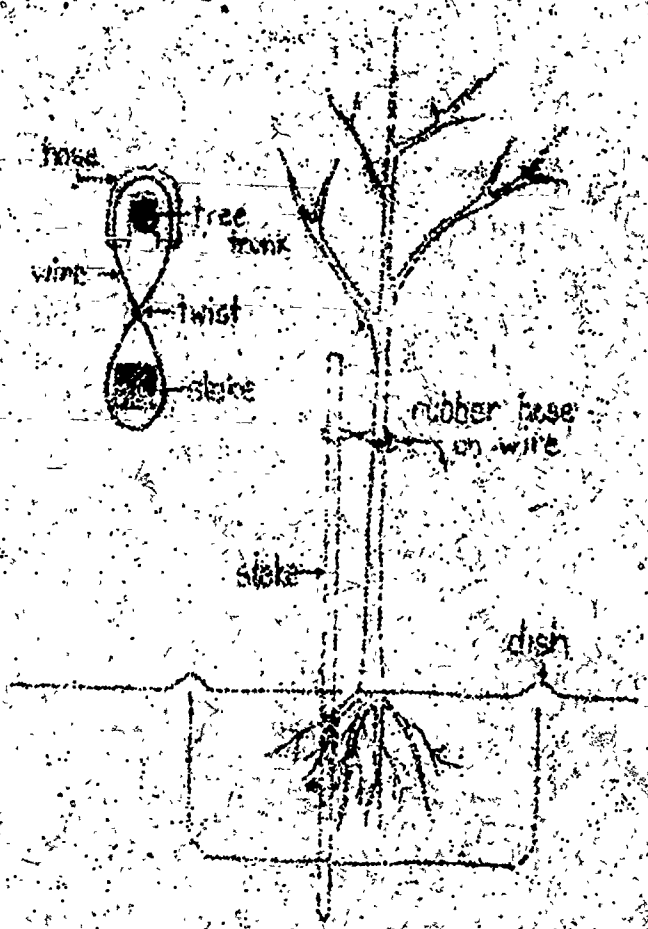
Introduction:

Bare-root trees can only be successfully transplanted in the dormant state (late fall, early spring), and at times when the soil is not frozen.

Many kinds of shade trees can be successfully transplanted bare-root in sizes up to two-inch trunk diameter at breast height (4 ft.).

Materials and Tools Needed:

True digging spade
Mattock (if needed)
Watering hose or bucket
Pointed stake (8 ft.); medium gauge wire; short pieces of old garden-hose
A bare-root tree
Wire cutting pliers
Peat moss



Knowledge:

Parts of a tree
Importance of soil air and water

Skills:

Use of spade
Measuring and mixing soil

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Task Statements and Evaluation

	Possible	Earned
1. Roots should lie covered with wet burlap or shingle tow until shrub is actually placed in the hole.	15	
2. Dig a hole 12 inches wider than the root spread and 6 inches deeper than shrub planting depth (depth at which it originally grew).	10	
(a) Find width of root spread with cardboard stick.		
(b) Find planting depth of root system.		
(c) Add 12 inches to actual root spread and mark circle on ground surface.		
(d) Dig to indicated width and depth. (Put soil on burlap to keep the lawn clean.)		
3. Make up soil mixture of 1/3 to 1/2 peat by volume with soil removed from the hole.	10	
4. Put about 4 inches of mixture in bottom of hole.	10	
5. Holding the tree in proper position (at the center of the hole and at the depth at which it originally grew), add soil mixture to the hole; gently working it among the roots and firming with the fingers.	10	
6. After filling the hole, gently firm the soil with the feet.	15	
7. "Dish" the soil by making a 2 inch rim of soil around the shrub.	10	
8. Drive an 8 foot stake into the soil about 6 inches from the trunk (on the windward side of the tree).	10	
9. Fasten the tree to the stake using rubber hose and wire as shown in the picture.	15	
10. Thoroughly water the tree by filling the dish with water to the rim. When the water has drained away, fill the dish again. Do this three or four times.	10	
Total	100	

Note: Trees are transported with the branches tied upward. After the tree has been planted the twine should be removed so that the branches are restored to a natural position. Trees should be watered thoroughly once every week from April to November the first season after planting.

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Ornamental Horticulture Task Sheet

Digging Balled and Burlapped Shrubs

Performance Objective: Given the tools and materials indicated below, the student will be able to dig a shrub with the soil remaining compacted around the roots in a ball wrapped completely with burlap. Performance is evaluated by teacher using guide on the back of this sheet.

Introduction:

Shrubs may be dug by tractor-powered diggers if large enough numbers are involved. Digging is often done by two men working with spades, if relatively smaller numbers of shrubs are needed.

Deciduous trees and shrubs are dug in the fall after the leaves have changed color or fallen. If they are dug before reaching this dormant stage, they may grow very poorly or die when replanted the same fall or the following spring. Evergreen trees and shrubs are dug in early spring or sometimes in the fall. Pines and spruces are sometimes dug in August (at a time the current season's growth has matured).

Materials and Tools Needed:

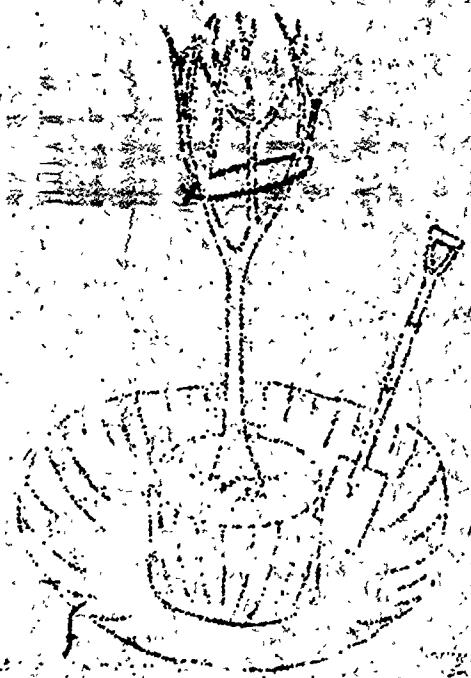
- 7d planting nails
- Tree digging spade
- Burlap
- Twine (for tying burlap)

Knowledge:

- Patterns of root growth

Skills:

- Use of spade
- Wrapping
- Tying clove hitch, square, and slip knots



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Task Statements and Evaluation

	Possible	Earned
1. Pass a piece of twine around the top of the plant and gently pull the branches to an upright position. Tie with a square knot.	10	
2. Make a circle on the ground around the tree with a diameter about 1/4 of the shrub's height.	10	
3. Dig a trench 12 to 16 inches deep from outside the circle with the back of the spade blade toward the plant.	10	
4. Undercut the circle as far as possible after cutting the root ends of the plant.	10	
5. Cut a piece of burlap large enough to enclose the soil ball. Tie a corner of the burlap square around the trunk of the shrub.	10	
6. Draw burlap down one side to the base, tuck it under the ball as far as it will go, and push the burlap into a tight roll.	10	
7. From the opposite side, shove the blade of spade under the ball to cut the lowest roots, and tilt the ball away from you.	10	
8. Pick up the burlap from the bottom and wrap it tightly to the soil ball, using nails to pin the folds together.	10	
9. Tie the end of a ball of twine to the trunk with a clip knot. Pass the twine completely under the ball and make a turn around the trunk. Pass it under the ball again at a right angle to the first pass. Tie it to the trunk with a clove hitch. Pass the twine around the soil ball, looping each vertical piece. Pull to give a firm fit and tie with a square knot.	10	
10. Do not lift the ball by the trunk; lift it out of the hole by sliding a spade or a stout plank under it.	10	
Total	100	

Note: The burlap and twine must fit firmly to give good support. A cracked ball could kill the plant.

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Ornamental Horticulture Task Sheet

Planting a Balled and Burlapped Shrub

Performance Objective: Given the materials indicated below, the student will be able to plant a balled and burlapped shrub in an upright position and at the depth at which it originally grew. Performance is evaluated by teacher using guide on the back of this sheet.

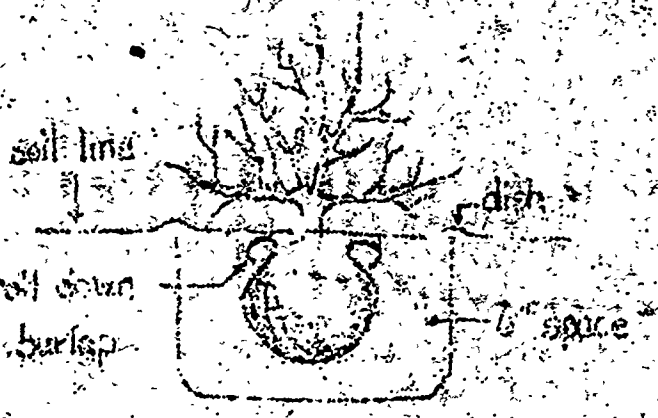
Introduction:

Nearly all evergreens are balled and burlapped for transplanting. These plants are handled this way because they are not likely to live if moved as bare-root plants. Certain deciduous plants, such as flowering dogwoods and magnolias, are also transplanted as B & B shrubs.

Care must be taken in handling these plants. If the soil ball cracks, the resulting root damage may kill the plant.

Materials and Tools Needed:

A balled and burlapped shrub
Tree digging spade
Watering hose or water can
Peat moss



Knowledge:

How to measure planting depth
How to move B & B stock

Skills:

Measurements
Estimation

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Task Statements and Evaluation

	Possible	Earned
1. Dig a hole large enough to give a 6 to 8 inch clearance all around the ball and 6 inches deeper than the depth of original planting. (Put the soil on burlap to keep the lawn clean).	10	
2. Make up a soil mixture by mixing 1/3 to 1/2 peat with soil removed from the hole. (Mix on burlap.)	15	
3. Put about 4 inches of soil mixture in the bottom of the hole.	10	
4. Set the plant in the hole with the burlap still around the ball of earth, adjust so it is about 1 inch higher than the depth it originally grew. (The plant will settle a little when watered.)	15	
5. Cut the string and fold back the burlap to about 1/3 of the height of the soil ball.	10	
6. Add soil mixture to half the depth of the hole, firming it with the feet.	10	
7. Add water to fill the hole to the rim, and allow it to drain away.	10	
8. Finish filling the hole to the level of the surrounding soil surface, and "dish" the soil by making a 2-inch mound of soil at the rim of the filled area.	10	
9. Fill the saucer shaped surface to the rim with water. If the branches of the plant were held upright with cord, cut the twine so the branches will go back to a natural position.	10	
Total	100	

Note: Newly shrubs must be watered thoroughly once each week from April through October the first season after planting. (At each watering the "dish" should be filled 2 or 3 times.) Evergreens require a very heavy watering in late fall, as well as protection from sunlight and strong winds the first winter after planting.

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Ornamental Horticulture Task Sheet

Transplanting Nursery Stock from Pots to Containers

Performance Objective: Given a recommended soil mixture, potted plants, and containers, transplant nursery stock from the pot to the container. Performance is evaluated by teacher using the guide on the back of this sheet.

Introduction:

Cuttings, seedlings, or grafted plants of many kinds are grown for a period of time in small pots until they are large enough to be transplanted into larger containers (1, 3, 5, 12 gallon), or lined out in the field.

Container stock is grown to marketable size in the containers. One, three, five, and twelve gallon containers are used. They may be made of steel, plastic, wood, compressed paper, or sawdust. Planting is usually done in early spring.

Materials and Equipment:

Containers - 1 gallon size
Soil mixture - 1 part soil,
1 part medium sand, and
1 part peat
Water
Potted seedlings, rooted cuttings, or grafts

Knowledge:

Can distinguish varieties of plants
Can distinguish container sizes and materials

Skills:

Volume measurement

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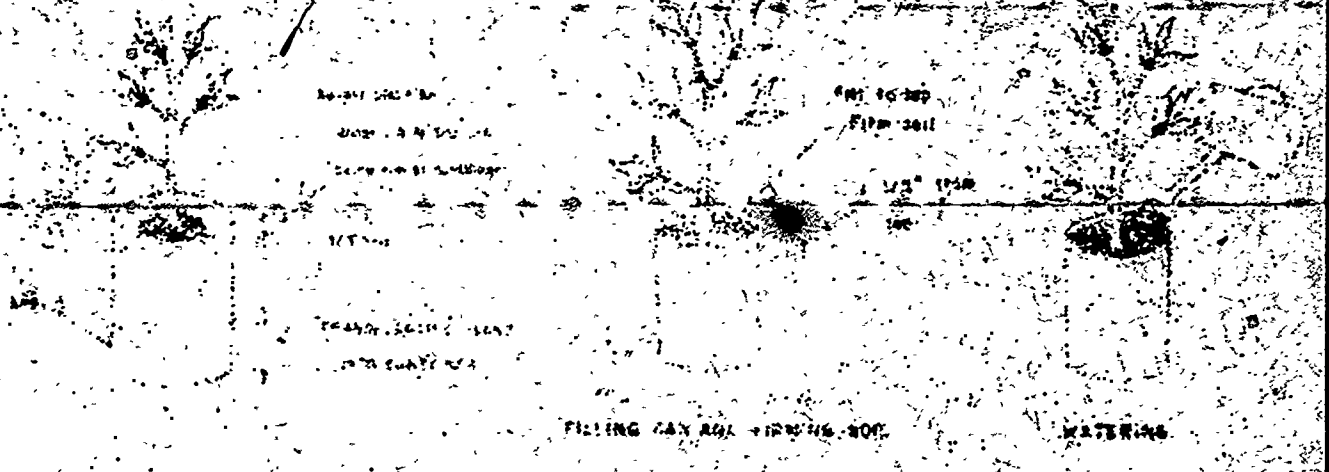
Task Statements and Evaluation

	Possible	Earned
1. Water the potted plants about 30 minutes before transplanting.	20	
2. Remove the plant from the pot by holding the stem of the plant between fingers, and strike pot or pot against edge of bench. Do not break soil ball or root damage will result. Plants grown in pressed peat pots are planted without removing the pot.	20	
3. Fill the container about 1/3 full with soil and add the plant. Adjust the planting depth of the plant to about 1/4 inch to 1/2 inch below the rim of the container, adding or removing soil under it as needed.	20	
4. Loosely fill soil in the container and level it off with the hand. Press the soil on each side of the plant until the soil is about 1 inch from the top of the container.	20	
5. Water the plant by filling the container to the rim twice. Thereafter, the plant should be watered at the rate of one pint per gallon size container once per day in fall and spring, twice per day in the summer.	20	
Total	100	



FILLING CAN AND POTTING SOIL — WATERING

Taylor Byrd
1973
Department of Agricultural Education
The Pennsylvania State University
University Park, PA 16802

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Ornamental Horticulture Task Sheet

Pruning Deciduous Shrubs

Performance Objective: Given available deciduous shrubs and proper tools, prune shrubs to desired form. Performance is evaluated by the teacher using the guide on the back of this sheet.

Introduction: Deciduous and evergreen shrubs often require pruning to improve their appearance. Pruning promotes compact growth, develops natural form, and removes dead wood. Pruning is done before growth starts in early spring for plants that bloom in mid-summer. Spring-flowering shrubs are pruned right after flowering. Most deciduous shrubs require some maintenance pruning each year.

Materials and Tools Needed:

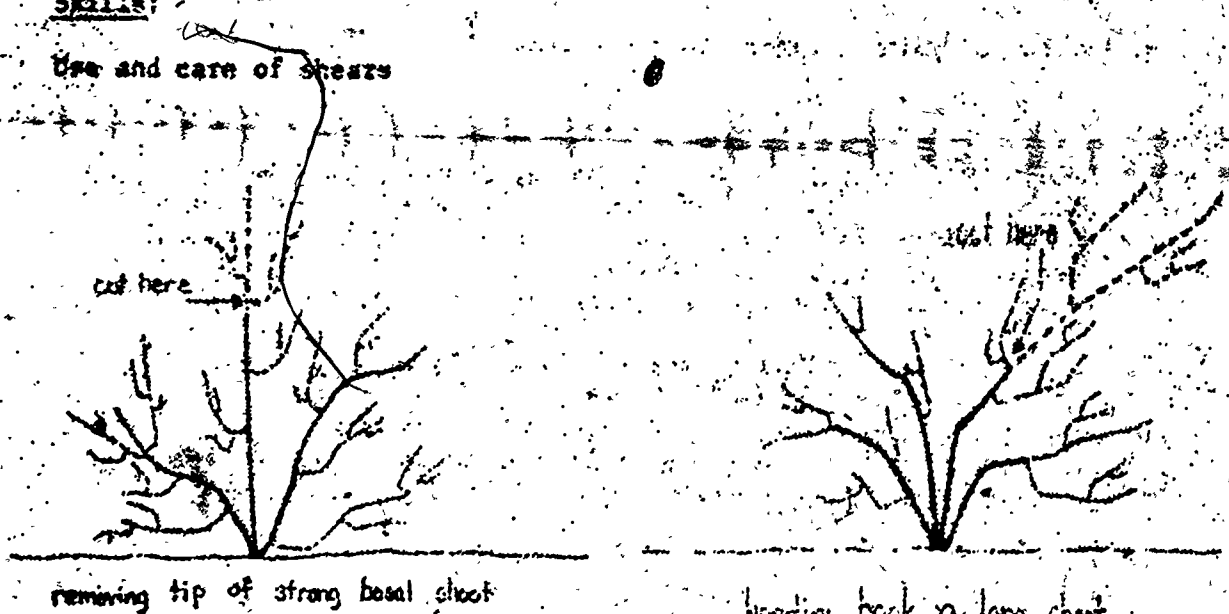
Pruning shears (hand)
Leather gloves (if thorny plant)
Tree paint (asphalt emulsion)
Paint brush (1/2 inch size)

Knowledge:

Difference between deciduous and evergreen shrubs
Recognition of natural plant forms
Ability to distinguish between live and dead wood
Ability to recognize crossing branches

Skills:

Use and care of shears



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Task Statements and Evaluation

	Points Possible	Earned
1. The teacher will select one shrub needing pruning. Before starting to prune, notice the natural form of the shrubs.	15	
2. If a stem is dead all the way down, it should be removed at the ground line. Do not leave any stubs. Remove all dead wood, making smooth cuts at a live branch, using shears.	10	
3. Where two branches rub together, remove the less desirable branch by making a smooth cut at a lateral branch.	10	
4. Cut back rapid long branches that distort the natural plant form, making a smooth cut at a lateral branch. (This is called "heading back.")	15	
5. Remove branches that overhang a walk or driveway. Cut back to leave the straightest branch that does not extend into the walk or driveway. Make a smooth cut.	10	
[illegible]		
6. If there are isolated, new, very strong shoots from the base, cut off the tip about 18 to 24 inches from the ground to encourage branching. This will help in keeping the natural plant shape.	15	
7. Using true paint, (a special paint that is not harmful to plants) paint cut surfaces that are over 1/4 inch in diameter.	15	
8. Remove clippings, clean and store tools.	10	
Total	100	

Note: Safe pruning practices for deciduous shrubs being grown in natural form. Different methods are used for hedges and formal shapes. Evergreens and trees require other special methods. Garden roses, grape, fruit trees, and espaliered plants are each pruned differently.

Taylor Byrd and Rodney Mack
1971
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University Park, PA 16802

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T-7 TURFGRASS

Ornamental Horticulture Task Sheet

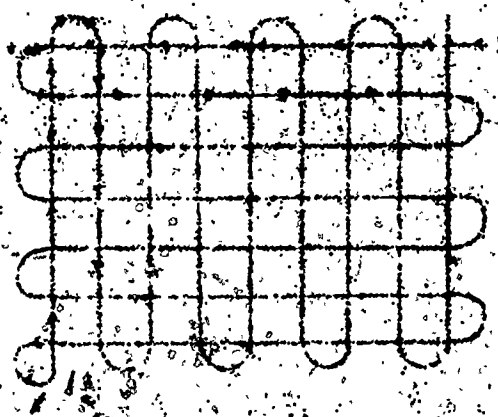
Seeding Turfgrass

Performance Objective: Given an area that has been prepared for seeding and turfgrass seed, appropriate equipment, tools, and supplies, the student is able to sow seed and mulch the area. Performance is evaluated by the teacher using the guide on the back of this sheet.

Introduction: This task sheet assumes that the area has been rough and finish graded, smoothed, and appropriate fertilizer incorporated for seeding. Turfgrass seeding in Northwestern U.S. is most successful in August or early September, early spring is second best. Any time through July seeding is least likely to be successful. Mixtures of turfgrass seeds are best applied by hand because seeding machines need to sort out seeds of different weights and sizes, resulting in patches rather than evenly blended plantings. Seeding cannot be done on a windy day.

Equipment, Tools, and Supplies:

Seeding machine, hopper or drop type
Roller
Garden rake
Broom rake
Broom
Watering hose with nozzle
Turfgrass seed mixture or one kind (certified at least 85% germination rate and less than 8% weed content)
Straw mulch



Seeding pattern

Knowledge:

Appropriate seed or seed mixture for site
State regulations governing sale of turfgrass seed
Calculation of seeding rates

Skills:

Calibration of seeding machine
Equipment operation
Measurement of areas in square feet

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Task Statements and Evaluation

	Points Possible	Earned
1. Calculate the amount of seed or seed mixture needed for the area (3 to 4 lbs per 1,000 square feet except Tall Fescue, 6 to 8 lbs).	15	
2. Apply 1/2 of the total seed needed making passes in one direction over the area, using one of the following methods:	15	
a. Hopper seeder, being certain to overlap wheel marks. b. Drum seeder, on lines 8 feet apart. c. By hand, flinging the seeds in a sweeping motion, following lines 8 feet apart (preferred method for mixtures).		
3. Repeat Step 2, using the second half of the total seed, and making passes at a right angle (90°) to the original ones.	10	
4. Using an 8 x 8 foot piece of heavy wire fencing dragged behind a tractor for small areas a garden rake or brush rake dragged over the surface, work the seeds into the top 1/4 inch of soil.	15	
5. Calculate the amount of straw needed at the rate of about 1 bale per 2,000 square feet and apply it evenly to the surface.	15	
6. Lightly roll the entire area to firm the soil around the seed and help anchor the straw mulch.	15	
7. Remove all waste material from the area, sweep walks and driveways, service and store equipment.	5	
8. Thoroughly water the entire seeded area.	10	
	Total	100

Note: The purpose of the mulch is to slow down drying of the soil. Straw mulch applied at this rate does not need to be removed. Light watering daily until the seed germinates in 2 to 3 weeks may be necessary to prevent drying in the root zone. When seedlings are 3 inches high, the first mowing at 1 1/2 inches cutting height should be done, and heavy watering at weekly intervals should be started. No herbicides should be applied until 6 months after seeding.

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1973
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Unit: Crop Production

Title of Activity: Seed Identification

Method of Teaching Used: Independent Study

Objective:

1 At the end of the lesson, the Agri-Business student will be able to identify 80% of all the seed samples in the Farm Bureau Kit.

Materials needed by the Student:

1 Farm Bureau Seed Identification Kit
2 Magnifying Glass

Detailed Procedure:

1 Begin by trying to identify as many of the seeds as possible without using the Key
2 Now check the Key for only those you could identify and see if you were right
3 If you were wrong, check them carefully for identifying characteristics such as color and shape
4 Now pick up the ones you didn't know and check their names on the Key-- As you do this, again look for a characteristic that will help you identify the seed
5 When you have finished, try the whole Kit again. If you miss one again, look for the identifying characteristic
6 When you think you are ready, test yourself and see if you can get 80% of the seeds correct

References Used:

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Unit: Crop Production

Title of Activity: Noxious Weeds of Indiana

Method of Teaching Used: Field Trips or Independent Study

Objective: At the end of the lesson, the student will be able to identify the noxious weeds of Indiana and have a full and complete collection of them.

Materials needed by the Student:

1 18 - 8x10 sheets of cardboard
2 1 roll of cellophane wrapping
3 1 roll of cellophane tape
4 1 roll of waxed paper
5 Knife or scissors
6 The booklet: "Noxious Weeds of Indiana"

Detailed Procedure:

1 Collect from fields, vacant lots, roadside ditches, etc., all 18 of the noxious weeds found in Indiana
2 Using the waxed paper, press each specimen
3 On the back of each cardboard sheet put the name of the weed
4 Using the cellophane wrapping and tape, mount the specimens on their cardboard
5 Using the mounts and while collecting your specimens become familiar with each weed and where they are found.

References Used:

1 "Noxious Weeds of Indiana", BP-10-1, Cooperative Extension Service, Purdue University

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Unit: Crop Production

Title of Activity: Weeding with Chemicals

Method of Teaching Used: Independent Study

Objective: At the end of the lesson, the student will be able to cite several chemicals useful for killing noxious weeds

Materials needed by the Student:

1 Large piece of poster board
2 Yard stick
3 Dry Markers
4 "Weeding With Chemicals" ID-1

Detailed Procedure:

1 List the noxious weeds of Indiana on one side of the poster board
2 Across the top, list the kinds of crops we might find these weeds in
3 Using "Weeding With Chemicals", list under the crop and across from the weed, the chemical suited for this type combination
4 Give yourself plenty of room because there are many kinds of crops and 18 noxious weeds
5 When you are finished, post this display in the Voc-Agri-Business Classroom

References Used:

1 "Weeding With Chemicals" ID-1, Co-operative Extension Service Purdue University

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Unit: Crop Production

Title of Activity: What to Plant

Method of Teaching Used: Independent Problem Study

Objective: At the end of the lesson, the Ag Student will be able to select a crop to plant in a particular situation

Materials needed by the Student:

Detailed Procedure:

1 Given: 35 acres of good, deep, irrigable sandy loam soil with a pH of 6.5
Average equipment found on truck farms
Assuming average "know how" of farming methods

2 Knowing these things, what would you plant? Can other crops besides field crops, such as onions, tomatoes, etc. be planted?

3 What factors do you consider in growing a crop? Economic factors? List these

4 List your market outlets, production costs, and risks in growing the crop

5 Prepare a recommendation as to what should be planted and list the market outlets, production costs, and risks in growing this particular crop that you chose

References Used:

1 Crop Production, Third Edition, Prentice-Hall, Inc. Englewood Cliffs, New Jersey. 1967

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Unit: Crop Production

Title of Activity: Seed Corn Grades and Planter Plates

Method of Teaching Used: Demonstration Exercise

Objective: At the end of the lesson, the Jr. High Ag. Student will be able to determine the correct plates for various grades of corn

Materials needed by the Student:

1. Seed corn bag with plate recommendations
2. 4 or 5 different grades of seed corn
3. 4 or 5 different sizes of planter plates

Detailed Procedure:

1. Pre-test students by placing lettered samples of corn grades and numbered plates around the room. Students can then match the plate with the corn grade
2. Ask for the difference in size and shape of the seed. Discuss the parts of the seed and the location on the ear where seeds come from
3. Now go to the seed corn bag. On the back are plate recommendations for various grades
4. Find the column where grades of corn are given. Follow the line across and you will see the plate number recommended for that grade. Find the plate number for a medium round
5. Go to the instructor. He will ask you for a particular grade and what plate is recommended
6. When you can do this you have passed this unit at the mastery level

References Used:

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Unit: Crop Production

Title of Activity: No-Plow Tillage

Method of Teaching Used: Independent Study

Objective: At the end of the lesson, the student will be able to develop a no-plow tillage plan for his farm, specifying when and what tillage means will be used and crop rotation.

Materials needed by the Student:

1 Agronomy Guide AY-185 Tillage--"Where is No-Plow Tillage Adapted in Indiana?"
2 Soil type maps of home farm
3 Farm Bureau herbicide chart

Detailed Procedure:

1 Using the maps, determine what soil types are on your home farm
2 Read the Agronomy Guide
3 Can you use no-plow methods on your soil type? Explain in detail!
4 Let's assume that you can
5 Prepare a detailed plan of no-plow tillage for your farm. List such things as when to till. What herbicides you will use? What machinery you will use. Planting dates. Erosion problems and how they would be handled. How insects would be handled, seed germination, and the effects of cool temperatures and moisture on no-plow operations

References Used:

1 Agronomy Guide AY-185 Tillage--"Where is No-Plow Tillage Adapted in Indiana?"

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Unit: Crop Production

Title of Activity: Nutrient Deficiency

Method of Teaching Used: Class experiment. Divide into groups

Objective:

1 Become familiar with techniques in crop research
2 Observe the effects of deficiencies
3 Analyze and report research results scientifically

Materials needed by the Students:

1 Sterile plastic containers
2 Freezer tape
3 Distilled water
4 Quartz sand
5 Stirring rods
6 Growing area

Detailed Procedure:

1 Fill 10 sterile plastic containers to within 1" from top
2 Label the containers with freezer tape and mark as follows:
a. Complete b. Control c. Ca d. -S e. -Mg f. -K g. -N
h. -P i. -Fe j. Micronutrients
3 Add to each container the volume of solution with the nutrient as recommended by your instructor. Remember the solution marked "Control" goes in the container marked "Control" and so on
4 Add distilled water to the container until the sand is saturated
5 With the stirring rod make 3 holes 1½" deep in the sand and plant one kernel of corn in each hole
6 Place the plants in an area of favorable growing conditions and water regularly for 4 weeks
7 At the end of this time record all observable differences in the plants
8 Cut and weigh the plants
9 Write up your results and show which deficiencies had the greater effect on the plant

References Used:

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Unit: Crop Production

Title of Activity: Silage Production

Method of Teaching Used: Field Trip

Objective: At the end of the lesson, the Ag Student will be able to explain use of corn hybrid, harvesting methods, and several advantages to silages

Materials needed by the Student:

1 Bus or means of transportation
2 Farm where silage is being harvested and stored

Detailed Procedure:

1 When visiting the farm, pay careful attention to what crop is being made into silage. If corn, does it have a big fully developed ear? What other crops could be used for silage?
2 How is it being harvested? What equipment is needed?
3 What kind of silo is it stored in?
4 What other kinds of structures could silage be stored in?
5 At what life stage are the plants being harvested?
6 What kind of livestock will the silage be fed to?
7 When you return from the trip, answer these questions, and recommend how the silage and harvesting operation could be improved.

References Used:

1 Crop Production, Third Edition, Prentice-Hall, Inc., Englewood Cliffs, New Jersey, 1967

CROPS VOCABULARY

1. Legumes
2. C
3. H
4. O
5. P
6. K
7. N
8. S
9. Ca
10. Fe
11. Mn
12. B
13. Mg
14. Cu
15. Zn
16. Mo
17. Cl
18. Cereal grains
19. Corn
20. Soybeans
21. Barley
22. Rye
23. Corn Belt
24. Hard Red Spring Wheat
25. Hard Red Winter Wheat
26. Soft Red Winter Wheat

27. Durum Wheat
28. Forage Crop
29. Silage
30. Sorghum
31. Lespedeza
32. Clover
33. Growing Season
34. Topography
35. Life Cycle
36. Germination
37. Photosynthesis
38. Chlorophyll
39. Daylength
40. Stigma
41. Style
42. Ovary
43. Ovules
44. Pistil
45. Anthers
46. Pollen
47. Sepal
48. Petal
49. Buds
50. Vegetative Reproduction
51. Dormant
52. Tubers

53. Fertilization

54. Annual

55. Biennials

56. Winter annuals

57. Perennials

58. Top root

59. Fibrous roots

60. Compound leaf

61. Spike

62. Panicle

63. Hybrids

64. Single cross

65. Double Cross

66. 3-way

67. Inbred

68. Variation

69. Dominant

70. Recessive

71. Varities

72. Meteoroligist

73. Compaction

74. Rotations

75. Starter fertilizer

76. Zero-tillage

77. Cultivation

78. Fodder

79. Hessian Flies

80. Innoculation

81. Defoliants

82. Weed

CROPS VOCABULARY KEY

1. A plant that takes nitrogen from the air and puts it into the soil.
2. Carbon
3. Hydrogen
4. Oxygen
5. Phosphorus
6. Potassium
7. Nitrogen
8. Sulfer
9. Calcium
10. Iron
11. Manganese
12. Boron
13. Magnesium
14. Copper
15. Zinc
16. Mo
17. Chlorine
18. Wheat, oats, barley, rye and rice
19. King of the grain crops
20. Modern wonder crop
21. Cereal grain
22. Cereal grain
23. States of Ohio, Indiana, Illinois, Iowa, Nebraska
24. Used for making bread
25. Used for making bread

26. Used for making pasteries

27. Used for making macaroni

28. Vegetable matter, fresh or preserved, utilized as a feed for animals.

29. Green fodder preserved in a soil

30. Cereal grass especially adapted to droughty areas

31. Summer annual legume

32. Leafy, small-stemed legume having 3 leaflets to the leaf

33. Length of time the climate is suitable for growth of plants in a given area

34. The surface features of the land

35. Series of changes in a plant or animal from its earliest stage until it reoccurs

36. The start of plant growth

37. $CO_2 + H_2O \rightarrow C_6H_{12}O_6 + O_2$

38. Green material in plants

39. Amount of time light is available for a plant to absorb on any given day.

40. - 44. Female parts of a flower

45. - 46. Male parts of a flower

47. Leaf divisions that protect the flower

48. The colored part of a flower

49. A projection on a plant from which a shoot, flower, or cluster of leaves develops.

50. Taking of a stem, leaf, or bud of one plant and growing another plant.

51. A resting stage

52. Underground stem

53. Joining of male and female sex cells

54. Plants that require only one year to complete their life cycle

55. Plants that require two years to complete their life cycle

56. A plant that requires one year to complete its life cycle and overwinters as part of this process

57. Plants that require more than 2 years to complete their life cycle.

58. A single main root

59. A root system in which there is no main root, but a number of roots with many fine branches

60. A leaf divided into two or more leaflets with a common leaf stalk

61. Type of seed head found in wheat

62. Type of seed arrangement found in oats

63. The offspring of animals or plants of different varities or species.

64. The result from the crossing of 2 inbreds.

65. The result of the crossing of two single crosses.

66. The result of crossing a single and double cross

67. A plant or animal that has been backcrossed for 5-7 generations

68. Change from the normal.

69. Ruling shows its influence even in the presence of recessive traits.

70. Tending to recede, shows its influence only when in a homozygous situation.

71. Different species or races

72. Weatherman

73. Pushing together of the soil under the weight of heavy equipment

74. Changing of crops in given fields from year to year

75. Fertilizer applied when seed is planted to give it a good start.

76. Raising a crop without stirring the soil.

77. Stirring the soil to kill weeds.

78. The part of the corn plant that remains after the ear is removed.

79. Insects that attack small grains brought to U.S. by German soldiers.

80. Application of beneficial bacteria to the seed of a legume before planting.

81. A spray used to cause the leaves of a plant to drop off.

82. A plant out of place.

Unit: Crop Production

Title of Activity: Seed Identification and Crop Use

Teaching Method: Class Exercise

Objective: At the end of this unit the student will be able to identify the following grains: corn, soybeans, wheat, oats, rye, barley, sorghum, alfalfa, orchard grass, birdsfoot trefoil, brome grass to 80% proficiency on a quiz.

Materials Needed:

1 Samples of seed listed in objective
2 Sheets of paper, like those on back of this page, celophane tape
3 Crop Production text and pamphlets.

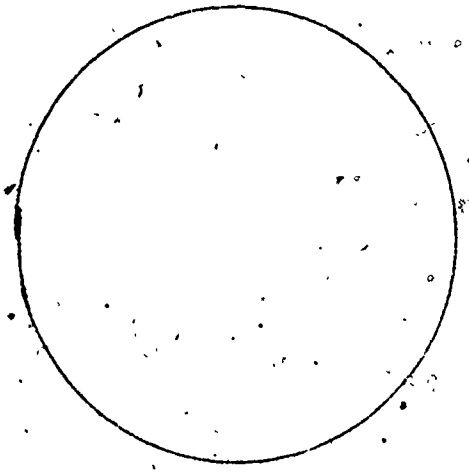
Detailed Procedure:

1 Have students place 3-4 seeds of a crop under a strip of tape in the circle on their seed identification pages (on back).
2 Using resource material, have students look up the name of the seeds.

crop _____

lbs./bushel _____

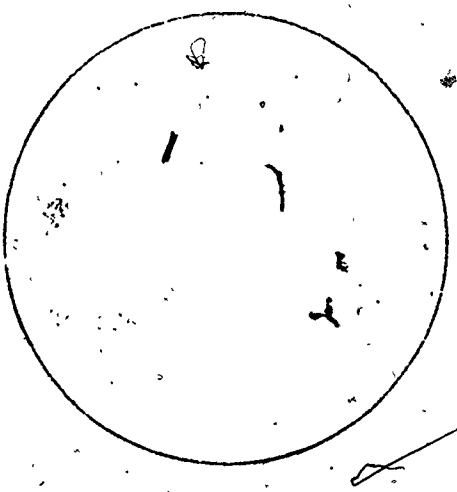
uses _____
_____
_____



crop _____

lbs./bushel _____

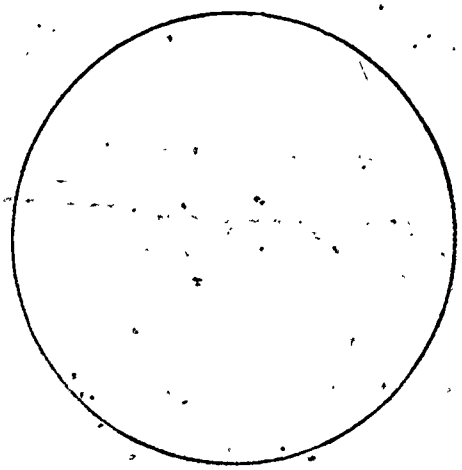
uses _____
_____
_____



crop _____

lbs./bushel _____

uses _____
_____
_____



Unit: Crop Production

Title of Activity: Agricultural Mathematics

Method of Teaching: Problems

Objectives: To develeop an appreciation of mathematics and its application to agriculture.

Materials Needed: Problems below:

1. A farmer is going to apply 250 lbs. per acre of 6-24-24 fertilizer on his 20 acre field. Fertilizer costs $150 per ton. Answer the following questions about the situation.

   a) How many tons of fertilizer should the farmer buy?
   b) How much will it cost the farmer to fertilize his field?
   c) How many lbs. of nitrogen did the farmer apply per acre?
   c) How many lbs. of nitrogen did the farmer apply on the entire field?

2. A gardener has purchased an 80 lb. bag of 5-20-20 fertilizer. He asks you how many lbs. of nitrogen, phosphrous, and potassium are in the bag. Fill out the table below to answer his question.

   _____ lbs. of nitrogen in the bag

   _____ lbs. of phosphrous in the bag

   _____ lbs. of potassium in the bag

   _____ total lbs. of nutrients in the bag.

Unit: Crop Production

Title of Activity: Soybean Insect Identification

Method of Teaching: Flash Cards

Materials Needed by Students:

1. 3x5 index cards
2. Rubber Cement
3. Extension Publication E-85

Objective:

1. To develop a knowledge of the common soybean insects.

Detailed Procedure:

1. Give the student the Extension Publication and have them cut out the pictures.
2. Have the students cement the pictures on the 3x5 cards, placing the name of each insect on the back of the card.

References Used:

1. Extension Publication E-85 Common Soybean Insects

Unit: Crop Production

Title of Activity: Corn Insect Identification

Method of Teaching: Flash Cards

Materials Needed by Students:

1. 3 x 5 index cards
2. Rubber Cement
3. Extension Publications E-83 and E-84

Objective:

1. To develop a knowledge of the common corn insects.

Detailed Procedure:

1. Give the students the two (2) Extension Publications and have them cut out the pictures.
2. Have the students cement the pictures on the 3 x 5 cards, placing the names of each insect on the back of the card.

References Used:

1. E-83 Corn Insects - Above Ground.
2. E-84 Corn Insects - Below Ground

Unit: Crop Production

Title of Activity: Small Grain Insects

Method of Activity: Flash Cards

Materials Needed by Students:

1. 3 x 5 index cards
2. Rubber cement
3. Extension Publication E-86

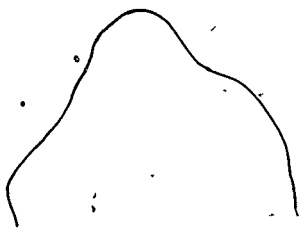
Objective: To develop a knowledge of the common small grain insects.

Detailed Procedure:

1. Give the student the Extension Publication and have them cut out the pictures.
2. Have the students cement the picutres on the 3x5 cards placing the name of each insect on the back of the card.

References Used:

Extension Publication E-86 Common Small Grain Insects



SOILS VOCABULARY

1. Soil
2. Fertility
3. Organic matter
4. Humus
5. Micro-organism
6. Bacteria
7. Protozoa
8. Fungi
9. Molds
10. Hydroponics
11. Geologist
12. Glaciers
13. Climate
14. Sand
15. Loam
16. Clay
17. Texture
18. Nutrients
19. Foliar feeding
20. N deficiency of corn
21. P deficiency of corn
22. K deficiency of corn
23. Erosion
24. Soil test
25. Tissue test

SOILS VOCABULARY KEY

1. The outside layer of the earth that supports plants and animal life.
2. The productivity of the soil.
3. Plant and animal matter in the soil.
4. Partially decomposed organic matter.
5. Any microscopic animal or plant.
6. One celled micro-organisms which have no chlorophyll.
7. Microscopic animal
8. Any of the groups of plants which have no leaves, flowers, or green color.
9. A growth on the surface of organic matter caused by fungi.
10. The science of growing plants without soil.
11. The science of the study of the earth's crust.
12. A large mass of snow and ice.
13. The prevailing or average weather conditions.
14. One of the soil particles.
15. A broad group of textural classes.
16. One of the soil particles.
17. The relative proportion of soil particles in the soil.
18. Any one of the materials in the soil that a plant uses in its growth process.
19. Fertilizing a plant through the leaves.
20. Yellowing of the corn leaf from the tip down the midrib.
21. The leaves and stems become purple.
22. Yellowing of the corn leaf from the tip around the edges.
23. The wearing away of the land surface by running water or wind.
24. A chemical analysis of soil from which fertilizer recommendations are made.
25. A chemical analysis of leaf material from which fertilizer recommendations are made.

AGRONOMY Name _____

Activity: Ragdolls Date _____ Section _____

This experiment will take 7 days. It will be your responsibility to check this experiment after 7 days, record the results and answer the questions.

Procedure:

1 Place 5 kernels of corn and 5 seeds of soybeans on a dampened paper towel. (Place seeds in different directions)

2 Roll the paper towel so seeds are centered in the towel.

3 Make another towel with seeds, but wrap up so that no light can get in.

4 Place the towels and seeds (ragdolls) in a container and wait 7 days.

What are we trying to find?

1 What effects growth?

2 What is the difference between germination of corn and bean seeds?

3 What part on the seed does the root and shoot come from?

Record Results:

Seed Direction	Shoot Length	Shoot From	Root Length	Root From
Corn				
Corn				
Corn				
Soybeans				
Soybeans				
Soybeans				

Questions:

1 What is the difference between seeds with light and seeds without light? (For germination)

2 In general where does the shoot come from on the seed?

3 In general where does the root come from on the seed?

4 What elements are needed for germination?

5 Does photosynthesis take place in germination?

6 What is the difference between germination of corn and soybeans?

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Unit: Mechanics

Title of Activity: Handtools

Method of Teaching Used: Tool Identification Kit, Lecture, Charts and Posters, Demonstration, Student Assignment, Student Practice, Follow up or Test

Objectives:

1 To develop the ability to identify hand tools
2 To develop the proper techniques of using hand tools
3 To develop the ability to maintain and care for hand tools

Materials needed by the Student:

1 Tool I. D. cards
2 VOC. Ag. shop hand tools
3 Charts and posters from Stanley Tool Company
4 Pencil and Paper
5 Sears, Roebuck catalog

Detailed Procedure:

1 Discuss the function of hand tool groups
2 Discuss the different types of hand tools
3 Discuss the proper hand tool usage
4 Identify:
   a. Wrenches
   b. Screwdrivers
   c. Sockets
   d. Special tools
   e. Torque wrenches
   f. Micrometers
   g. Rulers
   h. Feeler guage
5 Plan for home storage and shop procedures

Skills:

a. General hand tool practice
b. Practice torquing bolts
c. Practice measuring with micrometers
d. Practice measuring with rulers
e. Practice measuring with feeler guage

Evaluation:

a. Tool identification test with the Voc. Ag. shop tools
b. Student identify home farm tools according to groups
c. Observe student during practice session

References Used:

Wakeman and McCoy, The Farm Shop, MacMillan Co.
Machine Shop and Technology Tool Identification Kit, The Interstate Publishers and Printers, Inc.
Sears and Roebuck Catalog

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Unit: Mechanics

Title of Activity: General Shop Safety

Method of Teaching Used: Study Assignment; Class Discussion, Charts and Posters, Job Assignments, Student Practice, Tour of the Shop, Demonstration Follow-up or Test

Objectives:

1 To develop an understanding of emergency situations that can occur in the Agriculture Shop
2 To develop an understanding of safety devices and guards on machines and equipment
3 To develop safe shop working habits by each student

Materials needed by the Student:

1 Eye protective glasses
2 Protective clothing
3 Fire Extinguishers
4 Shop electrical circuits
5 General tools
6 Power tool switches
7 Safety guards
8 Jacks and stands

Detailed Procedures:

1 Discuss the attitude for safety that is important in the Ag. Shop
2 Cover the following through discussion and tour of the Shop:
   a. Personal safety
   b. Eye safety
   c. Protective clothing
   d. Shop fire extinguishers
   e. Shop electrical circuits
   f. General tool and equipment safety
   g. Cleanliness
   h. Falls

Skills:

a. Use of eye protection devices by all students from the storage cabinet
b. Use of protective clothing by the student and the proper storage and locker location
c. Use of the correct cleaning material for the job
d. Have the student locate and inspect all switches and controls for shop amd machine power
e. Locate fire fighting equipment and fire drill procedure
f. Locate and inspect all safety devices and guards on machines and equipment
g. Know the proper storage of tools and equipment and their part in the organization
h. Housekeeping is for all and not an exception for anyone

References Used:

1 Smith, H.P., Farm Machinery and Equipment, McGraw-Hill Book Co., Inc.
2 Wakeman and McCoy, The Farm Shop, MacMillan Co.
3 I & T Shop Service Manual, Implement and Tractor Publications, Inc.
4 Texas Education Agency, Agricultural Machinery Service and Repair, Interstate Publishers and Printers Co.

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Unit: Mechanics

Title of Activity: Fasteners and Hardware Identification

Method of Teaching Used: Lecture, Identification in Catalogs, Identification in the Vocational Ag. Shop, Wall Charts, Slides, Filmstrips, Field Trip to Hardware or Farm Supply Store

Objectives:

1 To develop an awareness of fasteners and hardware and their proper names
2 To develop the ability to identify types and classifications of fasteners and hardware

Materials needed by the Student:

1 Paper and Pencil
2 Assortment of fasteners and hardware commonly used on the home farm
3 Wall Charts
4 Chalk board
5 Farm catalogs

Detailed Procedures:

1 Explain the function of fasteners
2 Give an explanation of the various types of hardware
3 Cover the following areas through lecture and identification:
    a. Bolts
    b. Nuts
    c. Screws
    d. Threads
    e. Thread classification
    f. Rivets

Skills:

1. Identify types and classifications of fasteners and hardware

Evaluation:

1 Quiz over hardware and fastener by flashcards, pictures from catalogs, or the fasteners from the Ag. Shop
2 Student will bring an old fastener and clean it plus re-thread, observing the thread type

References Used:

1 Supply catalog such as Sears Roebuck
2 Jones, Mack, Shopwork on the Farm, published by McGraw-Hill, New York, N.Y.
3 Hardware Study and Identification Kit, Interstate Printers and Publishers, Danville, ILL.
4 4-H Power, 1st Year, Petroleum Power Program, County Extension Service

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Unit: Mechanics

Title of Activity: Identify Farm Equipment

Method of Teaching Used: Farm magazines, Library materials, Farm Dealers Equipment pamphlets, Dealer publications, Slides, Pictures collected at Fairs and Farm Progress Shows, Field trips to dealers, Farms of the area, Special Demonstrations, Scrapbook

Objectives:

1 To develop an awareness of the different kinds of machinery common to the farming area
2 To develop the ability to recognize a piece of farm machinery and its use

Materials needed by the Student:

1 Pencil and paper
2 Chalkboard
3 Farm machinery pamphlets
4 Farm magazines
5 Envelopes, pen and stamps

Detailed Procedure:

1 Introduce the area of farm machinery with a history of progress in the equipment industry
2 With the aid of farm magazines and catalogs, make a chart on the chalkboard with the following headings:
   a. Soil Breakers
   b. Chemical Applicators
   c. Seed Planters
   d. Crop Cutters
   e. Seed Seperators
3 Have students list each machine found under the correct heading
4 Have each student gather materials and pictures that fit under the heading and produce a scrapbook
5 Plan a possible field trip to an implement dealer in the community to reinforce the scrapbook knowledge

Evaluation:

a. Flashcard quiz with common local equipment of the area
b. Collect scrapbook and grade to see that the student has an understanding of the five basic equipment headings
c. Let each student explain before the class the function and variations in one piece of equipment studied

References Used:

1 4-H Tractor Program-Machinery Care and Safety, County Extension Dept.
2 Smith, H.P., Farm Machinery and Equipment, McGraw-Hill Book Co., N.Y.,N.Y.
3 Farm Equipment Mailing Addresses:
   a. Allis Chalmers, Farm Equip. Div., Milwaukee, Wisc.
   b. J. I. Case Co., Racine, Wisc.
   c. John Deere and Co., Moline, ILL
   d. Ford Motor Co., Birmingham, Mich.
   e. International Harvestor Co., Farm Equip. Div., 1809 S. Lamar, Dallas, Texas
   f. Oliver Corp., 616 Cockrell Ave., Dallas, Texas
   g. David Brown Tractors, LTD. Toronto, Ontario, Canada

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Unit: Agricultural Mechanics

Title of Activity: Stopping the Engine

Method of Teaching: Demonstration, Slides, Check-off list

Objective: The student will be able to correctly follow the correct procedure for stopping a hot engine

Material Needed:

1 Check-off list
2 Lawn mower, Roto-tiller or garden tractor

Procedure:

1 Remove load from the engine (Suddenly stopping a hot engine will cause a "shock" on bearings and lead to excessive wear)
2 Reduce engine idle speed. Allow engine to cool for two or three minutes at throttle speed
3 Turn off the ignition switch or ground the spark plug with shut-off device
4 Close the fuel tank shut-off valve if the engine has one
5 Remove the spark plug wire for safety reasons
6 Store the engine in a dry, protected place

References:

1 Small Engines, Volume I, American Association for Vocational Instructional Materials (AAVIM)

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Unit: Agricultural Mechanics

Title of Activity: Protecting the Engine during Off-Season Storage. Proper Storage

Method of Teaching: Demonstrations, Show and Tell, Slides

Objective: The student will be able to properly prepare and store an engine

Material Needed:

1 Tools for general service
2 Crankcase oil
3 Cleaning solvent
4 Paint brush
5 Plastic sheet for covering

Procedure:

1 Operate the engine until it runs out of fuel
2 Check, inspect and generally clean the engine of dirt and grime
3 Check and clean the carburetor air cleaner
4 Coat the inside of the engine with a rust preventive
5 Clean, regap and replace the spark plug
6 Drain the carburetor, fuel strainer and fuel tank
7 Pour a tablespoon of oil in the fuel tank and turn the engine, so as to coat the inside of the tank
8 Place piston in top position on compression stroke
9 Repaint exposed steel or cast iron surfaces
10 Cover engine with plastic sheet
11 Store in dry and safe place

References:

1 Small Engines, Volume I, American Association for Vocational Instructional Materials (AAVIM)

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Unit: Mechanics

Title of Activity: Daily Maintenance and Periodic Lubrication of the Tractor

Method of Teaching Used: Handouts from 4-H publication, Posters, Slides, Discussion, Field trip to Farm or Implement Dealer

Objectives:

1 To develop an understanding of daily maintenance and lubrication of the farm tractor.
2 To develop a safe procedure in the maintenance and lubrication of the farm tractor
3 To develop the students ability to maintain and lubricate the home farm tractor

Materials needed by the Student:

1 Set of open end wrenches
2 Grease gun
3 Tire pressure guage
4 Water and shop rags
5 Transmission fluid
6 Crankcase oil
7 Hydraulic oil
8 Wheel bearing grease
9 Chalk board

Detailed Procedures:

1 Discussion to introduce why daily maintenance and periodic lubrication are important
2 Students should list individually or in class groups, all of the daily checks made on a farm tractor
3 List on the board their findings as to:
   a. The air cleaner assembly
   b. Cooling system
   c. Oil in the crankcase
   d. Fuel system
   e. Level of liquid in the battery
   f. Grease and periodic lubrication
   g. Safety is always a daily habit

Activities for the Student:

1 In the Ag. Shop or on a field trip plan an activity for each student to become involved in the daily check. Have the student take the list made in class and follow it carefully in the shop.
2 Have each student take the list to his farm or a neighbors and follow the planned activity followed in the shop.
3 Take the class on a field trip to a local dealer or Have a representative come into school.

Evaluation:

1 Shop activity quiz allowing the student to locate and check each maintenance step
2 Quiz over the safety habits and types of lubricants important in tractor operation
3 With the aid of a tractor operators manual plan a periodic lubrication and maintenance schedule for the home farm tractor

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References Used:

1 4-H Power, 1st Year, Petroleum Power Program, County Extension Service
2 Brown and Morrison, Farm Tractor Maintenance, Interstate Printers and Publishers, Danville, ILL
3 AAVIM Teaching Aids, Tractor Maintenance-Principles and Procedures, Interstate Publishers and Printers, Danville, ILL.

USE YOUR OPERATOR'S MANUAL AS A GUIDE AND MAKE A COMPLETE LIST OF ALL THE LUBRICATION AND MAINTENANCE JOBS FOR YOUR TRACTOR.

DAILY OR EVERY 10 HOURS:

1. Check the air cleaner assembly
2. Check the radiator and hoses
3. Check the oil in the crankcase
4. Check the fuel lines, couplings and sediment bowl
5. Check the level of liquid in the battery
6. Check the operators manual for daily grease fittings and other grease fittings for breaks
7.
8.
9.

WEEKLY OR 60 HOUR SERVICE JOBS:

1. Lubricate grease fittings according to operators manual such as, water pump bearing, fan shaft bearings, etc..
2.
3.
4.
5.

120 TO 150 HOUR SERVICE JOBS:

1.
2.
3.
4.
5.

240 TO 300 HOURS SERVICE JOBS:

1.
2.
3.
4.
5.

500 HOUR OR EVERY SIX MONTH SERVICE JOBS:

1. 2.

1000 HOUR OR YEARLY SERVICE JOBS:

1. 2.

Unit: Agricultural Mechanics

Title of Activity: Cleaning and Servicing the Battery

Method of Teaching: Actual Demonstration, Service Pamphlets

Objective: The student will be able to clean and service batteries

Material Needed:

1 Terminal Puller
2 Screw Driver
3 Wrench to fit clamp bolt
4 Sandpaper
5 Soda
6 Brush
7 Safety Glasses
8 Dry Cloth

Procedure:

1 Disconnect cable and ground strap from battery terminal if they are even slightly corroded
2 Clean cable clamps and battery posts using sandpaper or terminal cleaner brush
3 Remove corrosion and loose dirt from top of battery
4 Brush a sloution of soda-and-water on top of battery, on posts and clamps (Two tablespoons of baking soda to one pint of water)
5 Flush away the solution and residue with clean water after foaming of the solution on battery has stopped
6 Dry the top of battery with a dry cloth
7 Check level of water in each cell of battery
8 Reconnect cables to battery
9 Coat posts and cable clamps with petroleum jelly to prevent corrosion

References:

1 Small Engines, Volume I, American Association for Vocational Instructional Materials (AAVIM)
2 Chevrolet Service Manual, 1966

Unit: Agricultural Mechanics

Title of Activity: Servicing oiled-filter type of air cleaners

Method of Teaching: Demonstration, Service Pamphlets, Slides

Objective: The student will be able to service oiled-filter air cleaners which can be safely used in operation

Materials Needed:

1 Screw Driver
2 Container
3 Old paint brush
4 Cleaning solvent
5 Crankcase oil and clean rag

Procedure:

1 Disconnect plug wire
2 Remove grime around air cleaner
3 Remove cover from filter-element
4 Inspect condition of filter-element and all other parts of air cleaner
5 Remove filter-element
6 Cover air intake
7 Clean filter with a solution of a strong household detergent
8 Flush filter with water
9 Dry the filter-element
10 Remove protective cover from intake
11 Remove any residue from carburetor intake and the filter cover
12 Oil the filter-element with approximately 3 tablespoons of oil
13 Install filter-element and cover
14 Re-connect the spark plug wire

References:

1 Briggs and Stratton Repair Instructions
2 Small Engines, Volume I, American Association for Vocational Instructional Material (AAVIM)

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Unit: Mechanics

Title of Activity: Gapping Spark Plugs

Method of Teaching Used: Demonstration--Slides or Plug Manufacturers Manual

Objective:

The student will be able to correctly gap the spark plug within .001 tolerance as specified by Engine Manual

Materials needed by Student:

1 Cleaning solvent
2 Spark plug Feeler Guage
3 Socket and handle
4 Fine file or emery cloth
5 Engine manual
6 Torque wrench

Detailed Procedure:

1 Disconnect battery terminal
2 Remove plug wire
3 Clean any foreign matter in plug well Before removing plug
4 Select proper socket size and remove plug
5 Clean carbon and oil from plug, using cleaning solvent
6 Inspect plug--If porcelain is cracked, replace plug
7 Clean electrodes until shiny and flat, with fine file or emery cloth
8 Determine proper spark gap by using Engine Manual
9 Select proper Guage
10 As you slide the Guage between the electrodes, there should be a very light feeling of a drag
11 Recheck spark gap to insure correct gap has been established
12 Clean plug once again before installing
13 Determine correct Torque on plug by using the Engine Manual
14 Tighten plug within 5-foot pounds tolerance
15 Attach spark plug wire and secure battery terminals

References Used:

1 American Association For Vocational Instructional Materials, "Small Engines", Volume I Care and Operation
2 International Harvester Operators Manual, For 666 Tractor

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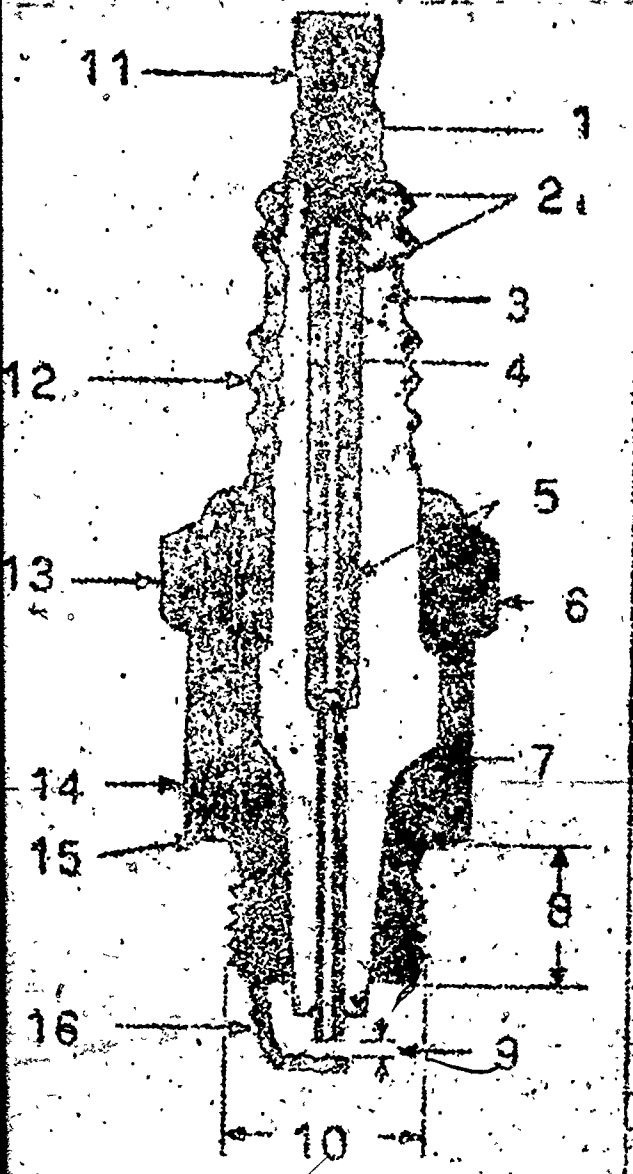
SERVICING THE SPARK PLUG



Part Identification:

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____
13. _____
14. _____
15. _____
16. _____

Operational Procedure:

1. Identify parts of the spark plug
2. Remove plug after cleaning plug-well
3. Remove oily deposits from plugs with cleaning sol
4. Check condition of the porcelain (good - fair -
5. Remove carbon deposits from plugs
6. Blow away all foreign matter
7. File electrodes until surfaces are flat
8. Determine plug type, (hot - normal - cold)
9. Determine proper spark gap _____"
10. Regap plug using correct gauge
11. Check plug reach
12. Check plug gasket condition (good - fair - poor)
13. Determine proper torque: in. lbs._____, ft. lbs.
14. Tighten plug with torque wrench to recommended to

Materials: Fouled plugs, gauges, files, wire brushes, & cleaning solvent.
FACTS ABOUT SPARK PLUGS & ENGINES, Champion Spark Plug

Operation teaches: (Ability to ... (Understanding of ...

- U How a spark plug functions
- U The parts of the spark plug
- A Recognize fouled plug
- A Clean the plug
- A File the electrodes
- A Properly gap the spark plug
- A Use the wire gap gauge
- A Use the torque wrench
- A Recognize a bad plug gasket
- U Hot and cold type plugs.

Evaluation Score Sheet:

		Points Possible	Earn
1.	Parts of plug properly identified	16	
2.	Oil removed and threads cleaned	4	
3.	Condition of porcelain	5	
4.	Carbon deposits removed	10	
5.	Electrodes properly filed	10	
6.	Spark plug heat range	5	
7.	Correct gauge for gapping used	10	
8.	Plugs properly gapped	15	
9.	Proper reach used	5	
10.	Gasket condition	5	
11.	Determining torque for plug	5	
12.	Plug correctly torqued in engine	10	
	Total	100	

Job sheet prepared in cooperation with Randy Rumery and Dean Bettelt

Name _____

Date _____ Grade _____

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Unit: Mechanics

Title of Activity: Setting Point Angle (Dwell)

Method of Teaching Used: Demonstration

Objective:

Successfully set the Dwell angle within .001 tolerance

Materials needed by the Student:

1 Feeler Guage
2 Screwdriver

Detailed Procedure:

1 Disconnect the battery terminal
2 Remove the distributor cap and lay out of work area
3 Turn the distributor shaft until the breaker arm rubbing block is on the highest point of the distributor cam lobe. At this stage, the points are at the maximum opening.
4 Check the setting with a Feeler Guage (If old points need adjusting).
5 Inspect points new or used for proper contact alignment
6 Loosen the contact lock screw
7 Determine proper Dwell Angle as specified by service manual
8 Use a screwdriver to move the fixed contact support to obtain the proper Dwell setting
9 The Feeler Guage should have a slight drag for proper setting, when points are at their maximum opening
10 Tighten the support lock screw and recheck the point opening
11 Replace the Distributor Cap and connect the wiring
12 If Dwell Angle Meter is available, recheck for more accurate setting

References Used:

1 Chevrolet Motor Division, "Chassis Overhaul Manual"
2 International Harvester, "Owners Manual for 666 Tractor"

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Unit: Agricultural Mechanics

Title of Activity: Alignment of Points

Method of Teaching: Demonstration; each two students with set of points (Show and tell)

Objective: The student will be able to determine if alignment is needed and correctly align improper points

Material Needed:

1 Screw Driver
2 Alignment tool (if available)
3 As many sets of old or new points as needed

Procedure:

1 Remove battery terminal (Safety Precaution)
2 Remove Distributor Cap
3 Inspect points. If Both Point Faces Fit Flush together, there is no need for alignment
Used Points--If gray area where spark jumps is located off center of point faces, alignment is needed
4 Never bend breaker lever or arm. Bend the fixed contact support of the point set

References:

1 Chevrolet Service Manual, 1966

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Unit: Mechanics

Title of Activity: Clean and Service Electric Motors

Method of Teaching Used: Slides, Pictures, Cut-away of Electric Motor from the Ag. Shop, Textbooks, Class discussion, Assorted parts of an Electrical Motor

Objectives:

1 To develop an understanding of the operation of an electric motor
2 To develop the ability to disassemble an electric motor and check its parts for wear
3 To develop the ability to clean and oil the electric motor

Materials needed by the Student:

1 Fine (oo) sandpaper
2 Air compressor
3 Open end wrench set
4 Small hammer
5 Block of wood
6 Oil can
7 Paper and Pencil

Detailed Procedure:

1 Discussion on the uses of an electric motor at the home farm
2 Discussion on dirt and dust and how they obstruct the flow of air around a motor causing it to overheat
3 Demonstration on how to clean a small motor in the Ag. Shop:
   a. Clean case
   b. Remove one or both end plates
   c. Force air into windings and check brushes for wear
   d. Clean commutator with piece of No. OO sandpaper (Never use emery cloth, it is a conductor)
   e. Force air into the armature
   f. Oil bearings sparingly (Excess oil works into the windings causing deterioration of the insulation and failure of the motor)
   g. Where an oil reserve is present a few drops (not squirts)
   h. Other motors are equipped with ball bearings that are intended to be cleaned and repacked with light cup grease or petroleum jelly after long periods of service

Related Student Activities:

1 Oil the electric motors about your home or farm. Wipe and clean the motors when oiled. Place a chart on the wall near each motor and record the oil schedule, including hours used, date oiled and cleaning date.
2 Disassemble and clean an electric motor in groups in the Ag. Shop. Blow out any dust and dirt with forced air. Clean the commutator and smooth it with fine (No. OO) sandpaper if it is rough. Carefully oil the moving parts. Check the motor when reassembled.

Evaluation:

a. Quiz over the reasons and procedure in cleaning and oiling an electric motor
b. Observation of the shop procedure in engine disassembly and cleaning procedure

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References Used:

1 Jones, M.M., Shopwork on the Farm, McGraw-Hill, New York, N. Y.
2 Office of Education, J. R. Ottina, Career Exploration-Curriculum Guide for Grades 7-9, Ohio State University, Columbus, Ohio
3 AAVIM Teaching Aids, Farm Electric Motors Selection, Protection, Drives, Interstate, Inc., Danville, ILL
4 4-H Working with electricity (Division 3), County Extension Service

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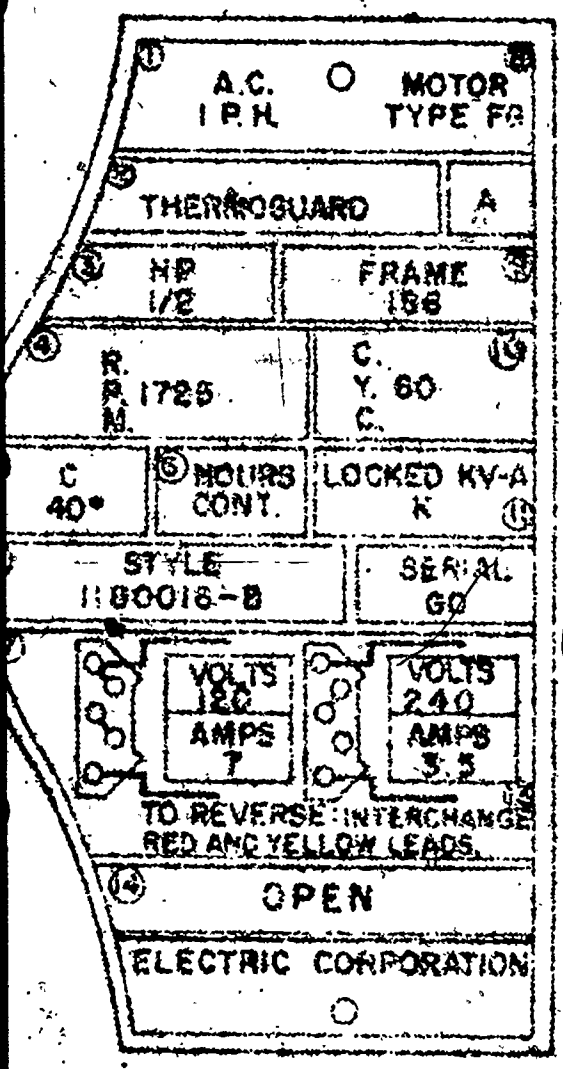
THE ELECTRIC MOTOR RANDELATH



Key: One electric motor with nameplate for each two students.

Competencies: (Ability to...
(Understanding of...
Identify the motor nameplate.
Identify where the specific terms are listed on the nameplate.
The terms listed on the motor nameplate. (For example: volts, amps, locked rotor amps, cycles, phase, service factor, rpm, hp, temp. rise, motor type, frame no., and serial no.
Identify types of electric motors.

Sheet developed by Lou Stence and by Thomas A. Boerner.

Name _____ Grade _____

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Part Identification:

1. _____ 8. _____
2. _____ 9. _____
3. _____ 10. _____
4. _____ 11. _____
5. _____ 12. _____
6. _____ 13. _____
7. _____ 14. _____

Operational Procedure:

1. Complete the part identification section.
2. What other phase might be found on the motor nameplate? _____
3. If this motor did not have a built-in overload protection device, what size and type fuse should be used for protection on 120 volts?
   Type _____ Size _____
4. How would a motor having 50°C rise differ from this motor? _____
5. What would a service factor of 1.25 indicate on an electric motor? _____
6. What other cycles per second might be found on electric motors? _____
7. Using the below formula, what is the locked rotor amperage for this motor on 120 volts? _____

   Locked KVA = 1000 x HP x KVA/HP / Amps x Volts

   KVA/HP for various codes are:
   J = 7.1-8.0, K = 8.0-9.0 & L = 9.0-10.0
8. Compute the wattage for this electric motor on 120 volts _____ watts, on 240 volts _____ watts.
9. What other types of enclosures are commonly found on electric motors? _____
10. Collect the following data from an electric motor in your home farm or one provided by your instructor.

Type _____	Frame _____
HP _____	Locked KVA code _____
Cycles _____	Temperature rise _____
Volts _____	RPM _____
Amperage _____	Duty cycle _____
Service factor _____	Type enclosure _____
Thermal Protection _____	Type bearings _____

Evaluation Score sheet:

Item	Points Possible	Points Earned
Part Identification (2 pts/item)	28	
Operational Questions (3 pts/item)	30	
Information from Motor	30	
Attitude and Work Habits	12	
	123 Total 100	

DEPARTMENT OF AGRICULTURAL ENGINEERING
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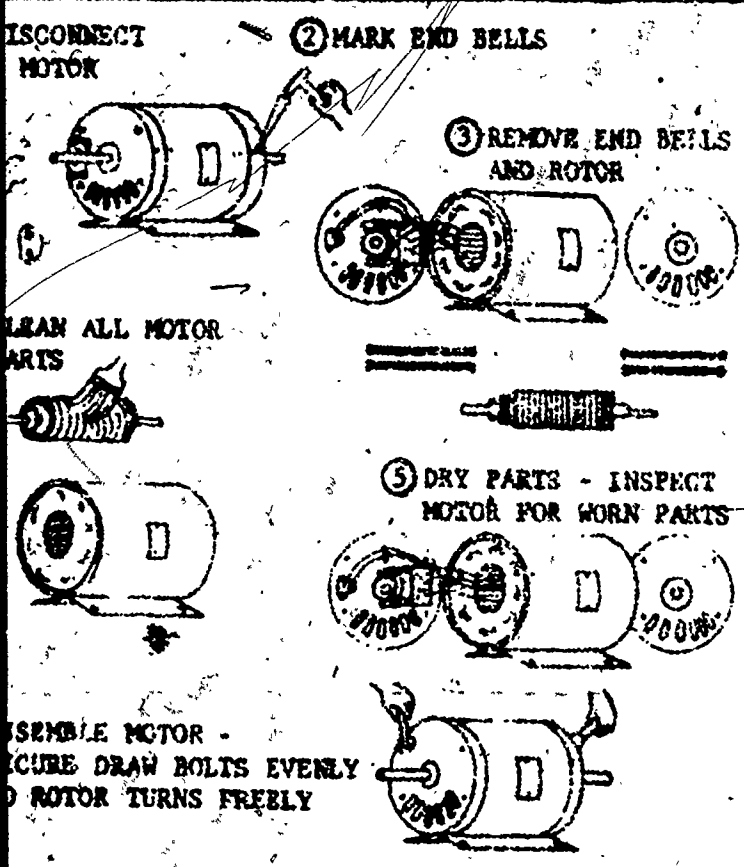
CLEANING AND SERVICING AN ELECTRIC MOTOR



Materials

1. An electric motor needing to be cleaned and serviced
2. Tools for disassembling an electric motor
3. A paint brush, motor cleaning solvent and pan to wash parts

Operation Teaches (Ability to . . . (Understanding of . . .

1. A. disconnect a motor from an electrical source
2. A. correctly mark motor frame and end bells
3. U. importance of carefully removing the end bells so as to not damage leads or motor windings
4. A. remove rotor from motor without damaging the centrifugal switch or motor brushes
5. U. correct type solvent to use in cleaning an electric motor
6. A. thoroughly clean and dry all motor parts
7. A. identify and inspect parts for wear or damage
8. A. reassemble motor parts in reverse order of disassembly and tighten end bell bolts
9. A. lubricate motor using correct type and amount of lubrication
10. A. connect motor to power source

rational Procedure

Disconnect motor leads at terminal cover plate.
Note position of leads on terminals
Remove motor from mount or machine
Wipe all dirt from outside of motor
Mark end bells with center punch-one mark on end bell and stator frame on terminal connection end. Use 2 marks on other end
Remove end bell bolts
Using a wood block or soft-faced hammer remove end bell containing starting switch or brush ring
Remove rotor and other end bell
Clean all motor parts with motor solvent. Do not use gasoline. Use carbon tetrachloride only in well ventilated area. Avoid soaking the windings or leads
Dry all parts with a cloth or compressed air
Identify and examine all parts for wear, damage or loose connections-make necessary repairs
Reassemble motor in reverse to disassembly.
Tighten end bell bolts evenly checking to see that the rotor turns freely
Lubricate motor bearings with #10 oil or grease depending upon type
motor and connect electrical leads-try
throwing switch

Evaluation Score Sheet

Item	Points Possible	Points Earned
1. Correctly disconnecting motor from electrical source-mark leads	5	
2. Correctly marking end bells	5	
3. Carefully removing end bells in correct order	10	
4. Selecting correct solvent for cleaning motor	5	
5. Thorough cleaning and drying of motor parts	15	
6. Inspection and identification of parts-make repairs	20	
7. Correct reassembling of motor, rotor free to turn	10	
8. Proper type and amount of lubrication used on motor	10	
9. Connecting motor to power source-motor runs properly	10	
10. Work habits and attitude	10	
Total points	100	

Name _____

Date _____ Grade _____

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SHOP PROJECTS

Working plans for shop projects are available from:

Oklahoma State Department
Vocational & Technical Education
Curriculum and Instructional Materials Center
1515 W. Sixth Avenue
Stillwater, OK 74074

The plans are for the following items:

Stock Trailer 14 ft.
Tilting Trailer
All purpose Trailer
Goose Neck Stock Trailer - 27 Ft.
Utility Trailer with Slide-in stock racks
Headache Rack
Pickup Stock Racks
Portable Chute & Head Gate
Head Gate
Portable Alleyway
Loading Chute
Folding Clipping Chute
Clipping Chute
Portable Corral
Barrel Feeder
Hay Feeder
Mineral Feeder
Hay or Grain Bunk, Bunk Hay & Grain Feeder
Portable Oxyacetylene Manifold
Shop Cart and Portable Engine Stand
Round Stock Welding Jig and Portable Extension outlet
Oxyacetylene Cart
Sack Scaffolding
Dog-Proof Carbage CAn
and Jig for Marking pipe
Gate
Lambing Pen Panels, Portable Hay Rack Portable Feed or Salt Box
Tilting Calf Hoof Trimming Table
Hog Breeding Crate
Sheep Pregnancy Testing Stand
Feed Lot Layout
Folding Sorting Gate
Calf Cradle
Windmill
Folding Sheep Bloxking Stand
Branding Iron Heater
Salt and Mineral Feeder
Horse Walker
Hoof Trimming Chute
Slip-in Small Livestock Rack, Porable Feed Trough
Sow Feeder
Drag Harrow
Bale Elevator
Leveler
Stile.
Wood Rack
3-Point Carry-All
Tractor Carry-All
Trash Can Holder
Tractor Scraper Blade
3-Point Hoist
Cattle Guard

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Trailer Jack Ramp, A Frame

Acetylene Welding table, workbench.

Fly Wheel Wrench, Fly Wheel Holder

Picnic Table

Barrel Dog House

Axle

Barrel Holder and Drawbar Pin

Post Driver and Calf Puller

Air Bottle, Barrel Barbecue

Car Ramp, Farrowing Crate

Gas Tank Lock, Plow Yard Sign

Trailer Bow Bender, Wire Splicer Wire Bender

Weld Tester & Breaker, Weld Positioner, Angle Iron Saw Horse

Jig for Welding Trailer Hubs and Axles, Livestock Fan

DEPARTMENT OF AGRICULTURAL ENGINEERING
IOWA STATE UNIVERSITY
AM 1-72

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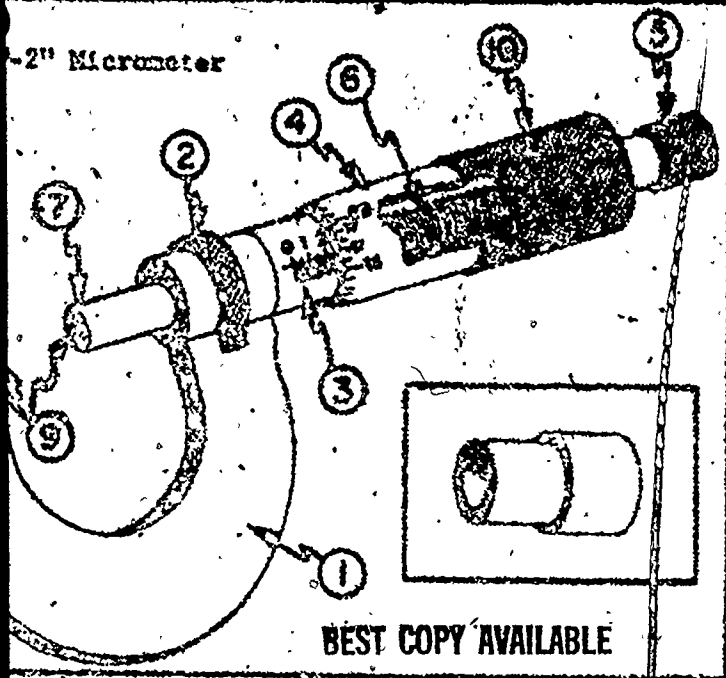
READING THE MICROMETER

-2" Micrometer



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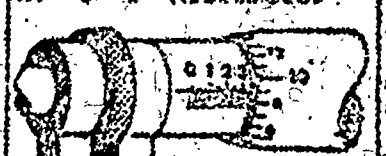
Part Identification:

1.	_____	6.	_____
2.	_____	7.	_____
3.	_____	8.	_____
4.	_____	9.	_____
5.	_____	10.	_____

Operational Procedure:

1. Complete the part identification section
2. Reading the micrometer:
   a. List the smaller number of inches that can be read with the micrometer illustrated to the left _____"
   b. Denote the number on the sleeve that the thimble edge just passed, this indicates the number of hundred thousandths _____"
   c. Count the number of full spaces that is between the last numbered line (Step b) and the thimble edge and multiply by .025 _____"
   d. Locate the line on the thimble that matches the horizontal line on the sleeve and list this number in thousandths _____"
   e. Total the values (a+b+c+d) _____"
3. Determining the measurements of the two-step machined, practice cylinder:
   a. Using a 1" - 2" micrometer list the measurement of the top step in thousandths. Proper measurement should be the average of measurements made at 3 points around the cylinder _____"
   b. Determine the measurement of the lower step _____"
   c. Subtract the reading in Step (b) from reading in Step (a) to determine the difference in thousandths of an inch _____"
4. Determine the readings of the micrometers shown below:

A. 0"-1" Micrometer



_____"

B. 2"-3" Micrometer

_____"

Materials:

1 - 1" - 2" micrometer
1 - two-step practice cylinder (top step between 1.75" and 2.00" lower step 1.25" to 1.25")

(Ability to .....
(Understanding of .....

tion Teaches:

Identify the parts of the micrometer
The function of the various parts
The use of decimals and fractions in measurements
Convert fractions to decimals and decimals to fractions
Properly hold the micrometer
Feel a reading
Read the micrometer to the nearest one thousandths of an inch
Use the micrometer to measure flat, round or square stock

tion Score Sheet:

Item	Points Possible	Earned
rometer part identification points per correct item)	20	
ding the micrometer	25	
ermining the difference in measurements of the practice inder (3-c) (plus or minus 1" = 30 pts., + or - .002" = pts., + or - .003" = 10 pts., ater than .004" off correct ding = 0 pts.)	30	
ermining the reading of the rometer inserts (5 pts. each)	10	
ding the micrometer	10	
itude and work habits	5	
Total	100	

Grade: _____

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AM 2-72.

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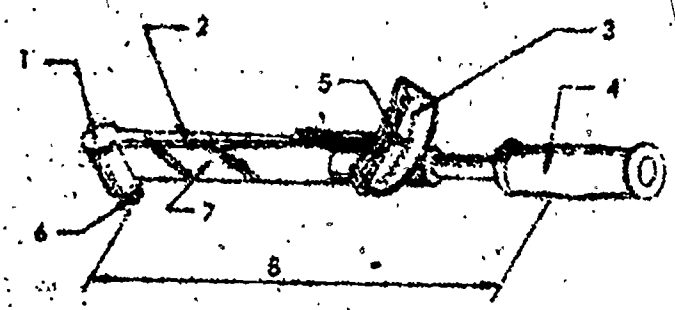
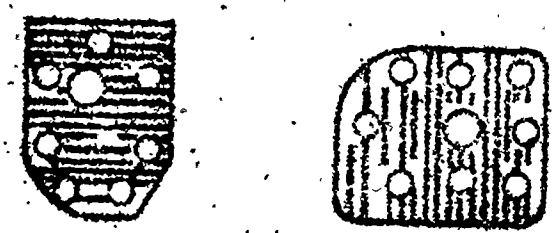
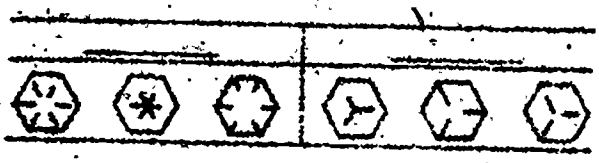
USING THE TORQUE WRENCH



TORQUE WRENCH



TORQUE SEQUENCE



S. A. E. GRADE NO.

Part Identification:

1. _____ 5. _____
2. _____ 6. _____
3. _____ 7. _____
4. _____ 8. _____

Operational Procedure:

1. Identify parts of torque wrench.
2. Identify grades of bolts pictured.
3. Determine the manufacturers' torque specifications: _____
4. Convert from pound inch to pound feet as needed.
5. Determine the correct torque sequence on the engine head; fill in sequence on heads pictured.
6. Set correct reading on wrench.
7. Select the correct sockets.
8. Measure run-down resistance if possible with torque wrench.
9. Add run-down resistance to torque setting.
10. Adjust for set or seizure if necessary.
11. Torque head bolts in correct sequence.
12. Torque spark plug.
13. Convert 360 pound inch to pound feet: _____
14. Convert 40 pound feet to pound inch: _____

Materials:

1. Torque wrenches
2. Sockets, correct size and drive.
3. Head on exercise panel or an engine.

Evaluation Score Sheet:

Item	Points Possible	Points Earned
1. Parts Identification	16	
2. S.A.E. Grade Ident.	4	
3. Pound Inches to Pound Feet	5	
4. Pound Feet to Pound Inches	5	
5. Correct Spark Plug Torque	10	
6. Correct Head Bolt Torque	20	
7. Correct Torque Sequence	20	
8. Handling the Equipment	10	
9. Attitude and Work Habits	10	
	100	

(Ability to.....
(Understanding of...

Operation Teaches:

1. A. Identify the component parts.
2. U. Pound inches and pound feet.
3. A. Use the operator's manual to determine recommended torque specifications.
4. U. Run-down resistance.
5. U. Set or seizure.
6. A. Properly hold and use the torque wrench.
7. C. SAE grade number and bolt head identification marks.

Name: _____

Date: _____ Grade: _____

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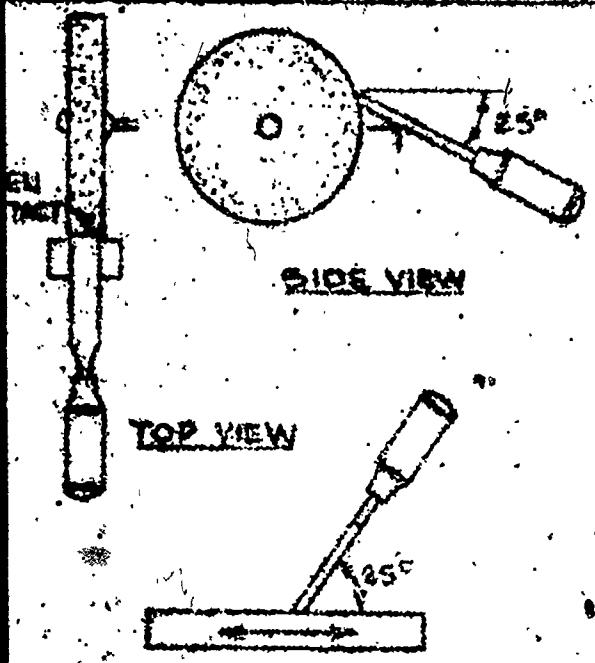
IOWA STATE UNIVERSITY

TAH 858

SHARPENING A WOOD CHISEL



Operational Procedure:

1. Select correct grinding wheel for tool sharpening, dress grinding wheel
2. Place the wood chisel between the left forefinger and the thumb, and the forefinger against the outside edge of the tool rest
3. Push the chisel forward between the forefinger and thumb of the left hand until it is at the proper angle with the grinding wheel
4. Make sure the grinding stone is turning down toward the chisel
5. Hold the chisel firmly in the left hand and slide the left forefinger from left to right along the tool rest for a guide until the entire width of the edge has been ground almost to a wire edge
6. At the same time use the right hand to apply pressure and help guide the chisel
7. To keep the cutting edge square with the sides, stop the strokes when the back edge of the chisel passes beyond the edge of the grinding wheel about one-third of the width of the wheel
8. Check the bevel with the tool gauge frequently during the grinding to see that it is being ground to a 25 degree angle
9. Hold the chisel against the whetstone moving it back and forth, making sure the heel and toe of the hollow ground bevel are touching the stone
10. Add oil to whetstone as needed
11. Continue whetting until a sharp edge is obtained
12. Remove the wire edge by turning the chisel over and taking a few strokes with the chisel flat against the stone

Materials: Grinding Wheel
Dull Chisel
Whetstone and No. 10 Oil

Operation Score Sheet:

	Points Possible	Earned
...e ground face, ...ncave	15	
...en width of bevel	10	
...rrect angle	10	
...tting edge square to ...ank	10	
...iform whetting face	15	
...h edge removed	10	
...arp cutting edge	25	
...ck habits and ...titude	5	
Total Points	100	

Operation Teaches:

(Ability to ..... (Understanding of .....

1. U. When to sharpen the chisel
2. U. The proper angle of the bevel
3. U. Correct grinding wheel for sharpening
4. A. Properly dress the grinding wheel
5. A. Properly sharpen the chisel
6. U. Results of uneven pressure when grinding
7. U. Tempering of tool steel
8. U. Selection and purpose of the whetstone
9. A. Use the whetstone
10. A. Remove the wire edge using the whetstone

Name: _____

Date: _____ Grade: _____

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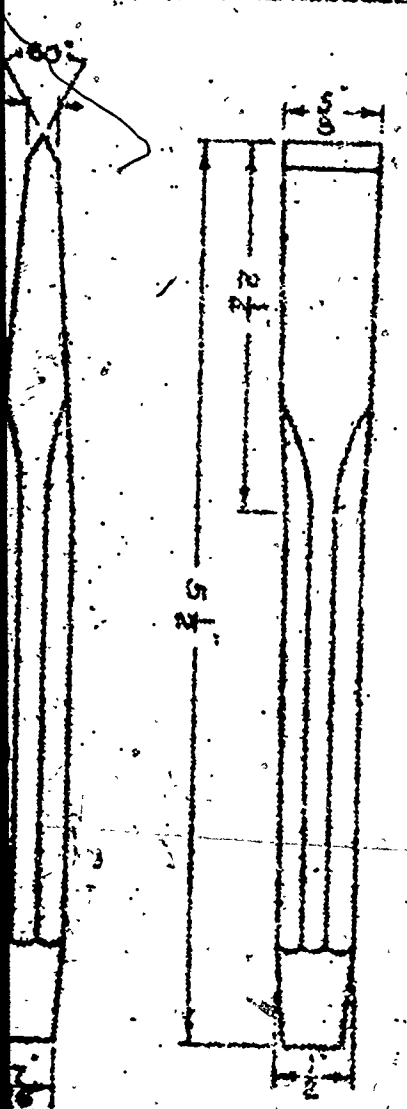
COLD CHISEL



Construction Procedure:

1. Heat outer 2-1/4" of stock to a uniform cherry-red color
2. Place one side against anvil face. Using drawing blows, work to shape rapidly starting at end and work back to 2-1/4" taper
3. Finish to 3/16" at tip and 5/8" width. Do not work below a dull-red color
4. Anneal - heat to cherry-red and cool slowly (12-24 hours) in lime or sand
5. File and polish forged faces - Do not grind
6. Temper with water: (Practice on old cold chisel)
   a. heat 2" to 3" of tip to uniform cherry-red color
   b. cool 3/4" to 1" until drops cling to tip when removed from water
   c. move tip to avoid cracks at water line
   d. quickly remove scale with steel brush or file
   e. observe color changes - quench lower 1/4" on purple color. Color order is light straw, dark straw, brown, purple, dark blue and light blue
7. Grind cutting edge to 60° angle. Use tool gauge to check angle
8. Chamfer end opposite point approximately 1/2" by 7/16" to prevent mushrooming

Construction Teaching: (Ability to.....) (Understanding of.....)

1. U. Carbon content of tool steel
2. A. Determine carbon content by spark test
3. A. Forge cold chisel
4. U. Purpose of annealing metal
5. U. Purpose of hardening metal
6. A. Distinguish tempering colors and determine heat range
7. U. Correct color for cooling metal to complete tempering process
8. A. To temper metal
9. A. To grind cutting edge on grinder
10. A. To chamfer on grinder
11. U. Use of cold chisel on metal
12. A. To cut metal with the cold chisel

of Material

2" x 5" octagon cool
eel, .7 - .8 percent
rbon content

Evaluation Score Sheet:

Item	Points Possible	Points Earned
1. Correct dimensions		
a. Chisel is 5-1/2" long	10	
b. True taper and correct length	10	
c. Chamfer dimensions and squareness	10	
d. Cutting edge is 5/8" x 3/16"	10	
e. Cutting edge ground to 60° - edges even and straight	15	
2. Tempering - tip correct hardness	25	
3. Overall appearance	10	
4. Attitude and work habits	10	
Total Points	100	

TAH 1/68

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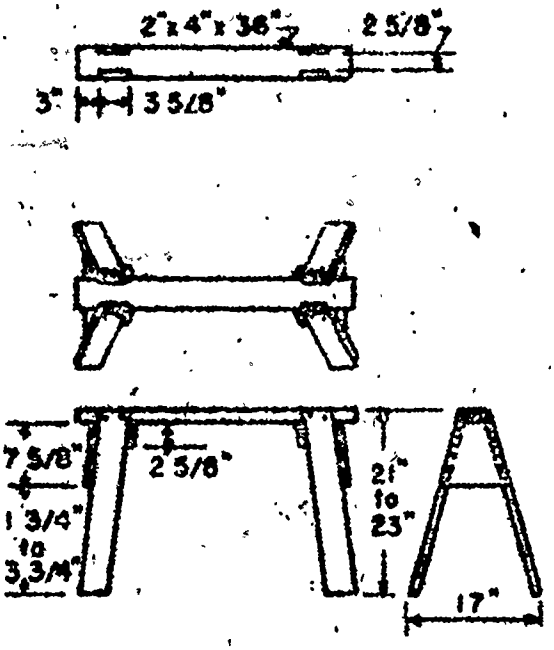
SAWHORSE



Construction Procedure:

1. Lay out legs and beam with framing square
2. Cut leg angles and notch beam
3. Assemble with scaffold nails
4. Brace legs to desired measurements using temporary braces
5. Cut permanent leg braces, tack in place
6. Pre-bore screw holes in legs and braces
7. Disassemble, apply glue to legs, joints and braces
8. Assemble with temporary braces
9. Check measurements with framing square
10. Insert screws, remove temporary braces
11. Wipe off excess glue, allow glue to set
12. Finish with plane or sandpaper and paint

(Ability to.....
Construction Teaches: (Understanding of.....

1.	U.	Correct sawhorse height, spread of leg and beam end extension
2.	U.	Procedure to layout edge and side angles of the leg
3.	U.	Procedure to determine total length of leg
4.	U.	Procedure to layout cuts on beam and braces
5.	A.	Layout angles
6.	A.	Saw boards and chisel leg joints on beams
7.	U.	Different wood adhesives
8.	U.	The correct wood screws
9.	A.	Glue, assemble, screw and adjust to desired measurements
10.	U.	Proper preparation methods for painting
11.	A.	Select and apply paint

aluation Score Sheet:

Item	Points Possible	Points Earned
mensions - 20		
Sawhorse height	8	
Spread of legs	8	
Beam extension	4	
gles - 28		
90° beam end to horizontal surface	6	
Centerline, equal spread of legs	6	
Bevel, bottom of legs	8	
All legs on floor	8	
int Preparation - 24		
4 leg joints	12	
2 outside braces	5	
2 inside braces	6	
sembly and Finish - 28		
Screws, nails and glue properly used	10	
Finish	8	
Work habits and attitude	10	
Total points	100	

Bill of Material

1 - 2" x 4" x 3'0" Const. Douglas Fir
1 - 1" x 4" x 9'0" #2 White Pine
1 - 1" x 8" x 2'6" #2 White Pine
24 - 1-1/2" #9 Bright F.H. Screws
1 - Pint of paint, desired color
4 oz. of Resorcinol Resin or Casein Glue

Step-by-Step Layout Procedure:
Bul. 165, Sawhorse Layout with the Framing Square, HoBar Publications, 1305 Tiller Lane, St. Paul, Minnesota - 15c

Grade

DEPARTMENT OF AGRICULTURAL ENGINEERING
IOWA STATE UNIVERSITY
TAH 2871

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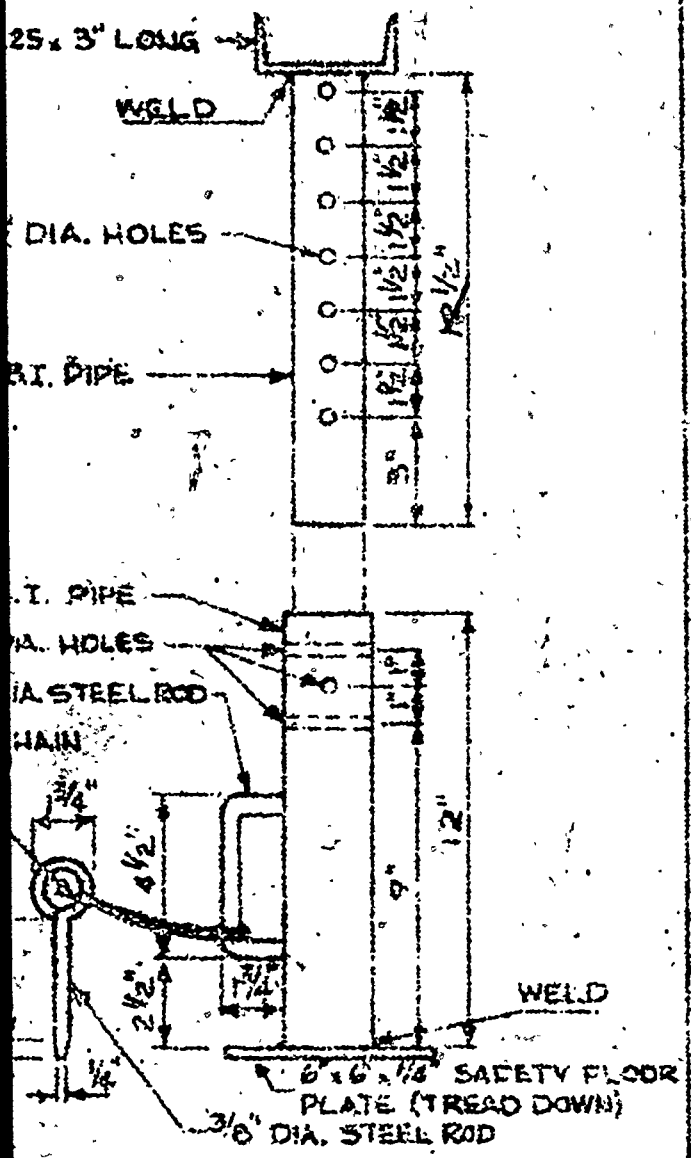
ADJUSTABLE SAFETY JACK



Construction Procedure:

1. Measure and cut metal to dimensions
2. Heat 3/8" rod in forge. Use hammer and anvil to form a 1" I.D. eye. Grind end to taper
3. Form 1/2" handle as shown with 4-1/2" spread
4. Drill 3,3/8" holes in 2" pipe at 9", 10", and 11". Make 10" hole perpendicular to others
5. Drill 6, 7/16" holes in 1-1/2" pipe at 1-1/2" intervals. Start 3" from the bottom
6. Weld handle to 2" pipe as shown
7. Weld channel and safety plate to pipes as shown. (You may use standard pattern for non-skid feature)
8. Chip welds, grind rough edges, clean metal, and paint desired color
9. Attach chain and pin to handle

(Ab)ility to .....

Construction Teacher: (Understanding of .....

1. U. Selection of pipe, channel iron, steel plate and chain types
2. A. Measure and transfer plan to stock
3. A. Use forge, hammer and anvil to shape rod
4. A. Use grinder
5. A. Drill holes in pipe and correct use of drill press
6. U. The selection of hacksaw blades
7. A. Use hacksaw correctly
8. U. Correct electrode selection
9. A. Weld parts together
10. A. Clean metal for painting
11. U. Proper paint selection
12. A. Paint and care for paint brushes

of Material:

1/4" x 6" x 6" safety plate for base
2" x 12" standard black iron pipe, 2.375" O.D.
1-1/2" x 12-1/2" standard black pipe, 1.90" O.D.
3" structural channel 4" depth, .18" web thickness, 1.580" flange
1/2" x 8" mild steel rod for handle
3/8" x 8" mild steel rod for pin
12" chain
paint desired color primer and paint

Evaluation Score Sheet:

Item	Points Possible	Points Earned
1. Base metal cut square	10	
2. Holes centered and to dimension	15	
3. Eye pin formed to dimension	15	
4. Pipes, plate and channel at 90 degree angle	10	
5. Weld appearance, penetration	20	
6. Painting	10	
7. Overall appearance	10	
8. Attitude and work habits	10	
Total Points	100	

: _____

_____ Grade: _____

DEPARTMENT OF AGRICULTURAL ENGINEERING

IOWA STATE UNIVERSITY

TAM 952

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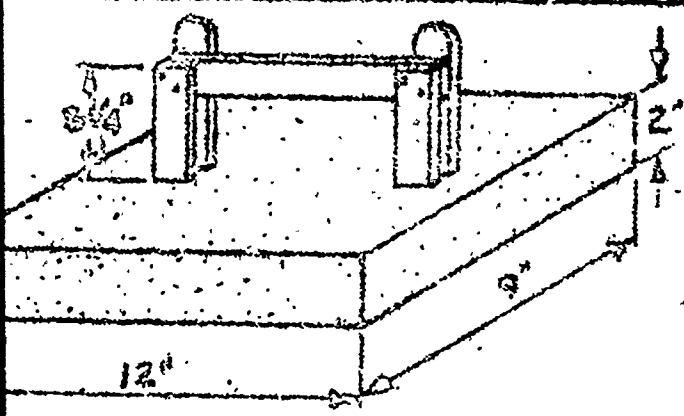
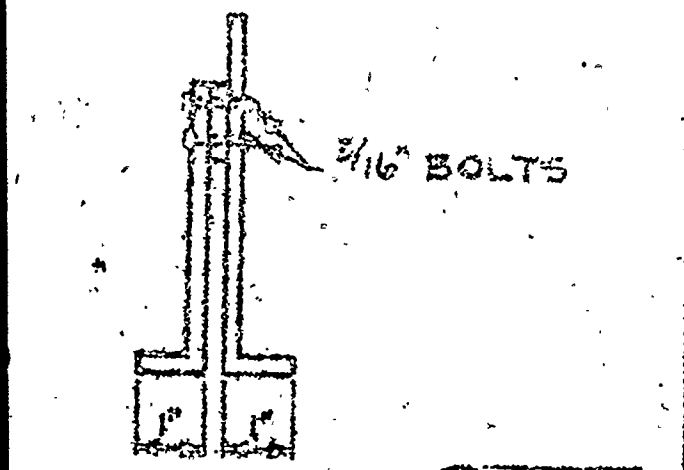
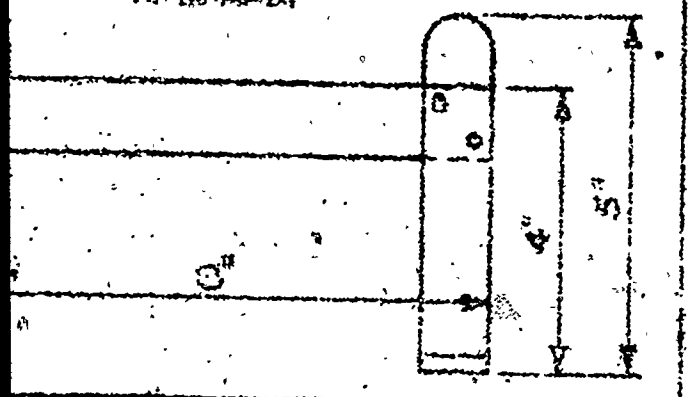
SHOE SCRAPER WITH CONCRETE BASE







Construction Procedure:

1. Measure and cut metal pieces
2. Bend each leg square, use heat and vise
3. Round the top of each 6" leg by grinding
4. Mark and center punch for holes
5. Drill holes in legs and center piece for 3/16" bolts
6. Bolt legs and center piece together, cut off excess bolt and rivet the end
7. Construct form for the concrete base from 1" x 2" and 1/2" plywood material
8. Oil form with paraffin base or #10 oil
9. Mix concrete and place about 3/4" in the form
10. Place metal scraper in the center and fill form with concrete
11. Spade concrete around the edge and trowel surface
12. Remove form, set concrete base in water 3-7 days
13. Paint metal parts of scraper

Construction Teacher:	(Ability to . . . . . (Understanding of . . . .
1. U.	Mild steel classification and standard shapes
2. A.	Measure and transfer plans to work
3. U.	The correct hacksaw blade to use
4. A.	Use the hacksaw
5. U.	Drill bit sizes
6. A.	Use the drill press
7. U.	Bolts, types and sizes
8. A.	Heat and bend metal
9. U.	Selection of wood for concrete forms
10. A.	Construct concrete forms
11. U.	Materials for mixing quality concrete
12. A.	To mix, cast and cure concrete
13. A.	To select and paint metal parts of scraper

l of Material:

- 1/4" x 1" x 30" mild steel strap
- 3/16" x 1" R.H. stove bolts
- /4 quarts cement, 2-1/2 quarts sand, 2-1/2 quarts crushed stone, one quart water
- 10-1/2" x 13-1/2" x 1/2" exterior plywood for form base
- 1" x 2" x 42" white pine, form lumber

Evaluation Score Sheet:

		Possible Points	Earned Points
1.	Dimensions of metal unit	25	
2.	Dimensions and squareness of concrete form	20	
3.	Location of stove bolts in base	15	
4.	Concrete finish and curing	20	
5.	Overall appearance	10	
6.	Attitudes and work habits	10	
	Total Points	100	

a: _____

er: _____

de: _____

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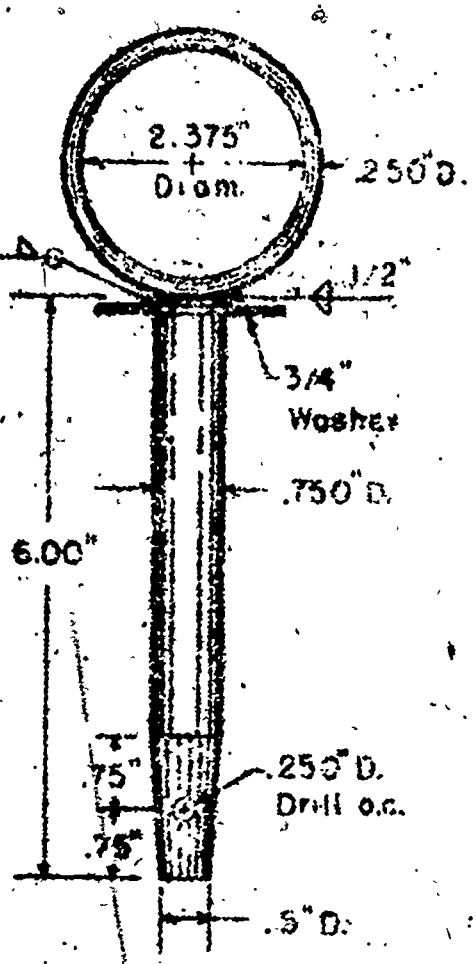
DEPARTMENT OF AGRICULTURAL ENGINEERING
IOWA STATE UNIVERSITY

TAH 1663

DRAWBAR HITCH PIN



Bill of Material

1/4" x 8" AISI 1020 hot rolled re-pin
3/4" flat washer
3/4" x 6" round, C1042 cold rolled or C1045 hot rolled

Name: _____

Date _____

Construction Procedure:

1. Determine length of handle, I.D., thickness x [illegible]
2. Shape handle around 2" pipe, use vise as bending aid
3. Cut pin to length
4. Drill hole and shape end of pin
5. Weld washer to pin
6. Place handle on pin and weld
7. Remove slag and clean with steel brush

(Ability to .....
Construction teaches (Understanding of .....

1. U. Difference between low and medium carbon steel
2. U. Difference between hot and cold rolled steel
3. A. Determine length of handle
4. A. Measure distances
5. U. Correct hacksaw blade to select
6. A. Use the hacksaw
7. U. Need to center punch before drilling
8. A. Use center punch
9. U. Need to secure metal before drilling
10. A. Secure metal in drill vise
11. U. Need for correct drill speed
12. A. Adjust and use drill press
13. U. Correct grinding wheels and belts
14. A. Adjust tool rests on grinders
15. A. Grind pin end
16. U. Correct electrode selection
17. A. Weld on handle and washer

Evaluation Score Sheet:

Item	Possible Points	Earned
1. Length of pin	5	
2. Tapered area smooth	10	
3. Washer square to pin	10	
4. Washer centered correctly	10	
5. Weld on washer	15	
6. Round handle	10	
7. Handle centered	10	
8. Weld on handle	15	
9. Hole centered	5	
10. Attitude and work habits	10	
Total Points		

DEPARTMENT OF AGRICULTURAL ENGINEERING
IOWA STATE UNIVERSITY
TAM 1168

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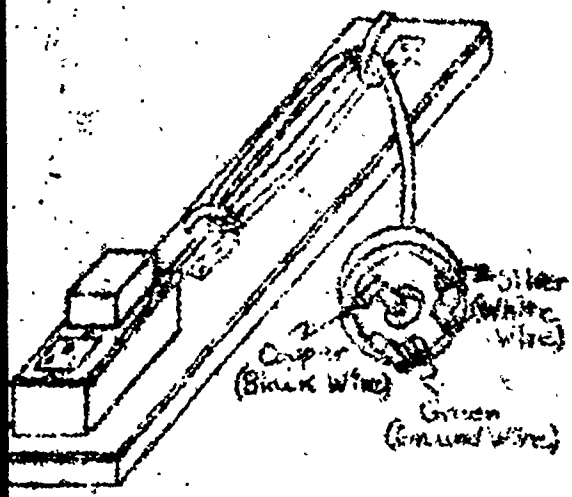
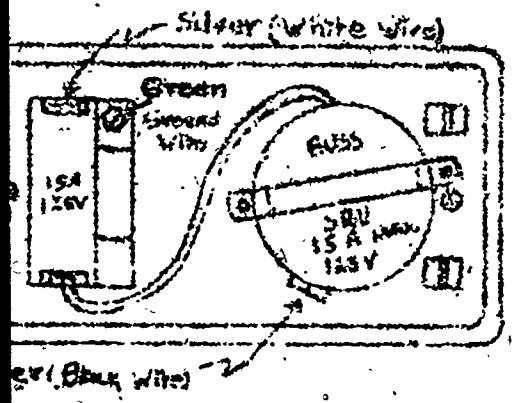
EXTENSION CORD





Construction Procedure

1. Determine length of cord holder. Suggest 1 x 4 x 18
2. Bevel 4 edges of board
3. Shape brackets to hold electrical conductor
4. Locate electrical box on mounting board
5. Attach electrical box to board using 4, 3/4" No. 8 screws
6. Cut 10 - 15 feet of 16-3 SJ rubber covered conductor with ground for cord
7. Wire grounded, fused receptacle as shown in drawing
8. Place receptacle in box, and cover plate and tighten box connector
9. Locate and attach brackets to board
10. Connect grounded cap (male plug)
11. Paint extension cord holder and box
12. Insert fusetron, assure 8 amp load _____ fusetron size.

Material

- board 1 x 4 x 18"
- ting brackets, 1/8 x 1/2" x 5" wide
- d
- x 4" Handy box, 1-1/2" deep
- ed, grounded receptacle (5-15)
- etron fuse 7-1/2 - 10 amp range
- nded cap (male plug)
- ' Box connector
- ' No. 8 Round Head Wood Screws
- ,6' Rubber covered type S or SJ, 16 - 3 stranded conductor with ground

Grade _____

(Ability to .....)
(Understanding of .....)

Construction Teacher:

1.	A	Shape mounting board
2.	A	Use metal shears, drill press and drills
3.	U	Selection of electrical conductors and caps
4.	U	Grounded, fused receptacles
5.	U	120 and 240 volt circuits
6.	A	Properly wire fused receptacle
7.	U	Proper grounding of extension cords
8.	U	Types and sizes of fuses for specific applications
9.	A	Select correct type and size of fusing element
10.	A	Attach grounded cap to extension cord
11.	A	Paint extension cord holder

Evaluation Score Sheet:

Item		Points Possible	Points Earned
1.	Correct measurements	10	_____
2.	Mounting brackets	5	_____
3.	Attachment of brackets and box	10	_____
4.	Fused, grounded receptacle properly connected	25	_____
5.	Connection of grounded cap	15	_____
6.	Selection of correct fusing element	15	_____
7.	Quality of finish, painting	10	_____
8.	Attitude and work habits	10	_____
	Total Points	100	_____

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AGGRAVATION BOARD

Bill Of Materials

1 - 18" x 18" -5/8 plywood

5 - Colors of paint

2 - 8d nails

1 - Paint brush

Construction Procedure

1. Find the center of the board and draw lines connecting it to the center of each side.
2. Nail the template (on the next page) to the board by nailingthrough center hole (x) with one nail. Line the B lines up with center lines on your board.
3. Mark with a nail each spot on template where there is an X.
4. Rotate template ¼ turn and repeat #3 until entire board is marked.
5. Drill marked holes with a countersink to desired depth.
6. Sand and paint as desired.
7. OR have students make their own template from drawing on next page and do steps 1-6.

Construction Teaches

1. Understanding of the use of templates.
2. The ability to measure and transfer plans to work.
3. Ability to use a countersink.

Evaluation

Squareness	25
Attitude & work habits	25
Neatness	25
Uniformity of hole depth.	25
TOTAL	100

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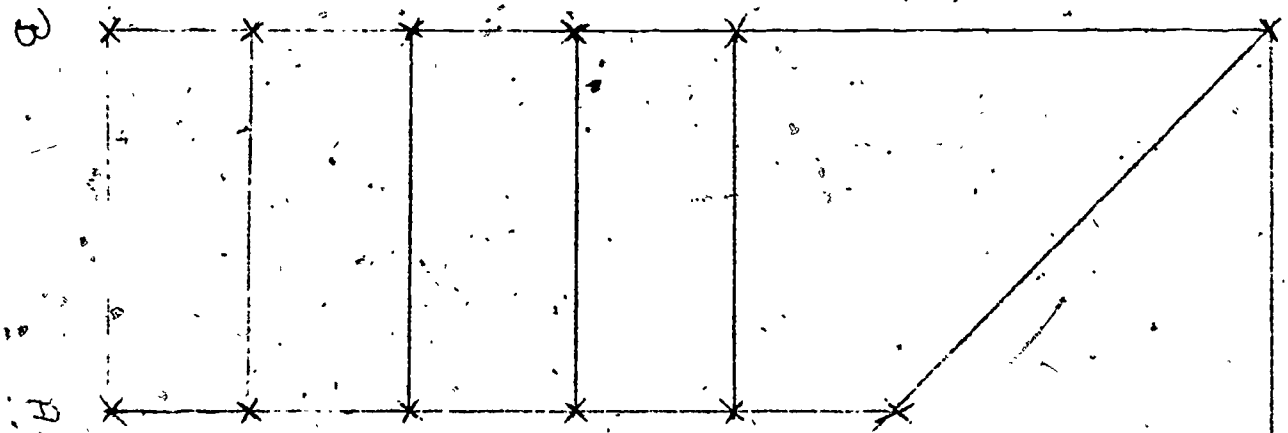

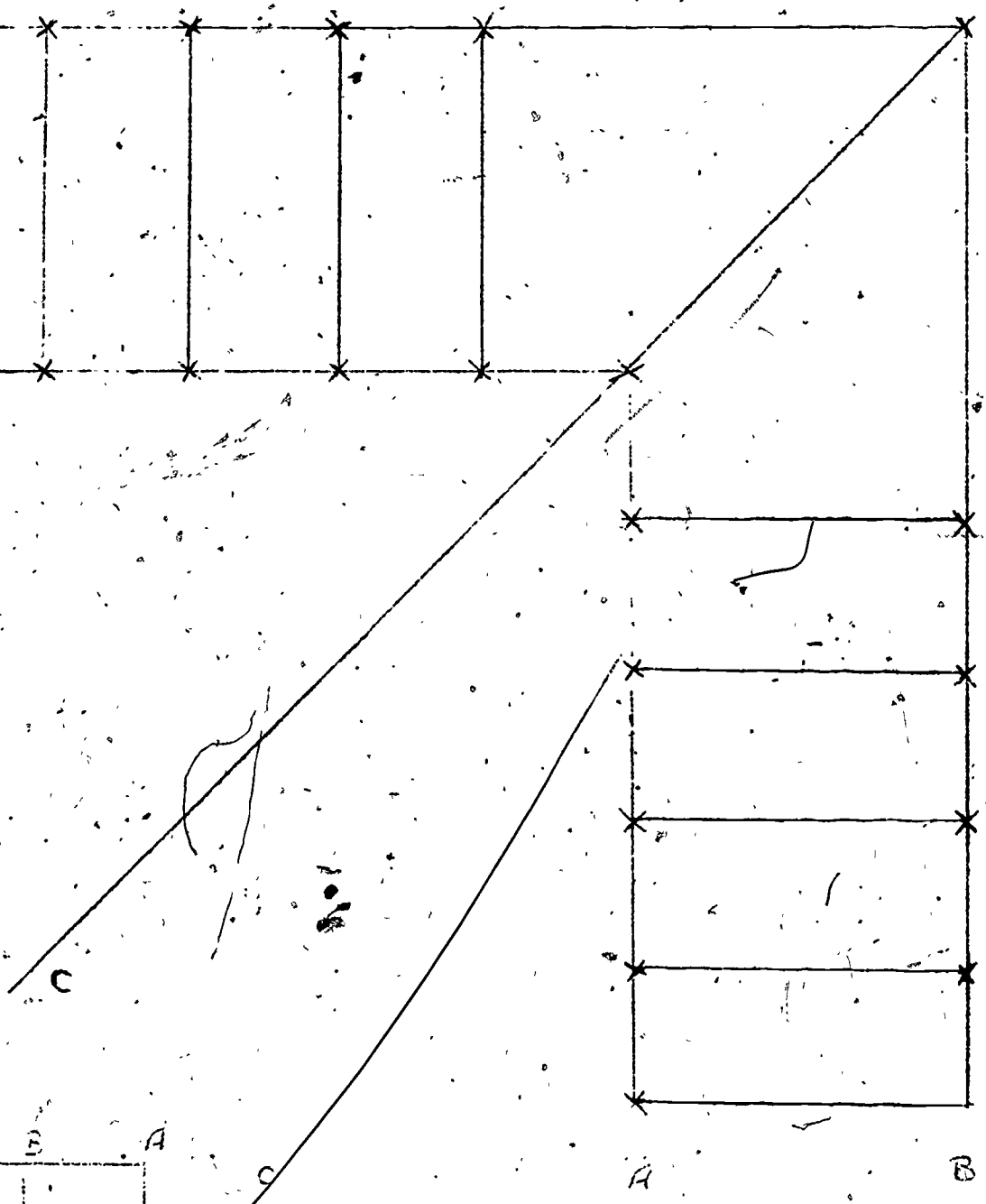

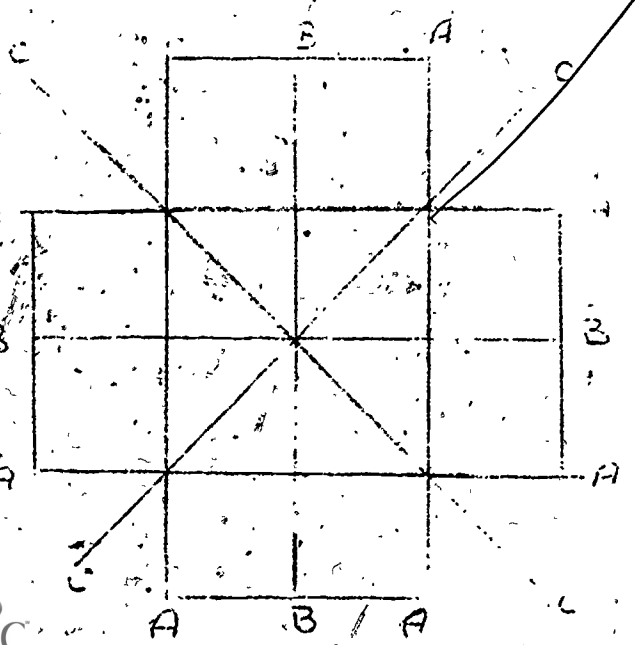

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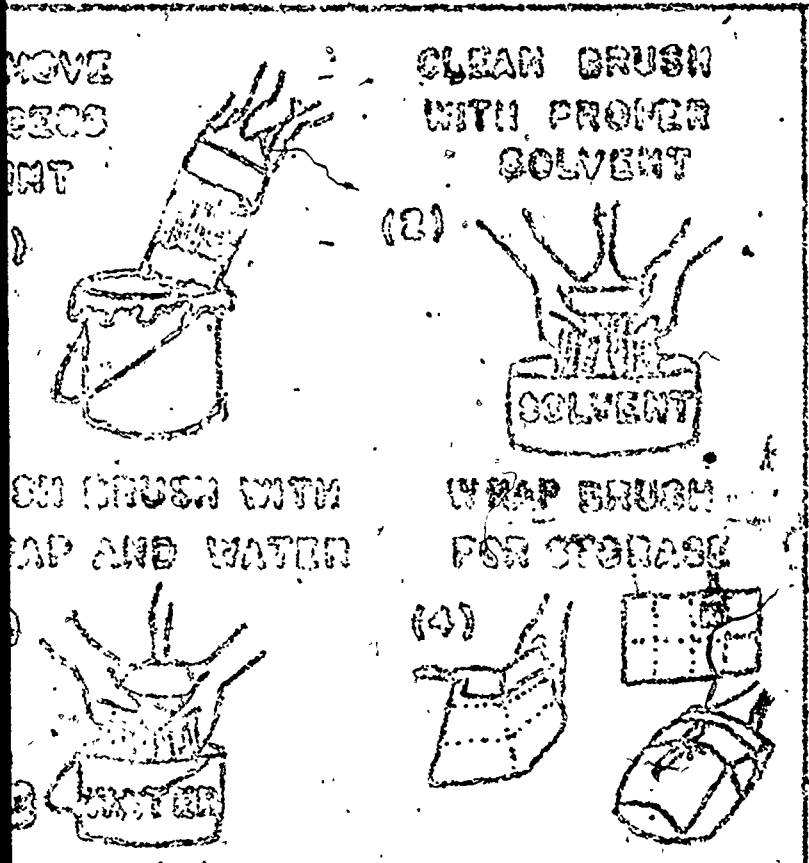
CLEANING A PAINT BRUSH



Materials:

1. Used paint brush in need of cleaning
2. Bucket or can for cleaning
3. Solvent
4. Detergent
5. Wrapping paper and string

Operation Teaches (Ability to ... / Understanding of ...

1. U. types of paint brushes
2. U. the importance of using a clean brush when painting
3. A. to select and use the correct solvent
4. A. to remove all paint from the bristles of brush in cleaning
5. U. the safe use of cleaning solvents
6. A. to remove solvent from bristles with soap and water
7. U. the proper method to store a brush
8. A. to wrap a brush properly for storage

Operational Procedure:

1. Select proper solvent:
   a. oil base - gum turpentine
   b. lacquer - lacquer thinner
   c. shellac - wood alcohol
   d. water base - water
2. Remove excess paint from brush by scraping on edge of can
3. Properly seal paint can lid
4. Place brush in container of proper solvent
5. Work solvent briskly (usually with fingers) into the bristles of the brush
6. When all paint is removed from brush, drain excess solvent from the brush
7. Wash remaining solvent from brush using soap and water
8. Dry excess water from brush with paper towel
9. Secure a piece of wrapping paper about 5 times as long as the brush is wide
10. Place bristles of brush toward center of paper about one brush width from edge of paper
11. Fold opposite edge of paper over bristles and brush for storage, tying with string
12. Observe all safety rules and precautions in working with solvents

Evaluation Score Sheet

Item	Points Possible	Points Earned
1. Selecting of proper solvent	15	
2. Removal of excess paint using lip of can	5	
3. Properly seal paint can	5	
4. Working solvent into bristles	15	
5. Draining solvent from brush	5	
6. Removing solvent with soap and water	15	
7. Properly drying brush	10	
8. Wrapping brush in paper	10	
9. Safety in using solvents	10	
10. Work habits and attitude	10	
Total Points		

Name _____

Date _____ Grade _____

DEPARTMENT OF AGRICULTURAL ENGINEERING
IOWA STATE UNIVERSITY
AM 9-73
USING THE OPERATOR'S MANUAL

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1. Type of Equipment _____

2. Model of Equipment _____

3. Make of Equipment _____

ation Teaches: (Ability to . . .

. Use the operator's manual.
. Find information contained in the operator's manual.
. Keep the operator's manual where it can be referred to easily.

rials:

tical operator's manuals or different ator's manuals

ion of the Operator's Manual:

your operator's manual have the following ions?

	Yes	No
able of Contents	___	___
pecifications	___	___
peration of Equipment	___	___
djustment of Equipment	___	___
ubrication Information	___	___
ervice of Equipment	___	___
ptional Equipment	___	___
rouble Shooting Guide	___	___
et-Up Instructions	___	___
eneral Picture Showing Parts	___	___
torage Information	___	___
afety Suggestions	___	___

_____

_____

_____ Grade _____

opod by Don Schuett, Joe Gliem & Gene Simons
Gliem

Operational Procedures:

1. Complete the operator's manual identification section.
2. Complete the section entitled "Sections of the Operator's Manual".
3. Where would you look to find the page that covers a particular subject? _____
4. Where would you look to find if you could obtain a special attachment for your machine? _____
5. Where would you look to find the width of your machine? _____
6. Where would you look to find causes of poor operation? _____
7. Where would you look to find out how to prepare your machine for work? _____
8. Where would you look to find how to correct for poor operation? _____
9. Where would you look to find out how often to grease your machine? _____
10. Where would you look to find out what to do with your machine when you are through using it? _____
11. Where would you look to find out how to assemble a new piece of equipment? _____
12. Where would you look to find out if you're operating your machine so as to prevent injury? _____
13. Where would you look to become familiar with the overall parts of your machine? _____
14. Where should you keep the operator's manual? _____
15. On what page do you find general lubrication information? _____
16. What three things will always be found on the cover of the operator's manual? _____
17. Give page number and specifications for two of the following: (i.e. speed, height, weight, width adjustments, clearances, RPM, storage, capacities etc.) Page: _____ Specifications: _____
Page: _____ Specifications: _____
18. The left and right sides of the machine are determined by standing at the _____

Evaluation Score Sheet:

	Points Possible	Points Earned
1. Manual Information (3 pts. each)	9	___
2. Manual Sections (3 pts. each)	36	___
3. Operational Procedures (3 pts. each)	48	___
4. Work Habits & Attitude	7	___
Total	100	___

DEPARTMENT OF AGRICULTURAL ENGINEERING
IOWA STATE UNIVERSITY
AM 15-73

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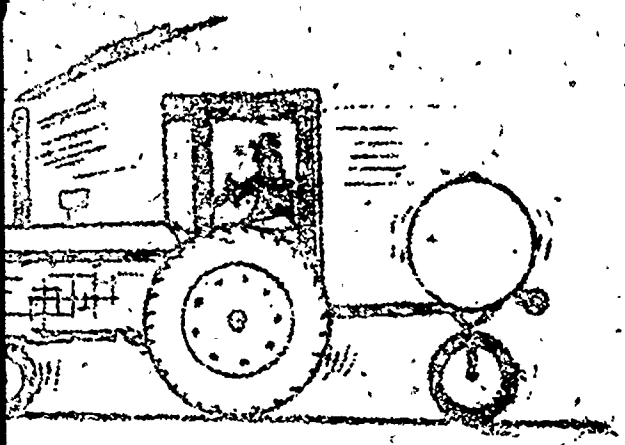
DETERMINING SPEED IN M.P.H.



going too fast? or not fast enough?

...n Teaches: (Ability to . . . . .

Determine what MPH means and why it is so important.
Understand that 1 MPH equals a given number of feet per minute.
Determine speed given time to travel a required distance.
Time a machine over a traveled distance and calculate speed in MPH.
Use the rule of thumb for estimating speed.
Determine speed of a machine by the rule of thumb method.

...on Score Sheet:

Item	Possible	Points Earned
...finition of MPH	12	
...rations for precise ...ed	8	
...t per minute & 1 MPH	15	
...blems 4 & 5	15	
...ermining actual MPH	15	
...blems 2 & 3	10	
...ermining speed by rule ... thumb	15	
...itude and work habits	10	
Total	100	

...ta:

...or 100 foot tape measure
...topwatch or watch with secondhand
...achine to run for determining speed
...e

Operational Procedure:

Method I.

1. Define the letters MPH
   M _____
   P _____
   H _____
2. List four farming operations that require precise speed (MPH) determinations.
   1. _____ 3. _____
   2. _____ 4. _____
3. If the tractor in the picture is going 1 MPH, how many feet will it travel in one minute? _____ (Hint: feet in a mile ÷ by minutes in an hour = feet per minute or feet per 60 seconds)
4. Shifting gears, we now cover the distance determined in step 3, in 10 seconds; how fast is the tractor going? _____ MPH
5. Our planter manual recommends we travel 4 MPH when planting corn. How long should it take to cover the distance in step 3? _____ seconds
6. Determining MPH while a machine is in actual operation.
   a. Measure off distance covered in one minute at 1 MPH. _____ ft.
   b. Run the machine through its normal operation.
   c. Time the machine over the distance in seconds. _____ seconds
   d. From the time, determine speed in MPH.
      _____

Method II.

1. Rule of thumb: Walk beside a machine taking 3' steps, count the number of 3' steps taken in 20 seconds, divide by 10, the result being speed in MPH
2. If you took 28, 3' steps in 20 seconds beside a combine, how fast is the combine going? _____ MPH
3. How many 3' steps would you have to take in 20 seconds if a tractor is going 4.2 MPH? _____
4. Actual use of rule of thumb: Run a machine at normal speeds, walk beside the machine, count 3' steps taken in 20 seconds. What is the speed in MPH? _____

Developed by Joseph C. Pedersen

Name _____

Date _____ Grade _____

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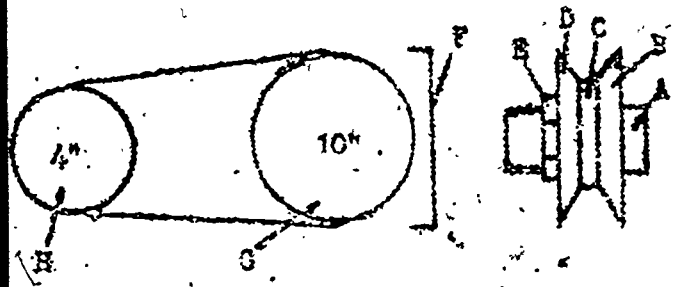
ption Teaches: (Ability to.....
(Understanding of...

. Calculate speed of driven pulley
. Application of power train
. Identify component parts
. Seat a belt properly
. Set proper tension on belt



ational Procedure:

dentify parts:

E. _____ S. _____
F. _____ T. _____
G. _____ U. _____
H. _____

ind the optimum pulley speeds in your operator's manual. _____ RPM for the driver pulley and _____ RPM for the driven pulley.

ormula:

$$\frac{\text{RPM of small pulley}}{\text{RPM of large pulley}} = \frac{\text{Diameter of large pulley}}{\text{Diameter of small pulley}}$$

xample problem:

If driver pulley RPM is 1750, what is speed of driven pulley? 700

$$\frac{1750}{x} = \frac{10}{4}$$

ultiply both sides by x and 4 then cancel

$$10x = 7000$$

ivide both sides by 10.

$$x = 700$$

When two pulleys are connected by a belt, he large pulley runs slower than the small ulley.

eveloped by Harold C. Fengya
dited by Marvin D. Bottin

1. What pulley diameters are needed to obtain the optimum speed of your machine? Driver pulley=_____" and driven pulley=_____".

4. What change would you make in the diameter of the driven pulley to increase it's RPM, leaving the driver pulley unchanged? _____

5. What part of "V" belt must be in contact with pulley? _____

6. How much tension should be maintained on belt? _____

Evaluation Score Sheet:

Item	Points Possible	Points Earned
1. Identify parts	15	
2. Obtain data from manual	15	
3. Calculations	15	
4. Demonstration of changing speeds	35	
5. Demonstration of belt tension	15	
6. Attitude	15	
7. Handling equipment	10	
	100	

Materials:

Combine or other variable speed pulley system machine
Operator's manual
Speed indicator, ruler and tools

Name: _____

Date: _____ Grade: _____

DEPARTMENT OF AGRICULTURAL ENGINEERING
IOWA STATE UNIVERSITY
AM 32-73

CONBINE CYLINDERS

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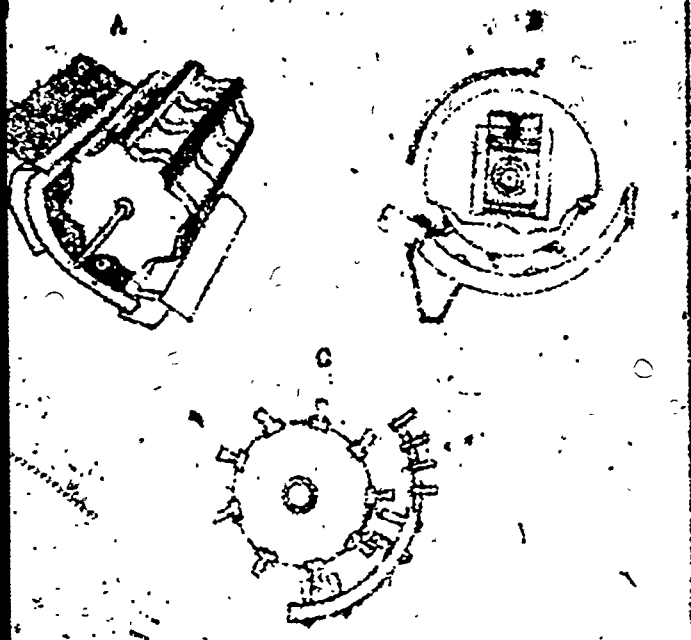

rials Needed:

ine

ctor's Manual

Counter or Tachometer

ation Teaches: (Ability to ...

a. Set cylinder speed at correct speed.

b. Interpret and use owner's manual.

c. Understand how a cylinder removes the grain from the heads.

d. Determine how cylinder speed affects quality of grain threshing.

e. Interpret tailings and change cylinder speed accordingly.

ctice:

	Points Possible	Earned
facturer's Specs.	5	
nder Identification	5	
nder Adjustment	20	
of Safety Practices	10	
Habits & Attitudes	10	
Total	50	

loped by Gordon Kennedy
d by Thomas A. Hoerner

Operational Procedure:

1. Identify the 3 types of cylinders shown and list crops where each could be used.
   a. _____
   b. _____
   c. _____
2. What type is on this combine? _____
3. Check owner's manual for manufacturer's specifications for cylinder speeds for each crop. CORN _____ OATS _____
   SOYBEANS _____ CLOVER _____
   SORGHUM _____ WHEAT _____
4. What does the cylinder do in the process of threshing? _____
   How does it do this? _____
5. How does cylinder speed affect effectiveness of threshing? _____
6. Locate cylinder speed adjustment on the combine. Explain how it is adjusted. _____
7. Make sure everyone is clear of all moving parts. Start the combine. Determine present cylinder speed with an RPM counter. _____ Set speed for corn. Set for beans. Set for clover.
8. How would you change the cylinder speed if you had alot of cracked soybeans in the tank?
9. How would you change the cylinder speed if you had alot of unthreshed grain in the tailings?
10. What is an allowable soybean cylinder loss (in %)? _____

NAME _____

DATE _____ GRADE _____

IOWA STATE UNIVERSITY
AM 33-72

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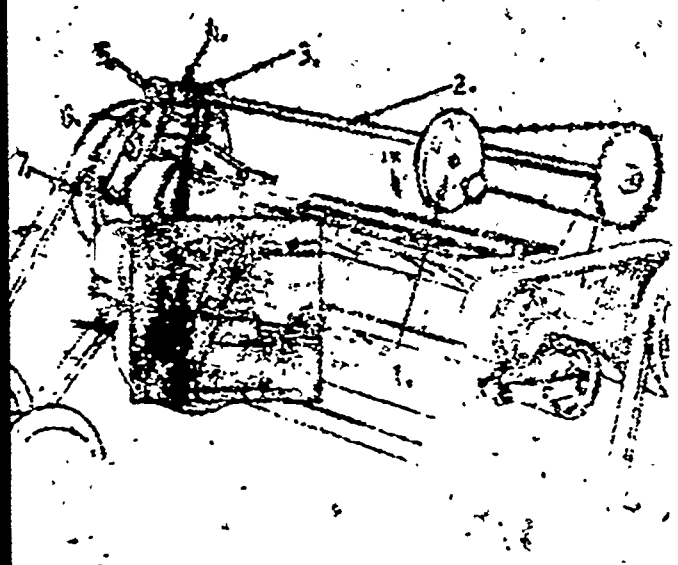
COMBINE CYLINDER SPEED ADJUSTMENT



Identification

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

ion Teaches (Ability to.....
(Understanding of...

Identify parts of cylinder drive unit.
Methods of adjusting cylinder speed.
Select correct cylinder speeds for various crops.
Make cylinder speed adjustments.

ped by Gordon Kennedy & Clair Baker
by H. Edward Breece

ials Needed

bine
rator's manual, MF 410-510
l tools
ometer

_____

_____ Grade _____

Operational Procedure

1. Complete part identification section.
2. Name the 2 methods of adjusting cylinder speed:
   a. _____
   b. _____
3. To increase cylinder speed, (increase) (decrease) diameter of driver, and (increase) (decrease) diameter of driven pulley or sprocket. (Circle correct answer)
4. Give recommended cylinder speeds for corn _____; soybeans _____; oats _____; wheat _____.
5. Check RPM of engine. (Usually checked at main separator drive)
   a. RPM recommended _____
   b. Actual RPM _____
   c. Make changes as required, follow instructions in operator's manual.
6. Check cylinder speed using tachometer _____.
7. See operator's manual for changes needed to get correct cylinder speed for crop.
   crop _____ speed _____
   changes required: _____
8. Make final check of cylinder RPM using tachometer, RPM _____
9. Should cylinder speed be increased or decreased if we find the following:
   a. Unthreshed heads _____
   b. Chopped straw in rack _____
   c. Excessive cracked grain in tank _____
   d. Ears not shelled completely _____
10. What other setting affects threshing action?

_____

Evaluation Score Sheet

Item	Points Possible	Points Earned
Parts identification	15	
Methods of adj. cylinder speed	10	
Problem No.	10	
Recommended speeds for crops	12	
Check cylinder speed	5	
Check engine speed	5	
Changes required to get correct cylinder speed	10	
Final check of cylinder speed	5	
Problems	12	
Other settings	5	
Attitude and work habits	11	
Total	100	

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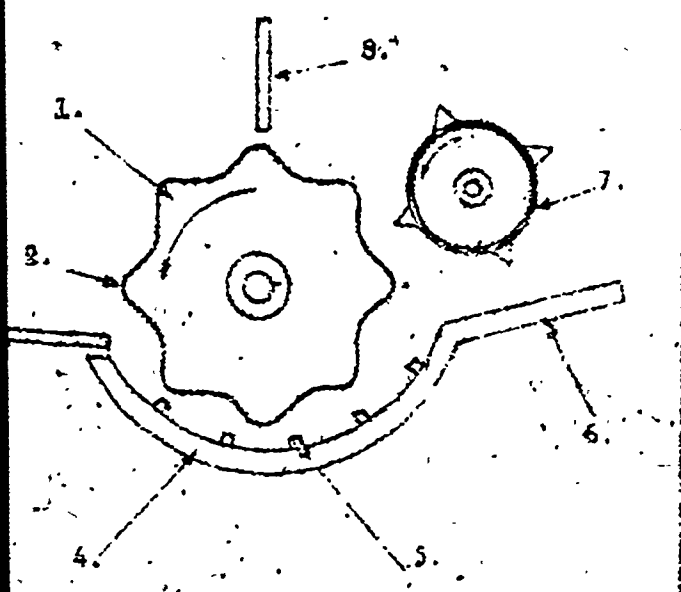
IOWA STATE UNIVERSITY
AM 3--72

COMBINE CYLINDER - CONCAVE CLEARANCE



ion Touches (Ability to.....
(Understanding of...
Importance of concave clearance.
Influence of clearance on threshing quality.
Select correct spacing for crop being harvested.
Adjust concave to get correct clearance

ed by H. Edward Breece

ls Needed

ino
nter's manual
es or round stock of correct diameter
rted hand tools

ion Score Sheet

Item	Points Possible	Earned
s identification	24	
tions 2-7	24	
mended clearances	8	
ure cylinder-concave rance	8	
ave parallel	2	
clearance & check	20	
tion No. 14	10	
tude & work habits	4	
Total	100	

Parts Identification

1. _____ 5. _____
2. _____ 6. _____
3. _____ 7. _____
4. _____ 8. _____

Operational Procedure

1. Complete part identification section.
2. To get the correct spacing between the cylinder and the concave, we adjust: (cylinder) (concave) _____
3. At what points should the cylinder to concave clearance be checked? _____
4. How is the front clearance changed? _____
5. How is the rear clearance changed? _____
6. Which clearance, front or rear, may be changed from the operator's platform? _____
7. Why is it important that the concave be level (parallel) with the cylinder? _____
8. What are the recommended clearances for the following crops?

	Front	Rear
Corn		
Soybeans		
Oats		
Wheat		

9. Measure the cylinder - concave clearance on the combine provided: front left _____
front right _____
rear left _____
rear right _____
10. Is the concave parallel with the cylinder both at the front and the rear? _____
11. Set the cylinder to concave clearance for the crop as fed.
12. Check the clearances at all four points.
13. Is the concave parallel with the cylinder? _____ If not, make the necessary adjustments.
14. Should the cylinder to concave clearance be increased or decreased if we observe the following conditions?
a) Kern not shelled completely _____
b) Excessive damage to grain _____
c) Straw or stalks chewed up _____
d) Grain not threshed from heads _____
e) Plugging or overloading of cylinder _____

_____ Grade _____

DEPARTMENT OF AGRICULTURAL ENGINEERING
IOWA STATE UNIVERSITY
AM 3e-72

CALIBRATING THE FARM SPRAYER FOR BAND APPLICATION

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...nd Useful Information:

...al./acre MPH - miles/hour
...al./min. NS - nozzle spacing
...bs./sq. in 1 GPM = .0078 x oz./min.
...n. - ounces per minute

...nd) = band width - in. / row spacing - in. x GPA broadcast

Spacing Conversion for nozzle spacing ...than 30 inches:

...	20	36	38	40	42
...	1.50	0.83	0.79	0.75	0.71

...in GPM output, divide GPM by factor

...in application rate, multiply GPA by factor

...ng Teaches: (Ability to..... (Understanding of...
...prayer calibration procedures
...etermine desired nozzle output
...easure nozzle output
...hange pressure and/or speed to obtain ...PA desired

...e for Sprayer Calibration Guide:

... the recommended broadcast rate on the left ... of calibration guide. (20)
... horizontally to right until travel speed ...PH is reaches. (6)
... straight down; read ounces per minute on ...on of guide (oz./min. based on 30" nozzle ...ing and 14" band width). (16.8)
...hange broadcast rate, GPA, to band rate =

...idth / ...pacing x GPA broadcast = 14" / 30" x 20 = 4.67 GPA)

...ls Needed:

...iquid measuring cup, Ferp sprayer

Operation Procedure.

1. What is the output of each nozzle (NS = 30") if rate of application is 20 GPA (broadcast rate) and speed is 6 MPH? _____
2. What is the GPA rate of application in the band? _____
3. What is the nozzle output in GPM? _____
4. What is the total GPM for the sprayer in #1 if it is an 8-row sprayer? _____
5. Sprayer calibration exercise:
   a. Determine GPA broadcast rate required: _____
   b. Determine speed of travel desired: _____
   c. Determine nozzle spacing: _____
   d. Determine nozzle output to give desired band rate: (use guide) _____
   e. Run pump at recommended speed.
   f. Set pressure regulator to about 40 PSI.
   g. Collect nozzle output from at least 3 nozzles: 1 _____ 2 _____ 3 _____ Average _____
   h. Adjust pressure and/or speed to match actual nozzle output.

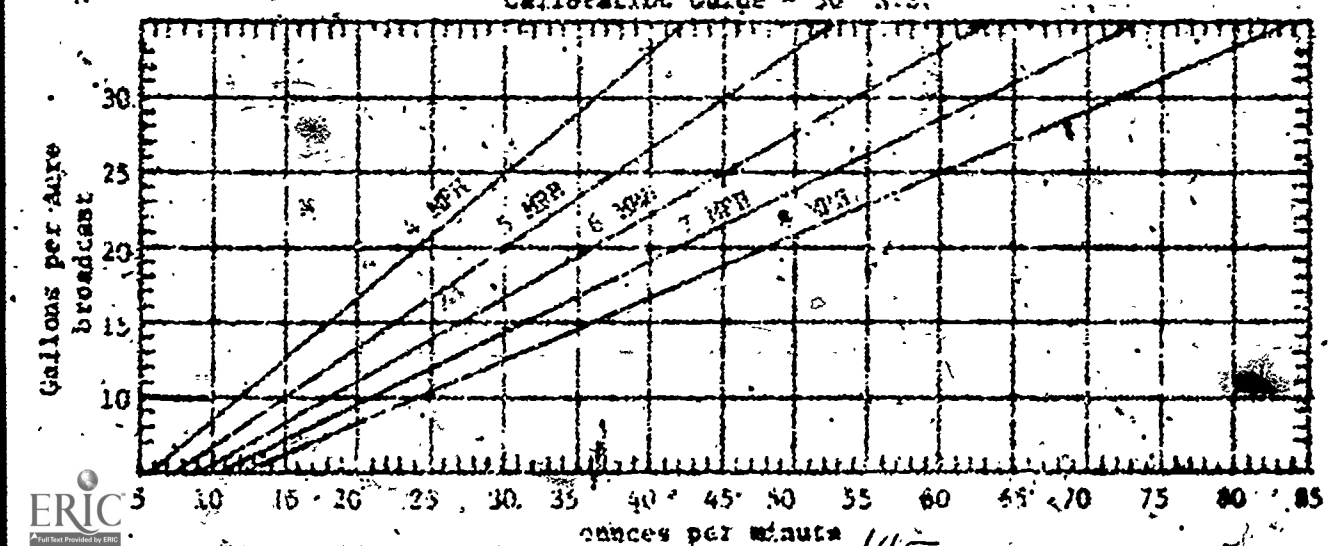
Evaluation Score Sheet:

Item	Points Possible	Points Earned
1. Questions 1-5	30	
2. Determine GPA and MPH	10	
3. Determine nozzle spacing	10	
4. Nozzle output from guide	10	
5. Determine nozzles output	15	
6. Adjust PSI and/or MPH to get correct GPA application	15	
7. Attitude and work habits	10	
Total	100	

Name: _____

Date: _____ Grade: _____

Calibration Guide - 30" N.S.



DEPARTMENT OF AGRICULTURAL ENGINEERING
IOWA STATE UNIVERSITY
AM 25-72

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CALIBRATING THE FARM SPRAYER FOR BROADCAST APPLICATION

...ful Information:

...al. per acre — MPH - miles per hour
...al. per min. — NS - nozzle spacing
...s. per sq. in. — 1 GPM = .0078 x oz./min.
... - ounces per minute

Spacing Conversion for Nozzle Spacing other ... inches:

NS -	15	18	21	24
Factor -	1.31	1.11	.95	.83

...in GPM output, divide GPM by factor

...in application rate, multiply GPA by factor

...on Teaches: (Abilities to.....
(Understanding of...

- ...prayer calibration procedures
- ...ffects of pressure and speed on GPA
- ...pplication
- ...etermine desired nozzle output
- ...easure nozzle output
- ...hange pressure and/or speed to obtain ... GPA desired
- ...e sprayer calibration guide

... for Sprayer Calibration Guide:

... the GPA broadcast rate desired on the ... side of calibrating guide. (30)
... horizontally to right until travel speed ... MPH is reached. (6)
... straight down; read ounces per minute on ... on of guide for broadcast application. ...rin. based on 20" nozzle spacing) (77)

...s Needed:

...iquid measuring cup, graduated in ounces
...rayer

...eet developed by W. Edward Breese

Operational Procedures:

1. What is the output of each nozzle, (NS = 20") if rate of application is 20 GPA and speed is 5 MPH? _____
2. What is the GPM for each nozzle in #1? _____
3. What is the total GPM for the sprayer in problem #1 if it has 13 nozzles? _____
4. Determine the output per nozzle for sprayer in #1 if NS is 15" instead of 20". _____
5. Sprayer calibration exercise:
   a. Determine GPA rate required. _____
   b. Determine speed of travel. _____
   c. Determine nozzle spacing. _____ in.
   d. Determine output per nozzle required. (Use sprayer calibration guide) _____
   e. Start sprayer pump & run at req. speed.
   f. Set pressure regulator to about 40 PSI.
   g. Collect nozzle output from at least 3 nozzles: 1 _____ 2 _____ 3 _____ Average _____
   h. Adjust pressure until desired output is obtained or adjust speed to match actual nozzle output.

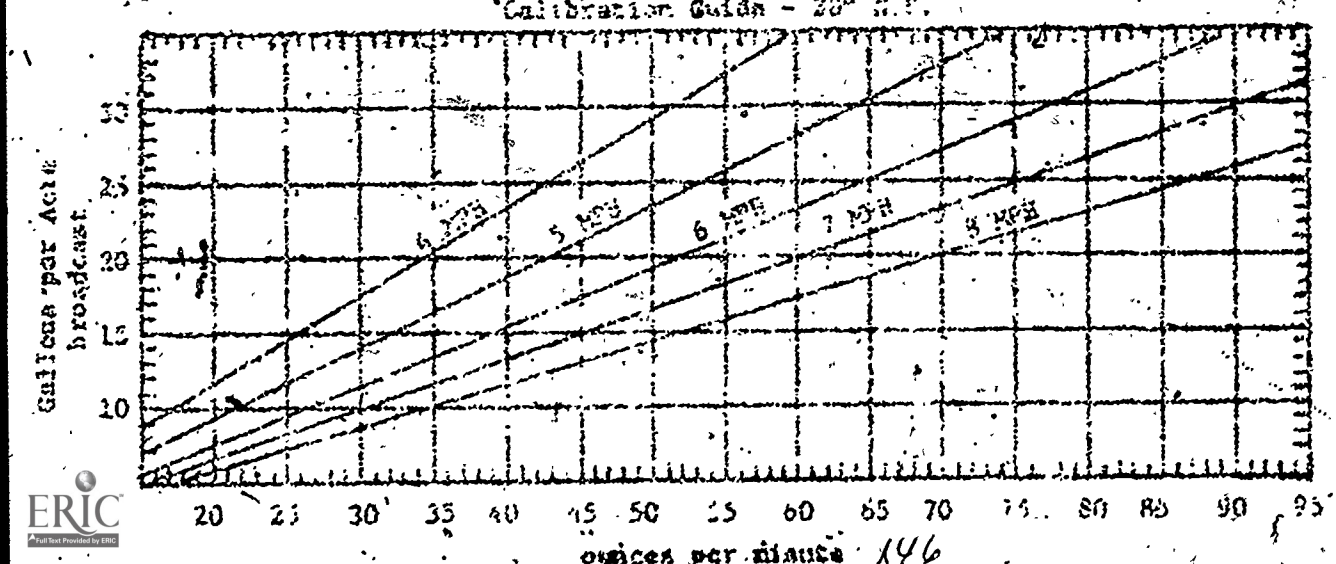
Evaluation Score Sheet:

Item	Points Possible	Points Earned
1. Questions 1-5	32	
2. Determine GPA and MPH	15	
3. Determine nozzle spacing	5	
4. Nozzle output from guide	10	
5. Determine nozzle output	15	
6. Adjust PSI and/or MPH to get correct GPA application	15	
7. Attitude and work habits	8	
	100	

Name: _____

Date: _____ Grade: _____

Calibration Guide - 20" N.S.



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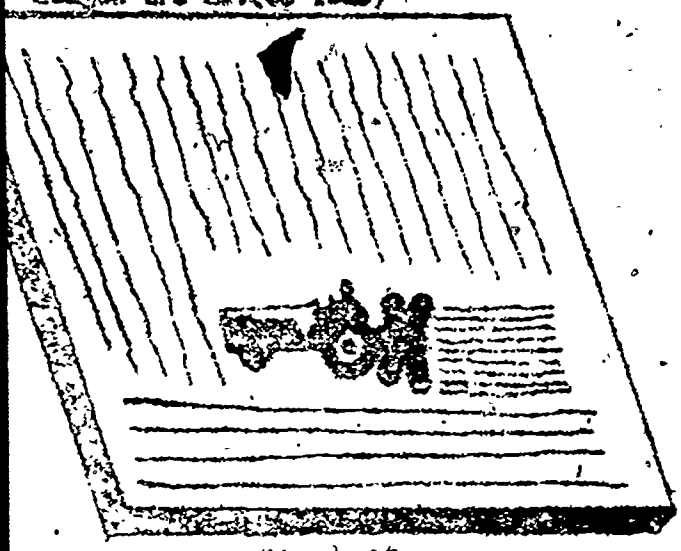
IOWA STATE UNIVERSITY
A- 6-12

MACHINE ACREAGE CAPACITY

Length-1/2 mi.(80 rods)



Time - 10 minutes

tion Teaches (Ability to.....
(Understanding of...
Theoretical field capacity of a machine.
Effective field capacity of a machine.
Field efficiency of machine use.
Determine field travel speed in miles per hour.
Determine theoretical field capacity of an implement.
Determine effective field capacity of an implement.
Determine field efficiency of an implement.

in Field Efficiency for Common Machines

ard plow	75-85%	Corn plan only	60-75%
arrow	77-90%	Corn plan plus	45-65%
cultivator	75-85%	Combine	60-75%
spike harrow		Corn picker	65-70%
	65-76%	Swather	70-80%
tivation	68-85%	Sprayer	75-85%
hoe	80-88%		

ion Score Sheet

Item	Points Possible	Earned
d travel speed	18	
retical field capacity	18	
ctive field capacity	15	
d efficiency	18	
machine work capacity	18	
rude and work habits	10	
Total	100	

lbert A. Roof

Field Travel Speed (MPH) Determination

A 14 ft. tandem disc is pulled across a field 1/2 mile long (80 rods) in ten minutes. What is the ground speed in MPH? (1 mile = 5280 ft.; 1 rod = 16.5 ft.)

MPH = $\frac{\text{ft. traveled}}{\text{Min.} \times 88} = \frac{\quad\text{ft.}}{\quad\times 88} = \quad$

Theoretical Field Capacity of a Machine (TF Cap.)

TF Cap. = $\frac{\text{MPH} \times \text{implement width in feet}}{8.25}$ = A/hr.

Problem: A ft. tandem disc is drawn at 4.5 MPH. Find the TF Cap. in A/hr.

TF Cap. = $\frac{\text{MPH} \times \quad\text{ft. wide}}{8.25} = \quad$ A/hr.

Effective Field Capacity (EF Cap.)

EF Cap. = $\frac{\text{acres covered or worked}}{\text{hours of time used}}$ = A/hr.

Problem: A 14 ft. tandem disc is used to till 38 acres in 10 hours. Find the EF Cap. in A/hr.

EF Cap. = $\frac{\text{acres}}{\text{hours required}} = \quad$ A/hr.

Field Efficiency (EF-ld Eff.)

Field eff. = $\frac{\text{EF Cap.}}{\text{TF Cap.}} \times 100$

Problem: Find the field eff. of discing when the theoretical field capacity is 5.6 acres and the effective field capacity is 3.8 acres.

Field eff. = $\frac{\text{EF Cap.} \quad\text{A/hr.}}{\text{TF Cap.} \quad\text{A.hr.}} = \quad \times 100 = \quad\%$

Machinery Pacing

EF Cap. = TF Cap. x field eff. = Acres per hour

Problem. Find the acres of corn that can be planted with a 30" row planter being drawn at 5 MPH. The field eff. expected is 60%.

TF Cap. = $\frac{\text{MPH} \times \quad\text{ft. wide}}{8.25} = \quad$ A/hr.

EF Cap. = TF Cap. x field eff. = A/hr.

Name

Date Grade

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AM 22-72

CORN PLANTER CALIBRATION

d plate fill = No. kernals collected / No. cells in seed plate × 100

rs for Planting Rate at Row Widths Given

spacing	40"	36"	30"	20"
	13.1	14.5	17.5	26.2

tion Teaches (Ability to.....
(Understanding of...

Factors influencing planting rate.
Importance of correct ground speed on planting rate.
Determine adjustment to give desired planting rate.
Field calibrate a corn planter.

ials Needed

n planter
or 24 cell seed plates to match seed corn ilable
rator's manual
orted wrenches and hand tools

pec by H. Edward Breece

tion Score Sheet

Item	Points Possible	Earned
tors influencing nting rate	30	
ed	5	
cent seed plate fill	20	
uring planting rate	20	
ld calibration	20	
itude & work habits	15	
Total	100	

Grade

NOTES

Instructional Procedure

1. What are the major factors that influence planting rate?
   A.
   B.
   C.
   D.
   E.
2. Will the use of ground speed increase or decrease planting rate?
   Why?
3. Determine percent seed plate fill.
   A. Remove the seed hopper
   B. Count no. turns of planter drive wheel to cause seed plate drive to make one complete revolutions
   C. Replace hopper with recommended seed plate installed.
   D. Turn drive wheel required number of turns while catching seeds at bottom of runner.
   E. No. cells in seed plate
   F. No. kernals collected.
   G. Using formula at top of page, determine percent seed plate fill
   H. Select another seed plate if percent fill is not within the 90 110 percent range.
4. Using operator's manual, determine correct sprocket settings for planting population desired. No. teeth drive sprocket
   No. teeth driven sprocket
   Other settings, if required
   Planting population desired
5. Make necessary adjustments.
6. Field check of planting rate.
   A. Fill planter boxes, fertilizer, insecticide, etc.
   B. Select gear and throttle setting to give speed recommended in operator's manual. Speed MPH.
   C. Plant 100-200 Ft. Stop. Check depth of planting. Depth
   D. Uncover kernals. Measure distance in feet, given in table at top of page for your row spacing, down one row. Count kernals
   Population = No. kernals x 1000.
   Population =
   E. Check population in each row in at least two places.
   F. Make necessary adjustments in depth and planting rate following instructional procedures in operator's manual.

DEPARTMENT OF AGRICULTURAL ENGINEERING
IOWA STATE UNIVERSITY
AE 40-12

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COMBINE HARVESTING LOSSES FOR CORN

Table 1. Row Length in Feet Per 1/100 Acre

Reference 1/100 Acre Plot

Row Width Inches	One Row	Two Rows	Three Rows	Four Rows	Six Rows	Eight Rows
20	262	131	87.3	65.5	43.6	32.7
28	187	93.5	62.3	46.7		
30	174	87	58	43.6		
34	165	77.5	51.3	38.2		
38	138	69	46	34.5		
40	131	65.4	43.6	32.7		
42	124	62	41.3	31		

Table 2. Length for 10 sq. ft. Frame

Row Width Inches	Row Length Inches
20	8
26	51.5
30	48
36	40
38	38
40	36

Other sizes frame as for of inch rows, but place frame over 2 rows at a time.

Operational Procedure

1. Name the types of harvest losses.

   _____ _____

   _____

2. Total harvest losses should not exceed ____ bu./acre.
3. Stop combine at least 300' in from ends of field.
4. Back machine at least one full length of machine.
5. Behind machine measure length to give 1/100 acre for your width of machine. (Table 1)
6. Count ears found in this area. _____ Enter on lines (C) (E) of Table 5.
7. Count ears found in a like measured area in the corn not yet harvested _____ (A)
8. Gathering unit loss. Subtract A from B ____ (D)
9. Construct 10 sq. ft. frame using Table 2 to get length. Put frame over each row and average counts for steps 10, 11, & 12.
10. Count kernels in 10 sq. ft. area behind machine. Kernels still attached to cobs that have gone through machine. _____ (K)
    Total kernels _____ (M)
11. Count kernels in area just in front of machine. _____ (J)
12. Count kernels in area not yet harvested. ____ (I)
13. Separating kernel losses. Subtract, M-J ____ (L)
14. Gathering unit kernel losses. Subtract, J-I _____ (N)
15. Convert ear loss to bu./acre. See Table 3. Enter on lines (B)(F)(G)(H) of Table 5.
16. Convert kernel losses to bu./acre. See Table 4. Enter on lines (O)(P)(Q)(R)(S)(T) of Table 5.
17. Determine total harvest losses. Add ear loss to shelled corn loss. Enter on lines (U)(V)(W)(X)(Y)(Z) of Table 5.
    Total loss bu./acre (Y) _____
    Machine loss bu./acre, Y-U _____
18. Is machine loss within allowable limits? _____
19. If machine losses are excessive, make necessary adjustments.
20. Total machine losses after final adjustments have been made. _____

Ion Teaches

(Ability to.....
(Understanding of...

Extent of harvesting losses.
Types of losses.
How to reduce losses.
Measure harvest losses.
Identify problems causing harvest losses.
Make adjustments to reduce harvest losses.

ed by Charles Perdue & Larry Bruxvoort
by H. Edward Breece

ls Needed

ine & operator manual
e & stakes to make frame
measure
rted hand tools

Grade _____

Table 3

- bu./acre
4 lb. ear or
valent = 1 bu./acre

Table 4

lled bu./acre

Shelled Loss

	Total Bu./Acre

UNIT: AGRICULTURAL MECHANICS

TITLE OF ACTIVITY: THE PRICE IS RIGHT

METHOD OF TEACHING: ROLE-PLAYING

OBJECTIVE:

1. To stimulate interest in tools, their types of quality and price levels.

2. To evaluate tools and their approximate prices.

MATERIALS NEEDED:

Tool Catalog
Pencil
PRICE IS RIGHT forms
Three hand tools

DETAILED PROCEDURE:

1. Pass out TV form sheets.

2. Introduce the TV Price Is Right Game.

3. Ask them to write down the catalog price of No. 1 item after the teacher gives an exciting promotional auctioneering of the item.

4. Auctioneer each item off by having them bid by writing down the price they would pay for each item.

5. Ask each to total the three figures.

6. Ask for the bids on Item #1---then give them the catalog and look up the actual prices. Total up the actual prices and award the winner bonus or special treatment.

7. Ask students to role-play a person who wants to purchase wood hand tools. Ask them to establish a priority and then allow them to spend $ X.oo no. of dollars to purchase the items. Explain differences in quality and features offered and give suggestions from your experience.

SAMPLE PRICE IS RIGHT

BEHIND DOOR NO. 1 _____ Curved Claw Hammer 16 oz. Best Quality $_____
Actual $_____

DOOR NO. 2 _____ Jack Plane 9-in. long, Best Qualtiy $_____
Actual $_____

DOOR NO. 3 _____ Coping saw 6½-in. $_____
Actual $_____

Your Total $_____
Actual $_____

TERMS TO UNDERSTAND SMALL ENGINES

abrasion

air cleaner

air gap

air horn

API

armature

atmospheric pressure

back-fire

battery

bearing

blow-by

bore

breaker arm and point

break-in

bushing

camshaft

carburetor

cell

choke

bearing clearance

compression

compression ratio

condenser

connecting rod

crankcase

crankshaft

cubic inches

cylinder

cylinder head

electrode

electrolyte

feeler gauge

float

flywheel

foot pound

gasket

governor

grid

hone

intake valve

key and key way

lapping

magnetic field

magnetio

motor and engine

piston

piston displacement

piston head

piston ring

piston ring gap

piston ring groove

port

reciprocating

SAE

score

seat

spark plug

stroke

throw

timing gears

torque

torque wrench

trouble shooting

tune-up

two stroke engine

up-draft carburetor

vacuum

valve

valve clearance

valve face

valve grinding

valve seat

valve spring

valve stem

venturi

viscosity

volt

voltmeter

volume

watt

wrist pin

UNIT: ANIMAL SCIENCE

TITLE OF ACTIVITY: EAR NOTCHING

OBJECTIVE:

1. All students will be able to explain why ear notching is done.

2. All students will be able to locate the 8 primary notches and identify each as to its significance.

MATERIALS NEEDED:

1. Cut-out poster picture of pigs ears.

2. Clothes pins

3. Colored poster board

4. Lists of Notching Rules printed on poster board.

REFERENCES:

Filmstrip-Brood Sow and Litter

Anchor!s -Veterinary Handbook For All Livestock

DETAILED PROCEDURE:

1. Get students interested by "calling hogs" and ask them methods they have used or seen to identify a certain animal.

2. Explain the purpose of ear notching and lead into the Rules of Ear Notching.

   a. Notch only two notches in any one primary notch location.

   b. Right ear means the litter number. Left ear is the pig number in that litter.

   c. First litter born on or after January 1st is litter #1. Next litter is litter #2, etc. Any pig in a litter can be assigned a certain number; it does not mean pig number 1 was the first born.

   d. Notch early in the pigs life. Best within the first week.

   e. Watch and try to miss blood veins. Do not notch in center or midrib of ear due to the confusion of either a # 1 or # 3 notch.

   f. Don!t make mistakes; they don!t erase!

3. Cut out a head of a pig showing ears.

4. Glue Vee cut-outs on one side of scissor type clothes pin.

5. Clamp these on the model and explain each notch meaning.

6. Do examples of pigs, such as Litter 11, pig 8 or 16-13 meaning litter sixteen and pig number eight.

7. Allow a student to notch examples you give them. Explain that this system will notch up to 161 litters and show them why.

8. Pass out (attached form) quiz allowing them to notch the pigs ears on the paper and answer the questions.

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Name_____ ANIMAL SCIENCE EAR NOTCHING

1. Why is ear notching done?

2. Place the 8 primary notches on this pigs ear. Label the pigs either right or left.
Place the number value of each notch.

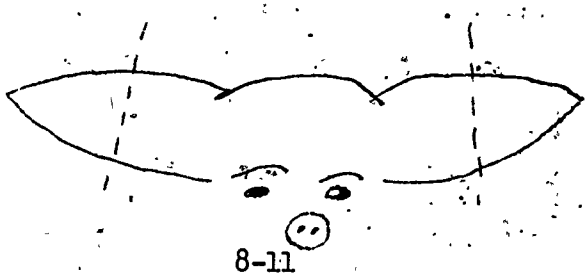
_____ EAR _____ EAR

3. Only _____ notches can be used at any notch location.

4. The _____ ear is for pig number; the _____ for the litter number.

5. Tell the meaning of 11-5.

6. Notch the following ears as indicated.



8-11

14-5

88-10

134-7

SETTING UP AND SCORING WITH VITALITY SEEDS

CHAPTER _____ YEAR _____

1. Our chapter goal is $_____. Can we make it?

2. Two teams will be assigned by drawing names of those who wish to sell.

3. Each teams goal will be 50% of the chapter goal or _____ for your team.

A - - TEAM QUARTERBACK B--TEAM QUARTERBACK

_____ _____

4. Each of you will receive one sales folder containing:
   Hints in fillling out orders.
   Organization plan of the chapter.
   Record sheet for sales.
   Five order blanks to start. Two carbons.
   Copy of last years customers; also their order blanks.
   VITALITY SEED CATALOG

5. People who sold seeds last year have until the end of the first order to contact their customers to sell them seeds. If these people are not contacted; they may be sold to by any FFA member.

6. Quarterbacks are responsible to the members of their teams to make sure of the distribution of sales materials, order blanks, setting and boxing up orders, collection of money, etc.

7. Parents and people who live in the same household may be sold by a member of that household even though they bought seeds from another member last year.

8. Quarterbacks should be leaders in selling as well as leaders in the organization.

9. Any questions about sales of any member will be reviewed by the quarterbacks and your advisor.

10. REMEMBER**********THOSE PEOPLE WHO PLANT GARDENS WILL BUY SEEDS*****HERE*** THIS IS YOUR DECISION*****WILL IT BE YOU???

11. Three orders will go out to the Vitality Seed Company. After sending in an order it usually takes about ten days to receive the shipment from the company. First order will go out about _____, the second order about _____, and the last order on _____.

12. Each member will receive _____% of his gross sales as his comission at the completion of the sales and all money is turned into the chapter. Please get your money in early so checks can get back to you.

ADDRESS OF : THE VITALITY SEED COMPANY
4115 Jackson Road
Ann Arbor, Michigan

13. Suggest flowers to your customers.....These are on the front page of the order blank.

14. The top five salesmen will receive trophies. These will be selected by your seed sales committee.

15. Please read all hints to filling out orders before you contact your first customer. AVOID EMBARASSMENT.....KNOW HOW TO FILL OUT THE ORDER BLANK. Your quarterback will show you HOW to FILL OUT the order.

16. Call attention to free packets.

17. Allow quantity discounts if 10 packets of one variety is ordered. Deduct per package from the original price.

18. Please keep a record of sales enclosed and this up-to-date. When you turn in your first order, fill out the member sales sheet on the bulletin board. We will post the top ten salesmen after all of the first orders have been sent to the VITALITY SEED COMPANY.

19. VITALITY SEEDS are guaranteed and germination tests have been made. USDA has approved the sale of these seeds.

20. DO NOT COLLECT any money at the time of ordering. The amount to collect will be done by the company. A total that has been rechecked is to be entered at the bottom; do not place this total in the amount to collect box. DO NOT PLACE ANY ORDER NUMBERS in the box marked order number. The Seed Sales committee will do this.

21. Always place the money in the coin envelope in the correct amount as shown in the amount to collect box. If two orders or more are paid together, staple all coin envelopes together. Make checks payable to _____ FFA Chapter.

22. BE POLITE**********BE COURTEOUS********BE CONSIDERATE*******AND BE HAPPY TO TALK TO YOUR CUSTOMERS AND TAKE THEIR ORDERS*********.

**********ALWAYS SMILE AND THANK THEM FOR THEIR ORDER********

SAMPLE OF COIN ENVELOPE

Customer's name _____

Customer's address _____

Salesman's name _____ Order Number _____

Amount to collect from box _____ Date collected _____

Make checks payable to _____ FFA Chapter

WE THANK YOU SINCERELY FOR YOUR ORDER AND SUPPORT OF OUR CHAPTER

_____

If all order numbers are on the envelopes, the time for processing is reduced when entering in the MASTER RECORD BOOK OF VITALITY SEEDS.

SAMPLE MASTER RECORD SALES SHEET (Columns with sheet on side) 3-ring notebook

CUSTOMER'S NAME X	ADDRESS X	ORDER #x	AMT OF ORDERx	SALESMAN	PAID
X	X	x	x		x
X	X	x	x		x

UNIT: NATURAL RESOURCES

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TITLE OF ACTIVITY: OBTAINING ANIMAL TRACKS

METHOD OF TEACHING: DEMONSTRATION, FIELD TRIP, SHOW AND TELL

OBJECTIVE:

1. Students will be able to identify 75% of all animal tracks observed.

2. Student will be able to prepare a model of an animal track.

MATERIALS NEEDED:

Plaster Paris	(2 parts)
Water	(1 part)
Plastic bag	(food wrap type)
Water colors	(add to Plaster Paris and water or use to paint model)

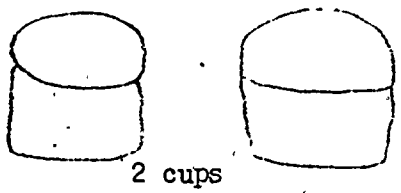
DETAILED PROCEDURE

1. Students place two parts plaster paris with one part water. Mix by working bag with hands.

2. Student removes corner of bag and pours over mold (texture of face of plaque will depend on surface mold is placed on.)

POSITIVE CASTING METHOD

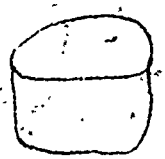
PLASTER PARIS



2 cups

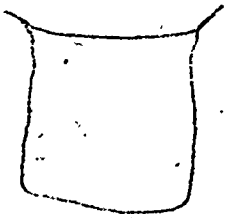
plus

WATER

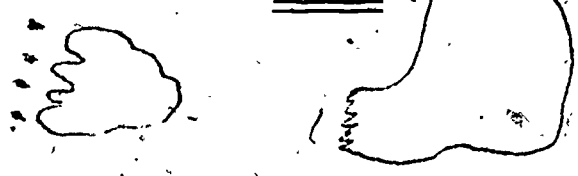


1 cup

PLASTIC BAG FOR MIXTURE



POUR MIXTURE ON TRACK AND LET DRY



ACCESSION NUMBER: VT101463

PUBLICATION DATE: 30JUN72

TITLE: A CURRICULUM GUIDE FOR A CAREER EXPLORATION PROGRAM IN THE MIDDLE/JUNIOR HIGH SCHOOLS OF GEORGIA FOR BUSINESS EDUCATION EDUCATORS.

DESCRIPTOR: *STATE CURRICULUM GUIDES; *TEACHING GUIDES; *CAREER EDUCATION; *GRADE 8; *CAREER PLANNING

IDENTIFIER: GEORGIA

EDRS PRICE: MF AVAILABLE IN VT-ERIC SET.

DESCRIPTIVE NOTE: 211P.

ABSTRACT: THIS STATE CURRICULUM GUIDE FOR THE JUNIOR HIGH SCHOOLS OF GEORGIA CONTAINS TEACHING GUIDES FOR MINI-COURSES IN GRADE 8 FOR OCCUPATIONAL EXPLORATION OF CLERICAL AND SECRETARIAL, MANAGEMENT AND FINANCE, MARKETING AND SALES, AND DATA PROCESSING OCCUPATIONS. THE GUIDE IS PART OF A STATE EFFORT TO PROVIDE STUDENTS WITH LEARNING ACTIVITIES IN CAREER EDUCATION. SELF-AWARENESS AND KNOWLEDGE OF OCCUPATIONAL AND EDUCATIONAL OPPORTUNITIES, DECISION-MAKING SKILLS, AND ATTITUDES TOWARD WORK ARE SOUGHT TO PROVIDE THE ADOLESCENT WITH TOOLS FOR VOCATIONAL DEVELOPMENT. THE TEACHING GUIDES FOR THE MINI-COURSES PROVIDE A 4-COLUMN FORMAT OF OBJECTIVES, LEARNING EXPERIENCES, INSTRUCTIONAL RESOURCES, AND SUGGESTED EVALUATION. (MU)

SPONSORING AGENCY NAME: GEORGIA STATE DEPT. OF EDUCATION, ATLANTA. DIV. OF VOCATIONAL EDUCATION.; GEORGIA STATE UNIV., ATLANTA.

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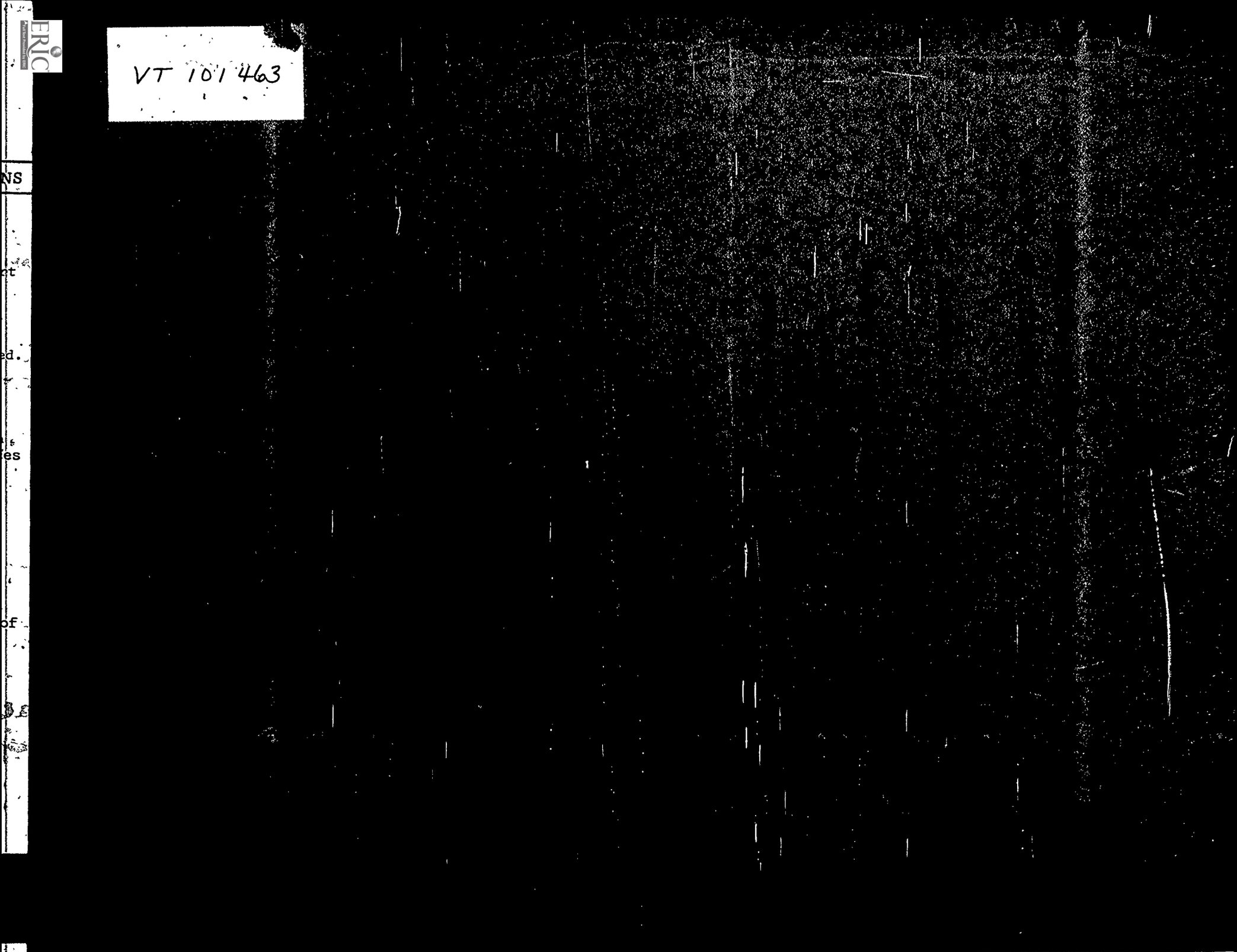

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PREFACE

The mini-course guides for the career exploration program in Agriculture, Business, Home Economics and Industrial Arts were developed by participants in an institute sponsored by the Division of Vocational Education at the University of Georgia, from June 14 to July 2, 1971.

The middle school teachers involved in the development of the curriculum were given an opportunity to enroll in an internship program upon completion of the institute. During the 1971-1972 school year the curriculum was implemented, field-tested and revised by the participants in the internship program.

Seventeen business education teachers were enrolled in the 1971-1972 summer institute under the direction of Dr. Bobbye Joan Wilson, Business Education Teacher Educaton, University of Georgia. Then during the 1971-1972 school year the guides were revised by the nine business education teachers who were enrolled in the internship. The teachers participating in the Business Education section of the Career Exploration Institute were:

*Naomi Alexander
Kathryn Correale
Iris Davis
Hazel S. Douglas
*Imogene Downing
*Doris Drummond
Lougene Harris
*Mary Jane Head
Mattie R. Hodges
Cynthia L Jones
Rex Jones
*Joyce M. Key
*Edna F. Lanier
Beth T. Mobley
*Wilhelmina Rhodarmer
*Peggy S. Stewart
*Margaret C. Williams

*Teachers who also participated in the Internship and revision of the Guides.

CAREER EDUCATION

The Career Exploration Program was developed to provide adolescent youth with knowledge and experiences that enable them to be aware of various career opportunities and develop tentative plans to accomplish career goals. An articulated and sequential program is needed to give students the opportunity to accomplish career tasks according to their own individual physical, social, and intellectual development. Students should be given opportunities to investigate and analyze a wide range of occupational roles and work tasks with respect to their own individual characteristics, abilities, and interests. Learning activities should be designed to provide live and simulated career exploration experiences in broad families of occupations. Specifically, the program should allow students to accomplish these tasks or dimensions of career development:

Understanding of Self-Characteristics: From recognition of likes and dislikes to the development of personal characteristics appropriate for a given occuaption.

Occupational Areas: From recognition of observable jobs in the community to acquiring training for and entrance into a chosen field.

Educational Avenues; From recognition of the relationship between subject matter and observable community jobs to acquiring education necessary for entrance into a chosen field.

Educational and Vocational Decisions: From recognition of factors that influence decision-making to pursuing a career.

Economic and Social Values of Work: From recognition of the economic and social contribution of parents' occupations to the selection of an appropriate occupation and work setting.

Psychological and Sociological Meaning of Work: From expressing a positive attitude toward self, associates, and school to purposeful involvement in work and work-related activities.[1]

The career exploration program is organized to accomodate, and be compatible with existing programs. A three-year program is suggested for the middle/junior high school to allow students to be initially exposed to broad career areas in the first year, explore careers related to industrial arts, home economics, business and agriculture the second, and receive exploratory experiences in specific occupational families during the third year.

The first-year approach is based upon the existing "Program of Education and Career Exploration," which is recommended for the seventh grade. The organization of this program would provide students with an initial exposure to a wide range of career opportunities in the areas of business, service, outdoors, technology, organizational and expression of ideas. Students would select several areas and be placed in occupational settings within the local community to observe or participate in the performance of various work roles. Upon completion of the observation or participation of observation phase,

[1] Gene Bottoms and George L. O'Kelley, "Vocational Education as a Developmental Progress," American Vocational Journal, 46:21-24, March, 1971.

students would return to a classroom and discuss their experiences in terms of the duties performed, competencies needed, education required, and salaries earned. As a result of these experiences, students could begin to make tentative choices of possible career options in terms of their interests, abilities, and self-concept.

During the eighth grade or second year of the program, students could select several occupational families for further exploration that are related to the areas of interest initially investigated during the first year. Opportunities would be provided for students to enroll in a series of "mini-courses" that would be offered during each quarter of an academic year as shown in Figure 1. Learning experiences of the program would emphasize occupational role playing by students in a simulated work environment. Activities such as constructing small structures, preparing and serving food, distributing and selling a product, or land-scaping a portion of the school campus would enable students to examine various work roles and acquire manipulative skills and knowledge related to the occupational area. The subject areas of mathematics, science, social studies and English should be correlated with the learning activities of the programs. Instructional teams could be formulated which would interlock the curriculum and enable students to make application of the concepts and principles in tangible learning situations.

The third year program would allow students to select a single occupational area for further investigation and exploration. Occupational families related to the instructional areas of industrial arts, home economics, business, and agricultural education would enable

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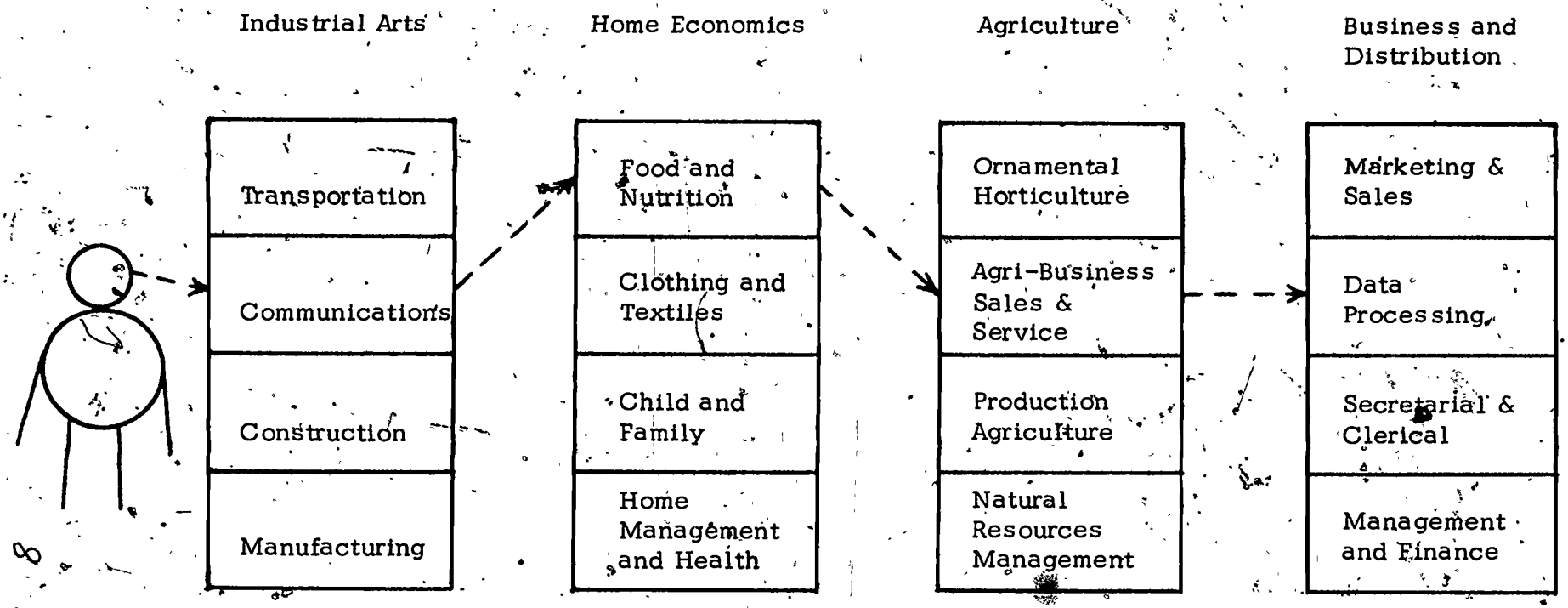

Figure 1. Mini-Courses for an Eighth Grade Career Exploration Program.

students to obtain further development of attitudes, skills and knowledge needed to make further career decisions.

The success of the career exploration program will be dependent upon the cooperation and support of the local community, school administration, and teachers. Provisions must be made for business leaders in the community to participate in supervised occupational experiences. Administrators and guidance personnel must develop flexible scheduling systems that enable students to select and obtain experiences in broad families of occupation. Methods should be developed that allow teachers to plan and implement instruction on a team basis which will correlate and interlock instructional content and learning activities.

In summary, the proposed career exploration program should provide a method whereby all students may be exposed to a wide range of available career opportunities. Student involvement in actual and simulated occupational role playing may enable young people to obtain experiences which are purposeful and beneficial in selecting and planning for a career of their choice. It is anticipated that the program will enable young people to obtain the knowledge and experience base which will allow them to intelligently choose a career, develop plans to attain that career goal, and eventually function successfully in the career of their choice

SUGGESTIONS FOR USING THE GUIDES

The following comments are made as a result of questions and problems encountered in the workshops and internship in career education, business education section.

1. Adapt course outline to meet the needs of your students, the materials you have available, and the way it fits the school scheduling system. (9, 12, 18 weeks.) There are probably more objectives and learning activities than you will be able to use.
2. Scheduling: Let the student elect to take a mini-course area, rather than be put in a mini-course.
3. Career education is for all students of all backgrounds and ability levels in the same class.
   A. Possible implementation: There are several ways of implementing the business education mini-pre-vocational career education course.
      1. The teacher has all four going at the same span of time and the students choose the one in which they are most interested.
      2. Each grading period, new students rotate into the business education section making it necessary for the teacher and students to select some objectives from each of the four courses. For example, if you had new students each eight weeks, you would want to spend two weeks on careers in marketing and selling; two weeks on data processing,

two weeks on secretarial and clerical careers, and two weeks on management/finance careers.

3. If you have students for a full year, you could teach one mini-pre-vocational course each of four quarters. If your school has only three quarters, you may want to combine data processing with one of the other mini-pre-vocational courses. Since there are application of career education in data processing in all of the courses, this area may be combined easily.

B. The crux of the schedule situation in the mini-pre-vocational career class is to select objectives, learning activities, and materials to enable a student to explore many careers of his interest. It is more than assigning the student to explore just one career in depth.

You should take the curriculum guides, for example, for management/finance, and identify some priority objectives.

4. This is the integrated classroom, the students should be "learning by doing." The teacher should not be a lecturer, but rather a manager of classroom activities.

5. Ordering materials: films, free literature, DOT, career files, etc. Some things are applicable to all career education courses in your school. See if you cannot get these through your library. Check the bibliographies for each course and plan ahead.

6. The maturity level and growth patterns of these students suggests that we change learning activities frequently within the class period. In other words, students should not be expected to sit and listen for an hour. Perhaps 20-25 minute-learning activities could best capitalize on student's interest.

7. Suggested number of students: 20-25 is suggested and urged as the maximum number of students for a career education class.

8. The role of the typewriter: The mini-pre-vocational course includes the typewriter as a communication tool. As you will notice from the "Suggestions for Teaching the Typewriter as a Communication Tool," there are no "words per minute" standards. It is suggested that 20-25 minutes only in a class period be spent daily in teaching the typewriter until the keyboard is covered (at most--two weeks); and then areas such as letters, be introduced when they are ready to use them! Speed and accuracy in the traditional sense are not the concern of this course. We are trying to teach the student correct techniques and correct keyboard coverage; then letting them use the typewriter as a communication tool in the various activities throughout the year or course.

9. Community resources: field trips, speakers, and work observations and experiences are suggested throughout the courses. Preview the students, let students discuss and devise questions and forms for these experiences with the guidance (not domination) of the teacher. (See the sheets on using community resources, and observations, and surveys.)

10. Coordinate your efforts with others in your school to eliminate the unnecessary overlapping between other programs, and therefore, integrate the total curriculum of the school to benefit the students. After all, we are in this business of career development to meet the needs of students.

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SUGGESTIONS FOR USING THE TYPEWRITER AS A COMMUNICATION TOOL

OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
Demonstrate touch system of typewriting	1. Students type name by "hunt and peck" method. 2. Students identify by watching teacher demonstration advantage of touch typing. 3. Students taught keyboard by teacher introduction of 3-8 keys daily for 15-20 minutes each day using short words and drills. 4. Students see teacher insert paper. Demonstration identifying parts and techniques. Then students insert & remove paper with teacher. Others manipulate parts taught in same manner. 5. Identify proper posture telling why and using charts or stick diagram on board overhead. 6. Students identify in oral discussion offices or placed where they have seen typewriters. (Teacher teaches keyboard by demonstration method.)	Instructional tapes: Southwestern Publishing Company or teacher developed tapes. Overhead Projector and transparencies 1. Posture 2. Machine Parts 3. Keybcard 4. Margin/Spacing Recalling previous experiences of students in visiting in community (Doctor, dentist, office school, etc.) Typewriters Paper Duplicated drills on textbooks or both.	Observation of each student daily. Observation 80 percent accuracy in listing. Manipulative machine parts, and spacing of typewriter on a 25 word multiple choice test. Students check posture of each other daily (in pairs) using checklist Each student participates orally.

OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
Demonstrate knowledge of letter parts and purpose.	1. Students orally identify parts of letters which previously learned in English. 2. Student sees actual business letter and with teacher identifies parts and purpose of parts. 3. Compares difference in parts of business and personal letter. Identifies orally by students and listed on board by a student.	Teacher made transparency of actual letter. Teacher developed step-by-step instructions on 1. letter parts, placement, spacing 2. setting margins	Participation voluntarily and teacher calling on students. Teacher observation and conference comparison with students. Listing at least 7 parts of a letter.
Demonstrate typing a letter in one letter style. a. from teacher experience b. from student written letter	1. Students type from examples with the teacher the return address, inside address and salutation of business letter in modified block style. 2. Student types from example the complementary closing, signature, and reference in with the teacher. 3. Students type a list of parts of a business letter. 4. Students type a letter. 5. Students collect copies of business letters and in groups prepare poster on file of letters and discuss variations with class.	Teacher developed duplicated examples. Letters coming to school, Businesses in community, Letters that came to them in their home (at least two letters)	Teacher and student oral evaluation.
Demonstrate erasing properly	1. Students and teacher practice erasing: a) observing teacher demonstration b) review steps orally c) student and teacher participation		A letter that the student and his partner feels is ready to mail by evaluating on a comparison.

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OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
	d) summarize steps on board e) student use 2. Students write a business letter ordering some free material and types the letter making corrections. 3. Students identify by comparison in groups with teacher their individual letter with collected letters to determine areas they need to improve.		

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OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
Demonstrate typing of: (a) Report from teacher example.	1. After teacher demonstration of report typing, the students orally summarize the steps in report typing. 2. The students type a report from a copy of a typed report correcting errors.	Copy of report on transparency Teacher Development Checklist of step by step instructions duplicated	Orally summarizing Completion of typed report with errors corrected
(b) Report from student's handwriting	Students read and write on articles in the newspaper or magazine; write a summary of a TV program; or bring a report written in another class and type report.	Articles TV Programs	Completion of the report typed and errors corrected. Evaluation in conference with student partner and teacher.
(c) Compose a paragraph at typewriter	1. Students type answers (one-word) to 5 questions for about 2 days 2. Students type short sentences to questions from copy for 3 or 4 days 3. Students type two or more sentences in response to one of three questions 4. Students complete a paragraph on "what if"	Teacher development questions "Composing at the Typewriter", Business Education Department Detroit Public Schools and Wayne State University	Completion of a paragraph of at least three sentences typed the first time at typewriter as they think.
Identify Proofreader's Symbols	1. Students identify orally in discussion ones they have seen and what them mean using transparency. 2. Assign a symbol for each one to demonstrate the next day. 3. Review and then type correctly a paragraph that uses 4-5 symbols.	Overhead transparency of rough draft of report using proofreader's symbols Copies of paragraph that uses symbols	Matching quiz - must successfully match 8 out of 12

Suggestions for Using Resource Persons

Before a resource person is used in the classroom, the following items should be considered:

1. Have all factors concerning the location for use of the resource person been considered?

2. Have students been prepared for the speaker?

3. Do the students know who the resource person is, the company he represents, and what they might expect to learn from him?

4. Has the class formulated questions to ask the resource person? Have these questions been forwarded to the resource person?

5. Do the students understand the importance of courteous attention and conduct?

6. Has the resource person been given complete information concerning the group to be addressed?

7. Has a time limit for the resource person been set? Is he aware of the time limit?

8. Has the resource person been told the important points that the teacher wants stressed?

9. Has a follow-up plan been given consideration so that the students will be able to relate the resource person to the classroom work?[1]

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[1] John Henry Callan, Community Resources Handbook in Business Education, Monograph 87 (Cincinnati: South-Western Publishing Company, 1954), pp. 16-17.

ON-THE-JOB OBSERVATION

NAME OF FIRM: _____ Address: _____ Contact: _____

Phone: _____

OBJECTIVES: At the completion of the business visitation, "OJO," you will be able to:

1. Identify the different types of jobs available in the business visited.
2. Identify the education, experience, and age requirements for each job classified.
3. Describe the major services of functions provided by the business.
4. Describe some of the tasks of the various classifications of employees.
5. Discuss with your fellow participants your assessment of the value of such visitations for students in your program.

TYPE OF BUSINESS _____

(Worker) Job Classification	Duties	Ed. Requirements	Salary

1. Total no. of all employees: _____; Male _____; Female _____

2. Do you employ students just graduated from high school? _____

   a. For what kinds of jobs? _____
   b. Requirements: Educational _____
      Personality _____

3. Do you have on-the-job training? _____ If yes, what kind? _____

4. Do you have in-service training? _____ If yes, what kind? _____

5. Can you identify some of the reasons employees quit or were discharged?

6. What are some major weaknesses in new employees?

7. What are some major strengths in new employees?

8. Is there opportunity for advancement? _____ Could you help me draw a Career ladder? _____

9. Do you have standards of employment established in any of the jobs for prospective employees? (Examples) _____

10. What types of employment tests are given to new employees? _____

11. Would you be willing to serve on an Advisory Committee to help with the program? _____

12. What activities would you suggest for the development of the program?

*13. What recommendations do you have to improve the programs in business education that are now existing in our high schools?

*Optional Question

THIS IS A SAMPLE THAT CAN BE ADAPTED FOR ANY CAREER CLASS.

SURVEY OF _____ BUSINESS OR SERVICE*

Interviewer _____ Date of Interview _____

Form 1

I. Business or Service - Standard Industrial Code _____

A. Name of business or service _____

Address _____ County _____

B. Person interviewed _____

Position _____ Telephone No. _____

C. Year this business or service was established in this locality _____

D. Estimated percent gross income that is _____ oriented _____

E. Major _____ products and/or functions of this business or service _____

II. Employees in this Business or Service - Total Number _____

III. Job Titles of Employees:

A. Exising Job Titles**

	Number of Employees	
	Full-time	Part-time
1. _____	_____	_____
2. _____	_____	_____
3. _____	_____	_____
4. _____	_____	_____
5. _____	_____	_____
6. _____	_____	_____

B. Anticipated Job Titles **

1. _____	_____	_____
2. _____	_____	_____

*Adapted from Ag Ed Department, Pennsylvania State University.
**Fill out a separate Form 2 for each job title.

EMPLOYMENT OPPORTUNITIES AND NEEDED COMPETENCIES IN A JOB
IN _____ BUSINESS OR SERVICE*
Form 2

Interviewer _____ Date of Interview _____

I. Identification of Business or Service and Job Title

A. Name of business or service _____

Address _____ County _____

B. Job title from Form 1 _____

II. Information about Employees in This Job Title

A. Number of employees and year of tenure

Employment Status	No. of Employees Actual	No. of Employees Expected this 5 years from now	Employees to be Hired During Next 5 years** Number	Age	Average years an Employee Stays in This Job
Full-time					
Part-time					

B. Wage or salary information for this job title

Employment Status	Average Hours Paid Per Week	Average Weeks Paid Per Year	Wages or Salary by Pay Periods (hours, week, month, or yr) Beginning Pay period	Beginning Amount	Highest Pay period	Highest Amount
Full-time						
Part-time						
Work Exp.						

C. Activities and duties of persons with this job title

_____

_____

_____

_____

_____

*Adapted from Ag Ed Department, Pennsylvania State University
**To replace present employee in this job and for anticipated increase.

III. Characteristics Desired in Those Who Enter this job

A. Educational level (check one only)

____1. Less than high school graduation

____2. High school graduation

____3. Post high school technical

____4. Some college education (not a degree)

____5. Associate or junior college degree

____6. Baccalaureate degree

____7. Master's degree

____8. Doctor's degree

B. Residential and experience background (check one only)

____1. Farm

____2. Rural, non farm

____3. Urban

____4. No preference

C. Experience desired to enter this job title _____

IV. Limitations on Entering This Job Title

A. Licensing or certification (professional, industrial, Civil Service, etc.)

B. Labor law restrictions

C. Labor union restrictions

D. Other (specify)

V. Education Desired to Advance in This Job or to a Related Position

A. Technical short course or other training provided by:

____1. A short course by your business or the industry as a whole

____2. On-the-job training in your business

____3. A public school (adult education)

____4. A college or technical institute

B. Other types of education desired _____

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A Suggested Guide for Career Exploration

in

Clerical and Secretarial

An Eighth Grade Program

in

Business Education

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MINI-COURSE: CLERICAL AND SECRETARIAL

OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
1. Knowledge of Self The student will identify interests, values, and needs in terms of clerical and secretarial careers. (DT-1)	1. Students will become acquainted with each other by introducing the interests of a fellow student; i.e. hobbies and summer or personal experiences. 2. Students will discuss with the aid of a bulletin board the various clerical and secretarial careers that will be explored in this course. 3. Students complete check list of personal traits. 4. Students write a short autobiography stating name, age, etc., and give some interests, hobbies, and tentative plans for the future. 5. Students write a few paragraphs on "Why I Think I Might Be Interested in a Career in Secretarial/Clerical Work." 6. Using the career wheel on a bulletin board - different students are called upon to read the wheel. Some general discussions of these areas should be held.	1. Teacher explanation bulletin board of career wheel made by teacher. 2. Books/films D.O.T. Handbook Parents General Office Practice. Gregg Publishing Co. Archert Fraker pp. 15-16. Personal Data Sheet p. 173. "You As A Secretary" by Gregg "A Career in the Modern Office" by Phyllis Morrison "Can I Be an Office Worker" by General Motors "Do I Want to Be a Secretary" "The Secretary--A Normal Day" "Planning Your Career" #4858 "Choosing a Job" #2070, State Dept. of Education 3. Bulletin board read with career wheel of jobs in secretarial and clerical. 4. LAP: "Who Am I?"	1. Oral introduction of student interviews. 2. Oral participation in discussion of ideas for new bulletin boards. 3. Completion of the check list. 4. How To Keep a Job: Take a Letter from A-2 5. Student give oral report (1-2 min.). Teacher evaluation. This could be interlocked with English teacher for composition grade.
2. Students will look at their personality traits.	1 Complete LAPs. 2. Students complete check list of personal traits. 3. View transparencies. 4. Project - Improving Relations.	1. Transparencies from South-Western Pub. Co. a. personality b. dress c. image	1. Oral discussion about transparencies. 2. Successful completion of LAPs. 3. Reports from project results.

OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
		2. LAPs a. grooming b. interpersonal relations. 3. Project: Improving Relations "You as a Secretary" by Gregg	4. Students complete check list of personal traits.
3. The student will compare some desirable personality traits of clerical and secretarial jobs with his own personality traits. (DT-1)	1. Students will learn from personnel directors of local businesses the personality traits that they look for in hiring. 2. Students will have a question and answer period following the talk. Questions will relate to required skills and experience such as: a. do all your workers have to be high school graduates? b. do the people you employ have previous experience? (other questions will be similar in nature.) 3. After the teacher previews the chapter, she will discuss this with the students. Students will role play the do's and don'ts of personality traits in an office. 4. Students will bring in pictures of points of interest in the business world for a collage as bulletin board. 5. Teacher discusses what could be expected from course and students pamphlets and paperbacks are reviewed.	1. Pamphlets and handouts collected from Personnel Directors from local businesses. 2. Prepared sheet of questions from suggestions by students. 3. Teacher explanation "How to Use Role Playing Effectively" by A. F. Kline. 4. LAP: "Road to Success Interpersonal Relationship" (project) LAP: "Who Am I" Edna Lanier. 5. Magazines, newspapers, bulletin board materials. 6. D.O.T. Handbook, Occupational Handbook 7. Books "You as a Secretary" Royal "You as a Secretary" Gregg *A Career in the Modern Office Series. Phyllis Morrison, Gregg. "Can I Be an Office Worker," General Motors. "Should You Be a Secretary," N. Y. Life Insurance.	1. Oral discussion in participation of good and bad personality traits. 2. Teacher observation and student participation. By means of a check list, the student will check the good personality traits they observed in the role playing. 3. Student participation in bringing pictures for collage. 4. Personality check list, completed by students. Student made up check list with teacher and then evaluates himself. 5. Teacher evaluates results of student's participation. *a. opportunities in today's office. b. making the most of yourself.

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OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
	6. Class discussion on interests, traits, personality likes and dislikes. 7. Points in films discussed about careers.	8. Films "Do I Want to Be a Secretary," State Dept. of Ed. "Personality/Personal Qualities for Job Success," State film. "The Secretary--A Normal Day," State film. 9. Transparencies by 3M Clerical Occupations and Responsibilities: Office Behavior Attitudes and Traits, Personality, and Appearance in the Office.	c. making the most of your skills.
4. The students will describe how secretarial and clerical jobs will provide a means of using their talents and abilities. (DT-1)	1. Students will choose an ad of interest to him from the newspapers and through group discussion and research will share the information from these sources. 2. Using a set of horoscope activities (brought by one member of class), each student will discover his dominant and recessive qualities. 3. Using the want ad section of the newspaper, students will discuss qualifications required for some clerical and secretarial careers they might want to explore. 4. Counselor give Kinder Test to evaluate students talents and abilities. 5. Students use the want ad section and bring in ads giving various	1. Ad sections from Atlanta Journal, Atlanta Constitution, D.O.T. Handbook, Occupational Outlook Handbook, Career Booklets. 2. Horoscope 3. "Daily Newspapers" 4. Counselor Kinder Test. 5. Local newspaper.	1. Students shared information they obtained from newspaper ads, occupational career books, and pamphlets. 2. The student compared his qualities with those which are desirable in this field. 3. Oral reports of students on qualification. 4. Test evaluation. 5. Students mounted want ads and typed short resume giving requirements, salary and benefits of job. These were arranged attractively on construction

OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
	. . positions and qualifications needed.		paper and displayed in classroom.
5. The students will realize the need to take steps in formulating a plan for their future vocation. (DT-2)	1. Students will write an autobiography including his interests, family background, and tentative plans for the future. 2. Students will hear representative from local Technical School about some training programs available for different careers. Students will differentiate between short and long range planning. 3. Students review autobiographical sketch they wrote earlier to see if they would need to make any changes and/or additions. 4. Students write, type or tape a short paragraph on "Why I think I might be interested in clerical and secretarial occupations." 5. Students research careers for making plans for a vocation. 6. Teacher and students discuss short and long range plans and meaning.	1. Parents, friends, teacher explanations. Local resource speakers from technical schools, handouts from speakers. 2. Counselor, career files, chronicle reprints. 3. Autobiographical sketches.	1. Student participation in question and answer period. 2. Teacher observation of student's differentiation. 3. Students will give an update on their sketches. Class will hold an open discussion on additions made and why. Teacher observation. 4. Teacher evaluation. 5. Oral report on planning for a future vocation. 6. Discussion of student's plans.

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OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
6. The students will seek information about what skills are needed to get jobs which interest them. (DT-2)	1. Students explore 10 jobs from D.O.T. list (long-range programs) 2. Students will make lists of job titles, locations, etc. (teacher will help). 3. Students will write letters asking permission to come for interviews. 4. Instruction on how to use the telephone. 5. Students will interview different workers in their communities to find out what skills are needed for various jobs in which they are interested. 6. Students will discuss the various interviews to exchange their ideas and gain knowledge about the skills needed for different careers. 7. Students will write a thank you note after visiting these places of business. 8. Completion of LAPs: "To Be or Not to Be a Secretary." "General Clerical Workers." "A Career as a File Clerk." "The Stenographer." 9. Speaker from Southern Bell. 10. Teletrainer and film Southern Bell. 11. Filmstrip: What you should know before you go to work. 12. Students help prepare a list of questions to use in interview.	1. Local businesses 2. Prepared questions 3. Sheet materials collected from different interviews 4. LAPs . Business Letters (Explore a job write up) 5. Books D.O.T., Business Math on the Job. Rosenberg & Sexton, McGraw-Hill. 6. Personal interviews, telephone directory, newspapers. 7. Films "Do I Want to Be a Secretary?" "The Secretary--a Normal Day." "Personal Qualities for Job Success." 8. Booklets "You As a Secretary" by Gregg "A Career in the Modern Office" Phyllis Morrison, Gregg. "Can I Be an Office Worker?" General Motors. "Should You Be a Secretary?" New York Life Insurance. 9. LAPs a. Communication b. Punctuation c. The Telephone and You 10. Speaker (Southern Bell) Teletrainers (Southern Bell)	1. Students will report orally on their interviews. 2. Teacher observation on student suggestions on obtaining information. 3. Typing of acceptable letter. 4. Satisfactory completion of activities and post-tests in each LAP. 5. Student participation. 6. Discussion on speaker. 7. Discussion about film. 8. Discussion about the filmstrip!

OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
		11. Film "If an Elephant Answers" Southern Bell 12. Poster-telephone 13. Filmstrips What you should know before you go to work. 2 filmstrips, 14/15 min. 2 LP records; Guidance Associates. Harcourt, Brace, & World. 14. Books Record Keeping for Small Business. South-Western Pub. Co. Business Practice Sets. South-Western Pub. Co.	
7. Explore different responsibilities in jobs.	1. Students will hold a discussion on "Different Responsibilities." 2. Students will visit businesses. 3. Students will take slides on the positions observed. 4. Students will view the slides and orally discuss what jobs they observed, some of the duties of the workers, machines used, and work settings. 5. Students, with teacher's aid, will discuss various firms in area as to availability of jobs locally. 6. Students contact various firms to inquire about their job ladders, qualifications etc.	1. Local firms (list) 2. Teacher explanation 3. Teacher/student prepared question sheets. 4. Cameras/film 5. Slide projector 6. Career files 7. Career booklets 8. LAPs "All Roads Lead to Success When We Try to Improve our Relationship with Other People" Frances M. Resseau "Success With Others, How Do You Measure Up?" Sandra Brooks 9. Magazines	1. Students make collage discuss field trips or write pages about field trip and questions asked. 2. Student participation in discussion (group or class) 3. Evaluate by simulating role playing. 4. Students picked best notes for mailing.

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OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
	7. Students make collage of different jobs. 8. Students write thank you notes after visiting businesses.		
8. The students will attempt to get a mental picture of himself in each job ladder position. (DT-2)	1. Students and teacher give starting ideas for job ladders. Student then looks up information on these. 2. Students and teacher prepare list of questions to be asked employees about their job. 3. Master list of questions is prepared and used on job interview. 4. Students construct a job ladder for a firm visited (individual or group).	1. Career booklets 2. Duplicating material	1. Students oral discussion "What is a job ladder?" 2. Student completion of questions after field trip. 3. Teacher evaluation of construction.
9. Students will become aware of jobs available. (DT-3)	1. The student will explore career opportunities through audiovisual presentations. 2. Student's interview workers in local businesses. 3. Students and teacher prepare questions for interview. 4. Students and teacher make a list of job title and locations in local area. 5. Group work in locating (pin pointing) businesses on map. Each group assigned a specific color of pin for this activity.	1. Transparencies "Clerical Occupations and Responsibilities; Office Behavior, Attitudes and Traits; Personality and Appearance in the Office; Effective Human Relations; and Career Planning" from 3M. 2. Local business leaders, parents and teachers explanations 3. LAP: "Let's Look for A Job." 4. Questionnaire 5. Books D.O.T., Occupational Outlook Handbook.	1. Interest and participation. 2. Discussion about the jobs in class. Oral reports on visits. 3. Successful completion of jobs. 4. Class discussion of interviews or oral reports. 5. Teacher evaluation of job lists. 6. Accuracy of locating businesses.

OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
	6. Review points related from their career planners. 7. Films and filmstrips. .	6. LAP: "Let's Explore the World of Clerical and Secretarial Jobs." Wilhelmia Rhodarma. 7. Telephone directory, Chamber of Commerce, local map, career planners 8. Films (State Dept. of Ed.) "Careers in Business" "Do You Want to Be a Secretary?" 9. Filmstrip Choosing your career from Guidance Associates. 10. Newspapers	7. Class discussion. 8. Discussion of films and filmstrip. 9. Discussion of ads.
10. Students will identify various clerical and secretarial careers.	1. Students will discuss various careers with help of bulletin board. 2. Fill out career planner on a particular career. 3. Present oral report on their career. 4. Class discussion.	1. Bulletin board of career. 2. "A Career in the Modern Office" by Phyllis Morrison. 3. D.O.T. Handbook, Occupational Handbook 4. LAP: "How to Explore A Job." 5. Career files, chronical guidance, careers.	1. Students will participate in oral reports on various careers. 2. Identify careers with help of bulletin board. 3. Successful completion of career planner on a particular career. 4. NOTE: When student begins exploring the careers of his choice, student and teacher work out plan to follow for obtaining information and choice of career to study.

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OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
11. Awareness of Career Possibilities Students will explore jobs of his interest.* *NOTE: This objective flows into next objective and these activities and resources are continued in next objectives. Teacher may want to combine these two objectives because they are closely related.	1. Students will discuss worker mobility. 2. Students will write a paper on the various jobs seen during the previous interviews in relation to job possibilities from the field trip. 3. Students will choose an actual office setting to be observed. 4. Students will view a film. 5. Students and teacher formulate questions to ask employees. Students discuss job mobility with persons interviewed. 6. Students expand list of jobs. 7. Game - Radioscopics on careers (flash cards with pictures of clerical and secretarial jobs.). Students make cards.	1. Books The Job You Want by Margaret Andrews A Career In The Modern Office by Phyllis Morrison "Why Are Office Workers Needed?" p. 33. 2. Local business workers and parents, (preferably family). 3. Cardboard, magazines, glue.	1. Voluntary participation in question-answer period on total activity. 2. Discuss value of film and check survey sheet on the book and film. 3. Teacher ask questions such as: Training required? Duties of job? How did employee react to mobility? Is his job a mobile type of job? etc. 4. Student give oral report. 5. Student participation.
12. Knowledge of Work Roles and Tasks	1. Students will read a book in regard to the total role of the secretary in clerical work. 2. The school's secretary will come in and discuss the total work settings and job responsibilities, tasks, and training needed. 3. Review "How to Give A Speech." 4. Students will check the Want-Ad section of the daily newspaper for jobs in secretarial and clerical careers. They can bring papers to class and exchange idea of ads.	1. "How To Be A Super Secretary" Remington Office Machine 2. Teacher display other books; also fiction or non-fiction. 3. School secretary 4. Local newspaper and Atlanta Constitution. 5. Pamphlet: Are You Using Women Power? 6. Use check sheet to evaluate poster. 7. Government workers 8. Teacher's explanation	1. Taped book talk. 2. Evaluate by means of a check-sheet the traits of a secretary. 3. Make a collage from their activity. 4. Personnel managers. 5. Posters on how many more women enter business than men. 6. Tape recorder, chart on equal employment opportunities.

OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
	5. Two or three students will interview personnel managers at a large firm; record on tape questions and answers which relate to job turn-over and major reasons for dismissal; ratio of male/female workers. 6. Students will make a poster or collage with aid of the teacher. 7. Student will: Report growth trents in terms of figures of decrease/increase, money, etc. 8. Assemble and study opportunities in Civil Service and other governmental positions. 9. Students will gather pamphlets and other hand-out material from their organizations which list their company benefits. 10. Students interview various persons who they know in business. Students work in groups to compare information on like jobs. 11. Teacher shows film on correct telephone procedure and students role play given situations.	9. Librarian help students select books. 10. Business magazines. 11. "The Job You Want" by Gregg "Today's Secretary" by Gregg 12. Film-State Dept. of Ed. "ABC's of Getting A Job" "The Secretary--A Normal Day" "The Bright Young Newcomers" 13. Local business people. 14. Office workers. 15. Personnel Manager 16. Pamphlets and materials. 17. Family, friends, local resource persons. 18. Film from Southern Bell and Teletraining Kit.	7. Business trends and progress chart. 8. Ford Motor Co. 9. Teacher will evaluate check list. 10. Evaluate by use of check sheet and teacher evaluation. 11. Oral report on visit. 12. Oral reports on class discussion. 13. Teacher observation.

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OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
13. Knowledge of Worker Requirements The student will name and use available resources for obtaining information about requirements for jobs.	1. Students continue reading books, pamphlets, and viewing films and add to career notebook or file. 2. Each student will volunteer to select a specific job and get all the information he can about it. He will read books of fiction and nonfiction, professional magazines, local newspaper, booklets, and pamphlets published by large businesses and organizations. Students will volunteer to select a job and get information about it. 3. Students will interview their own friends and acquaintances and/or recent graduates who work in offices to gain insight into some of the interesting and facinating experiences they can share. 4. Students will explore career opportunities through audio-visual presentations. 5. Students with teachers help will make displays of brochures collected from field trips or individual visits to local firms. Students are also encouraged to write for information from teacher resource files.	1. Pamphlets "How to Find and Apply For A Job." Keily, Walters. "You and Your Job!" South-Western. "Careers in Communication." 2. Fiction Case Studies from Business Behavior, 3rd Ed., Russo, South-Western, 1964, pp. 32-34 Anita Powers, Office Worker, from Vocational Reading Series Lerner and Moller, Chicago, Follet Pub. Co., 1965. 3. Non-Fiction Encyclopedia of Careers, Vols. I and II. Dictionary of Occupational Titles, Washington, D. C., U.S. Gov't. Printing Office, 1965. 4. Pamphlets Junior Occupational Briefs on Accounting, Bookkeeping, Machine Operators, File Clerks Legal Secretaries, Office Boys and Messengers, Receptionists, Secretaries, Typists and Stenographers from Science Research Associates, Chicago 1962-64. 5. A Career in the Modern Office Morrison, "Opportunities in	1. Book reports - choice of oral or written (students choice). 2. Reports to discuss the points the students' identify and evaluate. 3. Observation and successful completion of "Worker Scramble" or "What's My Line?" 4. Choice of oral or written reports. 5. Oral, written, or taped interviews. 6. Film review. 7. Production quality student's reaction and participation. 8. Game: "What's My Career." 9. Student reaction and participation. 10. Teacher evaluation. 11. Production quality and degree of participation in the work. NOTE: At end of quarter, student turned in a written report about the career(s) he explored for teacher evaluation.

OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
	6. Students update want ads done previously and add new data. 7. Individual groups will work up skits to portray the role of each specific job worker. Some desirable and undesirable traits and behavior patterns will lend humor to the activity.	Today's Office," Gregg Div. McGraw-Hill, New York. 6. Magazines Today's Secretary, Current Issues. 7. Newspapers Athens Daily News/Banner-Herald; Atlanta Journal/Constitution. 8. Professional workers 9. Films "Careers in Business" from Georgia Film Catalog; "Invisible Diplomats," "How to Keep a Job," "Three For the Future," from Southern Bell Telephone Co., Local Office. 10. Transparencies "Clerical Occupations and Responsibilities; Office Behavior, Attitudes and Traits; Personality and Appearance in the Office; Effective Human Relations; and Career Planning" from 3M Business Products Div., P.O. Box 1555, Atlanta, GA 30312. 11. Slides made in actual work situations. 12. Pictures: "Comic Sheets" from National Social Welfare Assembly, Inc., 345 East 46 St.	This could be interlocked with English teacher for an extra grade.

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OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
		New York, N.Y. 10017. Pictures selected from magazines and displayed with opaque projector. 13. Career Wheel Shop page 10 from "Explore the World of Work" on the overhead projector. 14. Teacher direction.	
14. To Gain and Acquire Knowledge of Educational Resources The student will identify educational and training institutions available. (DT-5)	1. Students will make a list of all the courses in the junior and senior high school curriculum which prepare for secretarial and clerical jobs. 2. Students will collect brochures from vo-tech schools. 3. Students will take a field trip to a vocational-technical school, bus school, or area college. 4. Students make list of all educational institutions in their area which prepare them for secretarial or clerical jobs. 5. Teacher in Vocational Office Training Program (VOT) speak to class about opportunities to learn and train simultaneously. 6. On field trip to vo-tech school teacher take pictures & prepare slides to be presented to class as a review.	1. Printed information of course descriptions, prerequisites, units of credit, flow charts, of recommended course studies and plans for secretarial and clerical fields. 2. Teachers and students from other schools visit the classroom and demonstrate the skills taught. 3. Instructors in the vo-tech school. 4. Booklet "Don't Overlook the Business College" from United Business Schools Assoc., Guidance Dept., 1518K St., N.W. Washington, D. C. 20005 5. Knowledge gained previously and placed in career notebook or file. 6. High school VOT teacher.	1. Teacher asks oral questions about the courses meeting requirements. Students will prepare tentative flow charts for the courses they should take to pursue the field. 2. Participation in oral discussion as field trip follow-up by identifying the most interesting thing on the field trip. 3. Teacher evaluation of completeness of list. 4. Interest shown during question and answer period. 5. Participation in discussion following slide presentation.

OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
	7. Counselor talk to class on college requirements and related higher education institutions and explain SRA resource material.	7. Camera, film projector. 8. Counselor SRA vocational guidance file material.	6. Student interest and participation.
15. Awareness of the Decision-Making Process Consider the clerical or stenographic occupation in terms of his personal and family goals for him, home background, personal values, etc. (DT-6)	1. Students will prepare an oral or written autobiographical sketch - "What I Am Interested in Doing 3-4 or 3-6 years From Now." 2. Students will hear people--such as secretary in a local office, a clerk or receptionist in the office. These people are to explain what they do, and let students ask questions. 3. Students will play roles of the secretary, file clerk, reception-ist. These can be taped. 4. Same game "What's My Line."	1. Teacher direction. 2. "So You Are Going to Make a Speech," National Consumer Finance. 3. Pamphlets or booklets from their firms. 4. Ideas and answers to questions from outside resource people. 5. Previously recorded answers.	1. Teacher evaluation of sketches (oral or written). 2. Transparencies from booklet for students. 3. Teacher evaluation by observation-reaction and interest of the students. 4. Evaluation will be on students' creativity, interest, and partici-pation in role playing. 5. Student participation.
16. The student will recognize that his person-al success in the clerical or stenographic field is very much dependent on the welfare of all people in our society. (DT-6)	1. Students will sponser a "Career Column" in the school newspaper. 2. The students will consider form-ing a Career Club in which all occupations are explored. The success of the club is dependent on the contributions made by all members in the club - not just the officers or one functioning committee. 3. Students will view film on free enterprise system. They will participate in a class discussion following the film.	1. News editor of paper. 2. Books How to Plan and Publish a Mimeographed Newspaper from A.B. Dick Co., 5700 W. Touby Ave., Chicago, IL 60648. Secretarial Career Kit, from National Secretaries Assoc., 1103 Grand Ave., Kansas City, Missouri 64106 "How to Help Your Youngster Have the Career." Information Service, New York Life Insur-ance Co., Box 51 Madison	1. Active participation. 2. Degree of participation in the accomplishment of club goals and objectives. 3. Students will give their interpretation of the free enterprise system and answer 10 multiple choice ques-tions on film. 4. Teacher will observe interest of students and participation in

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OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
	4. The students will hear speakers, such as mayor and other public officials to give students awareness of importance of these people to our society. Question/answer period. 5. Let students work in small groups on "personal success" volunteers will report on group activity.	Square Station, New York, NY 10010. Reference Manual on Office Personnel, 5th Ed. House and Koebele, South-Western Pub. Co. "Employment Certificates Help You Help Youth," "Teen-Agers Can Be Hired," "Handbook for Young Workers," from Bureau of Labor Standards, U.S. Dept. of Labor, Washington, D. C. 20210 3. Free from Educators Progress Service, Randolph, Wisconsin: Educators' Guide to Free Films, Filmstrips, Tapes, Scripts, and Transcriptions. Learning from Pictures, Williams Dept. Audio Visual Instruction, NEA, Washington, D. C. 1963. 4. Field trips. 5. Interviews with persons in all job classifications (taped and reported). 6. Speakers from businesses. 7. Practical job experiences. 8. Film "Eddie, Inc." Assoc. Films Inc., 600 Madison Ave., New York, NY 10002 9. About Him, About Her by Margaret Andrews, Gregg, pp. 54-72	question/answer period. 5. Teacher observation of group activity. 6. Each student will write a one page paper on this topic.

OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
		(him) pp. 49-64 (her); You and Your Job, pp. 100-103.	
17. He will understand that his behavior, manner of conduct, and ability to work well with others in a business office reflect clearly his needs and values. (DT-6)	1. Have students portray four ways they would handle various situations that arise in the office. (Role playing). 2. Students will play various roles such as interviewing for a job, the proper way to receive a caller, etc. 3. Students will view film on "Right" and "Wrong" attitudes in an office. Students will list on paper some faults observed in the film. 4. Field trip to telephone company to see machines involved in making a telephone call. 5. Listen to tape. "Don't Blow Your Cool." Class discussion various situations presented on tape.	1. Ideas brought from field trips, class discussions, and films. 2. Teletrainer from Southern Bell. 3. Books A Career In The Modern Office, Phyllis Morrison, Gregg, pp. 77-78. Teletraining for Business, AT and T. pp. 101-103. 4. Films "It," "Do I Want To Be a Secretary?" #731171 10 min. GA Catalog Classroom Teaching films. "Invisible Diplomat" 5. Tape: "Don't Blow Your Cool." 6. Knowledge gained from previous activities. 7. State Dept. of Education film, "Do I Want To Be a Secretary?" "Bookkeeping-Occupation and Opportunity."	1. Teacher's evaluation on the following: "If someone goes out of his way to help you, you should thank them by..." "If you receive a personal telephone call at the office, you are going to be late for work, you should..." "If you have a hard time remembering names, what are some ways to overcome this..." 2. Teacher's observation on creativity of role playing. 3. Evaluation will also be based on oral questions asked following role playing. 4. Evaluation will be based on student's interest in film and discussion of their lists following film. 5. Participation and/or appreciation for presentation.

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OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
18. Students will learn that behaving, manners, ability to get along with others is important on the job and at school.	1. Students role-playing various situations of on-the-job activities. Students and teacher make up list of "situations." 2. Speaker from nearby elementary school talk to class about her job, training she needed, etc.	1. Knowledge gained from previous activities. 2. Book Business Behavior 3. Film from the State Dept. of Education, "Do I Want To Be a Secretary?" 4. "Bookkeeping-Occupation and Opportunity." 5. Speaker	1. Student participation in role playing. 2. Participation and interest of class discussion and question/answer period following speaker's talk.
19. The student will understand that his behavior, manner of conduct, and ability to work with others reflect clearly his own needs and values.	1. To stimulate discussion on the thought that "Man is Free," that all his acts are not predetermined, the students will present a skit.	1. Skit "Bound or Free" from New Creation Church Literature for Youth Groups, April 1971, pp. 7-9.	Same as above.
20. Be aware of the importance of a strong body and alert mind because of their effect in fostering good relationships among workers in office positions (DT-6)	1. Students will hear the school dietician, local doctor or nurse, and school coach have a panel discussion on this topic, including drugs. 2. Class will collect materials on good nutrition and the importance of staying strong and alert, and make bulletin boards or collages on this subject.	1. Outside resource people. 2. Books, articles, etc., on nutrition. 3. Bulletin board materials. 4. Resources About Him, About Her, It's Up To You, Margaret Andrews, Gregg.	1. Observation of students' interest in panel and participation in question and answer period. 2. Teacher will evaluate the students' creative ability in constructing the bulletin boards or collages.

OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
21. Students will observe the life style of clerks, receptionists, typists, secretaries, etc., and distinguish between the differences in educational requirements and performance expectations. (DT-6)	1. Students work up questionnaire to be used in interview. 2. Class will visit several types of offices to see these different workers in action. If possible, students will take part in the work and talk to the workers. 3. Following these visits, students will list some of the duties the worker or workers they observed was/were doing and what degree of education was necessary for that particular job. 4. Students will set up simulated activities such as filing carbon copies of letters written, incoming correspondence, etc.	1. Business office and various types of workers in these offices. 2. Students' observations and answers to questions asked on field trip. 3. Views gathered from visits to offices. 4. Outgoing/incoming correspondence. 5. Checker-Cashier, Edison & Mills, South-Western Pub. Co.	1. Teacher will observe students' interest and participation in the field trip and what they share with class. 2. Evaluation will be based on students' lists of worker activities and education requirements. 3. Teacher will evaluate successful completion of simulated filing activities.
22. Students will observe life style of various workers in offices.	1. Students will make individual visits to offices in nearby vicinity if they are unable to use the local school offices. 2. Students will come back and relate to the whole class what they saw.	1. Individual visits. (Also visits made by students while on PECE visits.)	1. Teacher will evaluate students' individual visits by oral reports to class and through individual conferences. 2. Teacher will try to go with these students visiting school offices and make evaluations.

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OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
23. The student will identify the areas which have shown the highest increase in the past decade and will project growth trends for the next decade. (DT-6)	1. The students will prepare charts to indicate employment opportunities in the last decade in a. the nation, b. the state, c. and the community. 2. The students will prepare charts to indicate projected opportunities in the next decade. 3. Class will use various periodicals, papers, books, etc., from which they will choose a professional area on which to write a report.	1. Books/Newspapers Careers in Statistics 1966, from American Statistical Assoc., 810 18th St., N.W., Washington, D. C. 20006. Business Trends and Progress Chart from Ford Motor Co., Educational Affairs Dept., The American Road, Dearborn, Michigan. National Observer, Feb. 1970, p. 5, Atl. issue. Changing Times, Oct. 1970, "Jobs: An Updated Look Into the Future," p. 33 U.S. News & World Report, Jan. 1971, "What U.S. Will Be Like by 1980," p. 38. Nation's Business Encyclopedia of Careers (Vols. I, II) D.O.T. Handbook Occupational Outlook Handbook Books on Professions designated by teachers. Wall Street Journal	Enthusiasm for the study and participations in the preparation of the charts students will be evaluated on the successful completion of their reports.

OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
24. <u>Knowledge of Employment Opportunities</u> Compare the supervision and independence factors of workers at the various levels on the job ladder. (DT-7)	1. Students will view a film which shows a comparison of workers at various levels on job ladder. 2. Students will get different ideas about advantages of various jobs. Students, from information received of local speakers, will prepare individual poster, bulletin boards, wall displays and scrap-book of workers at different jobs.	1. <u>Film</u> "A B C's of Getting a Job," Eye-Gate House, Inc. 2. Local business person. 3. Pictures from magazines or newspapers and student's artistic ability.	Choice of written or oral report to present to class on film. Participation questioning speaker and interest shown. Participation, by work produced.
25. Students will discuss in further detail the actual job opportunities available in their community.	1. Students will perform a job survey going to various businesses inquiring about job possibilities.	1. Job survey for use and want ad section of local papers.	Teacher will evaluate students participation in gettting the job survey.
26. Discuss the need for punching time clocks in relation to the attitudes of workers. (DT-7)	1. Students will hear a speaker, such as a time foreman. 2. Students will make cartoons or comic strips portraying punctuality on the job. 3. Students will visit an office setting where time records are kept.	1. A local business person, newspaper, magazines, T.V., a local industry or business.	Participation by asking questions of speaker, and interest shown, on work produced, as to suitability of subject. Report on trip.
27. Discuss the need for punctuality on the job and in the school.	1. After discussing punctuality, teacher will lead students in role playing to demonstrate need for it.	1. Same	Teachers evaluation of students' understanding through role playing.

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OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
28. Discuss the importance of maintaining good personal relationships in clerical and secretarial pool.	1. Students will hear a stenographer who works in a typing pool. 2. Students will view a film.	1. A local business person. 2. A local business or industry. 3. Film "The Secretary--A Normal Day," GA film Cat.	Interest shown, by questions asked. Report on trip. Report on film.
29. Assume and portray the roles of workers he has studied in making career choices. (DT-7)	1. Students will set up an imaginary office within the classroom, providing for, and having students act out parts of different workers. 2. Students will prepare reports on roles of workers and present them orally to the class.	1. Books 2. Collect pamphlets	Same
30. Discuss independently with his peers (students) the career he chooses to explore and list orally some questions which he would like to have answered. (DT-7) Students will evaluate through written exploration the objectives of the unit.	1. Students will prepare a list of questions about particular jobs he is interested in. 2. Students will read in pamphlets and booklets from various businesses about requirements for different jobs. 3. Teacher and students will prepare a culminating outline on what students saw at various businesses to present to Chamber of Commerce, Kiwanis Club, etc. 4. Students will move out to work more on their own aided by teacher when they need help. They will prepare questions, check books, pamphlets, business office etc.,	1. Books, pamphlets, friend, teacher, student, business, counselors, etc. Conference (see all previous listings of resources). 2. LAP 3. Find test attached.	1. Teacher checks lists of questions. 2. Teacher student conference. 3. Teacher evaluation of LAP 4. Final evaluation.

OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
	to find out all they can about this career. 5. LAP on Career 6. Teacher explain the test which was written on board, students write own answers.		

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Final Test for

Unit on Secretarial-Clerical

Careers

1. Name at least three careers you learned about and a brief explanation of what that career involves, i.e. education, opportunities.
2. What one technique (that was new to you) helped you the most in using the telephone.
3. Of the field trips, which one interested you the most and why?
4. Of the two speakers which one was most helpful in letting you know about secretarial-clerical career and why?
5. What activity in this course meant the most to you, in terms of enjoying, learning, etc.?
6. What are your general feelings about this unit - what did you like best? What did you like least? Any other comments you would like to make about it?

CLERICAL AND SECRETARIAL OCCUPATIONS

BASIC DUTIES OF SECRETARIAL AND CLERICAL WORK: (From D.O.T.)

Taking dictation (by hand or shorthand machine).
Making and reminding executives of appointments.
Interviewing and screening office visitors.
Answering and making phone calls.
Reading and writing routine correspondence.
Classifying and filing and related work, such as gathering together, sorting, and/or filing correspondence, account records, business forms, and related data.
Preparation of reports and keeping of records.
Sorting, inspecting, measuring, and related work, which involves examining, measuring, or weighing objects or materials for the purpose of grading, sorting, detecting flaws and irregularities, or verifying adherrence to specifications.
Checking and recording.
Taking inventory.
Teacher of secretarial and clerical jobs.

JOB TITLES: (Occupational Outlook Handbook)

Stenographers
Typists
Receptionists
Bookkeeping workers
Cashiers
Office machine operators
Electronic computer-operating personnel
Telephone operators
Shipping and receiving clerks

JOB TITLES: (D.O.T.)

Varitypist
Travel clerks
Travel agents
Stockroom clerks
File clerks
Teletype operators
Messengers
Transcribers
Mail carriers
Accounting clerks
Tabulating machine operator
Mail clerks
Credit clerks
Checking and recording clerk (bookkeeping)
Teacher of secretarial and/or clerical jobs
Cost clerks
Payroll clerks
Postal clerks
Railway clerks
Receiving clerks
Station agents
Reservation clerks
Time-keepers
Paymaster
Medical secretary
Billing clerk
Order clerk
Inventory clerk
Switchboard operator
Sales clerks
Calculator operators
Dictaphone operators
Comptometer operators

JOB TITLES con't

Office boy or girl
Stationery stock clerk
Legal stenographers
Supervisors
Credit supervisors
Information clerk
Correspondent
Civil Service clerk
Music copyist

SUGGESTED BOOK REFERENCES

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A Suggested Guide for Career Exploration

in

Management and Finance

An Eighth Grade Program

in

Business Education

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MINI-COURSE: MANAGEMENT AND FINANCE

OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
1. Management & Finance Explore occupations in the field of management/finance.	1. Films and filmstrips to identify some of the different occupations in management/finance. 2. Each week students will add terms to a vocabulary notebook. 3. Brainstorm job title and choose one they will explore. 4. On the first day get to know students by having students write an autobiography or complete statements such as "clues" to identifying themselves and share with each other.	1. Films "Planning Your Career" 16 mm., 1 reel, 16 min. 5113 16th AVE Brooklyn. Rental price $3.50. "Life Insurance Occupations" MP-So-16 mm. 11 min., rental $2.50. Carl F. Mahnke Prod. 215 East Third St., Des Moines, Iowa 50309 2. Career booklets N.Y. Life Insurance Svc. Box 51 Madison Square Station, New York, NY 10010. "Should You Go Into Public Relations?" "Career in Property and Life Insurance" (used instead of film). "Your Future in Consumer Finance" Educational Svcs. Div. National Consumer Fin., Association. 1000 16th St., N.W. Washington, D. C. 20036 "Career Opportunities in Management" Armstrong Cork Company. Lancaster, PA 17604 "Should You Be A Banker?" "Banking: A Career For Today and Tomorrow." Banking Educ. Committee. Amer. Bankers Assoc. 90 Park Avenue, New York, NY 10016	1. Question and answer period at conclusion of film(s). 2. Identify 3 or more positions in mgt/fin and include 3 or 4 sentences on: a. educ. - nec/preferred. b. exper. - nec/preferred. c. duties & responsibilities. d. opportunity for advancement e. salary f. fringe benefits.

OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
		3. Filmstrips Discussion on these filmstrips, "World of Work," I, II, III, IV, and V. 4. Career booklets "Career in Insurance" (free - limited quantities) Insurance Information Institute, 110 William St., New York, NY 10038 "Invitation to Achievement - Your Career in Management." (one free copy) American Management Assoc., 135 West 50th. St., New York, NY 10020. "Your Career in Public Personnel Administration" (one to three copies free) Public Personnel Assoc., 1313 East 60th St., Chicago, IL 60650. "Career in Business" Public Relations Dept. Rochester Institute of Technology. Box 2104, Rochester, NY 14614 "Career in the Kodak Company" Eastman-Kodak Co., Rochester, NY	

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OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
2. Developing Management Teams Demonstrate understanding of different types of management organizations.	1. Career wheel for group mounts on bulletin board. 2. "Dial A Job" - make their own wheel - put pin in it and spin. 3. Student conduct questions and answers period. 4. For group purpose, students will develop one of the following: a. a partnership b. corporation or c. sole proprietorship.* *NOTE: students will continue to work on these management teams for the entire quarter.	1. Business Principals, South-Western Pub. Co. 2. Career booklets 3. Books D.O.T. (mgt/fin sections) Occupational Handbook, Mgt. pp. 237-241 Fin. pp. 707-717. Clerical Office Practice 10th edition (textbook). Post Master General from Post Office.	1. Teacher and student evaluate content, neatness, completeness, creativity, color, design. 2. Other points developed by student on management, appointed to evaluate.
3. Selecting Financial Institutions to Explain Careers Define and discuss the term finance as well as the history of money, the barter system, the banking system, and loan institution	1. Class discussion on the history of money and exhibit samples of money of different countries. Interlock with math on converting currencies. 2. Role playing in a barter system. Have students bring something to trade on that day. 3. Complete problems on bank reconciliation, writing checks correctly, and total cash receipts in a cash register. 4. Film on banking 5. Plan with math teachers problems related to finance. Students develop competency in working these problems and after math use machines to compare ease.	1. Examples of money. 2. Materials from banks (signature cards, etc). 3. Film "How Banks Serve," Reserve Bank of Atlanta. 4. Books Clerical Office Practice (textbook). Encyclopedias in library 5. Speakers from local community. 6. LAP: "Banks and Banking Careers" "You and Your Community Bank" C & S Bank or local Bank. 7. Local insurance company. 8. Use resource people to identify "Facts on Borrowing."	1. Observe participation in discussions. 2. Observe role playing. Students evaluate self and peers. Students summarize field trip experience highlights in group or oral reports. 3. Students taking part in the skit will be graded in relation to amount of data they are able to expose the class to obtaining. 4. Question students over data obtained from speakers.

OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
	6. Field trips to observe banking system and loan institution. 7. Skit - "Mary opens a Checking Account" (e.g., signature card, checks, etc.) student develops. 8. Resource person from local financial institution to show role of different financial institutions in community. 9. Have opportunity to write checks, bank statements and savings account.* *Interlock reconciling bank statements with math. 10. Field trip to local Insurance Company. 11. Role playing - Insurance Agent selling (life, auto, etc.) insurance to customer. 12. Speaker - Insurance Salesman. 13. Each group prepares a chart listing one major advantage and one disadvantage of the following: bank saving account, U.S. saving bond, preferred stocks, common stocks, corporate bonds, municiple bonds. 14. Have students open a savings account for the class. Students set up one day a week to go to deposit and make withdrawals. Students keep records of trans-	9. Film "The Lady in the Stock Exchange" Modern Talking Pictures. "Changing Times Magazines." 10. Pictures to illustrate new words or terms. Students will use magazine or their own art work to illustrate new words in their vocabulary notebook. 11. Fill out application for credit cards. 12. Film "Credit" Dun & Bradstreet, Modern Talking Pictures, Spring Street, Atlanta, GA	5. Student evaluation team questions other students over banking system. 6. Evaluate participants on panel according to the information they present. 7. Evaluate charts to see listed advantages and disadvantages. 8. Evaluate information presented to class and ask questions over the materials. Each student develops set of questions he thinks are important. 9. Two weeks to work on projects. Graded on completeness of the reports. (Charts and other visual aids will contribute to a higher grade). Students may choose to give a visual presentation on project. 10. Evaluate speakers on panel according to the career information they present to the class. 11. Work with credit application blanks. (Procedure in filling one out).

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OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
	actions in folders. Ledgers, journals.* *Interlock reconciling bank statements with math. 15. Prepare report to be presented to the class on careers in: a. The Better Business Bureau b. The Securities and Exchange Commission c. The New York Stock Exchange d. The United States Chamber of Commerce. 16. Group posts new words learned each week. 17. Discuss with teacher the preferred area to be explored for an outside project. (e.g. banking, loan institutes, etc.) Students may choose to give reports of project to class. Student panel discussions activity. a. credit plan used b. differences between installment credit c. what do you do if you lose a credit card? d. what credit cards keep money in Georgia? e. how many people employed in credit institutions in GA* *Interlock with Home Ec. on money management.		

OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
4. Acquiring Knowledge of Occupations and Work Settings Define & discuss the term management in an introductory manner. (Planning, directing, actuating, etc.)	1. Ask worker in the field of management what training, experience, education are necessary for a particular job in management. 2. Choose a particular occupation to explore. 3. Develop a questionnaire to obtain data. Interview person in that chosen area, using questionnaire. 4. Organize, compile, and compare data obtained. 5. Give oral group report on findings. 6. See slides of management situations (or movies) which are current and made locally. Formulate definitions.	1. Slides, movies, etc. made by teacher prior to the opening of school. 2. Community.	1. Evaluate questionnaire developed. 2. Evaluate the report according to amount of information obtained.
5. Choose area of occupations in management and obtain information concerning their jobs (advancement, experience, training).	1. Group work for the purpose of compiling a list of management positions in definite organizations in your area. 2. Field trip to a hospital (or equally complex establishment) and observe a relatively uncomplicated organization such as service station. Follow up. 3. Film, "Fresh Laid Plans" Application of points in film to situations observed (at least 2 in writing). 4. Students make pictures or slides of management situations & present to class telling why that	1. Visit and observe the work community. 2. "Fresh Laid Plans" State Dept. of Education. 3. Visit and observe again in the work community.	1. Evaluate each member of group--participation and class contributions.

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OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
	situation was interesting enough to photograph. 5. Seek information about advancement.		
6. Investigate some previously identified jobs in the field of management/finance & develop a career ladder showing the career progression and possibilities of each position.	1. With student's help list on the board the previously identified jobs, a particular field. 2. Have students show the jobs as a career ladder showing progression from what they have already learned. 3. Go over the career ladder on the board explaining why the jobs go in that particular position and the possibilities of each position progressing. Students discuss responsibility, rewards, disadvantages, and advantages as jobs progress.	1. Local businesses.	1. Observe how they develop their career ladder. 2. Students evaluate each other. 3. Drawing a career ladder showing two steps of promotion and added tasks and responsibilities in each step.
7. Develop understanding of authority in finance occupations by showing positions in organization chart.	1. Introduce the format for an organizational chart that shows the position of authority. Develop organizational chart. 2. Have students invite 2 or 3 related teaching area instructors to speak to class relating their area subject matter to finance. Have related teaching area instructors discuss the way in which management, labor, government, and public dynamics interact to influence work life.	1. Bulletin board. 2. Related teaching area instructors. 3. Actual organization chart of local bank or financial institution.	1. Completion of organizational chart for their school system. 2. Student evaluate effectiveness of this program of speakers by developing and using checklist.

OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
	3. Speaker, instructor, panel. 4. Have students write thank you notes to participating instructors. 5. Alternative method. Oral discussion as to what they want included: group rewritten letter, best chosen, contribution by all edited by one member and typed.		
8. Obtain occupational experience in an observable capacity in the field of finance as an essential part of his orientation to and introduction into the work culture.	1. Discuss in small groups the information obtained from speakers and how their area relates. (See unit objective 7, 2-5)	1. Current news media.	Student evaluation and teacher evaluation of material to go in scrapbook, poster, etc.
9. Obtain data about the way in which management, labor, government, and politics interact to influence life work.	1. Arrange for teachers in other subject areas (social studies, for example) to be involved in an informal discussion. 2. Students should choose and arrange for this by contacting the other teacher, constructing point to be covered, inviting, and follow up questions. 3. Have students, in groups, discuss the information obtained from the	1. Other teachers, textbooks being used in other subject (government, social studies, etc.)	Student self-evaluate the value of these activities.

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OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
	teachers keeping in mind their area. 4. Students will make a list of requirements needed to go in the potential occupation they have chosen and discuss with each other the sacrifices they may have to make.		
10. Obtain occupation experience in an observing capacity as part of his orientation to and introduction into the work culture.	1. Invite local public officials to talk about how management and local politics affect each other. 2. Visit the courthouse and if possible, sit in on a commissioners' meeting or a portion of a trial. 3. Arrange to have at least a few of your students invited to luncheons, dinners, or just business meetings of professional groups or civic organizations. 4. Some students will be able to choose a manager or financer of a business and spend at least 2 hours as his shadow. Make preliminary arrangements. If several different businesses can be used, have students share with others their experiences.	1. Courthouse 2. Field experiences 3. Local business community.	From information obtained during the activities, show in writing differences and similarities of the positions observed. Participation in discussion.

OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
11. Knowledge of Self and Interpersonal Relationships Student performs a given work situation in a manner to indicate he understands that success or failure depends not alone on technical proficiency but on quality of interpersonal relations as well. (DT-4 & 1)	1. Go out to a job (either the same as previously visited or a different job) and actually perform some of the tasks involved. 2. Relate this experience to the group; tell how this experience differed from the previous one as an observer. Did your opinion remain the same after each experience? 3. Role playing and planning. Group situations where examples of good and bad interpersonal relations are demonstrated. 4. Self-analysist test, post test. 5. Case studies. a. deliberately choose the most difficult person you know and begin a campaign to improve your relationship with him or her. b. list negative statements made during a three-hour period weekly & eliminate the negative habit in six weeks. c. using your own initiative, introduce yourself to five men & five women and in four weeks report results of project on forms provided.	1. Film "Make Your Own Decision" Part I & II, State Dept. of Ed. 2. Book Business Behavior South-Western Publishing Company. Case Studies: pp. 15-16; p. 48. Projects: pp. 44-45; p. 29. Self Analysis Test: pp. 12-14.	1. Teacher checklist for the 2 experiences in correlation with a checklist of the business person. 2. Students will evaluate participating in role playing activity. a. project--students evaluate extent of progress with project once a week b. project--teacher evaluation will be made from progress the student makes.

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OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
12. Describe how requirements for jobs in management/finance differ from one job to another.	1. Speaker from a business in the surrounding area discusses what they desire from their workers in the area of mgt/fin to be successful. 2. Biographical sketch--independent report--use the school library to select a book or series of articles on a successful businessman. 3. Newspaper-classified section: clip ads for position in the mgt/fin field. 4. Scrapbook to show they understand the requirements (education tasks) of the job.	1. Businesses in the surrounding area. 2. Listening to Leaders in Business McGraw-Hill. 3. School library and community library books and/or periodicals. 4. McGraw-Hill film "Using Books" rental $8 5. (For scrapbook, use material in this book) Occupational Handbook. 6. Local newspaper, "Atlanta Constitution."	1. Questions and answers period following the talk. Class discussion. 2. Themes: style, content and grammar. 3. Mgt. "How Would You Describe A Good Manager In Business?" Fin. "What Is The Man In Finance Concerned About?" 4. Matching test 80 percent accuracy, jobs listed with most important characteristics listed. 5. Theme should include: birthdate, family background, education, contribution to society or community, and how does his success relate to mgt/fin. 6. Scrapbook of ads; a paragraph on what the companies are offering or looking for.

OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
13. Attempt to match his abilities, traits, experiences, and interests with those required for a position in mgt/fin.	1. Vocational preference tests: Strong, Kuder. 2. Class discussion - How do I know if a position in mgt/fin is for me? Begin by a case study including a child's aspirations, parental aspirations, social contributions, child's happiness, education necessary, and abilities required in the job mgt/fin. (ex. Mgr. of large advertising film; and/or President of one of the town banks.) 3. Class compared managers in films: "Spirit of Enterprise." "The Country Store." State Dept. of Ed.	1. Guidance Dept. of your school should administer the tests or show you how to do it and interpret the results to students. b. Films "Spirit of Enterprise" "The Country Store" "Working Together" "Choosing a Job" State Dept. of Education	1. Four specific questions based on the case. 2. Answers may be typed up (one question each). Or each student may tape one of the group answers to a question 3. Results of the test. Interpret results by profile sheet. 4. Class participation. 5. Written answers to four taped questions based on the discussion and the story.
14. Attempt to match his abilities, traits, experiences, and interests with those required for a position in mgt/fin.	1. Group discussion - what particular jobs are you interested in and why. 2. Employment day - past graduates return to school to discuss their present jobs and any future plans. 3. Speaker - State Employment Agency: Discussion on some of the job requirements for positions within the community, and how the State Employment Agency works. 4. Four short questions are taped by the teacher based on discussion and the talk, 75 percent accuracy.	1. Books Occupational Outlook Handbook, Dictionary of Occupational Titles." Career Booklets, Career Books. 2. Guidance Dept. - list of former seniors and their present employers. 3. Chairman of Bus. Dept. - list of graduates who she/he would like to invite back for a tea, etc. after school. 4. Member of the personnel dept. of your nearest State Employment Agency.	1. Individual project for each student. (They suggest what they want to know to find out.) 2. Attendance and participation in question and answer session. 3. Participation in question and answer period following talk. 4. Talk is taped and replayed for discussion. 5. Four short questions are taped by the teacher based on discussion and

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OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
		OR Representative from a local agency, if necessary.	the talk--75 percent accuracy.
15. Describe the personal sacrifices they may have to make in order to attain their chosen occupational goal.	1. Students will use booklets and tentatively discuss orally their tentative selection of a job. 2. Have students make charts on qualities and personalities needed for different jobs. 3. Research 5 occupations of interest for the responsibilities and tasks involved.	1. "A Career for A Life Insurance Company" Iowa Assoc. of Life Underwriters, 300 Chestnut St., Atlantic, Iowa 50022. 2. Personnel work Public Personnel Association 1313 East 60th St. Chicago, IL 60650 Consumer Finance (Your Future in Consumer Finance) Educational Services Division National Consumer Finance, Ass., 1000 16th Washington, D. C. 20036 Accounting--American Institute of Certified Public Accountants 666 5th Ave., New York, NY 10019	1. Evaluation of the list students made and answer to questions answered. 2. A written test on the pros and cons of a job selection.
16. Examine own abilities and characteristics with respect to responsibilities and tasks of preferred occupations in management and finance.	1. Discuss in small group the various responsibilities and tasks involved. 2. View filmstrips in order to observe various responsibilities and tasks of 2 or 3 occupations. 3. Choose a preferred occupation. List 5 characteristics of the job chosen and in small group discuss whether or not you feel you have or will have these characteristics.	1. Occupational Handbook D.O.T. 2. Filmstrips	1. Teacher observes participation in discussion groups. 2. Teacher studies papers on the preferred occupations to see if students are able to relate their abilities and characteristics. 3. Evaluate paper to see if students understand their

OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
	4. Choose a second preferred occupation. Divide a sheet of paper into two columns. List in left column the preferred occupation, write in second column a brief explanation of why they think they would be successful in these kinds of work. 5. "Relate on paper their own need for personal independence with that of 2 preferred occupations."		own needs.
17. Gather information about employment opportunities in the community and the possible effect of technology on these positions in mgt/fin within the next few years.	1. Visit the Chamber of Commerce to find out the different businesses that relate to mgt/fin., the number of employees, possible future expansions and future positions in these businesses. 2. Speaker - businessman who is expanding or who is providing for technological changes in the near future. Tape speech. 3. Use newspapers and magazines to collect technological changes now or in the future. 4. Questionnaire - designed by students and teachers to be used by students interviewing selected businessmen on the possible effect of technology on their workers within the next 5 years and in the last decade.	1. Local businesses and community in the surrounding area. 2. Local newspapers, Atlanta Constitution, U.S. News and World Report, Time, Newsweek, Social Studies weekly received in school.	1. Bulletin board with illustrations showing jobs, technological changes predicted, and cartoons showing the effect on their workers, i.e., more leisure, more machines, change in work tasks, etc. 2. Discussion on speaker's message and identification of main points. Thank you note (content, neatness, creativity). 3. Thoroughness in filling in answer to questions. Amount of additional information gathered. Participation in class discussion relating to information received.

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OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
			Use of performance contract for course or individual unit.
18. Personal Factors and Life Style Describe likes and dislikes associated with getting ahead, recognition from co-worker, high or low income, and taking responsibility when working in the financial and management world.	1. Have students choose tentative preferred occupation in area of mgt/fin. a. observe person in that preferred occupation for an hour to learn about their work. b. share experience with class by giving group discussion. Compare managers in various kinds of organizations. 2. Discuss orally in groups likes and dislikes associated with getting ahead.	1. Guidance Counselor, Personality Check List, Science Research Associates--Jr. High Series. 2. Newspapers, magazines, World Book Encyclopedias (Guide to Periodical Lit., Guide to Bus. - Rm. 215 Library UGA) 3. Business Behavior Russon, South-Western Pub. Co.	1. Evaluation of written assignments. Completeness and accuracy update, if necessary. 2. Individual conference, check list: completion, completeness, and realistic approach. 3. Evaluation of paper that students wrote: neatness, accuracy, style.
19. Consider the extent to which business operates on the principle of individuals, self-interest or social responsibility.	1. Teachers and students make a list of all known unions for white collar workers, then other unions. 2. Interlock with Social Studies--students write a paper on unions, how they operate, and what they are. Also have students gather information from newspapers, magazines, and encyclopedias.	1. Same	1. Same

OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
20. Demonstrate their vocational planning by interest in contributing to society in ways that go beyond that which is necessary for them.	1. Have students discuss orally in groups how planning for a vocation contributes to society.	1., Same as 18 and 19.	1. Observation. 2. Individual conferences.
21. Describe how several occupations in finance and management would provide a means of expressing their personality, satisfying their needs, using their talents and giving them the basic needs of livelihood.	1. Have students visit a bank, loan company and another type of business in the community. 2. Have students write different roles that they saw and demonstrate individual job skits. 3. Have students identify from filmstrips the various positions that they recognize.	1. File materials on Credit and Loans, Federal Reserve Bank of Atlanta. 104 Marietta St., N.W. Atlanta, GA 30303	Evaluation of written assignments.
22. Describe how important persons in their life differ widely in their makeups and how their traits, abilities attitudes and	1. Have students view films and discuss in groups personality traits of people in films. 2. Chart-listing jobs in mgt/fin education necessary, capable of doing the job, and why interested.	1. "Individuals in the Modern World." Association Film, Inc. 600 Madison Ave., New York, NY	Taped questions and discussion of topics on films.

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OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
aspirations and express an appreciation of the value of these differences.			
23. Examine first choice occupations in terms of their present life considering such factors as personal and parental aspirations, family background, personal values, etc.	1. Have students discuss orally in groups about their personal and parental experiences. 2. Have students consult the D.O.T. Filmstrips and slides on occupation. 3. Visit another type of business and have students use checklist developed previously.	1. "It's Your Decision" Part I and II-film State Dept. of Education 2. Case Studies for ideas.	1. Individual conference and student oral self-evaluation. 2. Evaluation of chart: neatness, completeness, participation, and observation. 3. Evaluation of checklist.
24. Examine how finance and management may affect individual standards of living at home, at work, and in the community.	1. Have students look at pictures in magazines and have them classify what standard of living affects each one. 2. Present films on home situations and business situations of persons in the financial society.	1. Magazines 2. Teacher explanation	Discussion and identification of points.

OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
25. Examine and discuss their own value as related to occupations, work situations and personal work behavior.	1. Students are to list their ideas concerning values as related to work situations and personal work behavior.	1. "You and Your Work" Free loan, State Dept. of Education.	Observations
26. Describe how individual physical and mental health are related and how they may affect the work situation or be affected by it.	1. Have persons from Health Department discuss diseases and how to prevent them and talk on how to maintain good health and how it affects the worker and the company. 2. Show pictures of mental institutions. 3. Have students discuss in groups how they are affected by this.	1. Head Nurse from local Health Department.	Observations
27. Examine his psychological needs as related to broad occupational area in management and finance (e.g. controlling, organizing, etc.)	1. Have students develop a supply store by setting up hours of operation, types of supplies, number of people to operate store, financing store, etc. 2. Discuss in small groups personal feelings in taking such a responsible job in the store. 3. Film on leadership, discuss film.	1. Film on leadership	1. Evaluate ability to set up supply store. 2. Observe discussion of film.

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OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
28. Confirm how varying need for personal independence may be met by different work settings and occupations in mgt/fin.	1. Compare own psychological needs with the opportunities for satisfaction provided by a chosen occupation in mgt. or finance. 2. Students analyze their own personal interests and abilities. 3. Make lists comparing own need for personal independence to another student's need for personal independence. 4. Discuss these findings in small groups.		Evaluate paper on psychological needs.
29. Students will study a wide range of management and finance occupations in relation to their value to society.	1. Vocational development through the use of verbal and visual aids. 2. Research a. from written materials b. survey types of businesses in your area. (If possible get a list several years old and compare).	1. Tapes, slides, movies, made in the work community which is familiar to the student. Language master if available. AND Library--D.O.T., Occupational Outlook, periodicals, Area Development Corp., Chamber of Commerce, Business and Professional Organizations.	1. Performance checklist. 2. Informal. Observe students using new words with more fluency. 3. Research report on tape, paper, or whatever method student chooses.

OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
30. Gather information and develop ideas leading to tentative conclusions about occupational trends in relation to demand for certain types of workers, decline in need for others.	1. Develop a checklist for an interview with representatives of different job possibilities. 2. Panel of career representatives chosen by the students. a. students assume responsibilities for arranging for the panel (invite, prepare for, welcome, following-up) b. discussion groups to share impressions gathered from panel. c. write a short paper, "Why I Would (or would not) Like This Career." 3. Decide a. is achievement valuable? b. what is it like to do something as opposed to doing nothing?	1. Samples of interviews (textbooks, other previously developed checklists, etc.) 2. Local workers in several occupations store manager of a loan company, manager of a real estate company.	Evaluate papers written by students.
31. Compare advantages and disadvantages of certain areas of management and finance to draw conclusions in regard to self-interest versus social responsibility.	1. Scan newspapers and magazines for job want ads available in management/finance. 2. Choose one of the ads and make a telephone inquiry about it. 3. Film - follow-up discussion. 4. Class discussion of things found out about jobs used inquiry (above 2.), does this job serve a purpose, satisfy a need, etc. 5. Field trip to observe personnel in management and finance to	1. Current newspapers and periodicals, (from home, teachers, or school library). 2. "Your Learning Power" Coronet-State Dept. of Education 3. Students become source of information for each other. 4. Library--D.O.T., Occupational Outlook Handbook, Guidance office. People in the work world may give a realistic point of view.	1. Informal 2. Students evaluation 3. Student and teacher evaluation based on pertinence. 4. Checklist evaluation by teacher and student.

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OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
	distinguish differences and similarities in requirements and performance expectations. 6. Follow-up a. small group discussion b. open class discussions (sharing points of interest) c. conclusions (written or taped depending on the group). 7. Research a. resource materials b. interviews (with persons closely related to the job area of his interest). c. compile information and file for later references. 8. Seek information concerning advantages and disadvantages of the job previously selected for the Career Chart development. 9. Decide characteristics employers might think important for certain occupations in management and finance. 10. Find out the level of education, training experience necessary for certain occupations in management and finance. Contest at least two.		

OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
32. Achieving the objectives previously stated as an input to the development of the task of choosing a career hypothesis. (DT-3)	1. Learning activity packages designed to simulate on-the-job performance. 2. Realistic experience in actual work setting (for a short period of time one day). 3. Checklist composed by students and teacher including their own job experience. (i.e. making decisions, correcting mistakes, helping one another, etc.) 4. Class discussion- Personality and Success on the job.	1. Florida-LAPs designed Nova H.S., Ft. Lauderdale. 2. LAPs designed for Broward County. 3. Dr. Bobbye Jo Wilson LAP "World of Work," Univ. of GA, Business Ed. Dept. 4. Div. of Voc. Ed., University of GA (ex. in Math, Ind. Arts, etc.) 5. Career Exploration Institute, Div. of Voc. Ed., Bus. Education Dept., LAPs developed by participating teachers - June 1971 - May 1972. 6. Cooperation of businesses in the community to work with a small group of students at one time. a. students and teachers design an interview to surrounding businesses. b. actual on-the-job experience. c. Classroom simulation--LAPs d. Past experiences in the classroom and in business.	1. Post-test and pre-test. 2. Evaluation activities contained in the LAPs. 3. Number of LAPs and activities completed within a designated period of time (2 weeks) 4. Thoroughness, neatness, and completeness of the LAPs. 5. Teacher observation. 6. Group participation. 7. Summary of job experience, (simulated). 8. Completeness, attractiveness, clearness. 9. Individual participation and group participation each designing a section. 10. Performance on LAPs. 11. Employee reports. 12. Theme - How Do the Traits, Friendliness, Cooperation, and Dependability Relate to Success On the Job?

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OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
33. Critically evaluate the career advice given by counselors, teachers, and businessmen from the community.	1. Review questionnaire concerning background abilities, and interests desired in employees for future success. 2. Construct a simple chart based on the information contained in the literature about background, abilities, and interests necessary for jobs in mgt/fin.	1. Evaluate your answers against those received from D.O.T., Occupational Handbook, Career Books, and Career Booklets you used before.	
34. Student will participate in class discussion "How do I know if a position in mgt/fin is for me?" "What are the things I need to consider?"	1. Independent study (points to consider) a. What advice has been given? b. Do I agree or disagree? c. Why? 2. 3 minute speech: a. What career & position in career. b. What worker does on job. c. What training is necessary. d. What education requirements. e. How progress up the career ladder. 3. Students tape speech, adding to and revising final speech.		Students and teacher evaluate speeches through checklist designed by teacher and students.

OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
35. Discuss social worth of different jobs performing in the field of mgt/fin. AND Begin to formulate a concept of his possible place, obligation and destiny in the world of work.	1. Group discussion- "Are we contributing anything to our community?" (i.e., as an office manager, or an insurance assessor). 2. Case Studies- Do Other People Depend on Me?	1. Parents, neighbors, teachers, counselor, etc. 2. Designed by the teacher to show dependancy on parents now, independance, depended on, -- cycle. 3. Based on the experience contained in the LAPs, on-the-job and all the related experiences included in the unit.	1. Play or skit on "How My Job Affects Many People"- the effects of a mild strike, etc. 2. Role playing- How what I do now affects my happiness in the future. 3. Participation and discussion of characters involved in the skit. Written and produced by the students.

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MANAGEMENT AND FINANCE
JOB TITLES

MANAGEMENT

Accountants
Personnel Manager
Ran Manager
Hospital Administrators
Civilian Employment Manager
Industrial Traffic Manager
Purchasing Manager
Management Aid Manager
Management Engineer Manager
Management-Operation Analyst Manager
Advertising Manager
Financial Manager
Manager of an Agency
Agricultural Manager
Branch Manager
Airport Manager
Apartment House Manager
Athlete Manager
Athletic Team Manager
Banquet Manager
Aviation and Space Manager
Bar, Hotel and Restaurant Manager
Barber Shop Manager
Branch Bank Manager
Branch Store Manager
Building Manager
Business Manager
Credit and Collection Agency
Credit Investigations
Dance Floor
Dance Studio
Delivery Department
Dental Laboratory
Dental Supply House
Department
Display
Display Advertising
Distribution Warehouse
District
Domestic Trade
Doughnut Shop
Bulk Plant Manager
Business Promotion Manager
Bus Transportation Manager
Cafeteria or Lunchroom Manager
Camp Manager
Cardroom Manager
Catering Manager
Cemetery Manager
Chamber of Commerce Manager
Chief Material Manager
City Circulation Manager
Classified Advertising Manager
Club Manager
Cocktail Lounge Manager
Coffee Shop Manager
Commercial Sales Manager
Construction Industries Manager
Consumer Credit Manager
Continuity and Script Manager
Beauty Shop Manager
Beer Parlor Manager
Boarding House Manager
Boxer Manager
Contracts and Title Manager
Convention Manager
Copyright Manager
County Manager
Drilling and Production
Electric Distribution Department
Electronic-Data Processing
Employee Relations
Employment
Equipment
Executive
Export
Facilitating Services
Factory
Farm
Farm Labor Camp
Financial Institution
Fish and Game Club

MANAGEMENT, con't

Flight Kitchen
Floor
Food-Processing Plant
Food Concession
Food Production
Franchise Promotion
Front Office
Funeral Home
General Manager
General Office
Golf Club
Grain Elevator
Graphic Arts
Guest House
Gun Club
Harbor Department
Hatchery
Hemp Processing
Hotel
Motel
House
Household
Housing Authority
Housing Project
Ice-Scating
Industrial Cafeteria
Industrial Development
Area Development
Industrial Organization
Industrial Relations
Industrial Sales
Institution
Insurance
Insurance Office
International Division
Irrigation
Kitchen
Labor
Land Training
Leasing
Library
Liquor Establishment
Local Advertising
Locker Plant
Lodging Facilities
Lunchroom or Cafeteria
Main
Marine Service
Merchandise
Motel
Music
Mutual Department
National Advertising
Natural Gas Utilization
Newspaper Circulation
News and Special Events and Public Affairs
Night Club
Nursery
Office
Student Placement Service
Oil Well Services
Operating and Occupancy
Operations
Parts
Personnel
Personnel Services
Photograph Gallery or Studio
Plant
Product
Development (Product)
Production Department
Production, Seed Corn
Working Production
Program
Promotion
Property
Motor Hotel
Motor Inn
Probate
Publicity
Public Service
Public Utility, Rural
Purchasing
Recreation Establishment
Regional
Rental Department
Rent-Control Office
Research
Research and Development
Resident
Residential Sales
Restaurant or Coffee Shop
Retail Apparel

MANAGEMENT, con't

Retail Automotive
Retail Dairy Products
Retail Drug
Retail Floral
Retail Food
Retail General Merchandise
Retail Hardward and Farm Implements
Retail Housefurnishings
Retail Household Appliances
Retail Liquor
Retail Lumber and Building Supplies
Retail Shoe
Retail Variety
Road
Rooming House
Route
Safe Deposits
Sales
Circulation
Schedules
Schedules and Contracts
School Lunch Program
Service Department
Service Establishment
Sound Effects
Stage
Statement Clerks
Station
Stockroom
Storage Garage
Store
Storeroom
Street Sales
Student Employment
Student Unior
Supply
Surplus Property
Tavern
Technical and Scientific Publications
Technical Service
Telegraph Office
Terminal
Theater
Theatrocal Production
Tire Service
Tobacco Warehouse
Traffic
Trailer Park
Trainee
Transportation Organization
Traveling
Trust Company
Utility Sales and Service
Van Service
Vehicle Leasing and Rental
Vending Department
Vineyard
Warehouse
Water Department
Welfare
Whole-Trade Establishment
Winter Sports
World Trade
Editor (Managing)

MANAGEMENT AND FINANCE
JOB TITLES

FINANCE

Financial Aids Officer
Financial Analyst
Financial Economist
Branch Bank
Business
Classified Advertising
Commercial Sales
Contracts and Title
Credit and Collection
Credit Investigation
Department Manager
Display Manager
District
Division
Employment
Financial Institution
General
General Office

Accountants
Personnel
Consumer Credit
Trainee
Trust Company
Research
Bank Administrators
Proof Machines Manager
Chasier
Cost Estimator
Rate Analyst
Tax Espert
Internal Revenue Agent
Stock Broker
Loan Company
Trust Company

RESOURCE MATERIALS FOR FINANCE AND MANAGEMENT

CAREER BOOKLETS

A Career for You in a Life Insurance Co.
Iowa Assoc. of Life Underwriters
300 Chestnut St.
Atlantic, Iowa 50022

Accounting
Amer. Instit. of C.P.A.'s
666 Fifth Avenue
New York, New York 10019

Invitation to Achievement - Your Career in Management
American Management Assoc.
135 West 50th Street
New York, New York 10020

Your Career in Public Personnel Admin.
Public Personnel Assoc.
1313 East 60th Street
Chicago, Illinois 60650

Careers in Business
Public Relations Dept.
Rochester Instit. of Technology
Box 3404
Rochester, New York 14614

Careers in Insurance
Insurance Information Institute
110 William Street
New York, New York 10038

Your Future in Consumer Finance
Educational Scvs. Division
National Consumer Finance Assoc.
100 16th St., N.W.
Washington, D. C. 20036

Careers (Management)
Career Opportunities
Armstrong Cork Company
Lancaster, Pa. 17604

Should You Be A Banker?
Banking: A Career for Today and Tomorrow
Banking Education Committee
American Bankers Association
90 Park Avenue
New York, New York 10016

Should You Seek A Career in Life Insurance:
Should You Go Into Public Relations?
Should You Go Into Personnel Work?
New York Life Insurance Company
Career Information Service
Box 51, Madison Square Station
New York, New York 10010

TAPES

Curriculum Development Division
Office of Instructional Services
Georgia Department of Education

Advertising and You
Budgeting
Consumer Buying
Corporations
Credit
Government Expenditures

TAPES, con't

Insurance
The "Right-To-Work" Law
Taxes
Use of Banks

FILMSTRIPS

The Dollar Series
Association Films, Inc.
600 Madison Avenue
New York, New York 10022

Your World and Money
Money Management Institute
of Household Finance Corp.
Prudential Plaza
Chicago, Illinois 60610

Planning Your Career
Business Education Films
5113 16th Ave.
Brooklyn, New York 11204

Office Occupation
Stanley Bowmar Co., Inc.
12 Cleveland St.
Valhalla, New York 10595

Bookkeeping and You
Coronet Instructional Films
65 E. So. Water St.
Chicago, Illinois 60601 ($2.50)

Life Insurance Occupations
Carl F. Mahnke Prod.
215 E. Third St.
Des Moines, Iowa 60309

Fresh Laid Plans
State Dept. of Education
Atlanta, Georgia

Make Your Own Decision, Parts I & II
State Department of Education
Atlanta, Georgia

Using Books
McGraw-Hill ($8.00)

Credit and Loans
Federal Reserve Bank of Atlanta
104 Marietta St., N. W.
Atlanta, Georgia 30303

Individual in the Modern World
Assoc. Films Inc.
600 Madison Avenue
New York, New York

You're on the Team
Eastman Kodak Co.
Informational Films Div.
343 State St.
Rochester, New York 12608

Your Earning Power
Coronet Films
State Department of Education
Atlanta, Georgia

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Hodnett, Edward. Art of Working With People. New York: Harper and Brothers, 1959.

Kline, A. F. How to Use Role Playing Effectively. New York: Association Press, 1959.

Russon, Allien R. Business Behavior. Cincinnati: South-Western Publishing Company, 1964.

Wilson and Wright. Getting Along with People in Business. New York: Fund and Wagnalls Company, Inc., 1950.

_____ Dictionary of Occupational Titles. To identify some of the job titles for positions in management and finance.

_____ Occupational Handbook. To identify some of the jobs available in management and finance and the background of each.

Roe, Ann. The Psychology of Occupations. New York: John Wiley and Sons, Inc., 1956.

Super, Donald E. The Psychology of Careers. New York: Hayser, 1957.

Teletraining for Business Studies. American Telephone and Telegraph Company. 195 Broadway New York, New York 10007.

Banking: A Career for Today and Tomorrow. Banking Education Committee. The American Bankers Association. 90 Park Avenue, New York, New York, 10016.

Careers in Business. 1967. Five copies free. Public Relations Dept., Rochester Institute of Technology. Box 3404, Rochester, N.Y. 14614

Your Future in Consumer Finance. 1968. Education Service Division. Na. Consumer Finance Association. 1000 16th Street, N.W. Washington, D. C.

Careers in Insurance. 1968. Insurance Information Institute, 10 William St. New York, New York 10038.

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Invitation to Achievement. Your Career in Management. 1967, American Management Association. 135 West 50th Street, New York, N.Y. 10020.

Can I Be An Office Worker? 1968. Public Relations Staff. General Motors Building. 3044 West Grand Boulevard. Detroit, Michigan 48202.

Your Career in Public Personnel Administration. 1963. Public Personnel Association, 1313 East 60th Street. Chicago, Illinois 60650.

Invitation to Teaching. 1967. Association for Childhood Education International. 3615 Wisconsin Avenue, N.W. Washington, D. C. 20016

Herzfeld, Perry, Felter, Reynolds. Using Some Job Sources - A Career in the Modern Office. Gregg.

_____ You Said It. (Opportunity Knocks Series). Gregg.

Morrison. Getting the Right Job. Gregg.

Invitation to Achievement - Your Career in Management. American Management Association.

Occupational Index. Personnel Service, Inc., Jeffery, New Hampshire.

Occupations in Administrative Specializations. American Management Association. 135 W. 50th Street, New York, New York 10020

Managers and Officials. American Management Association. 135 W. 50th St., New York, New York 10020.

Hayyer, Carl F. So You Are Going To Make A Speech. Washington, D. C.: National Consumer Finance.

Developing Your Character. South-Western Publishing Company.

Personal Qualities for Job Success. South-Western Publishing Company.

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A Suggested Guide for Career Exploration

in

Marketing and Sales

An Eigth Grade Program

in

Business Education

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MINI-COURSE: MARKETING AND SALES

OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
1. Knowledge of Occupations Identify local resource areas for obtaining information about sales and marketing.	1. Check want ads in local newspapers, use map and telephone directory to select available businesses in local resource areas in sales and marketing. 2. Discuss current events pertaining to sales and marketing on local resource areas. 3. Make a list of local resource areas. Clarify.	1. Local newspaper, local and state maps, telephone directory.	1. Teacher will observe student discussion on local resources. 2. Make a list of businesses and tell what kind of business it is.
2. Identify marketing occupations in your community.	1. Class discussion: Students list on board different occupations. 2. Verify and expand list using D.O.T. group activity. 3. Using local Chamber of Commerce, classified directory make a list of businesses that have jobs in marketing (sales). Identify by telephone the number of jobs in the business.	1. D.O.T. 2. Nearest city 3. Chamber of Commerce Classified City Directory. 4. SRA Guidance Series, Junior Guidance Series 5. Encyclopedia of Careers	1. From a list of occupations, circle the ones which are in the field of marketing. Do the same for sales.
3. Prepare a tentative program of study which the students would like to use to gain knowledge of qualifications for a career in sales and marketing. (DT-2)	1. Students will make a file on "Planning a Career in Sales and Marketing." Brochures, pamphlets, articles from newspapers and magazines. 2. Counselor will speak and discuss with students vocational training at his level with respect to responsibilities of qualification to career.	1. Counselor 2. Sales and marketing career packages.	1. Teacher will observe: a. file b. notebook 2. Students made checklist for evaluating tapes.

OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
	3. Group project- make a marketing and sales notebook. File of vocabulary terms. 4. Identify qualifications needed in marketing and sales on tape of a specific job. 5. Occupational bee.		
4. Explore one job in marketing and one in sales. (DT-4)	1. From the list made in objectives 1-3 choose an occupation in marketing and one in sales. In a file folder, keep all information which you can find that relates to these two jobs. 2. Film 3. Interview and observe a person working in your occupational field. 4. Game - "What's My Line?" 5. Crossword puzzle.	1. N.Y. Life Series "Should You Be ---?" "Should You Go Into ---?" 2. Occupational Handbook. Local and Atlanta newspapers. Business magazines. 3. "Looking Ahead to a Career." 4. Teacher made puzzle.	1. Student will make a scrapbook containing all the information he has collected. A student committee will evaluate and make suggestions for improvement. 2. Final evaluations will be in a student-teacher conference. 3. Individual completion of 30 percent of puzzle.
5. Work Roles and Tasks To identify and develop group project on leadership. The student will act as group discussion member to show that he is able to contribute positively	1. View filmstrip on group work. 2. List weaknesses which need to be strengthened. 3. Prepare a questionnaire. Talk with resourceful person.	1. Filmstrip and record combination.	Teacher observation

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OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
to group effort and group goals in a work situation by comprising at times and exercising influence on group goals.			
6. Students will research job descriptions on one particular area of sales and will identify some of the qualifications needed for a possible career in that area.	1. Visit local businessmen. Talk with neighbors, friends, and other resourceful persons. Also D.E. students. 2. Prepare scrapbook.	1. Prepared file-DT-2 2. Prepared notebook-DT2 3. Handbook in Woman Workers. Zapoleon, Science Research Association.	1. Describe orally three careers in sales. 2. D.O.T. Local newspaper Talks with local business people in marketing and sales promotion and advertising retail merchandising.
7. View job descriptions in field of sales. (DT-6)	1. Read career guides for jobs available in sales. a. retail sales b. wholesale sales c. service sales 2. Listen to local news. Report all information heard concerning the selling of goods and services. 3. Look through Want Ads in local and area newspapers. Check for: job availability acquirements, benefits, salaries, etc.	1. Books Occupational Outlook Handbook, U.S. Dept. of Labor, Bureau of Labor Statistics. Your Job in Distribution. John A. Beaumont, Kathlee Gregg Div., McGraw-Hill Book Company. Careers: A share in the Creation of Man's Environment, Armstrong.	Matching quiz.

OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
	4. Set up a personal file of these materials. 5. Groups will display jobs available on bulletin board. 6. Teacher will explain vocabulary. 7. Listen to tapes on job descriptions in marketing.	Retail Salesmanship, F. E. Hartgler, Gregg Div., McGraw-Hill Book Company. Selling Fashion Apparel. Eleaner Wanty Mullikin, South-Western Publishing Co. Merchandising Mathematics. Edwin B. Piper, South-Western Pub. Co. 2. Bulletin board display- kinds of jobs and careers. 3. Teacher.	
8. Identify some of the qualifications needed for a possible career in your job.	1. Establish a file for keeping information on job requirements. 2. Collect ads and place in the file. 3. Interview someone in marketing and sales and find out their job requirements. 4. Write a want ad for a job in marketing and one for sales.	1. Local newspaper, Wall Street Journal, Atlanta Journal, etc. 2. Same as Objective 1, Learning Experiences 1 & 2. Note: Teacher should make a resource list from available library material.	1. Make a list in writing or on tape of six requirements for a job in marketing/sales. 2. List, in writing or on tape, six qualifications needed.
9. Identify duties of the job you explored. (DT-4)	1. Group brainstorming - make a list of all the duties that you can think of that were connected with the job you explored. 2. Class discussion - compare your group's list with the rest of the class.	1. Students	In a group, write a job description.

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OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
10. Identify the responsibilities with which student may be facing in choosing a career. (DT-3)	1. Interview someone in mktg/sales and ask him about his responsibilities. Compare your list with a group of students. Group will work up interview questions prior to the interview. 2. In a small group, observe someone on the job, take pictures for slides and develop a script.	1. Sales: Film - Dialogue With a Young Man." 2. Marketing: Teletraining - pp. 77-103; 120. 3. Sales: - pp. 106-116; 120	The teacher will evaluate student on an individual basis by discussing the responsibilities of a job.
11. Formulation of Career Hypothesis Identify what he can best do with respect to responsibilities and tasks in a career in marketing and sales. (DT-2)	1. Have students collect materials for a library to be used to help students understand responsibilities in selling and marketing. 2. Make a scrapbook showing the responsibilities of a worker in sales, and marketing. 3. Scramble game - from a list of given abilities and characteristics the student will choose those which apply to a career in sales and a career in marketing.	1. Marketing Project Activities. Richert, Stoner, Brown. 2. Film - "Selling as a Career." 3. Books - Should You Be a Salesman? Business in Sales Salesmanship	1. Teacher will observe scrapbook. 2. Multiple choice questionnaire.
12. Student will identify his work interests and how he thinks they can be related to a tentative career in marketing. (DT-6)	1. Write a brief on "My Summer Jobs" 2. Visit five departments in marketing - make a list of those persons at work who interest him most. 3. View film on conducting: retail businesses; wholesale businesses; service businesses.	1. Retail Salesmanship, A programmed text, F. E. Hartzter, Gregg Div. McGraw-Hill Co. 2. Films "Succeeding in Your Career" "Good Looks Here and Now" #3575, Modern Talking Pictures, Atlanta, Georgia. 3. Tape recorder	1. Summarize this work interest orally or written. 2. Observation of attitudes. 3. Observation of how well student can recall job description.

OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
	4. Discuss want ads: demands in marketing; location of job availability; work conditions. 5. Small group discussions: "How We Are Different" 6. Listen to tapes: consumer buying. 7. Small group discussion: tell what lead him to possible wanting to be a salesman. 8. "What's My Line" game: one student at a time will give characteristics of his job to a group of six students. These will try to guess his occupation. Team guessing will receive points. Group with most points will receive a reward. 9. Discuss his tentative job preferences orally. 10. Career day: each student will dress for a chosen job.	4. Tapes - Consumer Buying Catalog of Classroom Teaching, by Salesman State Dept., Ga. Film Catalog, Atlanta, Ga.	
13. Identify likes and dislikes of your tentative career. (DT-3)	1. Make a list of all the things you have heard about jobs that you liked and disliked. Apply these to your own possible career and find out more to see if they are true. 2. Interview someone in your career area to find out what he likes and/or dislikes about his job. 3. Make a chart showing your likes and dislikes.	Film: "Why Man Creates."	1. Record on tape what you like best and what you like least about a possible career in mktg/sales. Also give your reasons why. 2. List his likes and dislikes.

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OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
14. Student will identify reasons why he wants to be a salesperson. (DT-6)	1. Write a short theme: a. Why I want to be a salesperson. b. What I expect to learn about salespersons. 2. Group discussion a. current happenings b. immediate interests	1. Film: "The Hands That Feed You," 28 min. Morrison Cafeteria Cons. Ins. #2918 Modern Talking Picture Co. (Free-loan Films)	1. Observation of personal attitudes. 2. Student will tell why he wants to be a salesperson.
15. Worker Requirements Compare his own autobiography with his classmates to evaluate his own traits, abilities attitudes and psychological needs and express an appreciation of the value of these differences. (DT-I)	1. Prepare checklist of himself on job personality. One copy completed by a friend and another by a student. Compare. 2. "Tell It Like It Is" in small groups. Share their own traits, abilities, attitudes and psychological needs. 3. Make a checklist of improvements you would like to do to help yourselves. 4. View film "Personnal Qualitive for Job Success" 5. View filmstrip (selling) "Keys to Human Relations in Selling" 6. Make a list of his strong points and tell how they will help him in a possible career in mktg./sales.	1. Teacher explanations. Counselor recommendations. 2. Book 92 Rev. 1968 South-Western Pub. Co.	1. Write an autobiography. Complete Self-Analysis. 2. Rating Scale. Poster - "Desirable and Undesirable Traits"

OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
16. Evaluate his attitudes toward his relationship with classmates.	Use multiple choice checklist. Exchange checklists and compare.	Teacher explanations.	
17. Examine individual attitudes toward self and how these affect or influence his study of a career in mktg. or sales.	Exchange checklists that were made of self job personalities. Bulletin board display - "How do you Rate with your Fellow worker" Group discussion on unexpected situations (ex. "How do you feel or react when someone is unfriendly to you?")		Bulletin board display of "What makes Me the Lady or Man I want to be?"
18. Compare physical and mental health and how they may affect the work situation or how it may be affected by it. (DT-6)	1. Speaker from the Health Dept. a. health values b. means of improving c. physical condition d. mental condition. 2. Ask parents about their health condition (inborn traits, mental condition.) 3. Film: "Time for Living"	1. Speaker 2. School Counselor 3. Film: "Time for Living" 28 min. Modern Talking Picture Service, Atlanta, GA	1. Health check sheet observing: dress and attitude
19. Write five statements expressing how the talents and personality of a worker in marketing might qualify him for a career in marketing. (DT-I)	1. View a film - "Improve Your Personality" 2. Identify desirable and undesirable character traits. 3. Class discussions. 4. Student prepare case problems. 5. Identify right and wrong behavior.		1. Orally relate self to the role of worker. 2. Identify an honest act by writing one paragraph. (ex. The cab driver returns a valuable good to its owner.) 3. Discuss with classmates ways of getting along with others.

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OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
20. Identify his strong and weak points in terms of current life context, considering such factors as personal and parental aspiration and family background. (DT-6)	1. Package Deal a. Sell a dress to a person with an unpleasing attitude. b. Sell a car to a person. c. Sell a stove to an old lady. d. Orally discuss family background, topic: Tell It Like It Is. 2. Film: "Dialogue With a Young Man" 14 min. 3. Case problems. 4. Bulletin board displays.	1. Film "Dialogue With a Young Man" 14 min. Modern Talking Pictures Services, Atlanta, GA 2. Tape recorder - "Facts About Merchandise" Logan and Moon, Prentice Hall, pp. 231-33. 3. Film "Who Cares About Jamie?" 16 min. Modern Talking Pictures Services, Atlanta, GA	1. Observation: How student greets customer when making a sale. 2. Evaluate role playing.
21. Identify educational and vocational resources which will help him explore a career in sales and marketing. (DT-5)	Prepare a notebook project (career guide in which students will list local educational and vocational resources.)	Career Index Guide, job guide for young workers, company salesmen, employment agencies, Occupational Guide.	1. Observe notebook for: a. content b. material c. neatness d. form 2. Class discussion
22. Obtain information required for further educational training in the field of marketing and sales. (DT-5)	1. Resource person will speak and discuss the needs for educational training with students. 2. Field trips. 3. Students will present buzz sessions discussion learning packages from local businesses. 4. Have students listen to and discuss books pertaining to careers in sales and marketing. 5. List to and discuss tapes made by workers in marketing and sales.	Field trips, resource person, learning packages, book entitled Careers in Marketing and Sales.	1. Essay - Field trip experiences. 2. Observes student. 3. Discussion on resource person's talk.

OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
23. Identify his vocational abilities, interests and plans in your tentative career. (DT-6)	1. Read booklets, articles, etc. on tentative career. 2. Filmstrips 3. Make a collage or poster illustrating your tentative career. Try to express abilities, interests and plans. 4. Film and discussion on what your career might be like in the year 2000. 5. Sales - Discuss - What would happen if all stores closed?	Films: "Career in Business" "Invitation to Achievement" "You and Your Job" "Looking at Business Careers" "Succeeding in Your Career" Sales - "The World is Yours" "Talking of Tomorrow"	1. Give a five minute talk to the class about your tentative career. 2. Tell how your abilities and interests can be adapted to this career as well as any plans you might have.
24. Experiencing Work Roles Student will: Compare monetary and self satisfying value of two job classifications in Sales to aid him in choosing a tentative career in Sales for exploration. (Marketing DT-6)	1. Scrambler Game: a. Describe a job b. Point out person's position c. Explain what values are within the job. 2. Make a poster showing the Ideal Salesperson. 3. Occupational Beat Game - relate given clues to monetary or self satisfying values. After missing two or three, student takes his seat.	1. Retail Salesmanship, A Programmed Text, F. E. Hartzer, Gregg Division: McGraw-Hill. 2. Maps	1. LAP 2. Informal discussion 3. Short Essay: Choose a job and tell why you chose it.

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OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
25. The student will gather information to help him show the life-style he associates with his desired level of occupation. (DT-3)	1. Discuss with fellow classmates their ideas of the life-styles of people in various job positions. 2. Develop a questionnaire to be used to conduct a survey of what other students think are the life-styles of people in various positions. 3. Make a survey using questionnaire in 2-2. Compile data into your own list of what you do like or don't like about life-styles. 4. Draw a cartoon portraying your desired life-styles.	Film: "The Significance of You"	Through role playing, the student will project himself into what he thinks will be the future life-style of his desired level of occupation.
26. Develop or outline a work plan that can be used as a tool to produce effective work habits in marketing and sales. (DT-7)	1. Study 3-4 work plans of authors and local community managers. (Note: techniques in constructing an effective work plan) 2. View film - "Your Way to Success in Selling" 3. Construct a rough draft flexible outline that may be used as a guide toward constructing a work plan.	1. Resource persons in Marketing and Sales. 2. Book 92, Rev. 1968 South-Western Pub. Co.	Construct a work plan in a tentative job in Marketing and Sales.
27. Review the occupations in Mktg/Sales which provide him with self-involvement kinds of activity. (DT-7)	1. Visit local firms in Mktg./Sales 2. View a film, "Career in Marketing." 3. Buzz Session. (Discuss the film: identify own strengths and weaknesses).	1. Local Community. 2. D.O.T. Occupational Handbook 3. Film: "Career in Marketing." 4. Book 92, Rev. 1968 - Visual Aids for Business & Economics South-Western Pub. Co.	Scrapbook on jobs or occupations in Mktg./Sales that provide self-involvement kinds of activity.

OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
28. Identify the varying needs for personal independence according to the degree of supervision required in different occupations and work settings. (DT-7)	1. Observe employer and employee relationship. 2. View a film 3. Add to the suggestions given in the film that he might have besides the ones shown in the film. (class discussion)	1. Local community. 2. "Developing Self-Reliance" 3. Book 92, Rev. 1968, Visual Aids for Business & Economics.	1. Essay 2. Select the good reasons from among the poor reasons for personal independence on a checklist.
29. Identify three ways in which independence may be gained in Marketing and Sales. (DT-7)	1. View films "Personal Qualities for Job Success." 2. Observe others on the job. Suggest ways he would have or could have acted alone. 3. Dramatize "Miss Independent" and "Miss Dependent."	Book 92, Rev. 1968, Visual Aids for Business and Economics. Local community.	1. Short answer completions. 2. Content on bulletin board displays. 3. Given Case Problems, identify and improve the problems.
30. Recognize five needs for personal independence and tell how they may be met by different occupations and work settings. (DT-7)	1. Prepare a questionnaire of related questions for a need for working alone. Acquire among important persons in possible careers in Marketing and Sales. 2. Shop several stores to observe examples of working alone. 3. Give specific illustrations how personal independence of the ability to work alone can be an asset and make his job enjoyable.	1. Teacher explanation 2. Book - Getting the Right Job In Marketing (No. 4) 3. Community stores	List needs for personal independence and how they may be met by different occupations and work settings

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OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
31. Define and discuss five ethical situations which might confront workers in marketing and sales. (DT-7)	1. Pictoralize accepted morals of living by preparing a poster using cartoons. 2. Present a see and show activity of the right and wrong conduct and behavior.	Know Yourself, Webster, McGraw-Hill Book Company - Classroom reference.	Criticize and suggest means of improving case problems in Marketing and Sales.
32. Demonstrate an understanding of mktg./sales relative role in a job setting.	1. Group work - simulate an actual job performance. Either film it or make slides. Write a script to go along with the film or slides and tape the script. 2. (Sales) Shop stores to observe actual job performances.	Career in Marketing, Ch. 5 Career in Selling	1. Student participation in activity and a review of film and script. 2. Describe an actual job performance.
33. Be able to perform one duty connected with the job you explored. (DT-4)	Have a conference with student and let student decide what he wants to do. Make up a contract for the student to sign. Be sure he gives a complete data.		Evaluate completed project.
34. List his attitudes and abilities as they relate to marketing or sales.	1. View film - "Career in Marketing" 2. Read an article about the abilities and responsibilities needed in Marketing and Sales. 3. Visit with some resourceful person. 4. Collect information and pictures from newspapers to build up a file for a project.	Book 92, Visual Aids in Business & Economics. South-Western Pub. Co.	1. Write a report explaining how the talents and personality of a worker might qualify him for a career in Marketing or Sales. 2. Class discussion and student participation.

OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
35. Appraise through observation the special worth of work performed in different levels of mktg./ sales. (DT-6)	1. View film on Human Relations. 2. Play role of a farmer, play role of a Doctor, play role of a Teacher, and demonstrate what they sell. Dress appropriately for a day at work in a chosen career. 3. An activity will be taken from a box at random, each student taking one and telling if he would want to be in this area of selling, if so, why? if not why? 4. Make a poster of persons socializing on the job within his own Dept. 5. Watch film related to salesman and buyer. Film: "Succeeding in Your Career." 6. Role playing of a dealer selling a car.	1. Business Behavior, 3rd Ed. 2. Film: "Succeeding in Your Career," #64300 Calhoun Audio Visual Co., Atlanta, GA 3. Tape recorders, tape. 4. Local car dealer.	1. Observation 2. Role playing 3. Dress 4. Informal discussion of film. 5. Demonstration - student will talk to customer and make a complete sale correctly. 6. Personality sheet through observation.
36. Employment Opportunities Decide which factors (e.g. employment trends, easy job, family pull, etc) have most effect upon his decision for a tentative career. (Marketing DT-6)	1. Discuss with parents the occupational awareness as related to their present jobs. 2. Discuss with parents and other relatives what factors lead them to their present career. 3. Discuss present and future trends in Sales using Bureau of Statistics and Marketing Projections. 4. Film: "It's Your Decision."	1. Film: "It's Up To You" Gregg Division McGraw-Hill Margaret Andrews Ed. Div. 2. Film: "It's Your Decision" Part 1 & 2 Ga. Catalog, No. 9 State Dept. Atlanta, GA	Choose a job and tell why.

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OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
37. Identify the general level of employment or growth in his town as it relates to sales and mktg. (DT-5)	1. Invite resource person from Chamber of Commerce. 2. Make a chart of employment growth in sales and marketing. 3. Discuss how business growth affects sales and mktg.	Charts displaying growth of industry, resource person, pamphlets on the growth of sales.	Teacher will observe discussions on charts, resource person's talk and material from pamphlets.
38. Gather facts about technology and automation to discover if it will create a need for transferable skills. (DT-5)	1. Teacher explanation 2. Discuss current events relating to automation and technology. 3. View and discuss films 4. Resource person to discuss automation and technology effects on sales and marketing.	1. Teacher explanation 2. Current event pamphlets. 3. Film: "Careers in Selling" 4. Resource persons from community	Teacher will observe: a. class participation b. essay - written on resource person's talk.
40. Compare immediate rewards with long-term rewards at the two occupational levels which interest you most. (DT-3)	1. Interview persons at your two levels and find out what they have gained and what they hope to gain. 2. Talk to someone in personnel to find out the benefits, promotions, the future outlook, etc. in your interested occupation. 3. Read articles about job benefits and rewards.	"Behind Every Face - A Changing Person"	Write an article - "What is my Main Goal in Life." Be sure to bring out immediate rewards and long-term rewards.

OCCUPATIONS IN MARKETING AND SALES

MARKETING

1. Marketing Manager
2. Promotion Manager
3. Director of Sales
4. Manager Business Promotion
5. Manager of Sales
6. Manager, Advertising-Classified, Display, Local, National
7. Direct Mail Specialist
8. Sales Promotion
9. Brand and Product Development
10. Engineering and Pricing
11. Marketing Research
12. Statistics
13. Sample Department
14. Product or Merchandising Planning
15. Design and Package Development
16. Development of Themes and Patterns
17. Development of Cloth and Package
18. Market Determination
19. Product Determination (Planning, Development, Implementation)
20. Classification of Product Characteristics
21. Distribution Determinations - Establish
22. Strategy, planning procedure, retail and wholesale sources of distribution
23. Auxilary Marketing functions - Transporting, storage, standardization, grading, financing
24. Promotional (Advertising)
25. Price Determination
26. Managerial Determinations

MERCHANDISING

1. Department Head
2. Manager, Floor Manager
3. Sample Distributor - Field, Advertising Representative

SALES

1. Sales Manager
2. Secretary
3. Advertising Lay-out Manager
4. Advertising Salesman
5. Public Relations Man
6. Clerk-Typist
7. Classified-Ad Clerk
8. Cut Man
9. Sales Supervisor (Manager, representative, customer representative)
10. Insurance
11. Real Estate
12. Securities - Accounting Executive, Broker, Advisor
13. Industrial Relations
14. Business and Financial Service (Banking)
15. Property-rental
16. Radio and TV time-Accounting Executive, Sales Executive
17. Institutional
18. Transportation
19. Food (Vending)
20. Telephone (Sales representative; Commercial Representative, Sales Analysist)
21. Public Utilities
22. Hotel Services
23. Maintenance and Repair

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ADVERTISING

1. President
2. Vice-President of Creative Services, of Account Services, of Marketing Services, of Management and Finance
3. Fashion - Writers and Art Directors
4. Traffic: TV Production, Print Production
5. Accounting Supervisor
6. Media
7. Research
8. Sales Promotions
9. Office Management - Personnel
10. Accounting
11. Finance
12. Printing and Advertising
13. Signs and Displays
14. Services - Amusement and Recreation, Education courses, Moving Estimate
15. Salesmen and Salespersons, Commodities, Agriculture, livestock, farm products, food, beverages, grocery, meats
16. Textile, Textile Products and Apparel - Raw Materials, fabrics
17. Fashions (retail)
18. Leather Paper
19. Chemicals and Drugs (Pharmaceutical, Detail man, Service representative)
20. Cosmetics
21. Fuel
22. Appliances
23. Door-to-Door Sales
24. Routemen
25. Solicitors
26. Auctioneers
27. Demonstrators and Models

RESOURCE: Dictionary of Occupational Titles, 1965, Vol. III, United States Department of Labor, pp. 25-29, 163-64.

RESOURCE MATERIAL FOR MARKETING AND SALES

FILMS AND FILMSTRIPS

"A B C's of Getting a Job"
Eye Gate House, Inc.
146-01 Archer Ave.

"A Career For You (Selling"
South-Western Pub. Co.
Cincinnati, Ohio

"An Answer for Linda"
Southern Bell Tel. Co.

"Careers in Fashion Merchandising"
#3404 Modern Talking Pictures
714 Spring St., N.W.
Atlanta, GA 30308

"The Challenge of Change"
Southern Bell Tel. Co.

"The Challenge of Leadership"
South-Western Pub. Co.

"Communications: Prologue to Tomorrow"
Southern Bell Telephone Co.

"Developing Your Character"
South-Western Pub. Co.

"How to Give and Take Instructions"
South-Western Pub. Co.

"Keys to Human Relations in Selling"
South-Western Pub. Co.

"Looking Ahead to a Career"
Supt. of Documents
U.S. Government Printing Office
Washington, D. C. 20402

FILMS AND FILMSTRIPS con't

"Personal Qualities for Job Success"
South-Western Pub. Co.

"Rewarding Careers in a Dynamic Industry"
Modern Talking Pictures
714 Spring St., N.W.
Atlanta, GA 30308

"Selling as a Career"
South-Western Pub. Co.

"Talking of Tomorrow"
Southern Bell Tel. Co.

"The Voice of Your Business"
Southern Bell Tel. Co.

"The World is Yours" #1450
Modern Talking Pictures
714 Spring St., N.W.
Atlanta, GA 30308

"Decorating Unlimited"
Southern Bell Tel. Co.

"Dialogue With a Young Man - Career in Selling" #3694
Modern Talking Pictures

BOOKS, PAMPHLETS, ETC.

A career in the Modern Office (Set of 4)
Phyllis Morrison
Gregg Division
McGraw-Hill Book Co.
New York

Business Math/30 (p. 105-112)
Rosenberg
Gregg Division

Getting the Right Job
Morrison
Gregg Division

Opportunity Knocks Series
About Her
About Him
It's Up to You
The Job You Want
You Pay for It
You Said It
Gregg Division

Marketing in Your Community
Richert, Stoner, Brown
Gregg Division

Marketing Projects and Activities
Richert, Stoner, Brown
Gregg Division

Office Cashiering Practice Set
Archer, Stewart, Seufer
Gregg Division

Retail Salesmanship - A Programmed Text
F. E. Hartzler
Gregg Division

"Using Some Job Sources" - A Career in the Modern Office
Hertzfeld, Perry, Felter, Reynolds
Gregg Division

Advertising: A Career of Action and Variety for Exceptional Men & Women
American Association of Advertising Agencies
200 Park Avenue
New York, NY 10017

"Career Opportunities in Advertising"
Public Affairs Dept.
American Association of Advertising Agencies

Behind Every Face A Changing Person (Ch. 9)
Fane and Fane
Ginn and Company

BOOKS, PAMPHLETS, ETC., con't

"Can I Be an Office Worker?"
"Public Relations Staff"
General Motors Building
3044 W. Grand Blvd.
Detroit, Michigan 48202

Career Guidance Index
Careers
Largo, Fla.

Career Index
Chronicle Guidance Publications, Inc.
Moravia, N.Y.

Apex Supermarket #K276 (Business Project 6 Series)
South-Western Pub.ishing Co.
5101 Madison Road
Cincinnati, OH 45227

Applied Business Mathematics - Problems and Drills (p. 13-30)
Piper, Fairbank and Gruber
South-Western Pub. Co.

Business Project (6 Series)
K271 - Home Products - Retail Selling to Home
K272 - Star Baking Co. - Wholesale Bakery
K273 - General Insurance Agency - General Insurance Agency
K274 - Crown Jewelry & Appliance - Mart - Retail Credit Store
K275 - Community Dept. Store - Dept. Store
K276 - Apex Supermarket - Supermarket
South-Western Pub. Co.

How to Find and Apply for a Job
Helen J. Keily & R. G. Walters
South-Western Pub. Co.

Marketing Sales Promotion and Advertising (Text-Workbook)
Nolan and Warmke
South-Western Pub. Co.

Mathematics Skill Builder (p. 27 Making Change)
Gossage and Briggs
South-Western Pub. Co.

Merchandising Math
Edwin B. Piper
South-Western Pub. Co.

You and Your Job - Finding It, Getting It, Keeping it
Blackledge, Blackledge, Keily
South-Western Pub. Co.

"Careers - A Share in the Creation of Man's Environment"
Armstrong Co.
Atlanta, GA

"Careers in Business"
Public Relations Dept.
Rochester Institute of Technology
Box 3404
Rochester, NY 14614

"Careers in Insurance"
Insurance Information Institute
110 William St.
New York, NY 10038

"Careers in Retailing:
Public Relations Dept.
Rochester Institute of Technology
Box 3404
Rochester, NY 14614

Dictionary of Occupational Titles (DOT)
U. S. Dept. of Labor

"Invitation to Achievement - Your Career in Management"
American Management Association
135 W. 50th St.
New York, NY 10020

Managers & Officials
American Management Association

Occupations in Administrative Specializations
American Management Association

BOOKS, PAMPHLETS, ETC., con't

Job Guide for Young Workers
U. S. Employment Service
Washington, D. C.

Manufacturer's Salesmen
Supt. of Documents
Washington, D. C. 20402

Modern Marketing Strategy (MQ623)
Division of Surveys & Field Services
George Peabody College for Teachers
Nashville, TN 37203

Occupational Index
Personnel Services, Inc.
Jaffrey, New Hampshire

Occupational Outlook Handbook
U. S. Bureau of Labor Statistics
Washington, D. C.

"Purchasing as a Career"
National Association of Purchasing Management, Inc.
11 Part Place
New York, NY 10007

"Questions and Answers About Advertising"
Division of Surveys and Field Services

Salesmen and Saleswomen in Retail Stores
Supt. of Documents
Washington, D. C. 20402

Salesmen in Wholesale Trade
Supt. of Documents
Washington, D. C. 20402

There is a whole series of these:
"Should You Be A Salesman?"
"Should You Go Into Retailing?"
"Should You Go Into Advertising?"
"Should You Etc., etc."
Career Information Services
New York Life Insurance Co.
Box 51, Madison Square Station
New York, NY 10010

"So You Are Going to Make a Speech"
Carl F. Hawyer
National Consumer Finance
1000 16th St., N.W.
Washington 6, D. C.

The Story of Checks
Federal Reserve Bank of New York
Public Information Dept.
33 Liberty Street
New York, NY 10045

The Successful Business Worker
Dorthy Slater

Teletraining for Business
Southern Bell Telephone Company

"Your Career in Art"
Department of Public Information
Philadelphia College of Art
Broad & Pine Streets
Philadelphia, PA 19102

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A Suggested Guide for Career Exploration

in

Data Processing

An Eigth Grade Program

in

Business Education

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MINI-COURSE: DATA PROCESSING

OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
1. Identify in writing or orally four or more areas in data processing which may offer satisfying work settings.	1. a. Use library to look up four areas in data processing in D.O.T. book and Occupational Handbook. Use Occupational Briefs. b. Group discussion of the areas of data processing that were identified by the student. c. Film on careers in data processing. d. Use slides or photographs to show various work settings--some of these may be made by the student. e. Fill in a crossword puzzle concerning the briefs. f. See LAP "Punched Card Data Processing" (Downing)	1. a. Books Dictionary of Occupational Titles Chronicle of Occupational Briefs Occupational Outlook Handbook Encyclopedia of Careers b. Films "Data Processing: Introductory Principles" "Data Processing Programming - The Key Punch" State Dept. of Education. c. Field trip Bank in the community. Speaker from a company that uses data processing equipment. d. group discussion	1. Identify with your partner a minimum of four jobs in data processing that you found in the source books that appealed to you most and tell why.

OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
2. Examine the many kinds of personal interests that a few jobs in data processing satisfy (likes to work alone, with people, outdoors, work with data).	2. a. Have students prepare questions to be asked of the speaker. b. Have students type a letter inviting speaker and then type a note as a follow-up. c. Students will express their understanding of what the speaker talked about in discussion and then write and type a short news letter on his speech. d. LAP-"Manual Data Processing" e. Teacher explain by illustration on chalkboard what a collage is. f. Have a group of students make a collage to illustrate as many jobs available as they can. g. Keep files or career notebook on each job identified in research and class activity. h. Crossword puzzle using definition of job titles. i. Fill in answers to questions about interests, likes, dislikes, hobbies, (questions will be asked by using a tape recorder, teacher prepared). j. write or call person to come in and talk about his interests and how data processing has satisfied them. Speaker will tell why he chose data processing profession.	2. a. Books D.O.T. Occupational Handbook Encyclopedia of Careers b. Interest test guides Personality checkup General office problems Role playing Skit written and acted by students showing how a job in D.P. has satisfied many of their needs and interests.	2. a. Student evaluation of a collage (style, color, content, neatness, creativeness). b. Students will select the best 2-5 for display in the halls. (Individual or group activity). c. Student will have to get all of crossword puzzle correct. d. Class participation--skit. e. Teacher and class evaluate the thank you notes according to style, content, grammar, etc.

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OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
	k. Have speaker answer some questions prepared by the students; some students can see the relationship between his answers and their answers. l. Students will write the speaker thank you notes (type). m. Students will choose best written thank you note to mail. Students will express their understanding of what the speaker talked about by typing a short news letter.		

OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
3. Student compares with other students how his aptitudes relate to the occupations in data processing.	3. a. List the varied abilities and aptitudes for employees in data processing field. For example, manual work ability, problem solving ability, etc. b. List some of your abilities and aptitudes that would be similar to the abilities and aptitudes of the employees. Maybe your ability is not as advanced as theirs but you still have it to some degree. Students will connect the abilities to the respective occupations on a scrap book by matching 10 abilities and aptitudes to occupations in data processing. Show film: "Computer Revolution." LAP: "Mechanical Data Processing"	3. a. Book Fundamentals of Data Processing. Southwestern Pub. Co. b. See LAP on "Area Interest and Abilities in Data Processing." c. Case study-designed by teacher-taped d. Film "Computer Revolution" State Department of Education. e. One person from each class interviews someone from another class.	3. a. The list of teacher/student evaluation and abilities. b. Teacher/student evaluation. The list of 5 abilities and aptitudes in field of data processing for a career. c. Teacher evaluation of prepared interview. d. Student from each group discusses interview he conducted. e. See LAP

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OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
4. Student will examine data processing materials.	4. a. Students will examine packets containing various data processing materials (punch cards, checks, bills, punch tape, discs, credit cards). b. Show a film on data processing equipment and materials and have students discuss materials shown. c. Students will type name, address, or similar data using typewriter simulated key punch and then code the card. d. Student will read a punched IBM card. e. Students will go on a field trip to view a key punch machine and verifier. f. Trip to an Electric Membership Corporation or any Industrial Corporation to view work done manually and work done with machines.	4. a. Films "Data Processing: Printing Card Punch" "Data Processing: The Sorter" "Data Processing: Programming the Key Punch" b. Books/transparencies The Business Curriculum by John C. Roman. Southwestern Pub. Co. Effective Secretarial Practices by Beamer, Hanna, Popham. Southwestern Pub. Co., pp. 437-458. Computer Center 3M Transparencies Processing.	4. a. Student will have to read a punched card. b. The students will have to design 3 fields on a punch card.

OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
5. Describe occupations of interest in data processing through use of occupation literature and contacts with workers.	5. a. Visit library and counselor's office to obtain information on careers in data processing. b. Look through magazines, newspapers, books, booklets, room library to decorate bulletin board (in collage form). c. Have speaker come to classroom. d. Construct a work wheel showing occupations. e. Write thank you letters to speaker. f. Write or telephone a person in data processing on occupations of interest and ask him to fill out a questionnaire designed by students on jobs, duties, salary, education, personality, and worker traits.	5. a. General RecordKeeping b. "You and Your Job" c. Speaker from available business using data processing. d. Eye Gate House Jamaica, New York. Ask for Catalog (or counselor may have one).	5. a. Participate in class discussion, and complete questionnaire. Check for content, grammar, spelling. b. Students list 5 jobs in field of data processing. Number completeness, additional information, and creativeness.

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OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
6. Students will observe occupational and work settings and assume responsibility for seeking career advice given by others (i.e. employers, employees, personnel managers).	6. a. Have student make a field trip at beginning of unit to a company using data processing. b. If possible break class into small groups and show different sections of the company, and then have each group tell what they saw and did. c. Students will have a list of possible questions to ask employees. d. Tape conversations with several employees to play back at later dates. e. Students answer questions on a questionnaire given to them after returning from their field trip. f. Write thank you notes. g. Take slides of people on the job and students simulating the job. h. Talk to employers, employees and ask them to compare their job today as ten years ago. (Who holds jobs related to or in the field of data processing Ask each person about present responsibilities on the job. Ask administrative person to tell how data processing might be ten years from now or in the year 2000; tape for class use.	6. a. Maps Develop city or area map (may be done in Industrial Arts from plyboard and wood burning). Let students show location of jobs observed. b. Film "Data Processing: Introductory Principles." c. Resource persons Available person involved in the area of data processing. Business in community, banking, finance, school, and college, technical school. d. Books D.O.T. and Occ. Outlook Handbook.	6. a. The questionnaire filled in will be the basis for evaluation. b. Students fill in answers to questions they designed on the job change (past & present) obtained from the person contracted in data processing. c. Teacher evaluates career ladder and career wheels completed by the students according to neatness, completeness, and creativeness.

OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
7. Students will perform on the key punch tandems as part of working in a data processing work setting. 8. Student will make a tentative choice of studying one job in data processing and prepare a written report on tentative job choice.	i. Make career ladder and career wheels. j. LAP: "The Career of a Key Punch Operator." 7. a. Teacher will discuss and demonstrate how to set key punch tandems and work on them. b. Students will use LAP: "How To Use a Key Punch Tandem." 8. a. Gather as much information as possible from newspapers, films etc. b. Construct a simple poster illustrating something about the job they chose. c. As each student finishes, let him tape the information on his area and the reason he chose it. d. Play the tape back and let entire group hear each other's reasons. e. Students will write group report based on information from various media, personal experience, contact with employees, etc., on a particular job. Report will not be more than five pages in length. Students should use some type of visual aid in oral report of 3-5 min. f. See quizzes on film in LAP: "How To Use The Key Punch Tandems."	7. See LAP: "How To Use Key Punch Tandem." 8. Books Effective Secretarial Practices. pp. 437-458. The Business Curriculum.	7. Use evaluation in LAP. 8. Report will be evaluated by teacher and students according to content, delivery, visual aid style, and effort.

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OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
	g. Keep a list on the bulletin board showing the times they see D.P. in T.V. programs, (i.e. Hawaii Five-O to find all people in files with "certain characteristics" who become possible suspects and are ruled out in arrests. h. Use LAP: "Punched-Card D.P."		

OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
9. Students will perform with a worker in an occupational environment as part of his orientation and introduction into the world of data processing.	9. a. Students will work in actual setting for one to three hours. b. Students will keep a log of everything he does while performing this work activity or tape a summary of his activities. c. Students will discuss orally in small groups their experiences in this work setting. d. Students will bring his job file up to date after work experience. e. Students will make a chart of pro and con activities (with the worker) in an occupational environment and tell whether he might like to do this job in conclusion. f. Some students will take slides or snapshots of businesses in which they perform their work activity and show them to class with a two or three sentence dialogue about each slide. g. Interview worker in the data processing field. Students write questions before going to interview. h. (1) write a paper based on what was learned from the interview. (2) circular discussion of trip.	9. a. Films "Man and Computer: A Perspective Modern Talking Picture." "Computer Revolution." State Dept. of Education. b. Sample chart developed by teacher for key punch job in data processing. c. Field trip d. Films "Writing a Research Paper." Interlocking with English paper, relating to C.E. in D.P. "Writing a Report." State Dept. of Education.	9. a. Teacher observation. b. Teacher emphasis on completeness, detail, discussion, neatness, effort, content & logic, accuracy and delivery. c. Let students evaluate. d. Questionnaire, evaluate paper, completeness, detail on interview. e. Note participation in class discussion--field trip. f. Check paper for style, grammar, spelling.

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OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
10. Identify and evaluate factors which may affect his career exploration decision in the business field (i.e. work experience, employment traits, easy job, family, full job training).	i. Explain job file: How? Why? What? 10. a. Current events concerning data processing. b. Conduct a survey, training & education in data processing. c. Use materials obtained from previous companies visited. d. Prepare a chart or table showing the different levels of education required for different jobs in data processing. e. Student will study and clip out ads in newspapers on data processing. "Dial a Job." f. Students will write up his own opinion using all information he has gathered on quality of education, job training, and work experience in data processing. May illustrate with a chart.	10. a. Newspapers Atlanta Journal or Atlanta Constitution. b. News magazines Time, Life, Newsweek, U. S. News and World Report, Macon Telegraph and Macon News. c. Books Dictionary of Occupational Titles Occupational Outlook Handbook d. Ask in available businesses using data processing equipment, etc. e. Career booklets.	10. a. Teacher evaluated chart completed by students. b. Teacher and student work done on training and work experience information. c. Work done judged on content, completeness & neatness.

OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
11. Plan educational steps for a possible career in data processing. 12. Participate in group discussions that lead to further understanding of education and vocational resources of the community.	11. a. In identifying how much education a person needs in the different jobs of data processing, list what courses in high school would be beneficial to a career in data processing and place in file. List the colleges, technical schools, business schools, etc., that are available in your area where you could pursue a career in data processing and place in your life. b. Take short questionnaire (written by teacher and students) to businesses in geographical area on data processing. After finding out those companies that use data processing, assign different companies to unit to gather information through writing, visits, etc. 12. a. Share information & materials orally that you obtained from different companies in the community. b. Students list which companies or jobs interested them the most and then list and tell why.	11. a. See LABs on educational training & for employment traits for jobs in data processing. b. Curriculum from county, high school, and dictionaries. c. Book Dictionary of Colleges and Universities d. Questionnaire prepared by class. e. Field trip to data processing firm. f. Light bill, phone bill, gas bill, check, charge cards, etc. 12. Light bill, gas bill, phone bill, charge cards, etc. AND Materials & information gathered from companies.	11. a. Completion of file. b. Evaluate questionnaire. c. Evaluate each unit on information gathered. d. Evaluation by students: neatness, creativity, and learning aspects. 12. Students select at least 10 jobs in data processing out of a list of 20 jobs.

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OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
13. Describe social roles and skills required for successful performance in a job in data processing.	13. Call or write speaker to make appointment. a. Speaker will come in and tell what skills are required for jobs in data processing. b. Student will list as many different social roles as they can think of that a worker is required to do in different jobs in data processing. c. A class discussion will follow and the class will determine if these roles are good or bad. d. Create role playing in groups using the following: gas station, bank, department store, utilities, and companies using some form of data processing. e. Write a want ad for their tentative job choice in data processing, include training, experience, salary, fringe benefits, etc.	13. Culminating activity--speaker who is an authority in data processing field.	13. Student will orally be able to explain one skill and how it is used.

OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
14. Identify the varying needs for personal independence according to the degree of supervision required in the different occupations & work settings. 15. Demonstrate his ability to succeed at different levels in the classroom situation.	14. a. Student write a one page report on "How Much Supervision Can I Give or Take." b. Debate on degree of supervision. c. Role playing or skit on "Supervision On The Job." d. Tape an interview with a key punch operator and an office manager finding out what they feel is a good or bad supervisor. Only two or three students will do this. 15. Students in groups of four will discuss orally and then type the pros and cons of their chosen exploration and explain whether or not they have benefited from it.	14. a. Film "You and Your Job." b. Book General RecordKeeping. 15. Books D.O.T. Occupational Outlook Handbook	14. a. Teacher evaluation of one page report. b. Students evaluate each group debate. c. Teacher observation. 15. a. Teacher observation. b. The completion of the paper on the good and bad things on them.

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OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
16. Describe the contribution of data processing to society and demonstrate and/or describe how he can contribute to a society and a producer.	16. a. List as many ways as you can that data processing has benefited our society. b. Discuss orally in small groups what it would be like without data processing and begin to think of a skit on what it would be like without any data processing. c. Have a group of students create a skit showing how to do a job if there was no data processing. d. Show graphically how a D.P. job interrelates the community. e. See film. f. Compare orally how our society would operate without data processing. g. Bring in punch cards found in the home or community and tell how these cards are used.	16. a. Film "Computer Revolution." b. Booklet "Yes, No...One, Zero." c. IBM punched card, visual aid, phone bill, light bill gas bill, credit card, etc. Gas station, bank, department store, utilities and companies.	16. a. Evaluate graphics and have students select and post the best five. b. Evaluate on oral presentation. c. Evaluate students presentation either orally or in writing. d. Teacher evaluation of role playing. e. Students and teacher evaluate want ad.

OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
17. Compare a small business in your community that uses data processing to the time it did not use data processing. 18. Describe ways in which he can express himself through data processing.	17. a. Student will draw a cartoon showing an office without data processing. b. Student will draw a cartoon showing an office with data processing. c. Student will compose a checklist of things that could not be done without data processing. d. Student will contact the manager of a small business and arrange for an interview. e. Student will interview manager and find out how data processing has changed his business by using student/teacher prepared questionnaire. f. Thank you note will be written by person who conducts the interview. 18. a. Write an article for school or local newspaper about career exploration of data processing. b. General class discussion on how he feels he can express himself through data processing.	18. Book English the Easy Way by Schacter, pp. 159-168.	17. a. Completion of checklist will be basis for evaluation. b. Completion of questionnaire by student. 18. Evaluate article written for school paper. a. response to article. b. how well written. NOTE: To help students build a vocabulary and get a better understanding about computers, use booklet, "Yes, No...One, Zero" which is published by American Petroleum Institute, 1801 K Street N:W. Washington, D. C. 20006. It is free.

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DATA PROCESSING

JOB POSSIBILITIES*

Auxiliary Equipment Operator
Card-to-tape Converter
Coder
Console Operator
Control Clerk
Data-Converting Machine Operator
Data-Change Clerk
Data-Clerk
Data-Examination Clerk
Data Typist
Equipment Operator
Data-Reduction Technician
High Speed Printer Operator
Management Analyst
Maintenance Technician
Programmer
Punched-Cards Method Analyst
Proof Operator
Off-set Operator
Supervisor of Systems
Sorter-Reader Operator
Scientific Programmer
Systems Analyst
Tab Equipment Supervisor
Tab Equipment Operator
Tape-to-card Converter Operator
Tabulating Record Control Clerk
Teletype Operator
Tape Librarian
Unit Equipment Operators
Verifier Operator and Key-Punch

Other jobs involved with data processing:
Clerical Worker
Research and Engineering
Secretarial and Stenographic
Mimeograph Operator
Receptionist
Service Engineer

*Sources:

Adaline Jones, Dissertation "A Survey To Determine The Knowledge and Skills Needed by Clerical Workers in First-Level Entry Occupations in Digital Computer Installations."

A High School Orientation Course In Data Processing, South-Western Monograph in Business and Economic Education. (No. 114)

Directory of Occupational Titles

BIBLIOGRAPHY

Data Processing

BOOKS

The Business Curriculum
John Roman
South-Western Publishing Company
Cincinnati, Ohio 45227

Business Math, Rosenburg
Skill Builder, 30
Introducing the Mathematics of Data Processing

Clerical Record Keeping
Baron, Steinfeld
Unit 3--p. 312-372
South-Western Publishing Company

Computers and How They Work
Edward J. Laurie
South-Western Publishing Company

Effective Secretarial Practices
Beamer, Hanna, Popham -- p. 437-458
South-Western Publishing Company

General Recordkeeping
Huffman, Stewart, Schneider
Chapter 11 - Recordkeeping and Automation--p. 261-279
Gregg Division
McGraw-Hill Book Company
Dallas, Texas

Let ERMA Do It, Woodbury
Harcourt, Brace, and World
New York, N. Y.

Personal Typewriting for Junior High School
South-Western Publishing Company

Teacher Should Work Through Introduction to Automated Data Processing (Practice Set) South-Western Publishing Company

BOOKS, PAMPHLETS

A High School Orientation Course in Data Processing
James F. Wenner No. 114
South-Western Publishing Company

Automation
Federal Reserve Bank of New York
New York, N. Y.

Can I Be a Mathematician?
Public Relations Staff
General Motors Building
3044 West Grand Boulevard
Detroit, Michigan 48202

Clerical Payroll Procedures
Pendery and Fuller
South-Western Publishing Company

Computers, William R. Corliss
United States Atomic Energy Commission
Division of Technical Information
Library of Congress Catalog Card No. 66-1907
Washington, D. C.

BOOKS, PAMPHLETS-con't

Electronic Computer Programming
American Federation of Information Processing Societies
345 East 47th Street
New York, N. Y. 10017

Electronics Training in Your Community
Industry Advisory Groups
Electronics Industries Associations
Service Coordinator
2001 Eye Street, N.W.

Engineering Technology Careers
National Council of Technical Schools
1507 M Street, N.W.
Washington, D. C. 20005

English the Easy Way
Schacter -- 3rd Edition
South-Western Publishing Company

Free Learning Materials for Classroom Use
Wagner and Mark $1.50
State College of Iowa
Cedar Falls, Iowa

Management Information and Computer Science
Armstrong Cork Company
College Relations Department
Lancaster, Pa. 17604

Preserving the Individual in an Age of Automation
Connecticut Mutual Live Insurance
Hartford, Connecticut

Programs -- Southern Bell
Films only -- 529-8611

Reference Manual for Office Personnel 5th Edition
South-Western Publishing Company

So You're Going to Make a Speech
Carl P. Harver
National Consumer Finance Assoc.
1000 Sixteenth Street, N.W.
Washington, D. C.

The Story of Checks
Federal Reserve Bank of N. Y.
33 Liberty Street
New York, N. Y. 10045

What Employees Want
James Worthy $.50
Science Research Association, Inc.
228 South Wabash Avenue
Chicago, Ill.

What is Data Processing?
National Cash Register Co.
Dayton, Ohio 45409 $.50

FILMS

A Better World - - B
Modern Talking Pictures Service
1212 Avenue of the Americas
New York, N. Y. 10036

Automation in a Wisconsin Community
The University of Wisconsin
1155 Observatory Drive
Madison, Wisconsin 53706

Automation: What It Is and What It Does
Coronet Instructional Films
obtain through school library

Careers in Business Data Processing-16
Division of Cinema
Film Distribution Section
University of Southern California
University Park Rental $7
Los Angeles, Calif. 90007

FILMS-con't

Impulse 90
Modern Talking Picture Service
714 Spring Street, N.W.
Atlanta, Ga. 30308
(404) 875-5666

Machines That Think
AEC Headquarters Film Library
Division of Public Information
U. S. Atomic Energy Commission
Washington, D. C. 20545

The Magic Window--20
IBM Film Activities
Department of Information
590 Madison Avenue
New York, N. Y. 10022

Man and Computer: A Perspective-20
Modern Talking Pictures Service
1212 Avenue of the Americas
New York, N. Y. 10036

Systems--14
Modern Talking Pictures Service
1212 Avenue of the Americas
New York, N. Y. 10036

Technology and You--13
University of Michigan
Ann Arbor, Michigan

Using Books
Gregg Publishing Company
Dallas, Texas $8.50

What Do You Want--20
UNIVAC
Division of Sperry Rand
315 Park Avenue
New York, N. Y. 10010

Writing a Research Paper
Jam Handy
Learning to Study Series $4.75

FILMSTRIPS

Automation in Today's Modern Office
Friden, Inc.
2350 Washington Avenue
San Leandra, Calif. 94577

Basic Data Processing
Friden, Inc.

What's In Your Future?
Sun Life Assurance Company of Canada
One North LaSalle Street
Chicago, Ill. 60602

Visual Aids for Business and Economic Education No. 92
South-Western Publishing Company

You and Your Job
Blackledge, Blackledge, Keily
South-Western Publishing Company

~~Yourself and Your Job~~
Classroom Teaching Tapes
More About Choosing Your Job
A-V Unit
Ga. Dept. of Education
Atlanta, Ga. 15788

MISC.

19' x 40' Chart
IBM Punched Card Visual Aid
South-Western Publishing Company

Your New 1970 Catalog for Audio Aids
Western Tape
Division of Educational Products Company
2273 Middlefield Way
Mountain View, Calif. 94040

Cardiac Practice Set
Bell Telephone Laboratories
Research and Development
Unit of the Bell System

Automation Office Practice Set
South-Western Publishing Company

Key Punch Training Course
Practice Set
South-Western Publishing Company

Sorter and Tabulator Training
Practice Set
South-Western Publishing Company

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PUBLICATION DATE: 30JUN72

TITLE: A CURRICULUM GUIDE FOR A CAREER EXPLORATION PROGRAM IN THE MIDDLE/JUNIOR HIGH SCHOOLS OF GEORGIA FOR HOME ECONOMICS EDUCATION.

DESCRIPTOR: *CURRICULUM GUIDES; *CAREER EDUCATION; *HOME ECONOMICS EDUCATION; *GRADE 8

IDENTIFIER: GEORGIA; CAREER EXPLORATION

EDRS PRICE: MF AVAILABLE IN VT-ERIC SET.

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ABSTRACT: THIS MINI-COURSE GUIDE FOR CAREER EXPLORATION IN HOME ECONOMICS EDUCATION WAS DESIGNED FOR USE WITH GRADE 8 BOYS AND GIRLS. THE DOCUMENT CONTAINS SUGGESTED GUIDES FOR FOOD AND NUTRITION, CLOTHING AND TEXTILES, FAMILY AND CHILD DEVELOPMENT, AND HOUSING, MANAGEMENT, AND HEALTH. EACH AREA IS ORGANIZED BY OBJECTIVES, LEARNING EXPERIENCES, INSTITUTIONAL RESOURCES, AND SUGGESTED EVALUATIONS. A LIST OF RESOURCES FOLLOWS EACH GUIDE. (LJ)

SPONSORING AGENCY NAME: GEORGIA STATE DEPT. OF EDUCATION, ATLANTA. DIV. OF VOCATIONAL EDUCATION.; GEORGIA STATE UNIV., ATLANTA.

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A CURRICULUM GUIDE FOR A CAREER EXPLORATION PROGRAM IN THE MIDDLE/JUNIOR HIGH SCHOOLS OF GEORGIA FOR HOME ECONOMICS EDUCATION

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Georgia State Department of Education
Jack P. Nix
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Atlanta, Georgia

June 30, 1972

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Preface

The mini-course guides for the career exploration program in Agriculture, Business, Home Economics and Industrial Arts were developed by participants in an institute sponsored by the Division of Vocational Education at the University of Georgia, from June 14 to July 2, 1971.

Twenty home economics teachers were enrolled in the institute under the direction of Miss Mary Jim Combs, Home Economics Teacher Educator, University of Georgia, assisted by Mrs. Marguerite Smallwood and Mrs. Olivia Newton, Home Economics Supervisors, State Department of Education. The materials developed were designed for use with eighth grade boys and girls. During the 1971-72 school year the guides were revised by teachers enrolled in an internship under the direction of Miss Combs. It is intended that teachers and students adapt the suggested experiences to suit their particular situation. Teachers participating in the Home Economics section of the Career Exploration Institute were:

Becky Jo Baggett
Emma Brown
Maggie Canty
Bertell Cook
Rose Gee
Miriam La June Griffin
Jamie Jackson
Linda Jones
Anna Louise Law
Lizzie Mae Lee
Rita Marable *
Vanette McKinney *
Susan Morrill *
Edell Raburn
Cathy Robinson
Eliza Simmons
Lillie Stansell *
Clara Swinson *
Gwen White *
Jacqueline Williams

* Teachers who also participated in the internship and revision of the guides.

The Career Exploration Program was developed to provide adolescent youth with knowledge and experiences that enable them to be aware of various career opportunities and develop tentative plans to accomplish career goals. An articulated and sequential program is needed to give students the opportunity to accomplish career tasks according to their own individual physical, social, and intellectual development. Students should be given opportunities to investigate and analyze a wide range of occupational roles and work tasks with respect to their own individual characteristics, abilities, and interests. Learning activities should be designed to provide live and simulated career exploration experiences in broad families of occupations. Specifically, the program should allow students to accomplish these tasks or dimensions of career development:[1]

Understanding of Self-Characteristics: From recognition of likes and dislikes to the development of personal characteristics appropriate for a given occupation.

Occupational Areas: From recognition of observable jobs in the community to acquiring training for and entrance into a chosen field.

Educational Avenues: From recognition of the relationship between subject matter and observable community jobs to acquiring education necessary for entrance into a chosen field.

Educational and Vocational Decisions: From recognition of factors that influence decision-making to pursuing a career.

Economic and Social Values of Work: From recognition of the economic and social contribution of parents' occupations to the selection of an appropriate occupation and work setting.

Psychological and Sociological Meaning of Work: From expressing a positive attitude toward self, associates, and school to purposeful involvement in work and work-related activities.

---

[1]Gene Bottoms and George L. O'Kelley, "Vocational Education as a Developmental Process," American Vocational Journal, 46: 21-24, March, 1971.

The career exploration program is organized to accommodate, and be compatible with existing programs. A three-year program is suggested for the middle/junior high school to allow students to be initially exposed to broad career areas in the first year, explore careers related to industrial arts, home economics, business and agriculture the second, and receive exploratory experiences in specific occupational families during the third year.

The first-year approach is based upon the existing "Program of Education and Career Exploration" which is recommended for the seventh grade. The organization of this program would provide students with an initial exposure to a wide range of career opportunities in the areas of business, service, outdoors, technology, organizations, and expression of ideas. Students would select several areas and be placed in occupational settings within the local community to observe or participate in the performance of various work roles. Upon completion of the observation or participation phase, students would return to a classroom and discuss their experiences in terms of the duties performed, competencies needed, education required, and salaries earned. As a result of these experiences, students could begin to make tentative choices of possible career options in terms of their interests, abilities, and self-concept.

During the eighth grade or second year of the program, students could select several occupational families for further exploration that are related to the areas of interest initially investigated during the first year. Opportunities would be provided for students to enroll in a series of

"mini-courses" that would be offered during each quarter of an academic year as shown in Figure 1. Learning experiences of the program would emphasize occupational role playing by students in a simulated work environment. Activities such as constructing small structures, preparing and serving food, distributing and selling a product, or land-scaping a portion of the school campus would enable students to examine various work roles and acquire manipulative skills and knowledge related to the occupational area. The subject areas of mathematics, science, social studies and English should be correlated with the learning activities of the programs. Instructional teams could be formulated which would interlock the curriculum and enable students to make application of the concepts and principles in tangible learning situations.

The third year program would allow students to select a single occupational area for further investigation and exploration. Occupational families related to the instructional areas of industrial arts, home economics, business, and agricultural education would enable students to obtain further development of attitudes, skills and knowledge needed to make further career decisions.

The success of the career exploration program will be dependent upon the cooperation and support of the local community, school administration, and teachers. Provisions must be made for business leaders in the community to participate in supervised occupational experiences. Administrators and guidance personnel must develop flexible scheduling systems that enable students to select and obtain experiences in broad families of

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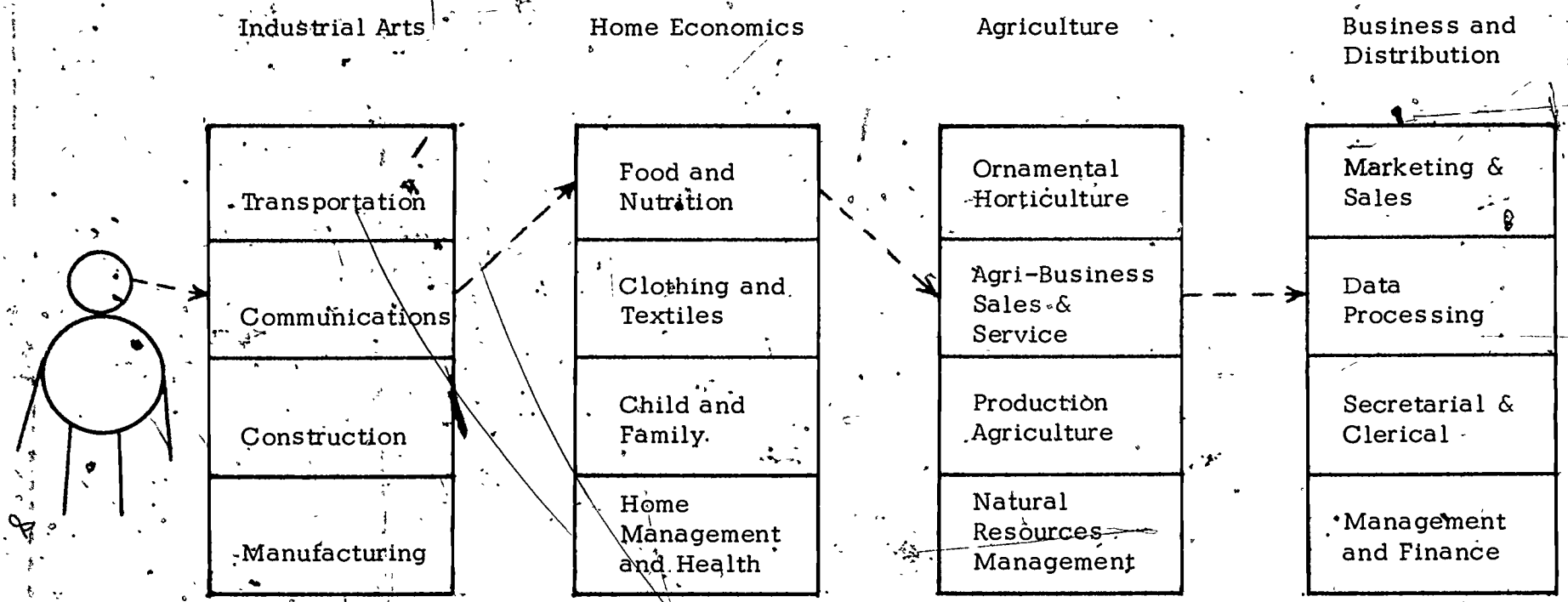

Figure 1. Mini-Courses for an Eighth Grade Career Exploration Program.

occupations. Methods should be developed that allow teachers to plan and implement instruction on a team basis which will correlate and interlock instructional content and learning activities.

In summary, the proposed career exploration program should provide a method whereby all students may be exposed to a wide range of available career opportunities. Student involvement in actual and simulated occupational role playing may enable young people to obtain experiences which are purposeful and beneficial in selecting and planning for a career of their choice. It is anticipated that the program will enable young people to obtain the knowledge and experience base which will allow them to intelligently choose a career, develop plans to attain that career goal, and eventually function successfully in the career of their choice.

SUGGESTIONS FOR USING GUIDES

The sequence for learning experiences to be carried out in order to achieve the objectives outlined in these guides should be determined by each teacher and her students. A detailed block plan of day by day objectives and activities should be worked out after a study of these guides. Most of the objectives outlined here are broad unit objectives and will be worked on over much of the course. Enabling objectives need to be established by the teacher and her students. Student participation in planning and carrying out experiences is important. Remember that this is a suggested guide; all of the experiences could not be successfully carried out during one quarter, nor are the objectives arranged in a

necessary order for study. If the same students are enrolled in all four courses, there are experiences, such as preparing for job interviews, that need not be repeated. Plan to meet the needs and interests of the students enrolled each quarter.

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A Suggested Guide for Career Exploration

in

Foods and Nutrition

An Eighth Grade Program

in

Home Economics

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FOODS AND NUTRITION

OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
1. Identify and discuss the purposes and expectations of the mini-course.	Listen to and discuss purposes and expectations of the course. Look at samples of learning packages and contracts. Discuss what should go in contracts. Fill out tentative contract.	Sample learning packages and contracts.	Write a brief explanation of purposes. Completes contract.
2. Discuss the broad scope and variety of opportunities for jobs in foods and nutrition.	Consult reference books in home economics laboratory for possible jobs related to foods and nutrition. Visit the guidance office and use the Dictionary of Occupations for job opportunities in foods service. Check SRA Occupational Briefs for information on food related jobs.	Books: Future Homemakers of America, Washington, D.C.; 50¢, A Job/Career Story. Cronan and Atwood, First Foods, Ch. 15. Harris and Withers, Your Foods Book, Ch. 17. Hatcher and Andrews, Guide for Today's Home Living, Ch. 19. Medved, The World of Foods, Ch. 28. McDermott and Nicholas, Homemaking for Teenagers - Book I, Ch. 4. Pamphlets: American Dietetic Assoc.: "Dietitians in Demand" Dept. of HEW: "The Outlook for Women as Food Service Managers and Supervisors"	Prepare file cards for a central file describing jobs discussed.

OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
	Read periodicals for information about jobs related to foods and nutrition. Consult library references for jobs in foods and nutrition. Look up service workers in Job Guides for Young Workers, 1969-70 Edition. Prepare a school bulletin board featuring careers in foods and nutrition. Discuss the information gathered about the many job opportunities in foods and nutrition. Prepare bulletin board: "Life Savers in Foods Careers"	Institute of Food Technologists: "Food Industry Careers" Periodicals: "What's New in Home Economics?" "Forecast for Home Economics" "Co-Ed" The Encyclopedia of Careers and Vocational Guidance, J. G. Ferguson Co., Vol. I. Spencer, Exciting Careers for Home Economists, 1967, Simon and Schuster, Inc. U. S. Department of Labor: Job Guides for Young Workers, 1969-70 Edition, pp. 78-100.	Make a collage of various jobs available in foods and nutrition. Present a summary of facts about jobs available in foods and nutrition (oral or written).

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OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
3. Identify and discuss the local opportunities for jobs related to foods and nutrition.	Cut out and discuss want ads from local papers about jobs in foods industry.	Local newspapers.	List on an objective test at least five local jobs and businesses in foods and nutrition.
	List the businesses in local community that are related to foods and nutrition - consult "yellow pages" as well as newspapers and personal experiences.	"Yellow pages" of telephone book.	
	Listen to and question resource persons who talk on need for workers in foods industry.	Local employer such as personnel manager, restaurant owner, or grocery store manager.	
	Survey the community for job opportunities.	For Metropolitan Atlanta area: Occupational Information Center for Education - Industry Suite 314 2970 Peachtree Rd., NW Atlanta, GA 30305 (Phone: 273-1309)	
	Plot on a map the location of foods related businesses (interlock with Social science).	Chamber of Commerce	
	Take a field trip to businesses having a variety of jobs related to foods.	Local businesses such as restaurants and food processing plants.	Oral or written summary of field trip findings.

OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
4. Discuss the benefits the community derives from foods related businesses.	Read brochures produced by the various businesses which explain relation to community.	Pamphlets from businesses, and trade magazines.	
	Discuss newspaper articles about benefits to community from foods businesses.	Newspapers.	Contributions to discussion of articles.
	Display products from foods related industries and discuss influences on community living..	Products produced by foods industries in the community.	
	Share explanation of benefits personally received from foods related businesses.		
	Listen to business representatives explain how they operate in the community and benefits derived from their services.	Resource persons such as personnel director or public relations representative from poultry processing plant or cannery.	Discuss with the class a selected occupation's value to the local community.
5. Identify and discuss the influences on and importance of food selections including: A. Psychological appeal	View pictures and recall displays of foods in cafeterias or on buffet tables.		
	Discuss the display and/or serving of food to appeal to the eye.		

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OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
B. Food preferences and habits	Describe times when a person's food preferences and habits may have caused them to eat a poor diet.		
C. Physical needs and effects	Discuss the food needs of the body.	Pamphlet: "Right Eating Keeps You Swinging," Carnation Co.	
	Plan together a day's menus to incorporate Basic Four needs of a teenager.		
	Interview a restaurant manager about customer food selections.		Select an appropriate meal for self from displayed food models or from a list of foods.
	Discuss, "Balanced meal planning-customer or food industry responsibility?"		
6. Explain the requirements for individuals working in particular jobs in the foods industry such as:	Make bulletin board or want ads for jobs in food industry.	State and local newspapers.,	
	Write letters to food celebrities and/or authorities to inquire what training is required, what experience is necessary, and why they chose their jobs.	Julia Childs, Graham Kerr, newspaper and magazine food editors and foods teachers at colleges and universities.	Make notebook on selected jobs.
A. Education			

OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
B. Competencies	Listen to guidance counselor talk about necessary personal and educational requirements for various jobs. Listen to guest speaker give talk and explain requirements for particular jobs in the food industry.	Resource people such as: Health Department officials Local doctor Area State food inspector ICC Federal Food inspector Local food processing plant - example: poultry processing.	
C. Health	Visit food processing establishment and listen to explanation of health standards. Consult references concerning requirements for particular jobs.	Pamphlet: "Rules and Regulations for Food Service", Georgia Dept. of Public Health. Filmstrip "Commercial Cooking" from: Educational Projections Corp. P.O. Box 1187 Jackson, Miss. 39205	Use checklist for personal and health standards related to a particular job.
D. Personal characteristics	Prepare checklists concerning requirements for selected jobs. View filmstrips on applying for a job, etc.	Filmstrip "Why Work At All" from: Guidance Associates.	Use checklist to evaluate self concerning job requirements.
E. Ability to apply for a job.	View filmstrip "Preparing for an Interview". Use "The World of Work: Finding, Getting and Keeping A Job Folder", in class.	Filmstrip series: 1. ABC's of Getting and Keeping a Job 2. Preparing for the Job You Want 3. Applying for the Job You Want 4. On the Job	

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OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
	Fill out sample application forms. Write sample resume. Model appropriate apparel for a job interview. Compare correct and incorrect apparel. Role play an interview as if applying for a job.	5. Budgeting Your Money 6. Labor Unions 7. Health Rules to Follow 8. Quizstrip From: Eye Gate House, Inc. 146-01 Archer Avenue Jamaica, NY 11435 From J. C. Penney: Filmstrip - "Preparing for the Interview" #83192 Folder: "The World of Work: Finding, Getting and Keeping a Job Folder" #83193	Fill out sample applications and resumes. Evaluate apparel modeled. Tape record interview and play back for purposes of self-evaluation.
7. Describe the values and/or rewards of working in selected foods related occupations. Find out about such things as: A. Working conditions	Discuss the information gained from research, resource people, interviews, and field trips concerning the rewards of working in particular jobs. Simulate the working conditions of certain jobs and role play the workers.	Reference materials, resource people, interview tapes, films, and field trips suggested previously.	Participation in class discussion.

OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
	Discuss the feelings of each type worker in the role playing situation.		
B. Job security C. Salary	Discuss the financial rewards versus psychological rewards of certain jobs.		
D. Advancement possibilities	Outline the advancement possibilities within certain food industries. For example: in a supermarket or restaurant chain.		
E. Fringe benefits	Write a brief summary of the values and rewards associated with a selected food service occupation.		Written summary of values and rewards of a selected occupation.
8. Considering social and economic factors involved, describe new job possibilities and job obsolescence.	Invite resource people to discuss future trends in foods industry. Examples: aerospace research, electronic cooking and atomic food preservation. (If such persons can not come to school perhaps they would make a tape for use in class.)	Resource persons from agricultural experiment station, food research labs, appliance manufacturers, etc.	
	Read and discuss newspaper and magazine articles about current trends that may affect food service occupations.	Newspapers and magazines.	Participation in class discussion.

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OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
	Research references on past influences on various phases of the foods industry and share with class members.	Library materials and home economics department references.	Prepare bulletin board depicting jobs of the future and jobs of the past.
	Write or tape projections for possible future jobs in food service.		Taped or written projections about the future of jobs in food service.
9. Identify the duties and/or tasks performed by workers in selected foods service occupations.	Read books and other references to determine duties and/or tasks performed by certain foods related workers.	Books: Cronan and Atwood, First Foods, Ch. 15. Your Future As A Dietitian, Richard Rosen Press. Student Manual: Being a Food Service Worker, 1967, Hospital Research and Educational Trust.	
	Take field trips to different types of restaurants such as cafeteria, lunch counter, drive-in, etc.; nursing home and hospital kitchens; food processing plants; bakery; grocery store; catering service; experimental foods labs and other food related businesses.	Booklets: American Dietetic Assoc.: "Dietetics As A Profession" Science Research Assoc.: Occupational Briefs -- "Bakers" 21 "Busboys" 192 "Confectionery Industry Workers" 171 "Food Technologists" 215 "Frozen Food Industry Worker" 123	Oral reports to class on observations and interviews.
	Observe workers on the job and report on the tasks they perform.		
	Interview workers about the duties they carry out.		Compile a list of major tasks performed by selected workers.

OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
	View filmloops showing selected workers on the job.	Filmloops: "Cooks and Chefs" "Waiters and Waitresses" From: Encyclopedia Britannica Educational Corporation 425 N. Michigan Avenue Chicago, ILL 60611	Play games such as Charades, Password, What's My Line?, and Bingo to show ability to identify duties of workers.
	View films to identify duties involved in careers such as dietetics.	Films: "The Search for Meaning", The American Dietetic Assoc. "The Career Game", Modern Talking Pictures.	Objective test on identification of tasks performed by certain workers.
	View filmstrips to determine tasks performed by food service workers.	Slidefilm: "Take A Good Look", The American Dietetic Assoc.	
		Filmstrips: (EYE GATE HOUSE) "Stocker in a Supermarket"; "The Waitress"; "The School Cafeteria Worker". From: Guidance Associates -- "A New Horizon: Careers in School Food Service".	
	Listen to taped interviews with various types of workers.	Tapes: Made by students interviewing workers; from Calhoun Company: "Stewardess, Airline" VG 731; "Grocery Store Clerk" VG 739;	

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OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
		from Guidance Associates: "Your Future: As A Commercial Airline Stewardess".	
10. Practice the duties and tasks performed by workers in foods related occupations such as those occurring in:	Select types of businesses and specific jobs performed in them to simulate in class.	Information gained from prior experiences such as observations, interviews, films, filmstrips, and resource persons.	Present duties of food workers in a skit. Example: hospital worker, airline stewardess and food packers.
	Plan as a group and individually on carrying out tasks in the classroom.	Being a Food Service Worker, Hospital and Educational Trust Research.	
A. Restaurants - motel, hotel, drive-ins, lunch counters, cafeteria, and snack bars.	Plan and carry out home practices of appropriate tasks for selected jobs.		
	Set up a mock restaurant involving all essential jobs and role play tasks that the hostess, waiter, or waitress, busboy, cook and cashier would carry out.		Use brief written evaluation of role playing and discuss in class.
	Practice at home such things as setting and serving table, clearing table, and washing dishes.		Reports on home practice.

OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
	Set up and operate a simple food service operation, serving simple foods such as sandwiches, salads and beverages to classmates, faculty and/or parents.	Bulletins from HEW: "Establishing and Operation of a Restaurant"; "Training Restaurant Sales Personnel". Pamphlet: "Modern Sandwich Methods" American Institute of Baking, Consumer Service Department.	Use checklist on workers to evaluate performance of tasks.
B. Food production and processing plants - baking, canning and freezing.	Simulate a commercial bakery by setting up a simple assembly line type of operation such as preparing three types of cookies, simple pies or bread. Sell products produced at recess to fellow students or prepare packages to send to service men. (FHA project possibility). (Could interlock with social science and business class). Plan and carry out a home practice of baking a product.	Betty Crocker's filmstrips, General Mills, Inc.: "Cooky Wise"; "Easy as Pie"; "Batter Breads".	Use simple checklist to report on home practice.
C. Institutions -- hospital or nursing home, and school lunchroom.	Work in school lunchroom wrapping silver, putting out milk or juice, cleaning table, etc.		Report on task carried out.

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OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
D. Food stores.	Set up a simulated food store and operate. (Baked products could be displayed and sold).	Pamphlet: "Should You Go Into Food Retailing?", New York Life Insurance Company.	
E. Catering and other private businesses.	Plan and carry out a simple catering operation such as preparing and serving refreshments for the children in a day-care center, kindergarten, or elementary school class.	Cronan and Atwood, First Foods.	
F. The nutrition field as consultant and related jobs.	Plan simple menu to be prepared in class.	Harris and Withers, Your Foods Book.	Use checklist to evaluate nutritive value of menu.
	Plan work schedules and shop for groceries for lab meal.		
	Prepare and serve simple meal to class members.		Discuss orally and/or in writing products and performance in foods lab.
G. Homes as homemakers and homemaker's assistants.	Plan home experiences to carry out selected tasks that homemakers and homemaker's assistants must perform such as planning menus, shopping, and preparing foods for family.		Oral and written reports on home experiences.

OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
H. Community as a Home Economist for public utility, food distributing or manufacturing company. I. Others	Demonstrate simple snack food preparation as a professional home economist might do. Test recipes and suggest new variations as a home economist might do for a food manufacturing company.	Pamphlet: "Should You Be A Home Economist?", New York Life Inc. Co.	Evaluate products by score cards. Use checklist to evaluate workers. Write or tape a report on "How I Felt As A Food Service Worker."

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Resources for Foods and Nutrition

Films and filmstrips:

American Dairy Council
117 North Canal Street
Chicago, Illinois 60606

Association Films, Inc.
600 Madison Avenue
New York, N. Y. 10036

Association- Sterling Films
5797 New Peachtree Road
Atlanta, GA 30340

Calhoun Audio-Visual Company, Inc.
121 Forest Avenue, NE
Atlanta, GA 30303

Eye Gate House, Inc.
146-01 Archer Avenue
Jamaica, N. Y. 11435

General Mills, Inc.
Department 360 W
400 Second Avenue, South
Minneapolis, Minn. 55440

Publishers of Books and Pamphlets:

American Home Economics Association
2010 Mass. Avenue, NW
Washington, D.C. 20036

American Dietetic Association
Publications Department
620 North Michigan Avenue
Chicago, Illinois 60611

American Institute of Baking
Consumer Service Department
Chicago, Illinois

American School Food Service Association
P. O. Box 10095
Denver, Colorado 80210

Chas. A. Bennett Co., Inc.
809 W. Detweiller Drive
Peoria, Illinois 61614

D. C. Heath and Company
Boston, Mass.

Ginn and Company
Boston, Mass. 02117

Hospital Research and Educational Trust
840 N. Lakeshore Drive
Chicago, Illinois 60611

International Film Bureau, Inc.
332 South Michigan Avenue
Chicago, Illinois 60680

J. C. Penney, Inc.
Educational and Consumer Relations
1301 Avenue of the Americas
New York, N. Y. 10019

Modern Talking Picture Service
Spring Street
Atlanta, Ga. 30308

U. S. Department of Agriculture
Office Information
Washington, D. C.
(Motion Picture Service)
(Federal Meat Inspectors)

U. S. Department of Labor
Washington, D. C.
(Occupational Outlook Handbook and Reprints)

Institute of Food Technologists
176 West Adams Street
Chicago, Illinois

Institution Magazine
1801 Prairie Avenue
Chicago, Illinois 60616

National Restaurant Association
1530 North Lakeshore Drive
Chicago, Illinois 60600

New York Life Insurance Company
Career Information Service
Box 51, Madison Square Station
New York, N. Y. 10010

Science Research Association
259 East Erie Street
Chicago, Illinois 60600

Simon and Schuster, Inc.
630 Fifth Avenue
New York, N. Y. 10020

Superintendent of Documents
U. S. Government Printing Office
Washington, D. C. 20042

Magazines subscribed to by some food services businesses:

Fast Foods
Hospitality
Institutions
Volume Feeding

(You may be able to borrow from businesses in your community.)

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A Suggested Guide for Career Exploration

in

Clothing and Textiles

An Eighth Grade Program

in

Home Economics

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OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
1. Discuss the purposes and expectations of the mini-course	Listen to teacher explain purposes and expectations of the course.	Samples of learning packages and contracts.	Orally explain the purposes of the course to a student not enrolled in mini-course.
	View samples of learning packages and contracts.		
	Fill out contract for course.		Fulfills contract.
2. Identify jobs and careers in clothing and textiles.	View and discuss bulletin board.	Bulletin board depicting kinds of jobs and careers to create interest. (Collage could be made).	
	View filmstrips to identify careers in fashion buying, retailing and distribution.	Filmstrips: "A Career in Retail Buying" No. 83731; "A Career in Fashion Distribution" No. 83356; "Retailing Serves the Consumer" No. 82304, J. C. Penney.	
	View film on fashion industry.	Films: "Careers in Fashion Merchandising" No. 3404, Modern Talking Services; "Fashion Means Business", March of Time.	Given a list of jobs and careers, the student will identify those related to clothing and textile services.
	View film on careers in fashion world.		
	Read leaflets and books and outline job opportunities on paper.	Leaflets on Job Opportunities in Retailing: 42045 Sales Trainee, 82827 Alterations Assistant, J. C. Penney.	

OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
	Research library and department materials for careers in clothing and textile field. (Individuals or small groups may do research in or out of class hours. May be a part of a learning package)	Books: A Job/Career Story, Future Homemakers of America, Washington, D.C., 50¢. Craig, Hazel T. Clothing: A Comprehensive Study. New York, N.Y.: J. B. Lippincott Co., 1968, Ch. 19. Fried, Eleanor L. Is the Fashion Business Your Business? New York: Fairchild Publications, Inc. 1961. Gawne, E. J. and Oerke, B. V. Dress, Peoria, Illinois: Chas. A. Bennett Co., Inc. 1969, Ch.18. Home Economics Has A Career for You in Textiles and Clothing. Washington, D.C.: American Home Ec. Assoc., 1963. Jarnow, J. A. and Judell, B. Inside the Fashion Business. New York: John Wiley & Sons, Inc., 1965.	

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OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
	Use folders collected by teacher and files produced for the purpose.	Kaplan, A. A. and deMille, Margaret. Careers in Department Store Merchandising. New York: H. Z. Walck, 1962. Merchandising As A Career. Chicago, Illinois: The Institute for Research, 1965. McDermott, Irene and Nicholas, Florence. Homemaking for Teenagers. Book 1. Peoria, Illinois: Chas. A. Bennett Co., Inc., 1970. Chapter 4. The Fashion Group. Your Future in the Fashion World. New York: Richard Rosen Press, Inc., 1963. Vanderhoff, Margil. Clothes: Part of Your World. Boston, Mass.: Ginn and Company. Unit 9. Commercial folder: "Careers in Home Economics" "Fashion Careers" J. Weston Walch, Box 658, Main Post Office, Portland, Maine 04104 (see top of next page)	

OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
		Commercial folder cont.: ($5.00 a set) (These are large enough for a bulletin board; simple enough for students to use.)	
	View and discuss filmstrips: "How They Get to Where You Shop"	Filmstrips: "How They Get to Where You Shop"	
	"Textiles for Everyone"	"Textiles for Everyone" American Textile Manufacturing Institute - Educational Dept. 1501 Johnston Bldg. Charlotte, NC 28202 ($7.00 for the two) (Filmstrip, record, script, and photos are in color and very interesting.)	
	Listen to occupational clothing teacher speak to class.		
3. List jobs or career opportunities in clothing and textile businesses in the community.	Use want ads to determine job opportunities available now.	Local and State newspapers.	
	Make a community survey of clothing and textile businesses.		
	Check with Chamber of Commerce for lists of businesses and maps.	Lists and maps obtained from Chamber of Commerce, city or county officials, or industries.	

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OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
	Conduct a survey to determine location of clothing and textile businesses. Work in groups to make a map for use in locating businesses (could interlock with social studies class). Explain and discuss maps and location of businesses. Make field trips to local clothing and textile businesses. Listen to resource people speak on job opportunities in clothing and textile services.	Transparencies of maps for class discussion. Examples of persons who might be invited: Director of Chamber of Commerce Representative from Employment Service Personnel Director of Department Store Personnel Director of Garment Factory Manager of laundry-dry cleaning plant Manager of fabric shop or department Sewing machine company representative	Write or tape a brief description of job opportunities for workers in clothing and textiles businesses in the community.

OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
		Representative from a fashion school.	
4. Discuss examples of how the community is benefitted by clothing and textile businesses.	Resource speaker from local industry.	Local industries supply examples and display information.	
	Report from pamphlets and information given by companies or firms.		
	Report newspaper articles concerning community related activities of clothing and textile businesses.	Newspaper articles on industry and products and/or services.	Write a brief paper on "How the Clothing and Textiles Industry Has Helped My Community". (Could interlock with English and/or social studies.)
	Collect and display products made and used in the community.		
5. Explain the requirements for individuals working in particular clothing and textile related occupations such as:	Interview workers in clothing and textile occupations concerning job requirements.	Local factory workers, fabric and apparel store workers.	
	Report orally the information gained from interviews.		
	Visit and observe people at work in various businesses.		
A. Educational and/or training requirements.	Listen to and question resource persons such as: personnel director workers in clothing and textiles		Report orally on requirements for the jobs that are investigated.

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OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
B. Abilities required (skills and experiences).	supervisors of workers school counselors State Employment Service personnel		Categorize jobs according to amount of education and/or training needed.
C. Physical condition and characteristics.	Research books, pamphlets, etc. for requirements for certain occupations.		"What's My Line" game with job requirements.
D. Personal characteristics.	Rate self on characteristics needed for a particular job.		Written or taped rating of self on characteristics for job.
E. Ability to apply for a job.	Take a pre-test to analyze personal grooming needed for work situations.		Write a want ad that would fit personal qualifications.
			Pre-test on personal grooming.
	Make a plan for personal improvement to develop qualities needed in a good worker.	Books: Davis and Peeler. Lessons in Living, pp. 248-271. Vanderhoff. Clothes: A Part of Your World, Unit 3. Reiff. Steps in Home Living, Chapter 8. Fleck et. al. Exploring Home and Family Living, Chs. 27, 29.	

OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
	View and discuss filmstrips on grooming and manners. Observe proper make-up application by cosmetic representative. Observe demonstration on proper care and appropriate styling of hair. Participate in exercises for figure improvement. Discuss appropriate dress for various jobs. Construct a checklist for evaluating dress for particular jobs. Make posters that illustrate appropriate dress. View filmstrip to determine requirements for a successful interview.	Genley and Elias, Know Yourself. Page 69. Cosmetic company representative. Beautician and barber. Filmstrips: "Getting and Keeping Your First Job"; "Your Job Interview"; from Guidance Associates, Pleasantville, NY 10570. "Preparing for an Interview" No. 83192; "Clothing Communicates" No. 83660; from J. C. Penney. "Applying for the Job You Want"; Eye Gate House, Inc. Films: "How to be Well Groomed", Coronet Films. "Good Looks/Here and Now" No. 3575, Modern Talking Pictures. From: Award Records and Film Co., 1000 East Colorado, Pasadena, Calif. 91106 -- "How to Apply for a Job", "How to Be a Better Employee".	Use checklist to evaluate "dress" posters.

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OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
	Use folder from J.C. Penney.	Folder from J.C. Penney: "The World of Work: Finding, Getting and Keeping A Job Folder" No. 83193.	
	Read appropriate parts of Unit 7 "Be Informed on Finding A Job".	Unit 7 - "Be Informed on Finding A Job" leaflets from: New Readers Press, Box 131, Syracuse, N. Y. 13210	
	View and discuss transparencies on how to fill out an application.	Transparencies made of several types of application forms obtained from local businesses.	Evaluate neatness and accuracy of application form filled out.
	Practice filling out an application form.	Mimeographed copies of application form for each student.	
	Practice writing a resume. (Could interlock with English.)		Evaluate written resume.
	Discuss how to apply for a Social Security card.	Transparencies of Social Security card forms.	
	Apply for a Social Security card.	Social Security card application forms for each student secured from area office.	Receive Social Security card.
	Role play applying for a job, dressing appropriately.	Booklet: Koschnick, Kay. The World of Work, New Readers Press, Box 131, Syracuse, N. Y. 13210	Use checklist to evaluate role playing.

OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
	Carry out home project based on plan made for personal improvement.		Report on home project.
6. Identify the tasks carried out by certain workers in clothing and textile occupations.	Interview selected workers about tasks they perform. Briefly share information with class.	Workers in local clothing and textile businesses - possibly parents of students.	Oral reports on interviews.
	Visit selected businesses and list the tasks performed by workers observed.	Department stores, fabric shops, garment factories, laundry and dry cleaning stores, etc.	
	View filmstrips in order to see what the worker does on the job.	Filmstrip from J.C. Penney: "A Career in Retail Buying", No. 83731.	
	Share with the class slides or motion pictures made of workers on the job that would be difficult for several students to observe at the same time.		
	Listen to and question workers about tasks they perform on the job.	Resource persons invited to class.	Participation in question and answer session.
	Listen to tapes on workers describing their jobs.	Tape recordings students and/or teacher tape with a worker who cannot visit the classroom.	Write a brief description of the tasks performed by a specific clothing and textile worker.

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OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
	Research publications to find out tasks of workers.	A Job/Career Story, Future Homemakers of America, Washington, D.C., 50¢.	
	Make posters listing tasks for specific occupations.		Posters or charts prepared.
7. Practice tasks and construct projects related to skills needed by persons in clothing and textile occupations. Possible occupations to explore:	Inventory clothing and textile equipment and supplies.	Sample inventory sheets.	
	Prepare order list and purchase items needed for the department.	Sample order forms.	
A. Fashion, merchandising and retailing.	Make hangtags for items made in class by assembly line for sale.	Hangtags from purchased garments.	
1. stock girl 2. head of stock	Set up a "mock store" and 1. serve the customer; 2. record the sale; 3. receive payment and 4. wrap the merchandise.	Vanderhoff, M. Clothes: Part of Your World, pp. 89-95. McDermott, I. Opportunitres in Clothing, pp. 185-187.	Use checklists to evaluate performance of jobs in "mock store".

OBJECTIVES	LEARNING EXPERIENCES	INSTRUCTIONAL RESOURCES	SUGGESTED EVALUATIONS
3. giftwrapper	Give a classroom demonstration on giftwrapping for different occasions that are appropriate.	Craig, Hazel T. Clothing: A Comprehensive Study, pp. 288-290.	
4. sales person		McDermott, I. Opportunities in Clothing, Ch. 5.	
5. assistant buyer	Role play assisting several types of customers.		
6. buyer			
7. display manager	Set up displays of fashions borrowed or made by students.		
8. customer consultant			
9. comparison shopper	Select several items of clothing and shop for best buy in local stores.		
10. consumer service director			
11. bridal consultant	Assemble a file on weddings, etc., that could be used in helping someone plan showers, weddings, etc.		